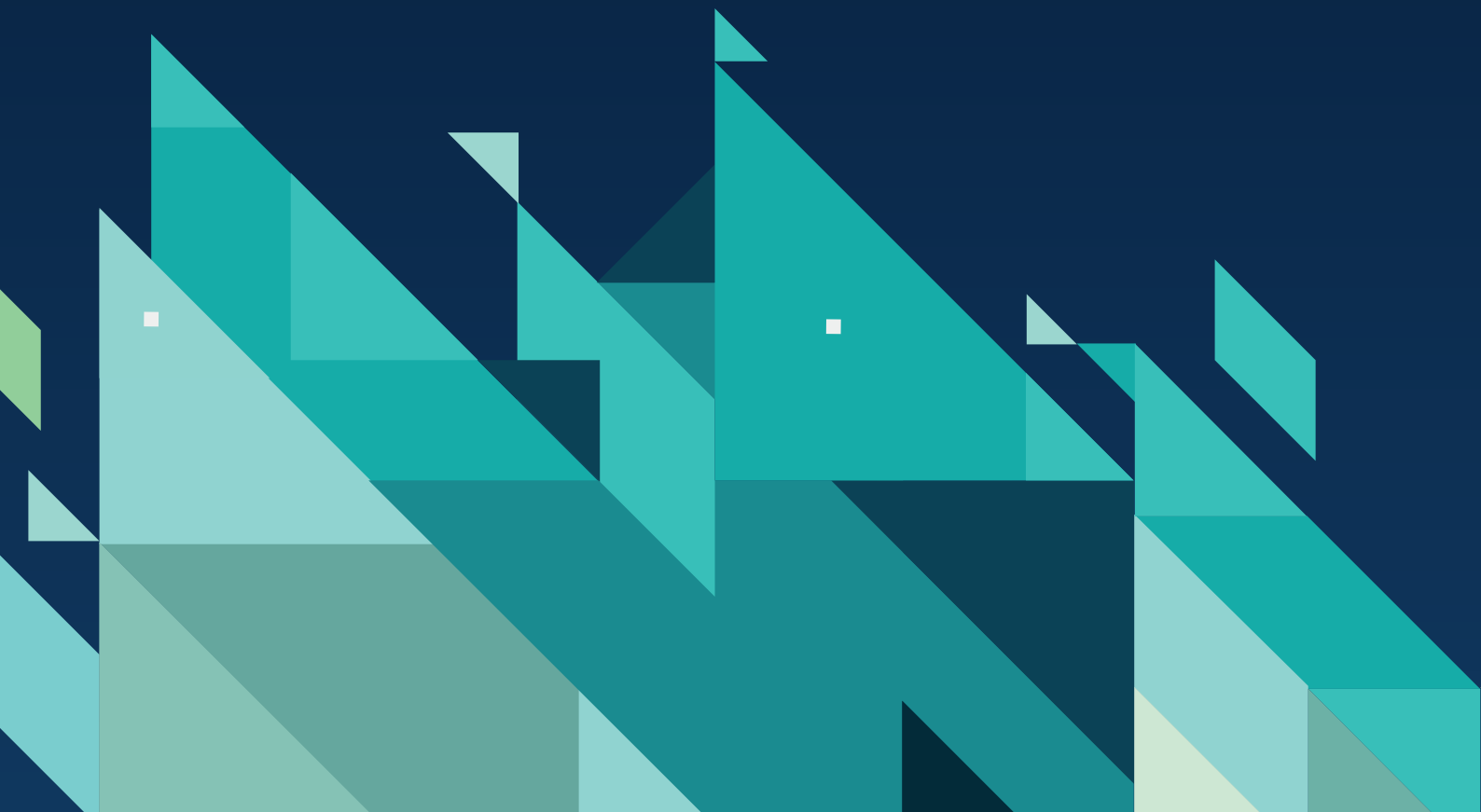
ESRI
RESEARCH SERIES

Number 201, February 2025

AN INSTITIÚID
UM THAIGHDE
EACNAMAÍOCHTA
AGUS SÓISIALTA
ESRI ECONOMIC & SOCIAL
RESEARCH INSTITUTE

Sexual initiation and sexual health behaviours among young adults in Ireland

ANNE NOLAN AND EMER SMYTH



SEXUAL INITIATION AND SEXUAL HEALTH BEHAVIOURS AMONG YOUNG ADULTS IN IRELAND

Anne Nolan

Emer Smyth

February 2025

RESEARCH SERIES

NUMBER 201

Available to download from www.esri.ie

DOI: https://doi.org/10.26504/rs201

ABOUT THE ESRI

The Economic and Social Research Institute (ESRI) advances evidence-based policymaking that supports economic sustainability and social progress in Ireland. ESRI researchers apply the highest standards of academic excellence to challenges facing policymakers, focusing on ten areas of critical importance to 21st Century Ireland.

The Institute was founded in 1960 by a group of senior civil servants led by Dr T.K. Whitaker, who identified the need for independent and in-depth research analysis. Since then, the Institute has remained committed to independent research and its work is free of any expressed ideology or political position. The Institute publishes all research reaching the appropriate academic standard, irrespective of its findings or who funds the research.

The ESRI is a company limited by guarantee, answerable to its members and governed by a Council, comprising up to 14 representatives drawn from a cross-section of ESRI members from academia, civil services, state agencies, businesses and civil society. Funding for the ESRI comes from research programmes supported by government departments and agencies, public bodies, competitive research programmes, membership fees, and an annual grant-in-aid from the Department of Public Expenditure NDP Delivery and Reform.

Further information is available at www.esri.ie.

THE AUTHORS

Anne Nolan and Emer Smyth are Research Professors at the Economic and Social Research Institute (ESRI), and Adjunct Professors at Trinity College Dublin (TCD).

ACKNOWLEDGEMENTS

This research was funded by the Sexual Health Programme, Health Service Executive (HSE) Health and Wellbeing Division, under a research programme on sexual health and wellbeing in young adulthood. The authors thank the Central Statistics Office (CSO) for providing access to Growing Up in Ireland (GUI) data, and the members of the Research Programme Steering Committee for helpful comments and guidance throughout the research process. The report also benefited from comments received from three reviewers.

GUI is funded by the Department of Children, Equality, Disability, Integration and Youth (DCEDIY). It is managed by DCEDIY in association with the CSO. Results in this report are based on analyses of data from Research Microdata Files provided by the CSO. Neither the CSO nor DCEDIY take any responsibility for the views expressed or the outputs generated from these analyses.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

CAPI	Computer-aided personal interview
CSO	Central Statistics Office
DEIS	Delivering Equality of Opportunity in Schools
GUI	Growing Up in Ireland
HBSC	Health Behaviour in School-aged Children (survey)
HPSC	Health Protection Surveillance Centre
HSE	Health Service Executive
ICCP	Irish Contraception and Crisis Pregnancy (study)
ISSHR	Irish Study of Sexual Health and Relationships
LGBTQ+	Lesbian, Gay, Bisexual, Transgender and Questioning
NATSAL	(British) National Survey of Sexual Attitudes and Lifestyles
NCCA	National Council for Curriculum and Assessment
PCG	Primary caregiver
RSE	Relationships and Sexuality Education
SPHE	Social, Personal and Health Education
STI	Sexually transmitted infection
UK	United Kingdom

EXECUTIVE SUMMARY

The experience of sexual intercourse for the first time is a significant life event, and influenced by a range of individual, cultural and societal factors. Age of first sexual initiation is a major area of policy and research focus, as the circumstances of first sex (e.g. whether contraception was used, whether it was perceived to have occurred 'at the right time'), and the consequences of first sex for later outcomes (e.g. diagnoses of sexually transmitted infections (STIs), early parenthood), have important implications for health and wellbeing. In this report, we use data from the '98 Cohort of Growing Up in Ireland (GUI), the national longitudinal study of children and young people in Ireland, to examine the factors associated with age of sexual initiation among young adults, and the way in which age of first sex influences the circumstances of first sex and selected outcomes. Age and circumstances of first sex, and selected outcomes, are all based on data collected during the fourth wave of data collection for the '98 Cohort of GUI, when the young people were 20 years of age.

MAIN FINDINGS

- Just over one-third of males and females first had sex by the age of 17, while a further 50 per cent first had sex before the age of 20. The remaining 15 per cent had not had sex by the age of 20. There is no statistically significant difference in these proportions between young men and women.
- Some groups, such as those from a migrant background, LGBTQ+ young people, and those with a disability, were more likely to delay sexual initiation.
- Young men and women who were more reliant on their friends for information about sex were significantly more likely to have sex earlier, as were those who had larger and more diverse (in terms of age composition) peer networks, and peers who themselves were having sex.
- Young men from more disadvantaged backgrounds (both in terms of their own family characteristics, and their neighbourhoods) were also more likely to have sex earlier.
- While school characteristics such as DEIS or single-sex status were not related to age of first sex, engagement with school, and the degree to which school was perceived to have prepared young people for adult life, emerged as protective factors for later sexual initiation. Relying on a teacher as a source of information on sex and relationships was also associated with later sexual initiation.
- About half of young men, and 61 per cent of young women, were in a steady relationship with the person with whom they first had sex. Those who first had sex at an earlier age were significantly more likely to be in a steady

relationship when they first had sex.

- Approximately 90 per cent of young men and women used contraception when they first had sex. While there was no relationship between age of first sex and contraception use at first sex, those whose first sexual experience occurred in the context of a more casual relationship were significantly less likely to use contraception at first sex.
- Young women were significantly more likely to express regret over the timing of first sex than young men (a quarter of young women thought that it had happened 'too soon', in contrast to 10 per cent of young men who thought it had happened 'too soon'). Later age of sexual initiation was associated with a lower probability of perceiving that first sex had occurred 'too soon'.
- By the age of 20, approximately 4 per cent of young men and women reported that they ever had an STI, and 2 per cent had one or more children. There was no association between age of sexual initiation and STI diagnoses once number of partners was taken into account.

POLICY IMPLICATIONS

The research highlights the importance of broader contextual factors, in particular peer networks, in shaping sexual health behaviours among young people. For both men and women, relying on friends as a source of information, having a larger and more age-diverse friendship network, and feeling that most of their friends are having sex are all associated with earlier timing of first sex. This points to the importance of embedding conversations about misinformation, consent, peer pressure, etc. into both formal and informal sex education and health promotion initiatives. The timing of receipt of school-based sex education is not related to age at sexual initiation. However, the quality of such provision would merit further investigation as previous research has pointed to issues around adequate time allocation and teacher discomfort in tackling often sensitive subjects. Liking school and feeling it has prepared young people for adult life emerge as important protective factors in later sexual initiation. These findings highlight the importance of a positive school climate in fostering school engagement and retention as well as promoting healthy sexual development and wellbeing more generally, and point to the value of recent policy emphasis on fostering wellbeing supports at school level.

Finally, while use of contraception at first sex is high (at approximately 90 per cent), it is not universal, and first sex occurring within more casual relationships is a risk factor for non-use of contraception at first sex. Further research in this programme investigates contraception (and condom use) for those currently sexually active, providing further insights for those involved in public health promotion activities around safe sex.

CHAPTER 1

Introduction

1.1 BACKGROUND

The experience of sexual intercourse for the first time is a significant life event, and influenced by a range of individual, cultural and social factors (McBride et al., 2012; Zhu and Bosma, 2019). Age of first sexual initiation is a major area of policy and research focus, in part because early sexual initiation could be the result of sexual pressure and exploitation (Zhu and Bosma, 2019). In addition, there is a body of research that suggests that earlier age of sexual intercourse is strongly associated with less preparedness and planning and less use of contraception and protection (Wellings et al., 2001). This results in a higher risk of poor outcomes such as unplanned pregnancy, early child-bearing and higher rates of sexually transmitted infections (STIs), all of which can have long-lasting effects on health and wellbeing (de Graaf et al., 2024; Hawes et al., 2010; Layte et al., 2006; Lewis et al., 2017; Mercer et al., 2013; Palmer et al., 2019). Earlier sexual initiation has also been shown to affect subsequent educational attainment (Huang et al., 2019; Sabia and Rees, 2009).[1] In Ireland, the legal age of consent for sexual activity is 17.

In addition to the timing of sexual initiation, the context and circumstances under which it occurs can have consequences in the short term and also later in life (Burke et al., 2018). The concept of 'sexual competence' or readiness has been developed to consider the broader contextual attributes of first sexual intercourse (such as willingness, timing regret, use of contraception, etc.) (Hawes et al., 2010; Palmer et al., 2019).[2] Lack of sexual competence at first sex has been shown to be associated with poor subsequent sexual health, as defined by self-reported STI diagnosis, human papillomavirus (HPV) positive status, unplanned pregnancy and experience of non-consensual sex (Wellings et al., 2001).

In this context, the aim of this report is to use data from the '98 Cohort of Growing Up in Ireland (GUI), the national longitudinal study of children and young people in Ireland, to examine the factors associated with age of sexual initiation among young adults (aged 20 years)[3] and the way in which age of first sex influences the circumstances of first sex and selected outcomes (i.e. STI diagnoses, early parenthood).

---

1 Both studies use statistical techniques (e.g. instrumental variables regression) to account for the potential that unobserved factors (e.g. degree of risk aversion) may account for the association between early sexual initiation and subsequent educational attainment.

2 The concept of sexual competence was first developed by researchers working on the second National Survey of Sexual Attitudes and Lifestyles (NATSAL 2) (Wellings et al., 2001). Sexual competence or readiness is identified using self-report of four variables: contraceptive protection, autonomy of decision (not influenced by alcohol or peer pressure), consensuality (both partners equally willing), and absence of regret ('right time for me').

3 Data for the '98 Cohort of GUI at age 20 were collected between August 2018 and June 2019. Further details are presented in Chapter 2.

1.2 CONCEPTUAL FRAMEWORKS

The overarching conceptual framework that guides the design of the GUI study, the data used in this report, is the bioecological model (Bronfenbrenner and Morris, 2006). The main ecological systems are termed the microsystem (e.g. family, school and other immediate settings), mesosystem (e.g. interactions between actors in the microsystem), exosystem (e.g. local services), macrosystem (e.g. general society and culture), and chronosystem, which examines changes in major events and how the timing of these events influence one's life (Counihan et al., 2023). The bioecological model has been complemented by a life course perspective which adds the dimension of time, showing how current child and adolescent functioning depends in part on past exposures and experiences (Tomlinson et al., 2021).

In the context of health behaviours more generally, problem behaviour theory (PBT) (Jessor, 1991) views early adolescent sexual activity as part of a cluster of risky health behaviours (e.g. alcohol and drug use) that are influenced by a common set of social background and contextual variables (e.g. parents' income, occupational status) and social-psychological variables (e.g. motivational and personal belief structures; parental and peer influences) (Windle et al., 2013). Social control theory notes that adolescents who have strong connections with social units such as the family, school, church, and community organisations are less likely to transgress societal norms and to engage in risky behaviours (Windle et al., 2013). However, while some sexual activities in adolescence and young adulthood are undeniably risky (e.g. unsafe sex), the assessment of behaviours as problematic relies on a normative assessment of behaviour (i.e. how it relates to social, cultural, gender and legal norms within a society) (Grube and Morgan, 1990; Madkour et al., 2010; O'Connor et al., 2016).

1.3 PREVIOUS LITERATURE

1.3.1 Age of sexual initiation

A variety of metrics are used in the literature to characterise age of sexual initiation at a population level, including average age of first sex, median age of first sex, and the proportion who have experienced sex at or before a certain age (Zhu and Bosma, 2019). Most studies define early sexual initiation as sexual initiation before the legal age of consent in the particular country (Hawes et al., 2010). While the definition of what constitutes sexual activity may differ across studies, in general, sexual initiation relates to the first experience of sexual intercourse (Hawes et al., 2010; Zhu and Bosma, 2019).[4]

[4] Hawes et al. (2010) note that most studies do not distinguish heterosexual or homosexual experiences, but that assumptions about sexual orientation are often apparent in the language used to describe sexual initiation.

1.3.1.1 Timing of sexual initiation

Data from the 2004 and 2010 Irish Contraception and Crisis Pregnancy (ICCP)[5] studies showed that among 18–25-year-olds, there was an increase in the proportion of women having sex for the first time before the age of 17 (from 21 per cent in 2004 to 26 per cent in 2010), with a slight decrease among men (from 39 per cent in 2004 to 37 per cent in 2010) (McBride et al., 2012; Rundle et al., 2004).[6] However, more recent data from Ireland and other countries suggests that the trend towards declining age of sexual initiation that was observed for much of the latter half of the 20th century and early 21st century has not been maintained (Hawes et al., 2010; Lewis et al., 2017; Schubotz et al., 2004; Wellings et al., 2013; Zhu and Bosma, 2019). For example, data from the latest Health Behaviour in School-aged Children (HBSC) study in 2022 for Ireland[7] showed that 25 per cent of 15–17-year-olds had ever had sexual intercourse (no change from the 2018 figure; Gavin et al., 2024).

Analysing trends in the proportion of 15-year-olds who have had sex across 33 European countries over the period 2010–2018 using data from the HBSC study, de Graaf et al. (2024) found that, in the majority of countries, the proportion of 15-year-olds who reported they had sexual intercourse had declined significantly over the period, particularly over the period 2010–2014. The proportion remained stable over the most recent period, 2018–2022 (Költő et al., 2024). Similar findings of a decline in the proportion of adolescents having sex for the first time below the legal age of consent or in early adolescence have been observed for England (Patalay and Gage, 2019) and Scotland (Neville et al., 2017).[8] It has been noted that this trend of later age at first sex may be part of a broader decline in adolescent risk-taking behaviours (de Graaf et al., 2024), with a decline in face-to-face socialising, exacerbated by the COVID-19 pandemic, a potential explanation for these broader trends (Ball et al., 2023; de Graaf et al., 2024; Költő et al., 2024). Another potential explanation is that there may be a causal relationship between reduced alcohol consumption in adolescence and later age of first sex (Ball et al., 2023).

---

5 The ICCP 2004 and 2010 surveys consisted of 3,000 men and women aged 18–45 (McBride et al., 2012; Rundle et al., 2004).

6 The Irish Study of Sexual Health and Relationships (ISSHR), carried out in 2004 on a nationally representative sample of the adult (18–64) population, documented a clear trend across age cohorts toward younger age at first sex. According to the ISSHR, 11 per cent of men aged 55 to 64 and 2 per cent of women of the same age had intercourse before their 17th birthday, in comparison with 31 per cent of men and 22 per cent of women under age 25.

7 In the 2022 survey a total of 9,071 children aged from 9 to 18 years old from a representative sample of 191 primary and post-primary schools across the country responded to a self-completion questionnaire to provide information on health and health behaviours. Only those aged 15–17 years of age were asked about sexual health behaviours (sexual intercourse, use of birth control pill, use of condoms). The HBSC study takes place every four years (Költő et al., 2020; Gavin et al., 2024).

8 The first two waves of the annual Healthy Ireland survey of the adult population (aged 15+) (carried out in 2015 and 2016) asked those aged 17 years and over whether they have ever had sexual intercourse. Among those aged 17–24 years of age in 2015, 69 per cent reported sexual intercourse, and 71 per cent in 2016 (Department of Health, 2015a, 2016).

In general, men report earlier sexual initiation than women (de Graaf et al., 2024; Department of Health, 2015a; Hawes et al., 2010; Zhu and Bosma, 2019). Whether this gender gap represents a real difference in behaviour, or different norms and standards of sexual behaviour that apply to men and women (that in turn influence their reporting of behaviour) is open to question. Where sexual activity (e.g. sexual intercourse initiation, having numerous partners) may be positively valued for men, the opposite is true for women (what has been termed the 'sexual double standard') (de Graaf et al., 2024).

1.3.1.2 Influence of individual factors

A review of the literature on first sexual intercourse in the UK found that the factors determining age of sexual initiation can be categorised into two broad groups: physiological and environmental/social (Hawes et al., 2010). A systematic review of risk factors for early sexual intercourse in adolescence, based on seven studies using data from cohort studies, identified four dimensions of factors: individual (including physical development), family, social and environmental, and sociodemographic (Reis et al., 2023). In terms of physiological factors, there is consistent evidence that earlier puberty is associated with earlier sexual initiation (Hawes et al., 2010; Reis et al., 2023), although pubertal timing (which has been declining over recent decades, particularly for girls) can in turn be influenced by social and environmental factors (Brix et al., 2019; Pierce and Hardy, 2012; Wang et al., 2024).

Environmental/social factors include family functioning (parental monitoring of behaviour is associated with later sexual initiation), parental age (with children of younger mothers more likely to experience early sexual initiation), and family status (those growing up in lone-parent families are more likely to have early sexual initiation). In general, those from more disadvantaged socio-economic positions are more likely to have earlier sexual initiation, with continued participation in education emerging as a protective factor for later sexual initiation. Young people from ethnic minority backgrounds in the UK are less likely to have early sexual initiation. Religious affiliation and religiosity (i.e. strength of belief) have been shown to be related to sexual initiation, with no religious affiliation and/or infrequent attendance associated with earlier sexual initiation (Hawes et al., 2010; Reis et al., 2023). The Hawes et al. (2010) review highlights a clear relationship between school-based sex education and later sexual initiation (in comparison with those who cite their friends or the media). However, a number of evaluations of specific school-based programmes showed no additional protective effect in comparison with standard school sex education (Hawes et al., 2010). While the review noted that some studies identified a negative relationship between parent-child communication and age of sexual initiation, the opposite pattern has also been identified (although the extent to which this is explained by earlier sexual initiation leading to parental discussions is unclear) (Hawes et al., 2010).

Analysis of the 2010 HBSC study in Ireland by Young et al. (2018a) found that over a quarter of boys and a fifth of girls aged 15–18 had had sexual intercourse. Older age was predictive of sexual initiation for both boys and girls, as were alcohol, tobacco and cannabis consumption, living in poorer neighbourhoods and having good communication with friends. Involvement in music and drama was protective against sexual initiation. Household social class and level of affluence[9] were not associated with sexual initiation after these other factors were taken into account. The authors also examined early initiation (before 14 years of age), with adolescents living in rural areas, engaging in bullying, and using cannabis more likely to report early initiation. Sexual initiation before 14 years of age was reported by just over one-fifth of the sexually initiated boys and 13 per cent of the sexually initiated girls. Young et al. (2018a) used data from the 2014 HBSC in Ireland study to examine the predictors of age of sexual initiation, focusing on the 15–17-year-olds who reported ever having sex and were sexually active (22 per cent of all 15–17-year-olds). They found that sociodemographic, lifestyle and behavioural factors[10] were stronger predictors of age of sexual initiation among sexually active girls than boys. Together these predictors accounted for 23 per cent of variation in age of sexual initiation for sexually active girls and 11 per cent of the variation for boys. Descriptive statistics from the 2022 HBSC show that there was a statistically significant difference in the prevalence of sex among 15-year-olds in Ireland by level of family affluence for boys (but not girls) (Költő et al., 2024).

In Britain, the second National Survey of Sexual Attitudes and Lifestyles (NATSAL 2), carried out between 1999 and 2001 on a representative sample of men and women aged 16–44, showed that the proportion of those aged 16–19 years reporting first heterosexual intercourse at younger than 16 years[11] was 30 per cent for men and 26 per cent for women.[12] The research also noted that factors associated with early age at first intercourse include early age of first period (for women), early school-leaving age, family disruption and disadvantage, and poor educational attainment. Data for Northern Ireland on over 1,000 young people aged 14–25, collected between 2000 and 2002, using a similar methodology to NATSAL 2, found that just over a quarter of respondents had sex before the age of 16. As in NATSAL 2, earlier age of sexual initiation was significantly associated with family structure and educational attainment. In addition, there were some differential patterns by gender. For example, parental discussions about sex were protective against earlier age of sexual initiation for young women, while peer pressure to have sex was a risk factor for early sexual initiation for young men (Schubotz et al., 2004).

---

9 The measure of family affluence in the HBSC study is based on a set of questions about the material conditions of the households in which participants live, including car ownership, bedroom occupancy, holidays and home and computers. A composite score is calculated for each participant providing values of low, middle and high family affluence.

10 Social class, peer support, number of close friends, family support, risk behaviour initiation (i.e. smoking, alcohol use, drunkenness or cannabis at younger ages).

11 The legal age of consent in the UK is 16.

12 Among those aged 20–24, the respective proportions were 26 per cent (men) and 28 per cent (women).

Matković et al. (2018) investigated whether pornography use was associated with earlier sexual initiation. They found that the frequency of sexually explicit material use did not predict age of first sex in either male or female adolescents. However, male adolescents who were exposed to sexually explicit material in early adolescence had a significantly higher probability of reporting sex. Bonell et al. (2006) examined the factors associated with sexual activity, contraceptive use and pregnancy by age 15/16 among adolescents in 27 schools across England. Adjusting for socio-economic status, they found that men and women from lone-parent families, or born to teenage mothers, were more likely to report sex by age 15/16 than those from two-parent families. Using data from the '98 Cohort of GUI, Nolan and Smyth (2024) found that among both women and men, earlier sexual initiation (i.e. by age 17) was significantly and positively related to pornography use.

1.3.1.3 Influence of contextual factors

Much of the literature discussed so far focuses on the individual factors influencing early sexual initiation. However, a number of studies have broadened the scope to look at the context within which adolescent development occurs, examining the role of peer groups, schools and neighbourhoods. Researchers have distinguished between three types of peer norms influencing adolescent sexual behaviour: descriptive norms (actual sexual behaviour among peers), injunctive norms (attitudes to sex among peers) and peer pressure to have sex (Van de Bongardt et al., 2015). A meta-analysis of studies indicated that the timing of sexual initiation was more strongly associated with descriptive norms than with injunctive norms or peer pressure; thus, adolescents who perceived their peers as sexually active were more likely to be sexually active themselves (Van de Bongardt et al., 2015; Henderson et al., 2008). Peer influence can be differentiated between close friends, peers in general and schoolmates, with evidence indicating that the (perceived) sexual activity of close friends has the strongest influence (Van de Bongardt et al., 2015). One review of research pointed to having closer peer relationships being associated with later sexual initiation among adolescents (Vasilenko, 2022) but another study highlighted earlier sexual initiation among well-liked adolescents (that is, those who were mentioned as friends by others more frequently and who were more central in these friendship networks) (Wesche et al., 2019). While many of the studies cannot distinguish between selection (who young people choose as friends) and socialisation (being influenced by the behaviour of friends), one meta-analysis points to the stronger role of selection (Van de Bongardt et al., 2015). Some research indicates an interaction between the influence of peers and parents, with one Dutch study finding that frequent communication about sex between parents and young people reduced the effects of having sexually active friends and peer pressure to have sex (Van de Bongardt et al., 2014).

A number of studies have examined the role of school factors, both at the individual level (the young person's engagement with school) and at the school level (school profile and characteristics). In a systematic review of evidence from

cohort studies, young people with low levels of aspirations and achievement as well as those who get into trouble at school have earlier sexual initiation, with these factors influencing both males and females (Reis et al., 2023). Similarly, negative attitudes to school have been found to be related to earlier sexual initiation (Henderson et al., 2008). However, using cross-sectional HBSC data for 17 countries (including Ireland), Madkour et al. (2014) find that school attachment is associated with later sexual initiation for girls but not for boys. Teacher support is associated with later sexual initiation (Vasilenko, 2022). School-level sense of commitment and belonging among students are linked to later sexual initiation as is a lower level of deprivation at the school level (Peterson et al., 2020; Henderson et al., 2008). Having a say in school life and getting involved in school activities were linked to later sexual initiation only in low-deprivation schools (Peterson et al., 2020). As with peer groups, the level of early sexual initiation and permissive attitudes to sex at the school level is found to be associated with earlier sexual initiation as well as increased sexual risk-taking at the individual level (Cai et al., 2018; Coley et al., 2013; White and Warner, 2015). However, White and Warner (2015) found that this effect can be moderated by a high level of advantage (measured by parental education) at school level.

While the school context is generally found to have a clear influence on the timing of sexual initiation, findings on the impact of formal sex education are less clear-cut. Using US data, Lindberg and Maddow-Zimet (2012) report that receipt of formal sex education is associated with delays in first sex. In contrast, in a comprehensive overview, Denford et al. (2017) found inconsistent results on timing of sexual initiation but firmer evidence on positive effects on knowledge and engagement in risk-taking behaviour (see also Niland et al., 2024). In a Welsh study, Young et al. (2018b) found that sex education delivered by specialist teachers or the school nurse was associated with delayed sexual initiation compared with delivery by non-specialist teachers. Using data from NATSAL 2 (and from a similar study in Northern Ireland), main source of information on sex was a significant risk factor for early sexual initiation in Britain, with early sexual initiation rates higher among those whose main source of information on sex was not school lessons (Schubotz et al., 2004; Wellings et al., 2001). Research using NATSAL 3 replicated the finding of a positive association between school-based sex education and later sexual initiation (Macdowall et al., 2015).

Research has pointed to the neighbourhood as a context shaping sexual behaviour. The socio-economic and ethnic profile of the neighbourhood has been found to matter, with later sexual initiation in White middle-class areas (Vasilenko, 2022), though many of these findings derive from US studies where patterns of area segregation may differ from those in Europe. Other studies from the US and South Africa have pointed to higher levels of social disadvantage and/or poverty at neighbourhood level being associated with earlier sexual initiation, even controlling for individual and family factors (Bae et al., 2022; Orihuela et al., 2020). Subjective indicators of neighbourhood quality (such as the prevalence of rubbish, public drinking and abandoned houses) are found to have an influence on the

timing of sexual initiation, though only for males (Orihuela et al., 2020). As with peers, the level of permissive sexual attitudes in the neighbourhood is associated with earlier sexual initiation (Vasilenko, 2022). There is also an interaction between parental restriction of activities and neighbourhood context, with such restrictions associated with earlier sexual initiation in disadvantaged areas but later timing in more advantaged settings (Vasilenko, 2022).

Some studies have tried to disentangle the differential impact of these, often overlapping, contexts of peer group, school and neighbourhood. In one US study, Barker et al. (2019) found that 3.7 per cent of the variation in sexual initiation was at the peer group level, 3.2 per cent at the school level and 1.1 per cent at the neighbourhood level. Peers were found to be more important for boys than girls while school was more important for girls than boys. A study based on English data indicated a stronger effect of peer networks than of schools or neighbourhoods on sexual experience (van Leeuwen and Mace, 2016).

1.3.2 Circumstances of first sex

The literature on the circumstances of first sex focuses mainly on a young person's relationship with his or her partner, the motivation for initiating sex for the first time and the broader context around the event (e.g. whether alcohol was consumed, whether the timing was 'right', etc.) (Hawes et al., 2010). In general, young men are more likely than young women to report that their first sexual partner was not someone they were in a relationship with, and that their first sexual partner was the same age or younger. Gender differences are also apparent in the motivations for first sex, with women more likely to cite emotional or relational reasons, and men more likely to cite curiosity or physical drive, and in the types of pressure cited to have sex (men are more likely than women to report peer pressure to have sex) (Hawes et al., 2010).

Focusing on the sexual competence measure developed by the NATSAL research team in Britain (based on indicators of consent, regret, etc.; see footnote 2), data on those aged 16–24 from NATSAL 2 found that those who had sex earlier were significantly less likely to be sexually competent, with girls significantly less likely to be sexually competent than males. This was largely driven by two components of sexual competence: higher rates of regret over the timing of first sex (i.e. that it had happened too soon), and higher rates of being less willing than their partner to have sex (Wellings et al., 2001). Palmer et al. (2019) found, using data from NATSAL 3, that over half of women and more than 40 per cent of men aged 17–24 who had had sex were not sexually competent at first intercourse. While age at first intercourse was associated with sexual competence, it did not fully explain all the variability in sexual competence. The stability of the first partnership was associated with a more positive first sexual experience. Both area-level deprivation and own education level were associated with sexual competence (more disadvantaged socio-economic status may indicate lower levels of perceived control over one's life). The most commonly reported negative feature of first sex was that it was felt not to have occurred at 'the right time' (40 per cent of women

and 27 per cent of men). The study also found that young women who had discussed sexual matters with their parents and those who reported school to be their main source of information were more likely to have been sexually competent at first sex. However, these associations were not observed in young men.

Using data from the 2013/2014 HBSC in Bulgaria, France, Ireland and Scotland, Moreau et al. (2019) examined regret over the timing of first sexual intercourse. They found that approximately 20 per cent of the 15-year-olds who had had sex expressed regret over the timing, i.e. that they wished it had happened later, or they did not want to have sex at that time.[13] Girls were over four times more likely to express regret than boys, and those from less affluent families were also more likely to report regret over the timing of first sex.

Data from the 2004 ISSHR in Ireland showed that women were more likely to express regret over the timing of first sex than men. Among both men and women, younger age groups were significantly more likely to say they 'should have waited longer' (Layte et al., 2006). Layte and McGee (2007) found that within all age groups and for both sexes, having sex before age 17 was associated with a higher likelihood of subsequent regret. Men and women having sex before age 17 were more likely to believe that they should have waited longer. However, regret after early sexual initiation was not universal and while young age contributed to higher levels of regret, it was not solely responsible. Regression analysis showed that less planning, lower autonomy, a less stable relationship with their partner and a shorter subsequent relationship with their first partner all contributed to higher subsequent regret irrespective of age of first intercourse. Gender differences in the circumstances of first sex, including timing regret, have also been reported in Northern Ireland. Based on a study of young people aged 16–25 surveyed over the period 2000–2002, young males were less likely to say that their first sexual partner was a person they were in a steady relationship with than females. Young females were more likely to regret the timing of first sex (feeling that it had occurred too soon), and to feel like they were pressurised into having sex by their partner than young males (Schubotz et al., 2004). Using data from the '98 Cohort of GUI at age 17, Nolan and Smyth (2020) found that nearly a quarter of young people expressed regret over the timing of first sex, and this proportion was substantially higher among young women (31 per cent, almost all of whom wished they had waited longer) than young men (16 per cent, most of whom wished they had waited longer). Results of statistical modelling showed that with the exception of gender, there was little systematic variation in reports of regret by social background or other factors (e.g. sex education).

[13] While the proportion expressing regret in Ireland (nearly 25 per cent) was significantly higher than that reported by French teenagers (less than 16 per cent), the difference was no longer statistically significant after adjustment for other covariates (gender, family socio-economic status, age of partner, etc.).

1.3.3 Consequences of early sexual initiation

Hawes et al. (2010) note that a large volume of research on first sexual intercourse reports on the consequences of first or early sex, including disease outcomes, pregnancy outcomes, and psychological outcomes.[14] In general, the evidence is consistent in showing an association between early sexual initiation and unplanned pregnancy, but less conclusive in terms of an association with STIs (Hawes et al., 2010). Data from the ISSHR show that in later life, early sexual intercourse was associated with a higher likelihood of experiencing crisis pregnancy[15], abortion and an STI (Layte et al., 2006). Analysis of data from the NATSAL 2 survey in Britain (carried out between 1999 and 2001) showed that early age at first intercourse (i.e. under 16) was significantly associated with pregnancy under 18 years, but not with occurrence of STIs. Data from a sample of Canadian university students found that younger age at first sexual intercourse was associated with greater likelihood of non-consensual sex, reproductive illness, infection, or injury affecting sexual activity, and, for women, incidence of pregnancy termination or loss (Peragine et al., 2022).

Macdowall et al. (2015) examined the association between source of information about sex and sexual behaviours using data on 17–24-year-olds from NATSAL 3. They found that gaining information mainly from school was associated with lower reporting of a range of negative sexual health behaviours and outcomes such as unsafe sex[16] and STI diagnoses. In women, there were additional associations between reliance on school-based information and lack of experience of non-consensual sex, abortion and distress about sex (based on agreement with the statement 'I feel distressed or worried about my sex life'). Citing a parent as the main source was also associated with fewer negative outcomes, but to a lesser extent.

Using data from the National Longitudinal Study of Adolescent to Adult Health (Add Health) in the US over the period 1994–2008, Vasilenko et al. (2016) examined age of onset of sexual intercourse and its association with past-year and lifetime STIs[17] in young adulthood. They found a strong positive association between earlier sexual initiation and lifetime STI diagnosis; for example, 35 per cent of women and 12 per cent of men who initiated sexual intercourse at age 14 years reported a

---

14 Peragine et al. (2022) note that most of the existing literature on the consequences of first sex focuses on outcomes of relevance to public health policy and practice (i.e. unplanned pregnancy, safe sex practices, etc.). However, they also highlight the need for more research on the consequences of early sexual initiation for sexual functioning, given the importance of positive and pleasurable sexual experiences for sexual health more generally.

15 A variety of terms are used in the literature to refer to unplanned or unintended pregnancies (see Barrett and Wellings, 2002 for a good discussion). 'Crisis pregnancy' is a unique term used only in Ireland and is defined in Irish legislation as 'a pregnancy which is neither planned nor desired by the woman concerned and which represents a personal crisis for her' (Tierney and Kelleher, 2021). While the term 'unplanned pregnancy' is more widely used internationally, it has been noted that while a pregnancy may be unplanned or mistimed, it may also be a welcome surprise for those involved (Bourke et al., 2015).

16 Defined as no condom used at the first occasion of sex with a new partner in the past year.

17 Participants reported whether they had been diagnosed with six different STIs (chlamydia, gonorrhoea, trichomoniasis, syphilis, genital herpes, and genital warts) in their lifetime, and whether this diagnosis occurred in the past year (Macdowall et al., 2015).

lifetime STI, compared with five per cent of those who initiated at age 24 years. The authors noted that possible explanations include biological factors, more years of sexual activity to accumulate a greater number of partners, and riskier young adult sexual behaviour (e.g. condom non-use, higher risk partners) among early initiators. However, associations were also found with past year STI diagnosis, suggesting that increased risk was not solely a result of additional time to engage in sexual behaviour with a greater number of partners among early initiators. They also note that the associations are not necessarily causal; associations between early sexual initiation and later STI diagnoses could also be mediated by other factors (e.g. impulsivity). Kugler et al. (2017) built on this study by using the same data (Add Health) to estimate the causal impact of age of sexual initiation on STI diagnoses. They found that the effect of early sexual initiation on having an STI in the past year was positive and significant, but only among females. Also using Add Health, but clinical test results for three STIs[18] (rather than reports of STIs by participants), Kaestle et al. (2005) found that younger ages at first intercourse were associated with higher odds of STI diagnoses in comparison with older ages, but the effect diminished with increasing current age. In other words, by young adulthood an older age at first sexual intercourse was no longer protective against STIs (by age 23, the timing of first sexual intercourse has no significant influence on STI prevalence). Therefore, the authors note that strategies other than encouraging delayed sexual initiation are required to reduce the prevalence of STIs in young adults.

Bourke et al. (2015) used data from the 2003 ISSHR, 2004 ICCP and 2010 ICCP studies to examine the predictors of crisis or unintended pregnancy among women aged 18–45 years in Ireland. Focusing on age at first sex (which was recorded for the 2010 study only[19]), the results indicated that those respondents who reported first sexual intercourse after the age of 17 were significantly less likely to experience a crisis pregnancy than those who had first sexual intercourse aged 17 or before this age. Those who received sex education while growing up and those who used contraception during their first sexual intercourse were also significantly less likely to have experienced a crisis pregnancy. However, after adjustment for demographic and socio-economic characteristics (i.e. age, social class, household location, marital status, education level, eligibility for free public healthcare, migrant status), the effect of age at first sex was no longer statistically significant in predicting experience of a *recent* crisis pregnancy (i.e. within the last six years). Using data from NATSAL 3 on a sample of women aged 16–44 who were pregnant in the previous year, Wellings et al. (2013) found that first sexual intercourse before 16 years of age was strongly associated with unplanned pregnancy.[20]

---

18 Data were collected via urine samples in wave 3 of the survey (carried out in 2001–2002), for three STIs, chlamydia, gonorrhoea, and trichomoniasis.

19 Respondents who reported ever having experienced heterosexual intercourse were asked the age of first sex (dichotomised as occurring before or after the legal age of consent in Ireland, currently 17 years of age).

20 Pregnancy intention was assessed by the self-administered London Measure of Unplanned Pregnancy (LMUP) which comprises six questions asking about contraceptive use, timing of motherhood, intention to become pregnant, desire

1.4 POLICY CONTEXT

The National Sexual Health Strategy 2015–2020 is the strategic framework for the sexual health and wellbeing of the Irish population and was launched in October 2015 (Department of Health, 2015b). The strategy adopts a life-course approach to sexual health which acknowledges the importance of developing healthy sexuality throughout childhood and adolescence and builds on that foundation for positive sexual health and wellbeing into adulthood and older age. The Strategy highlights the concern around early sexual activity in young people, in particular as those who first have sex before the age of 17 are significantly less likely to use contraception than those who first have sex at a later age (Department of Health, 2015b). In 2023, a review of the Strategy included an assessment of actions and priorities as set out in the Strategy, progress made with implementation, an overview of sexual health strategies in selected EU countries (France, the Netherlands and Spain), an evaluation of feedback from a wide-ranging stakeholder consultation, and a series of recommendations to inform future policy development (Crowe, 2023). The HSE Sexual Health Programme (SHP) have commissioned the development of a new sexual health survey in Ireland, to provide updated evidence on the sexual health of the population.[21] In 2021, a consultation on the content of the planned survey with relevant stakeholders found that 'first sexual experience' received an average rating of 73.9 on a scale from 0 (not very important to include) to 100 (essential to include) (Tierney and Kelleher, 2021).[22]

One of the three key goals of the National Sexual Health Strategy is to ensure that everyone has access to appropriate sexual health education and information.[23] The Relationships and Sexuality Education (RSE) programme has been a required component of the curriculum at primary and second level since 1995/1996, and in 2003 was integrated into the broader Social Personal and Health Education (SPHE) programme (Department of Health, 2015b). Under the current RSE programme, schools and educational stakeholders, including parents, have a major role in determining the approach taken within schools (Young et al., 2018a). A major review of RSE in primary and second-level schools was undertaken from June 2018 to March 2019. Consultations with key stakeholders (students, parents, teachers, principals) revealed a number of key points. Students said their learning in RSE was too little, too late and not relevant to their needs, while all stakeholders said that RSE needed to be more than information about biological aspects of growing up

for a baby, discussion with a partner, and preconceptual preparations. Each item is scored 0–2, the total score ranging from 0–12. Each point increase represents an increase in pregnancy planning and intention, scores of 0–3 being categorised as unplanned, 4–9 as ambivalent, and 10–12 as planned. Overall, among women aged 16–44 who were pregnant in the last year, 16.2 per cent of pregnancies were unplanned, 29 per cent were ambivalent and 54.8 were planned.

21 The last Irish Contraception and Crisis Pregnancy survey was carried out in 2010 (McBride et al., 2012).

22 Respondents were presented with 37 potential topics, with 'sexual health and reproductive knowledge' scoring highest (86.0), and 'masturbation' scoring lowest (58.5).

23 The other two are to ensure that high-quality sexual health services are available and affordable, and to ensure that good-quality data are available to guide the service.

and sexual activity (National Council for Curriculum and Assessment, 2019).

Arising from the review, the National Council for Curriculum and Assessment (NCCA) established two development groups, one for primary and one for post-primary, to oversee work in this area. Work on new specifications for SPHE commenced with a focus on junior cycle, followed by senior cycle and primary. An updated junior cycle SPHE course has been developed and was made available for first year students entering post-primary education in September 2023, while the new senior cycle curriculum is available from September 2024 (and must be in place from September 2027 for all students entering fifth year). The new curriculum at junior cycle includes learning outcomes that explore the pressures that young people face to become sexually intimate, the importance of seeking, giving and receiving consent in sexual relationships, and the importance of safer sexual activity with reference to methods of contraception and protection against STIs (Department of Education, 2023).

At primary level, developments in SPHE are part of wider curriculum redevelopments. The Primary Curriculum Framework sets the direction for curriculum developments and outlines how the redeveloped curriculum will be presented across five broad curriculum areas. Learning and teaching related to SPHE will be part of the curriculum area of Wellbeing. A draft Wellbeing specification was made available for public consultation in early 2024, with a report on the consultation published later in 2024. Interim guidance has been provided to teachers by the NCCA, including resources tailored to the different class levels.

The Health Protection Surveillance Centre (HPSC) publishes annual data on notifiable STIs in Ireland, and has recorded large increases in the prevalence of most STIs over the last few years (Health Protection Surveillance Centre, 2023). For example, cases of chlamydia (one of the most common STIs in Ireland) increased by nearly 20 per cent between 2019 and 2022, with 49 per cent of cases accounted for by those aged 15–24 years of age. More recent data on gonorrhoea notifications indicate a 125 per cent increase over the period 2019–2023, with a particularly large increase observed among females aged 20–24 years of age (Health Protection Surveillance Centre, 2024). While a pilot home STI testing project was launched in three counties in January 2021, and extended nationwide from October 2022 (Health Protection Surveillance Centre, 2023), the HPSC note that increasing trends in gonorrhoea in young females aged 20 to 24 years have also been observed in other countries (Health Protection Surveillance Centre, 2024). Contracting STIs during young adulthood can have significant adverse consequences for reproductive health. STIs can cause complications such as pelvic inflammatory disease, infertility, ectopic pregnancy, pre-term birth, and foetal abnormalities (Kaestle et al., 2005). While it is difficult to ascertain the exact number of adolescents who become pregnant, the data on births and abortions show that prevalence of teenage pregnancy has declined substantially in Ireland over the last two decades. For example, the teenage birth rate declined from 19.2 per 1,000 in 2000 to 5.2 in 2020 (Health Service Executive, 2022). In addition to home STI testing, other public health initiatives focused on sexual health

introduced in recent years include the National Condom Distribution Service (NCDS), which distributes free condom and lubricant sachets to HSE services and other organisations working directly with individuals at increased risk of negative sexual health outcomes (Health Service Executive, 2023), and free contraception for 17–26-year-old women, which was introduced in September 2022 (and subsequently extended to other cohorts over time). Currently, all women aged 17–35 years of age are eligible.[24]

1.5 SUMMARY

This chapter has provided an overview of the policy context and existing literature on sexual initiation. The present study seeks to build on the existing evidence base to answer three research questions, using data on the '98 Cohort of GUI collected at ages 9, 13, 17 and 20:

- What are the individual-, family-, school- and neighbourhood-level factors that are associated with age of sexual initiation?
- What are the circumstances of first sexual intercourse (i.e. use of contraception, perceptions of timing, etc.), and do these vary by age of sexual initiation?
- How is age of sexual initiation associated with sexually transmitted infections and young parenthood?

The following chapter, Chapter 2, introduces the data and methods used in subsequent chapters of this report. Chapters 3 and 4 present the results of the analyses for each of the three research questions, while Chapter 5 summarises the findings and draws out implications for policy.

[24] The Women's Health Action Plan 2024–2025 commits to the extension of the scheme to women aged 32–35 in 2024 and 2025 (Department of Health, 2024).

CHAPTER 2

Data and methods

2.1 DATA

Growing Up in Ireland (GUI), the national longitudinal study of children and young people in Ireland, surveys two cohorts of children and young people. The '08 Cohort (previously known as the Infant Cohort) contains information on 11,134 nine-month-old children and their families who were first surveyed between September 2008 and April 2009 (Quail et al., 2011). The '98 Cohort (previously known as the Child Cohort) contains information on 8,568 children and their families first surveyed between August 2007 and May 2008 when the children were nine years of age (Thornton et al., 2010). The sampling frame was the primary school system. Data from the first four waves of the '98 Cohort are used in this report. The second wave of data collection for the '98 Cohort was carried out between August 2011 and March 2012 (when the young people were approximately 13 years of age); wave 3 was carried out between April 2015 and August 2016 (when the young people were approximately 17 years of age), and wave 4 between August 2018 and June 2019 when the young people were approximately 20 years of age (Growing Up in Ireland, 2021; Murphy et al., 2018).[25] At the time of writing, data collection for wave 5 of Cohort '98 (at age 25) is in progress.

At nine years of age, data were collected primarily via computer-aided personal interview (CAPI) with the primary caregiver (PCG) (who in most cases was the young person's mother), although information was also collected from the nine-year-old. As the young person aged into adolescence and young adulthood, more of the information was collected from the young person, on either a CAPI or a self-completion basis. Teachers and school principals also provided information at certain waves. Sensitive self-completion questionnaires, which collected information on parent-child discussion of sex (from 13) as well as (from 17) young people's sexual behaviour, were also conducted with parents and young people. In this report, we concentrate on the 4,585 young people (2,222 men and 2,363 women) who were observed at all waves, including wave 4 at age 20.[26]

[25] At wave 3, the majority (over 80 per cent) of young people were aged 17, while at wave 4, the majority (over 90 per cent) were aged 20. For simplicity, we refer to ages 17 and 20 respectively when referring to these study waves.

[26] The sample sizes for the statistical models presented in Chapters 3 and 4 may differ slightly due to missing data on included variables.

2.1.1 Age of sexual initiation

While GUI does not ask young people the exact age at which they first had sex, the young person is asked at ages 17 and 20 if they have had sex.[27] Information from the surveys at 17 and 20 years of age is combined to capture the timing of sexual initiation to distinguish between those who had had sexual intercourse by 17, those who had had intercourse by 20 and those who had not had intercourse (mutually exclusive categories). Table 2.1 presents summary statistics on these variables, for males and females separately. Just over one-third of males and females first had sex by the age of 17, while a further 50 per cent first had sex before the age of 20. The remaining 15 per cent have not yet had sex. There is no statistically significant difference in these proportions between young men and women.

TABLE 2.1 SUMMARY STATISTICS (AGE OF SEXUAL INITIATION)

Variable	Definition	% Male	% Female
Sexual initiation	Age of sexual initiation:		
	Had sexual intercourse by 17	33.4	33.1
	Had sexual intercourse by 20	51.8	51.3
	Has not had sexual intercourse	14.8	15.6

Source: *GUI, '98 Cohort, wave 4 (age 20).*
Notes: *Population weights are employed. Figures may not add to 100 per cent due to rounding. *** Gender difference is significant at the p<.001 level, ** p<.01, * p<.05, ± p<0.1.*

2.1.2 Circumstances of first sex

As noted in Chapter 1, in addition to the timing of first sex, it is important to consider the broader circumstances and context in which first sex occurs. While GUI does not contain the full set of indicators used to construct the index of sexual competence or readiness used in the NATSAL study in Britain, information on timing regret and contraceptive use at first sex is available and can be used to assess these dimensions of sexual competence. In terms of contraception use, respondents who have had sex are asked if they used contraception the first time they had sex.[28] Females are significantly more likely to report that they did so than males, although rates among both males and females are very high overall. Timing regret is captured by a four-category variable that indicates the respondents' perception of the timing of first sex (that it happened too soon, too late, at about

[27] At age 20, the question wording was 'Have you ever had sexual intercourse, that is, made love, had sex, or "gone all the way" with someone?'. At 17, young people were asked about a series of intimate behaviours ranging from kissing to sexual intercourse.

[28] The question asked 'Still thinking of that time you first had sexual intercourse, did you or your partner use any forms of contraception, including withdrawal and/or emergency contraception?'. It should be noted that information was not collected on type of contraception so we cannot determine to what extent respondents were using less reliable methods like withdrawal.

the right time, or not sure).[29] Females are significantly more likely to express regret over the timing of first sex than males, in particular by stating that it happened too soon (i.e. that they 'should have waited longer before having sex with anyone'). Finally, we include a variable that captures the nature of the relationship with the person with which the young person first had sex, distinguishing those who had just met, those who knew each other (but were not in a steady relationship), and those who were in a steady relationship (including a small number who were living together, engaged or married).[30] See Table 2.3 for further details.

TABLE 2.2 SUMMARY STATISTICS (CIRCUMSTANCES OF FIRST SEX)

Variable	Definition	% Male	% Female
Contraception	Used contraception at first sex*	87.1	90.7
Timing	Perception of timing of first sex:***		
	Too soon	9.9	25.7
	Too late	9.4	2.3
	About right	66.4	64.0
	Not sure	14.3	8.0
Partner	Partnership status at time of first sex:***		
	Did not know partner	15.3	8.6
	Knew partner but was not in a relationship	35.0	30.7
	Was in a steady relationship	49.7	60.8

Source: *GUI, '98 Cohort, wave 4 (age 20).*
Notes: *Population weights are employed. Figures may not add to 100 per cent due to rounding. *** Gender difference is significant at the p<.001 level, ** p<.01, * p<.05, ± p<0.1.*

2.1.3 Consequences of early sexual initiation

The literature review (Section 1.3) highlights the multitude of possible consequences of early sexual initiation that have been examined in previous research. In this report, we focus on two indicators for which we have data in GUI: STI diagnosis, and early parenthood. At age 20, those who have had sex are asked if they have ever had an STI,[31] and if they have any children.[32]

29 The question asked 'Looking back now to that first time you had sexual intercourse, do you think…'

30 The question asked 'Which of the following best describes the relationship between you and the other person at the time you first had sexual intercourse?'

31 While STIs can also be transmitted via types of sexual contact other than sexual intercourse (e.g. oral sex), the GUI questionnaire only asks about STI diagnoses in those who have had sexual intercourse.

32 Respondents were also asked if they (or a partner) had ever been pregnant. As the numbers are small (and similar to those for parenthood), we focus on parenthood as the outcome in this report.

TABLE 2.3 SUMMARY STATISTICS (CONSEQUENCES)

Variable	Definition	% Male	% Female
STI	Ever had an STI	4.4	4.4
Early parenthood	Has child(ren)	2.0[a]	

Source: *GUI, '98 Cohort, wave 4 (age 20).*
Notes: *Population weights are employed. Figures may not add to 100 per cent due to rounding. *** Gender difference is significant at the p<.001 level, ** p<.01, * p<.05, ± p<0.1.*
[a] Cell sizes are too small to disaggregate between males and females.

2.1.4 Independent variables

The advantage of GUI is the richness of the data on most aspects of the lives of young people and their families, recorded at ages nine, 13, 17 and 20. Informed by international research and by the conceptual frameworks discussed in Sections 1.2 and 1.3, we select variables that capture key domains of young adult lives, including their family background, their sources of information on sex, their peer networks, and their wider environment as represented by their school and neighbourhood (see Table 2.4 for summary statistics).

In terms of individual and family background, the analyses control for age, to take account of the small number of young people (approximately 7 per cent) who were 21 years of age (rather than 20) at the time of the survey. Sexual orientation, reported by the young person at 20 years of age, distinguishes those who identify as heterosexual, homosexual, bisexual or questioning/asexual/other.[33] Household social class[34], and lone-parent family background are included to proxy for family socio-economic position and status. The models also control for migrant status, disability status and urban/rural household location. With the exception of age, sexual orientation and urban/rural household location (the latter captured at age nine only), all other variables are based on information collected at the age of 13.

As previous literature has highlighted an association between early pubertal timing and age of sexual initiation, we include separate indicators for males and females. For males, we identify those whose voice had fully or partially broken by the age of 13, while for females, we identify those who reported that they had their first period at age 10 or 11. In terms of sex education factors, we include two variables that reflect the timing of Relationships and Sexuality Education (RSE) receipt (by age 13, by age 17 or not at all), and the timing of parental discussions about sex and relationships (by age 13, by age 17 or not at all). Finally, we include two variables that capture the main source of information on sex reported by the young person at ages 13 and 17. Table 2.4 contains further details on variable definitions and summary statistics.

[33] In Chapter 4, due to small cell sizes, the homosexual, bisexual and questioning/asexual/not sure groups are aggregated to an LGBTQ+ group.

[34] Social class is measured on the basis of the higher occupation if both parents are employed. It is based on the CSO scale, which groups people on the basis of occupational skill and has been found to be highly predictive of life chances.

There are statistically significant differences in the distribution of some variables between young men and women. For example, females are less likely to report that they are heterosexual, and to have a disability at age 13 than males, but are more likely to have lived in a lone-parent family at age 13 than males. Males and females also differ in their reports of their main source of sex education at both 13 and 17, with females more likely to cite their parents as their main source at both ages. Males are also less likely to have received RSE, and to have discussed sex or relationships with their parents, than females.

International research has pointed to the role of contextual factors, including school, neighbourhood and peer groups in influencing sexual initiation. A variable indicating that the school is included in the DEIS[35] programme is used as a proxy of school social mix. Another variable that indicates whether the school is single-sex is included, given the importance of this sector in the Irish context. Whether the gender mix of the school has an influence on sexual behaviour has been a lacuna in international research. Even within specific schools, students can vary in their level of engagement. To capture this, the analyses take account of attitudes to school at age 13 and the grades achieved in the Junior Certificate exam. A summary measure of Junior Certificate grade point average was calculated by assigning a score on the basis of subject level and grade, and averaging the scores across all exam subjects taken. In order to capture the potential influence of school on young people's broader development, the extent to which second-level education was seen as being of benefit in preparing them for adult life was included.

Two measures of neighbourhood characteristics are used. For the first wave of data collection (at age nine), data from the Census Small Area Population Statistics (SAPS) were matched on the basis of the area of residence of the family, at the level of Electoral Division (ED). In keeping with the approach used by Quail (2010), a scale is created based on the proportion of the local population with low levels of educational qualifications, unemployed and in the unskilled manual group; this scale is then divided into quartiles, with the highest quartile being the most disadvantaged. In addition, a scale of neighbourhood disorder was created based on the mother's report (when the young person was 13) of the prevalence of issues like graffiti or public drinking/drug-taking locally.

Previous research internationally (see Chapter 1) has shown the influence of peer modelling and attitudes on young people's sexual behaviour. The analyses take account of the size of friendship groups at age 17, with males typically having larger peer groups. The composition of that group is captured by looking at the proportion who have friends who are older than them by two years or more, given that associating with older peers is found to be associated with greater likelihood of engaging in risky behaviour (Nolan and Smyth, 2020; Smyth and Darmody, 2021). Potential modelling of sexual behaviour is captured by the young person's perception (at age 17) of the number of their friends that are already having sex.

[35] The Delivering Equality of Opportunity in Schools (DEIS) programme targets additional supports and resources towards schools serving socio-economically disadvantaged populations.

Direct pressure to have sex is also measured, with males more likely to report feeling under such pressure (at least a little) than females.

TABLE 2.4 SUMMARY STATISTICS FOR INDEPENDENT VARIABLES

Group	Variable	% Male	% Female
Family and individual background	Age:		
	19/20 years of age	92.9	93.1
	21 years of age	7.1	6.9
	Sexual orientation:***		
	Heterosexual	88.3	85.2
	Homosexual	4.0	2.1
	Bisexual	4.2	8.7
	Questioning/asexual/not sure	3.6	4.0
	Social class:		
	Professional	10.5	9.7
	Managerial	35.2	29.6
	Other non-manual	18.5	20.0
	Skilled manual	14.2	15.9
	Semi/unskilled manual	11.7	13.1
	Never employed	9.9	11.7
	Lone-parent family	18.7	21.0
	Migrant background	7.7	6.8
	Urban±	42.1	45.9
	Has disability ***	28.6	22.1
Pubertal timing	Early period		18.8
	Voice partially/fully broken	77.8	
Sex education	Timing of RSE access:*		
	None	6.8	5.2
	By 13 years	51.0	56.7
	By 17 years	42.3	38.1
	Timing parents talked to them about sex:***		
	Not at all	38.0	24.8
	By 13 years	40.6	50.1
	By 17 years	21.4	25.1
	Main information source at 13:***		
	Parents/family	41.3	52.2
	Friends	22.5	21.9
	Teacher	10.7	9.5
	Internet	6.0	2.0
	Books/magazines/TV	2.2	3.4
	Nowhere	17.3	11.1
	Main information source at 17:***		
	Parents/family	13.0	21.4
	Friends	46.6	45.7
	Teacher	10.6	8.3
	Internet	21.4	19.1
	Books/magazines/TV	2.8	3.1
	Nowhere	5.7	2.4

Source: *GUI, '98 Cohort, wave 4 (age 20).*
Notes: *Population weights are employed. Figures may not add to 100 per cent due to rounding. *** Gender difference is significant at the p<.001 level, ** p<.01, * p<.05, ± p<0.1.*

TABLE 2.4 (CONTINUED)

Group	Variable	% Male	% Female
School characteristics	DEIS school	18.8	16.7
	Single-sex***	36.3	43.4
Neighbourhood characteristics	Area level disadvantage:		
	Lowest quartile	20.4	18.6
	3rd quartile	23.2	21.0
	2nd quartile	26.7	27.5
	Highest quartile	29.7	32.9
	Perceived disorder (mean)*	6.8	7.1
School engagement	Attitude to school:***		
	Like it very much	24.1	34.5
	Like it quite a bit	36.0	30.4
	Like it a bit	29.4	25.2
	Don't like/hate it	10.6	9.9
	Junior Certificate exam performance (mean)***	6.9	7.4
	School a lot of benefit in preparation for adult life	30.3	26.7
Friendship group characteristics	Number of friends at 17:***		
	0–2	8.3	11.5
	3–5	46.7	49.7
	6–10	39.0	33.1
	>10	9.1	5.8
	At least some friends two years older	30.8	29.0
Peer sexual behaviours	Friends having sex:*		
	None	9.7	11.0
	Some	59.5	53.0
	Most	25.6	28.0
	All	5.2	8.0
	Felt under pressure to have sex:***		
	A lot/a little	22.0	12.5
	Not sure	3.3	3.3
	No	74.7	84.1

Source: *GUI, '98 Cohort, wave 4 (age 20).*
Notes: *Population weights are employed. Figures may not add to 100 per cent due to rounding. *** Gender difference is significant at the p<.001 level, ** p<.01, * p<.05, ± p<0.1.*

2.2 METHODS

A variety of regression methods are used to examine the association between individual, family, peer, school and neighbourhood factors on sexual initiation, the circumstances of first sex and sexual health outcomes. In Chapter 3, ordered logit regression models are used to examine the factors associated with age of sexual initiation. Because of the differences in sexual health behaviours by gender (see Table 2.2), all models are estimated separately for men and women. The results are presented in terms of odds ratios, where an odds ratio greater than one indicates that the variable in question (e.g. age) is associated with relatively later sexual initiation, while an odds ratio less than one indicates that the variable in question is associated with relatively earlier sexual initiation. The age of sexual

initiation variable is coded in such a way that larger values reflect later sexual initiation (see Table 2.1). Average marginal effects for ordinal logit models are unwieldly to display in tabular form. For selected variables, we therefore also present the results in terms of predicted margin plots (with 95 per cent confidence intervals) in order to illustrate the difference in predicted probabilities of age of sexual initiation for selected independent variables.

In Chapter 4, we focus on the subsample of those who have reported sexual intercourse by age 20. Due to the diversity in outcomes examined (e.g. circumstances of first sex, STIs, etc.), different modelling approaches are used that reflect the form of the dependent variable. Multinomial logistic regression models are used to look at the relationship between age of sexual initiation and perceptions of timing of first sexual intercourse, as well as the relationship status at time of first sex (with results presented as relative risk ratios).[36] Logistic regression models are used to explore the relationship between age of sexual initiation and contraceptive use and STIs. Results are presented in the form of average marginal effects, which indicate the change in the probability of the relevant outcome. Due to the small number of respondents who are parents themselves, the analysis of early parenthood is descriptive.

[36] A relative risk ratio greater than one indicates that the variable in question (e.g. age) is associated with a greater probability of the particular outcome (e.g. being in a steady relationship at time of first sex), while a relative risk ratio less than one indicates that the variable in question is associated with a lower probability of the particular outcome.

CHAPTER 3

Factors associated with age of sexual initiation

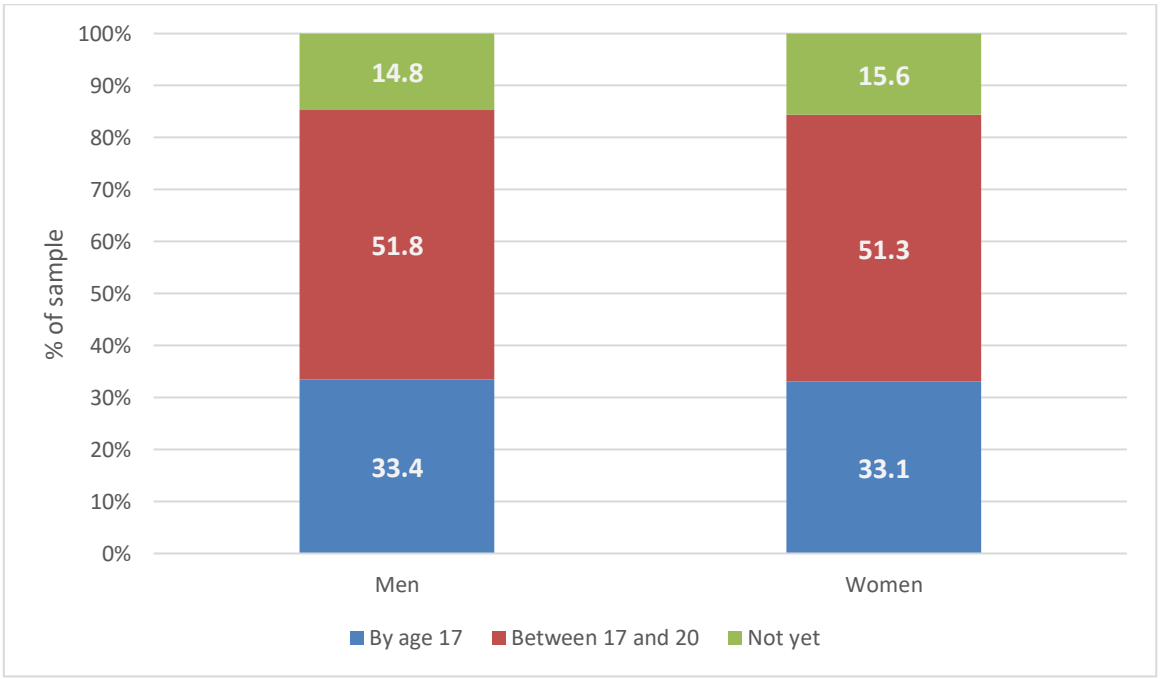
3.1 INTRODUCTION

In this chapter, we examine age of sexual initiation in the GUI sample of 20-year-olds, and how it varies by key individual-, family-, peer-, neighbourhood- and school-level factors. Section 3.2 begins with an analysis of the main individual-level factors associated with age of sexual initiation, while Section 3.3 presents the results of models that take into account the varying influences at individual, family, peer, neighbourhood and school level. Section 3.4 concludes the chapter with a short summary of the main findings.

3.2 INDIVIDUAL-LEVEL FACTORS

Figure 3.1 describes how the age of sexual initiation varies between young men and women in the GUI sample.

FIGURE 3.1 AGE OF SEXUAL INITIATION



Source: Growing Up in Ireland, Cohort '98.
Notes: *Population weights are employed. Figures may not add to 100 per cent due to rounding.*

Among young men and women, approximately one-third had sex by age 17, while a further 50 per cent first had sex between the ages of 17 and 20. While women are slightly more likely to report that they have not yet had sex than young men, overall, there is no statistically significant difference in the age of sexual initiation between men and women in this sample (see also Table 2.1).

As discussed in Chapter 1, previous research has identified a number of key individual- and family-level factors that are associated with age of sexual initiation, including family socio-economic position and status, family status, sexual orientation, etc. In Table 3.1, we present the results of a series of ordered logit models of age of sexual initiation, with the results presented in the form of odds ratios. The models in columns (1) and (2) include controls for age, sexual orientation, household social class, family status (i.e. lone- or two-parent family background), migrant status, disability status and urban/rural household location. In columns (3) and (4) we also control for age of puberty. As explained in Chapter 2, with the exception of age, sexual orientation, migrant status and household location, all other independent variables are measured at the age of 13, the age at which sexual identity begins to form.[37]

The results in columns (1) and (2) show that males who were aged 21 or older at the time of the GUI wave 4 interview are significantly less likely to report later sexual initiation than those who were aged 19 or 20 at the time of the wave 4 interview. Relative to those that report that they are heterosexual, homosexual[38] and questioning/asexual/not sure groups are significantly more likely to delay sexual initiation. Age of sexual initiation varies significantly by migrant status and lone-parent status, with those from a migrant background and a two-parent family significantly more likely to delay the age of sexual initiation. Males with a disability are significantly more likely to delay sexual initiation. Household social class is largely non-significant, with the exception of an association for those from a skilled manual background who are significantly less likely to delay sexual initiation than those from professional backgrounds.[39] In columns (3) and (4), we add controls for early puberty. While young men who reported that their voice had fully or partially broken by age 13 are significantly less likely to delay sexual initiation than those who reported no change in their voice at age 13, there is no statistically significant association with early puberty for young women.

---

37 We also run the models with some characteristics (e.g. sexual orientation, household social class, family status) measured at age 17. Where results differ, these are noted in the text. Results available on request from the authors.

38 Significant at $p<0.1$ for females.

39 Using the indicator of social class measured at age 17, the effect of social class is more consistently significant for both males and females, with those from more disadvantaged social backgrounds significantly less likely to delay sexual initiation.

TABLE 3.1 ORDERED LOGIT MODELS OF AGE OF SEXUAL INITIATION (INDIVIDUAL-LEVEL FACTORS) (ODDS RATIOS)

Variable	Males (1)	Females (2)	Males (3)	Females (4)
Age:				
21 years of age (Ref.: 19/20 years of age)	0.614*	0.752	0.603*	0.766
Sexual orientation:				
Homosexual	1.919**	1.942±	1.785*	2.019
Bisexual	0.987	0.833	1.070	0.886
Questioning/asexual/not sure (Ref.: Heterosexual)	6.535***	3.598***	6.096***	3.444**
Social class:				
Managerial	0.794	0.910	0.743	0.869
Other non-manual	0.842	0.989	0.791	0.996
Skilled manual	0.410***	0.592*	0.393***	0.590*
Semi/unskilled manual	0.649	0.983	0.579*	0.896
Never employed (Ref.: Professional)	0.657	0.871	0.639	0.902
Lone-parent family	0.596*	0.513***	0.560**	0.533±
Migrant background	2.260**	1.888*	2.606***	1.853*
Urban	0.854	0.787*	0.899	0.817±
Has disability ***	1.566**	1.124	1.544**	1.107
Early period				0.900
Voice partially/fully broken			0.525***	
N	2,147	2,313	2,069	2,220

Source: *GUI, '98 Cohort, wave 4 (age 20).*
Notes: *Population weights are employed. *** statistically significant at p<.001 level, ** p<.01, * p<.05, ± p<0.1.*

3.3 SEX EDUCATION FACTORS

In Table 3.2, we consider the association between sex education and the age of sexual initiation, focusing on four key indicators of formal and informal sex education:

- RSE timing (by age 13, by age 17, not at all)
- Timing of parental discussions about sex and relationships (by age 13, by age 17, not at all)
- Main source of information on sex at age 13
- Main source of information on sex at age 17

Separate models are run for each of the four sets of factors, controlling for the main individual- and family-level and early puberty variables included in the models in Table 3.1.[40] Focusing first on the timing of RSE, the results in columns (1) and (2) indicate no statistically significant association, for either males or females. In terms of the timing of parental discussions, the results in column (3) show that

[40] Full model results are not presented but are available on request from the authors.

males whose parents had not discussed sex or relationships with them by the age of 17 are significantly more likely to delay sexual intercourse. A similar association is evident for females, see column (4). While this result may seem counterintuitive, it most likely reflects the fact that parents who know that their child is engaged in sexual activity, or may be about to do so, are more likely to initiate a conversation about sex and relationships with their child. Previous research using a small sample of parents in Ireland found that parents used a variety of strategies to talk to their children about sex and relationships, but often a 'wake-up call', i.e. reacting to an event, pre-empted a discussion (Hyde et al., 2009).

In columns (5) and (6), we report the results for main source of information on sex and relationships cited by the young person at age 13. For males, there is a slightly[41] decreased odds of later sexual initiation for those who cite their friends as their main source of information at age 13, relative to those who cite their parents or other family members as their main source of information on sex at age 13. In contrast, those who cite their teacher as their main information source are more likely to delay sexual initiation.[42] For females, the effect of friends is stronger, with those who cite their friends as their main source of information on sex at age 13 significantly less likely to delay sexual initiation. A similar association, but only statistically significant at the 10 per cent level, is evident for females who cite the internet as their main source at age 13. The significant association between friends and earlier sexual initiation is particularly clear for females, with sex by age 17 (outcome 1) significantly more likely for those citing their friends rather than their parents or teacher as their main source of information on sex at age 13. These results can also be illustrated in Figure 3.2 (panel (a) for males, and panel (b) for females), which show estimated predicted margins (i.e. predicted probabilities) and associated 95 per cent confidence intervals of each outcome for each of the six information sources. For example, panel (b) shows that, holding other factors constant, 47 per cent of females who were reliant on friends for information at 13 had had sex compared with 30 per cent of those reliant on their parents. The confidence intervals do not overlap, so this difference is statistically significant.

Finally, in columns (7) and (8), we examine the role of main source of information on sex reported by the young person at age 17. Here, the results suggest that those who cite their teacher as their main source of information on sex are significantly more likely to delay sexual initiation, and this result is once again more marked for females. For both males and females, those who relied on the internet as their main source of information at age 17 are slightly less likely ($p<0.1$) to delay sexual initiation than those who relied on their parents as their main source of information on sex and relationships. These patterns can be illustrated more clearly in Figure 3.3.

41 Statistically significant at $p<0.10$ level only.
42 Statistically significant at $p<0.10$ level only.

TABLE 3.2 ORDERED LOGIT MODELS OF AGE OF SEXUAL INITIATION (SEX EDUCATION FACTORS) (ODDS RATIOS)

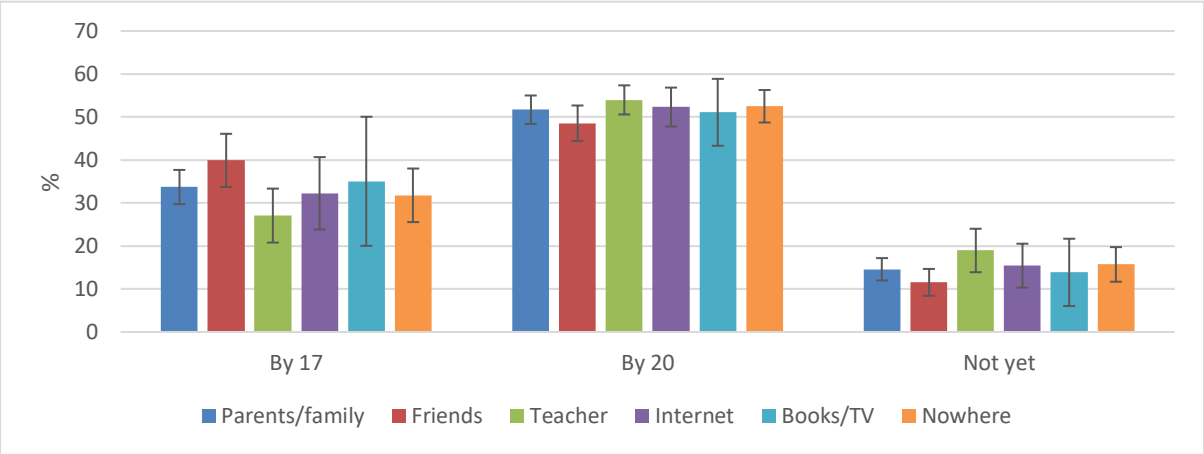
	Males	Females	Males	Females	Males	Females	Males	Females
Variable	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
RSE timing:								
(Ref.: by 13)								
By 17	1.205	0.915						
Not at all	1.240	0.904						
Parental discussions:								
(Ref.: by 13)								
By 17			0.890	0.787				
Not at all			1.550***	1.399*				
Main source of information (age 13)								
(Ref.: parents/family)								
Friends					0.751±	0.463***		
Teacher					1.399±	1.168±		
Internet					1.073	0.469		
Books/TV					0.939	0.844		
Nowhere					1.098	1.119		
Main source of information (age 17)								
(Ref.: parents/family)								
Friends							0.722	1.029
Teacher							1.869*	2.735***
Internet							0.652±	0.702±
Books/TV							1.202	2.618**
Nowhere							0.843	1.022
N	2,064	2,140	2,066	2,140	2,039	2,126	1,729	2,002

Source: *GUI, '98 Cohort, wave 4 (age 20).*

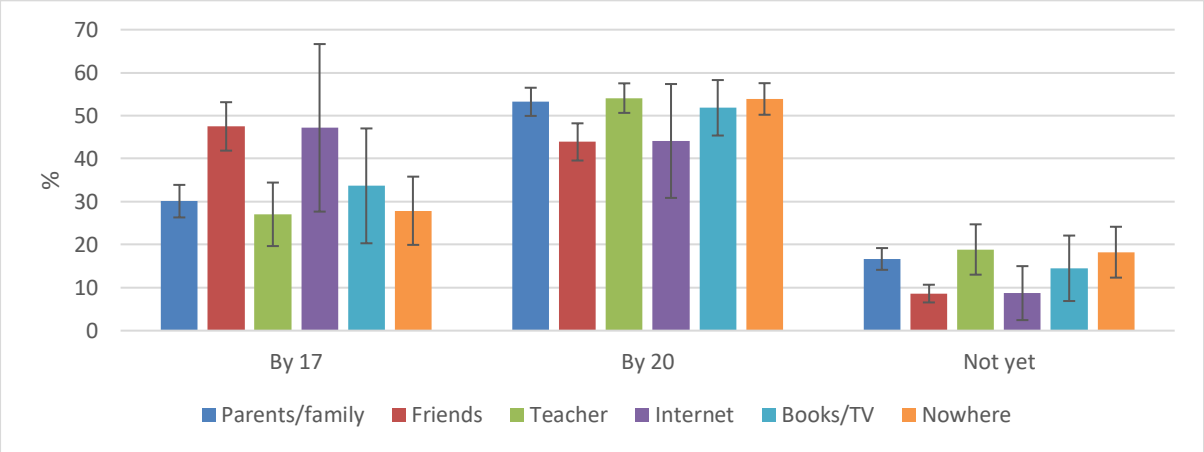
Notes: *Population weights are employed. *** statistically significant at p<.001 level, ** p<.01, * p<.05, ± p<0.1.*
Models also control for age, sexual orientation, social class, lone-parent status, migrant, disability, urban location and early puberty. Full results available on request from the authors.

FIGURE 3.2 PREDICTED PROBABILITIES OF TIMING OF SEXUAL INITIATION (BY MAIN SOURCE OF INFORMATION AT AGE 13)

(a) Males



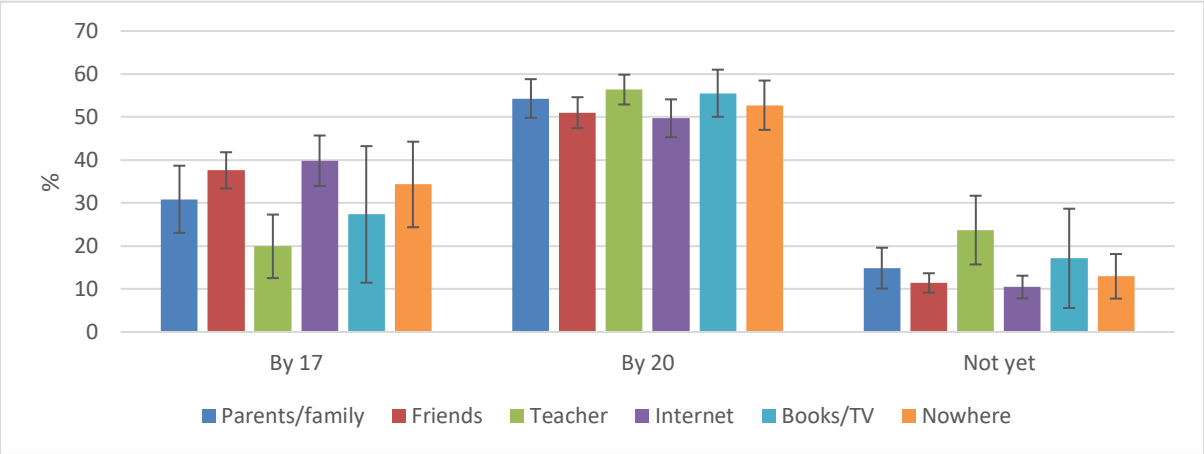
(b) Females



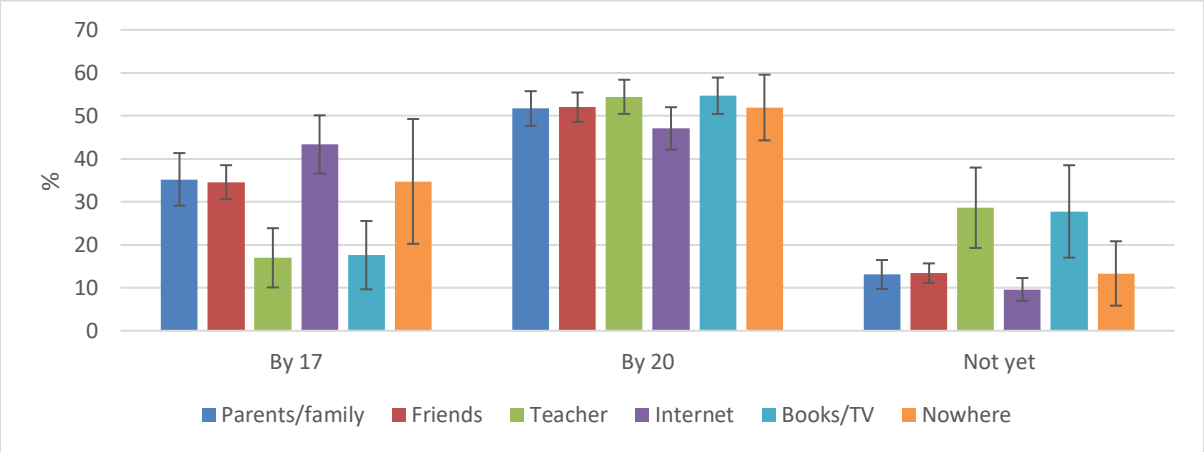
Source: Growing Up in Ireland, Cohort '98.
Note: Error bars represent 95% confidence intervals.

FIGURE 3.3 PREDICTED PROBABILITIES OF TIMING OF SEXUAL INITIATION (BY MAIN SOURCE OF INFORMATION AT AGE 17)

(a) Males



(b) Females



Source: Growing Up in Ireland, Cohort '98.
Note: Error bars represent 95% confidence intervals.

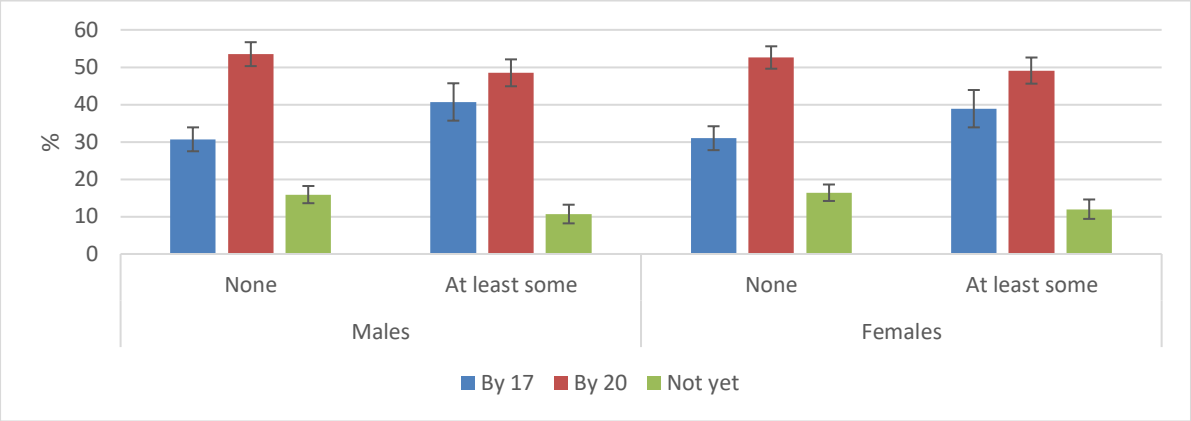
3.4 PEER-, NEIGHBOURHOOD- AND SCHOOL-LEVEL FACTORS

This section looks at the relationship between the timing of sexual initiation and contextual factors at the school, neighbourhood and peer group level. Table 3.3 presents a series of ordered logit models: model 1 looks at school and neighbourhood characteristics; model 2 looks at school engagement; model 3 looks at the size and composition of the friendship group, while model 4 looks at the role of peer norms and direct pressure from peers or partners to have sex. These models do not control for receipt of sex education and sources of information on sex as school and peer factors may influence these patterns. All models control for age, social class, family structure, migrant status, having a disability, urban/rural location and sexual orientation. As in the previous sections, models are presented separately for males and females.

The timing of sexual initiation is not significantly related to objective school characteristics, such as the social mix of the school (DEIS status) or its gender mix, for either males or females (Model 1, Table 3.3). However, young people's experience of school is significantly associated with timing. Higher Junior Certificate grades are significantly related to postponing sexual initiation. Attitudes to school and exam performance are closely intertwined, with those who dislike school tending to achieve lower grades on average. In the model, the associations between disengagement and earlier sex are largely mediated through lower grades. However, young women who do not like or hate school have earlier age of first sex, even taking account of their lower exam scores. It may be that the smaller group of young women who dislike school have other attributes linked to earlier sex. Males and females who feel that their second-level education was a lot of benefit in preparing them for adult life are significantly more likely to postpone sex. In terms of neighbourhood characteristics, perceived disorder is not related to timing but young men living in the most disadvantaged areas are more likely to have sex at an earlier age. No such variation by area-level disadvantage is found for young women.

In keeping with the international research discussed in Chapter 1, peer influences are markedly related to the timing of sexual initiation. Both males and females with larger friendship groups and which comprise at least some friends who are two years older are more likely to have earlier first sex. Figure 3.4 shows predicted percentages by having older friends, holding other factors constant. It is clear that for both young women and men, socialising with older peers is associated with earlier sexual initiation (i.e. by 17); with a gap of 10 percentage points for men and 8 percentage points for women.

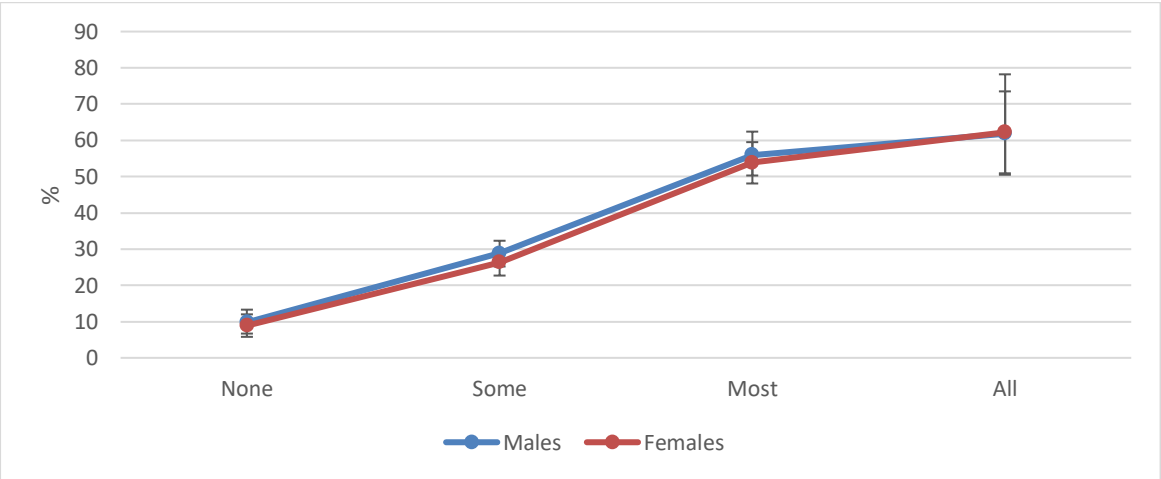
FIGURE 3.4 PREDICTED PERCENTAGE OF TIMING OF SEXUAL INITIATION BY HAVING FRIENDS TWO OR MORE YEARS OLDER



Source: Growing Up in Ireland, Cohort '98.
Note: Error bars represent 95% confidence intervals.

Peer behaviour and attitudes play a strong role: young women and men who report that most or all of their friends had had sex by age 17 are more likely themselves to have sex early (Figure 3.5), while feeling under pressure to have sex is linked to earlier age of sexual initiation, with a stronger effect size for young women (Table 3.5). The role of larger, more age-diverse friendship groups in earlier sex is largely related to differences in sexual behaviour and attitudes among these groups (compare models 3 and 4). However, even taking these factors into account, young women with larger peer groups are more likely to have first sex earlier. For young women, but not young men, the influences of negative school attitudes and lower academic performance are mediated through peer behaviours; in other words, more disengaged young women are more likely to associate with peer groups who engage in earlier sex and/or put pressure on them to do so too.

FIGURE 3.5 PREDICTED PROPORTION WHO HAD SEX BY 17 BY NUMBER OF FRIENDS WHO HAD HAD SEX



Source: Growing Up in Ireland, Cohort '98.
Note: Error bars represent 95% confidence intervals.

TABLE 3.3 ORDERED LOGIT MODELS OF AGE OF SEXUAL INITIATION (CONTEXTUAL FACTORS) (ODDS RATIOS)

	Males				Females			
Variable	**(1)**	**(2)**	**(3)**	**(4)**	**(1)**	**(2)**	**(3)**	**(4)**
School characteristics								
DEIS school (Ref. Non-DEIS)	0.903	0.913	0.859	1.171	1.069	1.175	1.134	1.160
Single-sex (Ref. Coeducational)	0.953	0.901	0.897	0.965	1.033	1.073	1.073	1.035
Neighbourhood characteristics								
Area level disadvantage:								
3rd quartile	0.750±	0.756±	0.761	0.819	1.200	1.133	1.054	1.183
2nd quartile	0.743±	0.805	0.783	0.707±	0.950	0.986	0.923	1.061
Highest quartile (Ref. Lowest quartile)	0.646*	0.671*	0.655*	0.589*	0.998	1.009	0.935	1.106
Perceived disorder	0.964	0.968	0.971	0.988	0.962	0.973	0.979	0.975
School engagement								
Attitude to school:								
Like it quite a bit		0.985	0.976	0.953		0.887	0.896	0.895
Like it a bit		0.696*	0.741±	0.819		0.823	0.811	0.852
Don't like/hate it (Ref. Like it very much)		0.756	0.777	0.920		0.604*	0.628*	1.044
Junior Certificate exam performance		1.080**	1.080**	1.083**		1.077**	1.085***	1.038
No JC results reported		1.745	1.838	1.570		0.861	0.847	0.952
School a lot of benefit in preparation for adult life		1.341**	1.313**	1.237*		1.201*	1.240*	1.236*
N	2,145	2,117	2,098	1,953	2,311	2,277	2,265	2,146

Source: *GUI, '98 Cohort, wave 4 (age 20).*

Notes: *Population weights are employed. *** statistically significant at p<.001 level, ** p<.01, * p<.05, ± p<0.1. These models control for age, social class, family structure, migrant status, having a disability, urban/rural location and sexual orientation.*

TABLE 3.3 ORDERED LOGIT MODELS OF AGE OF SEXUAL INITIATION (CONTEXTUAL FACTORS) (ODDS RATIOS) (CONTINUED)

	Males				Females			
Variable	**(1)**	**(2)**	**(3)**	**(4)**	**(1)**	**(2)**	**(3)**	**(4)**
Friendship group characteristics								
Number of friends at 17:								
3–5			0.524*	0.625			0.710±	0.690±
6–10			0.490*	0.605			0.623*	0.585*
>10			0.356**	0.492±			0.293***	0.326***
(Ref. 0–2)								
At least some friends two years older			0.616**	0.844			0.689**	0.849
(Ref. None)								
Peer sexual behaviours								
Friends having sex:								
None				4.126***				3.906***
Most				0.278***				0.267***
All				0.202***				0.199***
(Ref. Some)								
Felt under pressure to have sex:								
A lot/a little				1.648**				2.256***
Not sure				1.385				1.995*
(Ref. No)								
N	2,145	2,117	2,098	1,953	2,311	2,277	2,265	2,146

Source: *GUI, '98 Cohort, wave 4 (age 20).*

Notes: *Population weights are employed. *** statistically significant at p<.001 level, ** p<.01, * p<.05, ± p<0.1. These models control for age, social class, family structure, migrant status, having a disability, urban/rural location and sexual orientation.*

3.5 SUMMARY

In this chapter, the factors associated with age of sexual initiation were examined. Those more likely to delay sexual initiation include those who were homosexual or questioning/asexual, those from two-parent family backgrounds, those from more advantaged family backgrounds, and those with migrant parents. Early puberty was only statistically significant for males, with males who reported that their voice had fully or partially broken by age 13 significantly more likely to have sexual intercourse at a younger age.

In terms of sex education factors, the timing of Relationships and Sexuality Education (RSE) receipt was non-significant. While the results indicate that the young people whose parents discussed sex and relationships with their child at a younger age are more likely to have sex at an earlier age, this most likely reflects parents reacting to their child's sexual initiation by initiating conversations about sex and relationships. Young people who reported that their friends (rather than their parents) were their main source of information on sex at age 13 were significantly more likely to have earlier sexual initiation, while at age 17, citing their teacher as their main source emerged as a protective factor for later sexual initiation, particularly for females.

Contextual factors, particularly peer group composition and behaviour, were associated with the timing of sexual initiation. Young men living in the most disadvantaged areas were more likely to have sex at an earlier age. Lower academic performance and disaffection from school were associated with earlier sexual initiation while greater preparation for adult life at school was related to postponing first sex. Larger and more age-diverse networks were linked to earlier sexual initiation for both young women and men. This was mostly because they were more likely to contain young people who were already having sex and, in some cases, were a source of direct pressure on the young person to have sex.

CHAPTER 4

Circumstances of first sex and consequences of early sexual initiation

4.1 INTRODUCTION

In this chapter, we focus on the sample of those who have reported sexual intercourse by age 20 (i.e. 85 per cent of 20-year-olds) and examine how age of sexual initiation is related to a) the circumstances of first sex and b) key sexual health outcomes, namely STI diagnoses and early parenthood. Multinomial logistic regression models are used to look at the relationship between age of sexual initiation and perceptions of timing of first sexual intercourse, as well as the relationship status at time of first sex. Logistic regression models are used to explore the relationship between age of sexual initiation and contraceptive use and STIs. As the number of GUI respondents who are already parents is small (see Table 2.3), the analysis of early parenthood is descriptive. The key independent variable is the age of sexual initiation variable (see Figure 3.1), which for this sample distinguishes those who first had sex before the age of 17 and those who first had sex before the age of 20 (those who have not yet had sex are excluded from the analytic sample for this chapter).

4.2 CIRCUMSTANCES OF FIRST SEX

While GUI does not collect information on the four components of the measure of sexual competence developed by the British NATSAL research team (Palmer et al., 2019), two indicators are available in GUI: contraception use at first sex[43] and perception of timing of first sex. As illustrated in Table 2.2, contraception use at first sex is approximately 90 per cent for both men and women (with women slightly more likely to report contraceptive use at first sex than men, which is likely due to the fact that most methods of contraception are managed by women). The perception of the timing of first sex differs significantly between young men and women who have had sex, with young women significantly more likely to perceive that first sex had happened too soon. In terms of partnership status, over half of young men and women report that they were in a steady relationship with the person with which they first had sex (with this proportion higher among males than females).

In Tables 4.1 to 4.3, we present the results of binary and multinomial logistic regression models of partnership status, contraception use and perception of timing of first sex. For both males and females, later age of sexual initiation (i.e.

[43] GUI did not collect information on the type of contraception used. Further, we do not know whether gay men who used condoms prophylactically at first sex interpreted this as 'contraception' or not.

between ages 17 and 20 rather than by age 17) is associated with a higher odds of first sex occurring in the context of a more casual relationship (see columns (1) and (2) in Table 4.1). Non-heterosexual[44] young people (particularly young men) are significantly more likely to have sex for the first time with someone they have just met. There is little variation by socio-demographic factors, once timing of first sex is taken into account. However, young men from non-employed households and those with an illness/disability are more likely to have sex with someone they have met for the first time.[45]

Looking at the full set of results when school, neighbourhood and peer factors are also taken into account (see Table A.1 in the Appendix), there is little systematic variation in the circumstances of first sex by school or neighbourhood factors (in contrast to the patterns for timing of sexual initiation). The exception is that young men who felt they were better prepared for adult life by their schooling are less likely to have sex with someone they have met for the first time. Peer relationships emerge as a significant factor for males but not females. Young men who report that more of their friends had had sex by 17 years of age and those who felt under pressure to have sex were more likely to have their first sexual experience outside a steady relationship.

[44] As discussed in Chapter 3, homosexual and questioning/asexual young people are more likely to postpone sexual initiation. As sexual orientation is therefore highly correlated with age of sexual initiation, we aggregate homosexual, bisexual and questioning/asexual groups for the main analyses in Chapter 4.

[45] It should be noted that young men with an illness/disability are more likely to postpone sex (see also Table 3.1).

TABLE 4.1 MULTINOMIAL LOGIT MODELS OF PARTNERSHIP STATUS AT FIRST SEX (BASE CATEGORY: STEADY RELATIONSHIP) (RELATIVE RISK RATIOS)

	Males		Females	
Variable	Met for first time	Knew but casual	Met for first time	Knew but casual
Aged 21 or more	1.299	1.003	0.625	1.462
Sexual orientation: Homosexual/bisexual/questioning/ asexual/don't know (Ref. Heterosexual)	2.659***	1.114	0.553±	1.310
Social class:				
Managerial and technical	0.926	1.187	1.001	0.719
Other non-manual	1.002	1.223	0.897	0.448**
Skilled manual	0.752	0.920	0.991	0.823
Semi/unskilled manual	0.579	1.278	0.197*	0.681
Non-employed household (Ref. Professional)	0.283*	0.687	0.701	0.792
Lone-parent family	1.041	1.071	0.940	0.937
Migrant-origin family	1.436	1.951*	1.312	1.109
Young person has an illness/disability	1.658*	0.756	1.109	0.721±
Urban area	0.825	0.785	0.786	1.236
Later timing of sexual initiation	3.555***	2.224***	2.830***	1.759***
N	1,804		1,869	

Source: *GUI, '98 Cohort, wave 4 (age 20).*
Notes: *Population weights are employed. *** statistically significant at p<.001 level, ** p<.01, * p<.05, ± p<0.1.*

For both males and females, few factors are significantly associated with use of contraception at first sex, reflecting the high overall prevalence of contraception use at first sex among this cohort (Table 4.2). Age of sexual initiation is not related to contraception use at first sex[46] but, among both males and females, those who had first sex outside a steady relationship were less likely to use contraception. This was a sizeable difference with usage rates 6 to 12 percentage points lower than for those in a steady relationship. Non-heterosexual young adults were much less likely to use contraception at first sex, with a difference of around 10 percentage points. In the fully adjusted models (i.e. taking account of school, neighbourhood and peer factors), lower levels of academic performance at school are linked to less likelihood of using contraception for both males and females while living in a more disorderly neighbourhood is significant for females only, though the effect size is small. Perhaps surprisingly, peer factors play little role, though young women who socialise with older peers are less likely to use contraception at first sex (see Table A.2).

[46] Age of sexual initiation similarly has no statistically significant effect on contraception use in the unadjusted model, i.e. before the addition of control variables such as age, social class, household location, etc.

TABLE 4.2 BINARY LOGIT REGRESSION MODELS OF USE OF CONTRACEPTION AT FIRST SEX (AVERAGE MARGINAL EFFECTS)

	Males	Females
Aged 21 or more	0.011	0.007
Sexual orientation:		
Homosexual/bisexual/questioning/asexual/don't know (Ref. Heterosexual)	-0.100±	-0.104**
Social class:		
Managerial and technical	-0.023	-0.022
Other non-manual	-0.039	-0.053±
Skilled manual	-0.047	-0.070*
Semi/unskilled manual	-0.079	-0.070±
Non-employed household (Ref. Professional)	-0.127±	-0.037
Lone-parent family	0.005	-0.037
Migrant-origin family	0.013	-0.001
Young person has an illness/disability	-0.048	-0.045±
Urban area	-0.053*	-0.010
Later timing of sexual initiation	-0.006	0.015
Partnership status at first sex:		
Met for the first time	-0.086*	-0.121*
Knew but casual (Ref. Steady relationship)	-0.080**	-0.068**
N	1,733	1,816

Source: *GUI, '98 Cohort, wave 4 (age 20).*
Notes: *Population weights are employed. *** statistically significant at p<.001 level, ** p<.01, * p<.05, ± p<0.1.*

Table 4.3 presents analyses of the relationship between age of sexual initiation and perceptions of the timing of first sex, controlling for other factors. Males who had later sexual initiation are significantly less likely than those who had earlier sexual initiation to report their first sex had occurred too soon (see also Figure 4.1, panel (a)). For females, the results for age of sexual initiation are more consistent, with those who delayed sexual initiation significantly more likely to report that their first sex had occurred too late, and also less likely to report that their first sex had occurred too soon (see also Figure 4.1, panel (b)). For both males and females, those who had first sex outside a steady relationship were much less likely to feel it had happened at the right time, more commonly too soon rather than too late.

Few other factors were systematically related to perceptions of timing. Women from a working-class or lone-parent family were more likely to report sex as being too soon. Exam performance only had a significant influence in the case of young women, where higher-achievers were more likely to report having sex too late. The results for peer factors were not systematic, but women whose friends had all had sex by 17 were more likely to see themselves as having had sex too early (see Table A.3 in the Appendix).

TABLE 4.3 MULTINOMIAL LOGIT MODELS OF PERCEPTION OF TIMING OF FIRST SEX (BASE CATEGORY: ABOUT THE RIGHT TIME) (RELATIVE RISK RATIOS)

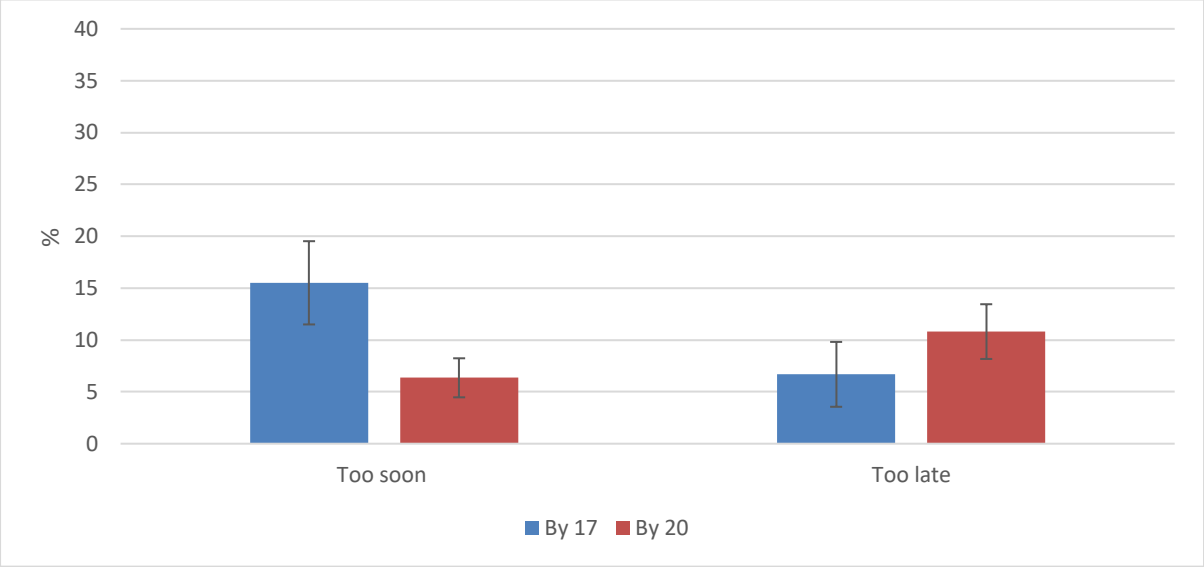
	Males			Females		
Variable	Too early	Too late	Not sure	Too early	Too late	Not sure
Aged 21 or more	0.591	0.746	1.150*	0.747	0.808	0.508
Sexual orientation: Homosexual/bisexual/ questioning/asexual/don't know (Ref. Heterosexual)	1.883*	1.421	1.186	0.657	2.260	0.605
Social class:						
Managerial and technical	0.967	1.242	0.978	1.471	1.545	1.042
Other non-manual	0.934	1.162	1.226	1.421	1.325	1.489
Skilled manual	1.274	0.822	0.965	2.493*	1.714	1.379
Semi/unskilled manual	1.872	1.392	1.979±	2.301*	-	1.270
Non-employed household (Ref. Professional)	1.292	3.536*	0.635	1.027	2.372	1.320
Lone-parent family	1.414	0.691	1.318	2.259***	0.818	1.662
Migrant-origin family	1.060	0.841	1.732	1.757	0.784	0.937
Young person has illness/disability	0.914	0.697	1.149	0.631*	0.940	0.831
Urban area	1.028	1.048	1.301	1.149	1.718	1.611±
Later timing of sexual initiation	0.369***	1.521	1.048	0.639*	11.372***	1.000
Partnership status at first sex:						
Met for the first time	7.334***	3.609***	3.218***	3.350***	2.574*	4.575***
Knew but casual (Ref. Steady relationship)	1.938*	3.231***	2.257***	2.691***	1.063	3.062***
N	1,785			1,852		

Source: *GUI, '98 Cohort, wave 4 (age 20).*

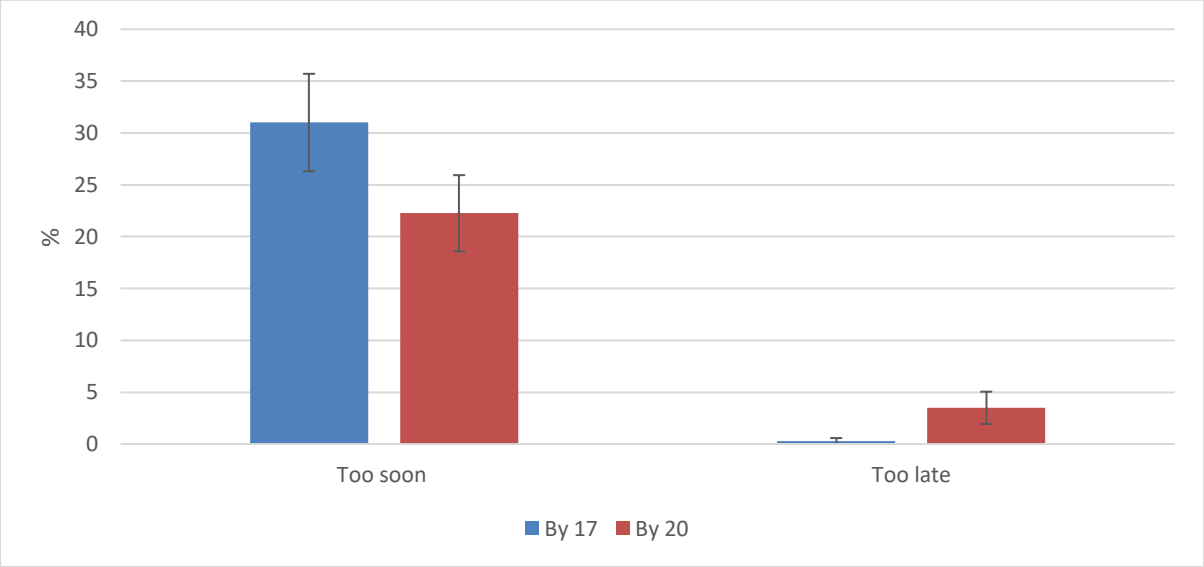
Notes: *Population weights are employed. *** statistically significant at p<.001 level, ** p<.01, * p<.05, ± p<0.1; - not estimated.*

FIGURE 4.1 PREDICTED PROBABILITIES OF PERCEPTIONS OF TIMING OF FIRST SEX (BY AGE OF SEXUAL INITIATION)

(a) Males



(b) Females



Source: Growing Up in Ireland, Cohort '98.
Notes: Predicted probabilities of other perceptions of timing categories (i.e. 'happened at the right time' and 'not sure' not presented here).
Error bars represent 95% confidence intervals.

4.3 CONSEQUENCES OF FIRST SEX

At age 20, respondents (who had sex) were asked if they had ever had an STI.[47] Overall, the prevalence of STIs is relatively low in the GUI sample, with 4.4 per cent of 20-year-olds reporting that they have ever had an STI.[48] No significant difference in the prevalence of STIs between young men and women was found. The prevalence of early parenthood is also very low, with just 2 per cent of young people reporting that they have children by the age of 20 (see also Table 2.3).

In Table 4.4, we report the results of binary logit regression models that examine the relationship between age of sexual initiation and STI diagnoses. In addition to the factors used in the models in Tables 4.1, 4.2 and 4.3, we also investigate the influence of number of sexual partners, and condom use (as the best method for STI prevention), although it is likely that both variables are possible mechanisms underlying the association between age of sexual initiation (and other factors) and STI diagnoses.[49] In column (1) we can see that there is a statistically significant negative relationship between later age of sexual initiation and STI diagnoses for both males and females, with a difference of 4–5 percentage points. This difference becomes non-significant when the number of people with which the young person has had sex is added to the model, highlighting that it is not necessarily delayed sexual initiation that is protective against STIs, but rather that those who delay sexual initiation are likely to have had fewer partners. Non-use of condoms is also associated with a greater likelihood of an STI diagnosis. Other factors associated with STI diagnoses include being from a migrant origin background (protective) and for women, growing up in an urban location or a lone-parent family (risk factors). Non-heterosexual men are also more likely to report having had an STI.[50]

---

47 The nature of the disease or infection was not specified. While those who have not had sexual intercourse could also have had an STI (e.g. those who had oral sex), the GUI questionnaire filters the STI question on those who have reported sexual intercourse.

48 However, this is slightly higher than the ISSHR study figure which was around 3 per cent for males and 2 per cent for females.

49 In addition to contraception use at first sex, respondents are also asked whether they use contraception and condoms every time they have sex. Further research will be conducted on these patterns for a separate report.

50 Fully adjusted models, i.e. with school, neighbourhood and peer factors, are not presented due to the low prevalence of STIs in the sample.

TABLE 4.4 BINARY LOGIT MODELS OF STI DIAGNOSIS (AVERAGE MARGINAL EFFECTS)

	Males			Females		
Variable	(1)	(2)	(3)	(1)	(2)	(3)
Aged 21 or more	0.008	0.009	0.017	-0.023	-0.020	-0.016
Sexual orientation: Homosexual/bisexual/ questioning/asexual/don't know (Ref. Heterosexual)	0.059*	0.073**	0.050*	-0.011	-0.007	-0.016
Social class:						
Managerial and technical	-0.015	-0.012	-0.028	-0.021	-0.021	-0.020
Other non-manual	-0.006	-0.004	-0.013	-0.008	-0.011	-0.011
Skilled manual	-0.029	-0.028	-0.037	0.023	0.032	0.033
Semi/unskilled manual	0.027	0.029	-0.020	-0.010	-0.010	0.006
Non-employed household (Ref. Professional)	-0.036	-0.035	-0.054±	-0.024	-0.023	-0.017
Lone-parent family	0.009	0.010	0.016	0.072*	0.070**	0.058*
Migrant-origin family	-0.027*	-0.034**	-0.035**	-0.037***	-0.040***	-0.039**
Young person has illness/disability	-0.001	(<200)	-0.001	0.027	0.031	0.030
Urban area	0.014	0.015	0.033*	0.028*	0.032*	0.037*
Later timing of sexual initiation	-0.051**	-0.042**	-0.012	-0.033*	-0.024	-0.006
Partnership status at first sex:						
Met for the first time	0.020	0.021	0.005	0.020	0.021	0.000
Knew but casual (Ref. Steady relationship)	0.016	0.019	0.025	0.018	0.014	0.010
Non-use of condoms		0.035*	0.024*		0.039**	0.033*
Number of partners			0.005***			0.005***
N	1,694	1,625	1,539	1,777	1,649	1,590

Source: *GUI, '98 Cohort, wave 4 (age 20).*
Notes: *Population weights are employed. *** statistically significant at p<.001 level, ** p<.01, * p<.05, ± p<0.10.*

Finally, while the numbers experiencing young parenthood (i.e. by age 20) are too small for further analysis, the data show no statistically significant relationship between age of sexual initiation and early parenthood in this sample.

4.4 SUMMARY

In this chapter, we have looked at the circumstances in which young adults had first sex – whether it was in the context of a steady or casual relationship, whether they used contraception and how appropriate they felt the timing was. The analyses have also examined whether the young adults had ever had an STI or had had a child by the age of 20, though the numbers in both categories were small.

Both women and men who postponed sexual initiation were more likely to have first sex in the context of a more casual relationship and to feel the timing of sex had been too late. They were equally likely to use contraception at first sex but less likely to contract an STI, largely because of fewer sexual partners by age 20. Having first sex in the context of a more casual relationship resulted in less satisfaction about its timing and lower levels of contraception use.

First sex outside a steady relationship was more common among LGBTQ+ women and men. Among all men, it was more prevalent among those from non-employed households and those with an illness/disability. Young men who reported a sexually active peer group at 17 and who felt under pressure to have sex were more likely to have their first sexual experience in a more casual relationship.

Levels of use of contraception at first sex were relatively high, at around 90 per cent. Other than relationship status, there were few consistent predictors. For both women and men, however, levels of use were higher among those with better academic performance. The survey question does not distinguish the type of contraception used at first sex.[51] Not surprisingly, given the potential ambiguity in interpreting condom use as 'contraception', the use of contraception is lower among LGBTQ+ young adults.

51 See Chapter 2 for question wording.

CHAPTER 5

Discussion and policy implications

5.1 SUMMARY OF MAIN FINDINGS

The first sexual experience is a significant life event, the timing of which is influenced by a range of individual and contextual factors. The circumstances within which first sex occurs can differ in a number of respects: in whether it occurs in a steady or more casual relationship; in whether contraception is used; and in whether young adults feel the timing is appropriate. This report draws on data from wave 4 (age 20) of Cohort '98 of the Growing Up in Ireland study to look at the factors influencing the timing of sexual initiation among young adults and the circumstances within which first sex occurred. This chapter outlines the main findings of the study, discusses the strengths and limitations of the analyses, and highlights the implications for policy development in terms of sex education and public health messaging for young people.

A third of young people in Ireland had had sexual intercourse by the age of 17, just over half first had sex between 17 and 20, while one in six had not had sex by the age of 20. The timing of sexual initiation is found to vary by individual, family, school, neighbourhood and peer factors. Timing varies by sexual orientation, with homosexual and questioning young people more likely to delay first sex than their heterosexual peers. Young adults from migrant backgrounds and those with a disability are more likely to delay sex while those from lone-parent backgrounds are more likely to have sex at a younger age. Previous research using the GUI '98 Cohort at age 17 (Nolan and Smyth, 2020) showed significant variation among young people in the timing of receipt of school-based RSE, in when their parents talked to them about sex and how easy they found these exchanges, and in the type of information they relied on about sex. There was no significant variation in sexual initiation by Relationships and Sexuality Education (RSE) timing, though information is not available on the quality of such provision. However, source of information matters. Young women and men who rely on their friends rather than their parents for information tend to have sex at an earlier age, while those who are more reliant on teachers for information at age 17 tend to postpone sex.

International research has pointed to the emergence of cultures of sexual behaviour at the school, neighbourhood and/or peer level. Objective school characteristics (such as the social or gender mix of the school) are found to play little role, though school disengagement and underperformance are linked to earlier timing, while those who feel their school was a good preparation for adult life were more likely to delay sex. Young men living in the most disadvantaged areas were more likely to have sex at an earlier age but this pattern was not evident for young women. Peer behaviour emerges as a particularly strong influence on timing, with earlier sexual initiation found among those with larger and more

age-diverse friendship networks, mainly because these groups are more likely to contain young people who are already having sex and potentially because they are a source of direct pressure on the young person to have sex.

Half of young men and 61 per cent of young women were in a steady relationship with their first sexual partner. Earlier sexual initiation was more likely to take place in the context of a steady relationship than later timing. Levels of use of contraception at first sex were high, though not universal, at around 90 per cent. There was no significant relationship between contraception use and timing of first sex, though those who first had sex in a casual relationship were less likely to use contraception on that occasion (between 6 and 8 percentage points less likely). Previous research from the 2010 ICCP study in Ireland found that sex in casual relationships or recently formed relationships was also more likely to occur without protection, largely because individuals were not prepared, sex was unexpected or the individual had been drinking or taking drugs (McBride et al., 2012). Around two-thirds of young adults felt the timing of first sex was about right but a quarter of women and a tenth of men thought they had had sex too soon. The relationship between actual and perceived timing was complex, though women who had sex later (after age 17 but before 20) tended to characterise this decision as 'too late'. The relationship between earlier age of sexual initiation and the perception that first sex had occurred 'too soon' was apparent for both men and women, although the relationship was stronger and more statistically significant for women. Both women and men who first had sex in a casual relationship were more likely to feel the timing was not appropriate.

5.2 STRENGTHS AND LIMITATIONS

It is worth highlighting the strengths and limitations of this analysis before discussing the main results and inferring implications for policy and practice. First, in terms of limitations, the GUI questionnaires do not allow us to identify the exact age of sexual initiation[52] (but rather whether they had had sex by a certain wave of data collection). Second, the data on sexual initiation (and sexual behaviours such as sexual initiation, contraceptive and condom use, etc.) are self-reported. The potential for recall and social desirability bias associated with self-reported data on sensitive behaviours is well documented (King, 2022). However, the use of a self-completion questionnaire format in GUI maximises response rates, while also allowing for respondents to answer truthfully in a confidential setting. In the context of self-reported information on sexual behaviour, the potential for gender norms to influence patterns of reported behaviour has been well documented (de Graaf et al., 2024; Moreau et al., 2019; Schubotz et al., 2004). In addition, as many STIs are asymptomatic, the reported rates of STIs are likely to be under-estimates of the true prevalence in this population. Finally, GUI is a cross-domain study so is not designed to capture more

[52] There are significant ethical (and indeed legal) issues involved in collecting information on sex before the legal age of consent.

specific information on important aspects of sexual health behaviour, such as sexual competence. In particular, we have information only from one partner in a couple and lack information on the broader circumstances of first sex, such as whether drugs or alcohol were involved. While we have been able to disaggregate patterns of behaviour among population groups, due to small sample sizes, some analyses by LGBTQ+ status could not fully disaggregate between homosexual, bisexual and questioning/asexual groups.

Despite these limitations, it is important to highlight that in contrast to many studies that use convenience or very small samples, the '98 Cohort of GUI is a large, nationally representative survey of young people born in Ireland in 1998. The availability of detailed longitudinal data on different dimensions of young people's lives (demographic characteristics, family background, peer relationships, etc.) facilitates an analysis of the relative importance of these factors for the variety of outcomes considered in this study.

5.3 IMPLICATIONS FOR POLICY AND PRACTICE

The study findings point to differences across groups of young adults in the timing of sexual initiation and the circumstances under which it occurs. There is no clear social gradient found. However, there is some evidence that while the most disadvantaged groups of men (those living in jobless households or in areas of deprivation) are more likely to have sex earlier than their peers; they are also more likely to describe the timing as too soon or too late. More generally, peer culture emerges as particularly important in shaping young adult perceptions of sexual behaviour, with relying on friends as a source of information, feeling that most of their friends are having sex and reporting direct pressure to have sex, all associated with earlier timing and, in the case of women, being linked to feelings of regret about the timing. These findings highlight the importance of sexual health information and public health messaging taking account of the social context of young adult lives, helping to challenge potential misinformation and peer pressure to have sex without being ready. International research points to the potential for peer-led interventions to improve knowledge and attitudes, though findings on the effects on actual behaviour are more mixed (see for example, Sun et al., 2016; Mason-Jones et al., 2023). Despite potential challenges in translating changed attitudes into behaviours, the study findings clearly highlight the embeddedness of sexual behaviour in peer networks and their importance in promoting more agentic and safer sex.

The vast majority of the young adults reported receipt of RSE while at school (over 90 per cent), though no significant variation was found in sexual behaviours by the timing of such receipt. Since the time of the survey, a revised RSE programme has been put in place as part of the broader Social, Personal and Health Education (SPHE) curriculum at junior cycle, with ongoing revision of the curriculum and materials currently taking place at senior cycle and primary levels. These changes have the potential to provide a more holistic approach, embedding understandings

of sexual health in the development of personal and relationship skills. The study findings would suggest the importance of providing young people with the skills to negotiate contraception use outside of steady relationships. As with earlier iterations of RSE, implementation is crucial, with the need to provide professional development for teachers and recognise the subject as valuable within the school day (Mayock et al., 2007; NCCA, 2019). The importance of provision valuing young people's voice and empowering them to challenge peer culture has also been emphasised in international research (see, for example, Setty, 2024).

The school influence on sexual attitudes and behaviour occurs not just through the formal curriculum but through the school climate and the network of relationships established between teachers and students. Those who rely on their teachers as a source of information about sex at age 17 and those who feel better prepared for adult life by their schooling are more likely to postpone first sex. These findings highlight the importance of a positive school climate in promoting sexual development and of the senior cycle curriculum placing a greater emphasis on holistic development. On the other hand, disaffection from school appears linked to earlier sex, at least among young women. Together with the finding on early sex being seen as more normative among young men in jobless households or deprived areas, this points to the need for RSE to be offered in non-school as well as school settings, particularly for disadvantaged groups.[53]

The majority of young adults in the cohort took part in post-school education or training, highlighting the importance of ongoing information and support in further/higher institutions. The recent increase in STIs among young adults points to the need for ongoing public health messaging around condom use. The importance of providing targeted information for LGBTQ+ young people is evidenced by the lower levels of protection at first sex and the somewhat higher levels of STIs found among the sample.[54]

In conclusion, the report findings show the way in which sexual behaviour among young adults is shaped by the broader context within they live, with peer networks emerging as a particularly important influence. It is clear, therefore, that the provision of information and support for young adults needs to clearly recognise this context, harnessing the positive aspects of peer support while helping young people to develop the skills to counter peer pressure, where necessary.

---

53 The National Youth Council of Ireland (NYCI) provides training on sexuality education for youth workers and others working with young people (www.youth.ie/training/relationship-education-and-sexuality-wellbeing-in-the-youth-work-sector-elearning/) while Foróige provides the two-day Real U programme on personal development and sex education for 12–18-year-olds.

54 Additional analyses of the factors associated with contraception and condom use are presented in the companion study on sexual health literacy (Nolan and Smyth, 2025).

REFERENCES

Bae, S.H., Jeong, J., and Yang, Y. (2022). 'Socially disadvantaged community structures and conditions negatively influence risky sexual behavior in adolescents and young adults: A systematic review', *International Journal of Public Health*, Vol. 67, 1604488, https://doi.org/10.3389/ijph.2022.1604488.

Ball, J., Grucza, R., Livingston, M., Ter Bogt, T., Currie, C., and De Looze, M. (2023). 'The great decline in adolescent risk behaviours: Unitary trend, separate trends, or cascade?', *Social Science & Medicine*, Vol. 317, No. 115616, https://doi.org/10.1016/j.socscimed.2022.115616.

Barker, K.M., Subramanian, S.V., Berkman, L., Austin, S.B., and Evans, C.R. (2019). 'Adolescent sexual initiation: a cross-classified multilevel analysis of peer group-, school-, and neighborhood-level influences', *Journal of Adolescent Health*, Vol. 65, No. 3, pp.390–396, https://doi.org/10.1016/j.jadohealth.2019.03.002.

Barrett, G., and Wellings, K. (2002). 'What is a "planned" pregnancy? Empirical data from a British study', *Social Science & Medicine*, Vol. 55, pp.545–557, https://doi.org/10.1016/S0277-9536(01)00187-3.

Bonell, C., Allen, E., Strange, V., Oakley, A., Copas, A., Johnson, A., and Stephenson, J. (2006). 'Influence of family type and parenting behaviours on teenage sexual behaviour and conceptions', *Journal of Epidemiology and Community Health*, Vol. 60, No. 502, https://doi.org/10.1136/jech.2005.042838.

Bourke, A., Kelleher, C., Boduszek, D., and Morgan, K. (2015). 'Factors associated with crisis pregnancies in Ireland: Findings from three nationally representative sexual health surveys', *Reproductive Health*, Vol. 12, No. 14, https://doi.org/10.1186/s12978-015-0005-z.

Brix, N., Ernst, A., Lauridsen, L.L.B., Parner, E., Støvring, H., Olsen, J., Henriksen, T.B., and Ramlau-Hansen, C.H. (2019). 'Timing of puberty in boys and girls: A population-based study', *Paediatric and Perinatal Epidemiology*, Vol. 33, No. 1, pp.70–78, https://doi.org/10.1111/ppe.12507.

Bronfenbrenner, U., and Morris, P.A. (2006). 'The Bioecological Model of Human Development', *Handbook of Child Psychology: Theoretical Models of Human Development*, Vol. 1, 6th Ed., John Wiley & Sons, Inc., Hoboken, NJ, US, pp. 793–828.

Burke, L., Nic Gabhainn, S., and Kelly, C. (2018). 'Socio-demographic, health and lifestyle factors influencing age of sexual initiation among adolescents', *International Journal of Environmental Research and Public Health*, Vol. 15. https://doi.org/10.3390/ijerph15091851.

Cai, T., Zhou, Y., Niño, M.D., and Driver, N. (2018). 'The school contextual effect of sexual debut on sexual risk-taking: A joint parameter approach', *Journal of School Health*, Vol. 88, No. 3, pp.200–207, https://doi.org/10.1111/josh.12604.

Coley, R.L., Lombardi, C.M., Lynch, A.D., Mahalik, J.R., and Sims, J. (2013). 'Sexual partner accumulation from adolescence through early adulthood: The role of family, peer, and school social norms', *Journal of Adolescent Health*, Vo. 53, No. 1, pp.91–97, https://doi.org/10.1016/j.jadohealth.2013.01.005.

Counihan, D., O'Shea, M., Guigui, D., Sloan, S., Chzhen, Y., Taylor, L., and Symonds, J. (2023). *Scoping Review to Inform the Development of a Potential New Birth Cohort for Growing Up in Ireland*, DCEDIY, Dublin.

Crowe (2023). *Review of National Sexual Health Strategy: Report to Department of Health*, Crowe, Dublin.

de Graaf, H., Schouten, F., van Dorsselaer, S., Költő, A., Ball, J., Stevens, G.W.J.M., and de Looze, M. (2024). 'Trends and the gender gap in the reporting of sexual initiation among 15-year-olds: A comparison of 33 European countries', *The Journal of Sex Research*, pp.1–10. https://doi.org/10.1080/00224499.2023.2297906.

Denford, S., Abraham, C., Campbell, R., and Busse, H. (2017). 'A comprehensive review of reviews of school-based interventions to improve sexual-health', *Health Psychology Review*, Vol. 11, No. 1, pp.33–52, https://doi.org/10.1080/17437199.2016.1240625.

Department of Education (2023). *Relationships and Sexuality Education Year 2*, Department of Education, Dublin.

Department of Health (2024). *Women's Health Action Plan 2024–2025*, Department of Health, Dublin.

Department of Health (2016). Healthy Ireland Survey 2016, Department of Health, Dublin.

Department of Health (2015a). *Healthy Ireland Survey 2015*, Department of Health, Dublin.

Department of Health (2015b). *National Sexual Health Strategy 2015–2020*, Department of Health, Dublin.

Gavin, A., Költő, A., Lunney, L., Maloney, R., Walker, L., Nic Gabhainn, S., and Kelly, C. (2024). *The Irish Health Behaviour in School-aged Children (HBSC) Study 2022*, University of Galway, Galway.

Growing Up in Ireland (2021). *A Summary Guide to Wave 4 of Growing Up in Ireland's Cohort '98 (Child Cohort) at 20 Years of Age*.

Grube, J., and Morgan, M. (1990). 'The structure of problem behaviours among Irish adolescents', *British Journal of Addiction*, Vol. 85, No. 5, pp.667–675. https://doi.org/10.1111/j.1360-0443.1990.tb03529.x.

Hawes, Z., Wellings, K., and Stephenson, J. (2010). 'First heterosexual intercourse in the United Kingdom: A review of the literature', *Journal of Sex Research*, Vol. 47, pp.137–152, https://doi.org/10.1080/00224490903509399.

Health Protection Surveillance Centre (2024). *Gonorrhoea in Ireland: Provisional updated trends to the end of 2023*, HPSC, Dublin.

Health Protection Surveillance Centre (2023). *Sexually Transmitted Infections (STIs) in Ireland: Trends to the end of 2022*, HPSC, Dublin.

Health Service Executive (2023). *National Condom Distribution Service Report of Activities for 2022*, HSE, Dublin.

Health Service Executive (2022). *Information Summary about Teenage Pregnancy in Ireland 2000–2020*, HSE, Dublin.

Henderson, M., Butcher, I., Wight, D., Williamson, L., and Raab, G. (2008). 'What explains between-school differences in rates of sexual experience?', *BMC Public Health*, Vol. 8, pp.1–14, https://doi.org/10.1186/1471-2458-8-53.

Huang, J., Groot, W., Sessions, J.G., and Tseng, Y. (2019). 'Age of menarche, adolescent sexual intercourse and schooling attainment of women', *Oxford Bulletin of Economics and Statistics*, Vol. 81, No. 4, pp.717–743, https://doi.org/10.1111/obes.12284.

Hyde, A., Carney, M., Drennan, J., Butler, M., Lohan, M., and Howlett, E. (2009). *Parents' Approaches to Educating their Pre-adolescent and Adolescent Children about Sexuality*, Report No. 21, Dublin: Crisis Pregnancy Agency.

Jessor, R. (1991). 'Risk behavior in adolescence: A psychosocial framework for understanding and action', *Journal of Adolescent Health*, Vol. 12, pp.597–605, https://doi.org/10.1016/1054-139X(91)90007-K.

Kaestle, C.E., Halpern, C.T., Miller, W.C., and Ford, C.A. (2005). 'Young age at first sexual intercourse and sexually transmitted infections in adolescents and young adults', *American Journal of Epidemiology*, Vol. 161, No. 8, pp.774–780. https://doi.org/10.1093/aje/kwi095.

King, B.M. (2022). 'The influence of social desirability on sexual behavior surveys: A review', *Archives of Sexual Behavior*, Vol. 51, pp.1495–1501, https://doi.org/10.1007/s10508-021-02197-0.

Költő, A., de Looze, M., Jastad, A., Nealon Lennoz, O., Currie, D., and Nic Gabhainn, S. (2024). 'A focus on adolescent sexual health in Europe, Central Asia and Canada', *Health Behaviour in School-aged Children (HBSC) International Report from the 2021/2022 Survey,* Vol. 5, WHO, Geneva.

Költő, A., Gavin, A., Molcho, M., Kelly, C., Walker, L., and Nic Gabhainn, S. (2020). *Health Behaviour in School-aged Children (HBSC) Ireland Study 2018*.

Kugler, K.C., Vasilenko, S.A., Butera, N.M., and Coffman, D.L. (2017). 'Long-term consequences of early sexual initiation on young adult health: A causal inference approach', *The Journal of Early Adolescence*, Vol. 37, pp.662–676, https://doi.org/10.1177/0272431615620666.

Layte, R., and McGee, H. (2007). 'Regret about the timing of first sexual intercourse: The role of age and context', ESRI Working Paper No. 217, Economic and Social Research Institute, Dublin.

Layte, R., McGee, H., Quail, A., Rundle, K., Cousins, G., Donnelly, C., Mulcahy, F., and Conroy, R. (2006), *The Irish Study of Sexual Health and Relationships*, Department of Health and Children, Dublin.

Lewis, R., Tanton, C., Mercer, C., Mitchell, K., Palmer, M., Macdowall, W., and Wellings, K. (2017). 'Heterosexual practices among young people in Britain: Evidence from three National Surveys of Sexual Attitudes and Lifestyles', *Journal of Adolescent Health*, Vol. 61, pp.694–702, https://doi.org/10.1016/j.jadohealth.2017.07.004.

Lindberg, L.D., and Maddow-Zimet, I. (2012). 'Consequences of sex education on teen and young adult sexual behaviors and outcomes', *Journal of Adolescent Health*, Vol. 51, No. 4, pp.332–338, https://doi.org/10.1016/j.jadohealth.2011.12.028.

Macdowall, W., Jones, K., Tanton, C., Clifton, S., Copas, A., Mercer, C., Palmer, M., Lewis, R., Datta, J., Mitchell, K., Field, N., Sonnenberg, P., Johnson, A., and Wellings, K. (2015). 'Associations between source of information about sex and sexual health outcomes in Britain: Findings from the third National Survey of Sexual Attitudes and Lifestyles (NATSAL-3)', *BMJ Open*, Vol. 5, e007837, https://doi.org/10.1136/bmjopen-2015-007837.

Madkour, A., de Looze, M., Ma, P., Tucker Halpern, C., Farhat, T., Bogt, T., Ehlinger, V., NicGabhainn, S., Currie, C., and Godeau, E. (2014). 'Macro-level age norms for the timing of sexual initiation and adolescents' early sexual initiation in 17 European countries', *Journal of Adolescent Health*, Vol. 55, No. 1, pp.114–121, https://doi.org/10.1016/j.jadohealth.2013.12.008.

Madkour, A.S., Farhat, T., Halpern, C.T., Godeau, E., and Gabhainn, S.N. (2010). 'Early adolescent sexual initiation as a problem behavior: A comparative study of five nations', *Journal of Adolescent Health*, Vol. 47, No. 4, pp.389–398. https://doi.org/10.1016/j.jadohealth.2010.02.008.

Mason-Jones, A.J., Freeman, M., Lorenc, T., Rawal, T., Bassi, S., and Arora, M. (2023). 'Can peer-based interventions improve adolescent sexual and reproductive health outcomes? An overview of reviews', *Journal of Adolescent Health*, Vol. 73, No. 6, pp.975–82, doi: 10.1016/j.jadohealth.2023.05.035.

Matković, T., Cohen, N., and Štulhofer, A. (2018). 'The use of sexually explicit material and its relationship to adolescent sexual activity', *Journal of Adolescent Health*, Vol. 62, No. 5, pp.563–569. https://doi.org/10.1016/j.jadohealth.2017.11.305.

Mayock, P., Kitching, K., and Morgan, M. (2007). *Relationships and Sexuality Education (RSE) in the Context of Social, Personal and Health Education (SPHE)*, Dublin: Crisis Pregnancy Agency.

McBride, O., Morgan, K., and McGee, H. (2012). *Irish Contraception and Crisis Pregnancy Study 2010*, Crisis Pregnancy Programme, Dublin.

Mercer, C.H., Tanton, C., Prah, P., Erens, B., Sonnenberg, P., Clifton, S., Macdowall, W., Lewis, R., Field, N., Datta, J., Copas, A.J., Phelps, A., Wellings, K., and Johnson, A.M. (2013). 'Changes in sexual attitudes and lifestyles in Britain through the life course and over time: Findings from the National Surveys of Sexual Attitudes and Lifestyles (NATSAL)', *The Lancet*, Vol. 382, No. 9907, pp.1781–1794, https://doi.org/10.1016/S0140-6736(13)62035-8.

Moreau, N., Költő, A., Young, H., Maillochon, F., and Godeau, E. (2019). 'Negative feelings about the timing of first sexual intercourse: Findings from the Health Behaviour in School-aged Children study', *International Journal of Public Health*, Vol. 64, pp.219–227, https://doi.org/10.1007/s00038-018-1170-y.

Murphy, D., Quail, A., Williams, J., Gallagher, S., Murray, A., McNamara, E., and O'Mahony, D. (2018). *A Summary Guide to Wave 3 of the Child Cohort of Growing Up in Ireland (at 17/18 Years)*.

National Council for Curriculum and Assessment (NCCA) (2019). *Report on the Review of Relationships and Sexuality Education (RSE) in Primary and Post-primary Schools*, NCCA, Dublin.

Neville, F., McEachran, J., Aleman-Diaz, A., Whitehead, R., Cosma, A., Currie, D., and Currie, C. (2017). 'Trends in the sexual behaviour of 15-year-olds in Scotland: 2002–14', *European Journal of Public Health*, Vol. 27, No. 5, pp.835–839, https://doi.org/10.1093/eurpub/ckx049.

Niland, R., Flinn, C., and Nearchou, F. (2024). 'Assessing the role of school-based sex education in sexual health behaviours: A systematic review', *Cogent Psychology*, Vol. 11, No. 1, 2309752, https://doi.org/10.1080/23311908.2024.2309752.

Nolan, A., and Smyth, E. (2025). *Sexual Health Literacy and Sexual Health Behaviours Among Young Adults in Ireland*, ESRI Research Series No. 200, https://doi.org/10.26504/rs200.

Nolan, A., and Smyth, E. (2024). *Use of Pornography by Young Adults in Ireland*, ESRI Research Series Report No. 177, Economic and Social Research Institute, Dublin, https://doi.org/10.26504/rs177.

Nolan, A., and Smyth, E. (2020). *Talking About Sex and Sexual Behaviour of Young People in Ireland*, ESRI Research Series Report No. RS112, Economic and Social Research Institute, Dublin, https://doi.org/10.26504/rs112.

O'Connor, K.L., Dolphin, L., Fitzgerald, A., and Dooley, B. (2016). 'Modeling problem behaviors in a nationally representative sample of adolescents', *Journal of Adolescence*, Vol. 50, No. 1, pp.6–15, https://doi.org/10.1016/j.adolescence.2016.03.010.

Orihuela, C.A., Mrug, S., Davies, S., Elliott, M.N., Tortolero Emery, S., Peskin, M.F., Reisner, S., and Schuster, M.A. (2020). 'Neighborhood disorder, family functioning, and risky sexual behaviors in adolescence', *Journal of Youth and Adolescence*, Vol. 49, pp.991–1004, https://doi.org/10.1007/s10964-020-01211-3.

Palmer, M.J., Clarke, L., Ploubidis, G.B., and Wellings, K. (2019). 'Prevalence and correlates of "sexual competence" at first heterosexual intercourse among young people in Britain', *BMJ Sexual and Reproductive Health*, Vol. 45, No. 2, pp.127, https://doi.org/10.1136/bmjsrh-2018-200160.

Patalay, P., and Gage, S.H. (2019). 'Changes in millennial adolescent mental health and health-related behaviours over 10 years: A population cohort comparison study', *International Journal of Epidemiology*, Vol. 8, No. 5, https://doi.org/10.1093/ije/dyz006.

Peragine, D.E., Skorska, M.N., Maxwell, J.A., Impett, E.A., and VanderLaan, D.P. (2022). 'The risks and benefits of being "early to bed": Toward a broader understanding of age at sexual debut and sexual health in adulthood', *The Journal of Sexual Medicine*, Vol. 19, No. 9, pp.1343–1358, https://doi.org/10.1016/j.jsxm.2022.06.005.

Peterson, A.J., Allen, E., Viner, R., and Bonell, C. (2020). 'Effects of the school environment on early sexual risk behavior: A longitudinal analysis of students in English secondary schools', *Journal of Adolescence*, Vol. 85, pp.106–114, https://doi.org/10.1016/j.adolescence.2020.10.004.

Pierce, M., and Hardy, R. (2012). 'Commentary: The decreasing age of puberty – as much a psychosocial as biological problem?', *International Journal of Epidemiology*, Vol. 41, No. 1, pp.300–302, https://doi.org/10.1093/ije/dyr227.

Quail, A., Williams, J., McCrory, C., Murray, A., and Thornton, M. (2011). *A Summary Guide to Wave 1 of the Infant Cohort (at 9 Months) of Growing Up in Ireland*, Dublin: Economic and Social Research Institute, Trinity College Dublin and Department of Children, Equality, Disability, Integration and Youth, www.growingup.gov.ie/pubs/Summary-Guide_Infant-Cohort_Wave-1.pdf.

Quail, A. (2010). 'Neighbourhood effects on child outcomes', Presentation to the GUI Annual Research Conference.

Reis, L.F., Surkan, P.J., Atkins, K., Garcia-Cerde, R., and Sanchez, Z.M. (2023). 'Risk factors for early sexual intercourse in adolescence: A systematic review of cohort studies', *Child Psychiatry & Human Development*, Vol. 55, pp.1677–1690, https://doi.org/10.1007/s10578-023-01519-8.

Rundle, K., Leigh, C., McGee, H., and Layte, R. (2004). *Irish Contraception and Crisis Pregnancy (ICCP) Study*, Crisis Pregnancy Agency, Dublin.

Sabia, J.J., and Rees, D.I. (2009). 'The effect of sexual abstinence on females' educational attainment', *Demography*, Vol. 46, No. 4, pp.695–715, https://doi.org/10.1353/dem.0.0072.

Schubotz, D., Rolston, B., and Simpson, A. (2004). 'Sexual behaviour of young people in Northern Ireland: First sexual experience', *Critical Public Health*, Vol. 14, No. 2, pp.177–190, https://doi.org/10.1080/09581590410001725418.

Setty, E. (2024). 'Co-designing guidance for Relationships and Sex Education to "transform school cultures" with young people in England', *Pastoral Care in Education*, Vol. 42, No. 2, pp.106–124, https://doi.org/10.1080/02643944.2023.2228804.

Smyth, E., and Darmody, M. (2021). *Risk and Protective Factors in Adolescent Behaviour: The Role of Family, School and Neighbourhood Characteristics in (Mis)behaviour Among Young People*, ESRI Research Series 119, Dublin: ESRI, https://doi.org/10.26504/rs119.

Sun, W.H., Miu, H.Y.H., Wong, C.K.H., Tucker, J.D., and Wong, W.C.W. (2016). 'Assessing participation and effectiveness of the peer-led approach in youth sexual health education: Systematic review and meta-analysis in more developed countries', *The Journal of Sex Research*, Vol. 55, No. 1, pp.31–44, https://doi.org/10.1080/00224499.2016.1247779.

Thornton, M., Williams, J., McCrory, C., Murray, A., and Quail, A. (2010). *Guide to the Datasets: Wave 1 of the Nine-Year Cohort of Growing Up in Ireland*, Dublin: Economic and Social Research Institute, Trinity College Dublin and Department of Children, Equality, Disability, Integration and Youth. www.growingup.gov.ie/pubs/Summary-Guide_Child-Cohort_Wave-1.pdf.

Tierney, K., and Kelleher, C. (2021). *Scoping Study to Inform a Survey of Knowledge, Attitudes and Behaviours on Sexual Health and Wellbeing and Crisis Pregnancy Among the General Population in Ireland*, HSE, Dublin.

Tomlinson, M., Hunt, X., Daelmans, B., Rollins, N., Ross, D., and Oberklaid, F. (2021). 'Optimising child and adolescent health and development through an integrated ecological life course approach', *BMJ*, Vol. 372, m4784, https://doi.org/10.1136/bmj.m4784.

Van de Bongardt, D., de Graaf, H., Reitz, E., and Deković, M. (2014). 'Parents as moderators of longitudinal associations between sexual peer norms and Dutch adolescents' sexual initiation and intention', *Journal of Adolescent Health*, Vol. 55, No. 3, pp.388–393, https://doi.org/10.1016/j.jadohealth.2014.02.017.

Van de Bongardt, D., Reitz, E., Sandfort, T., and Deković, M. (2015). 'A meta-analysis of the relations between three types of peer norms and adolescent sexual behavior', *Personality and Social Psychology Review*, Vol. 19, No. 3, pp.203–234, https://doi.org/10.1177/10888683145442.

van Leeuwen, A.J., and Mace, R. (2016). 'Life history factors, personality and the social clustering of sexual experience in adolescents', *Royal Society Open Science*, Vol. 3, No. 10, 160257, https://doi.org/10.1098/rsos.160257.

Vasilenko, S.A. (2022). 'Sexual behavior and health from adolescence to adulthood: Illustrative examples of 25 years of research from add health', *Journal of Adolescent Health*, Vol. 71, No. 6, S24–S31. https://doi.org/10.1016/j.jadohealth.2022.08.014.

Vasilenko, S.A., Kugler, K.C., and Rice, C.E. (2016). 'Timing of first sexual intercourse and young adult health outcomes', *Journal of Adolescent Health*, Vol. 59, No. 3, pp.291–297. https://doi.org/10.1016/j.jadohealth.2016.04.019.

Wang, Z., Asokan, G., Onnela, J.-P., Baird, D.D., Jukic, A.M.Z., Wilcox, A.J., Curry, C.L., Fischer-Colbrie, T., Williams, M.A., Hauser, R., Coull, B.A., and Mahalingaiah, S. (2024). 'Menarche and time to cycle regularity among individuals born between 1950 and 2005 in the US', *JAMA Network Open*, Vol. 7, e2412854–e2412854, https://doi.org/10.1001/jamanetworkopen.2024.12854.

Wellings, K., Jones, K.G., Mercer, C.H., Tanton, C., Clifton, S., Datta, J., Copas, A.J., Erens, B., Gibson, L.J., Macdowall, W., Sonnenberg, P., Phelps, A., and Johnson, A.M. (2013). 'The prevalence of unplanned pregnancy and associated factors in Britain: Findings from the third National Survey of Sexual Attitudes and Lifestyles (NATSAL-3)', *The Lancet*, Vol. 382, No. 9907, pp.1807–1816, https://doi.org/10.1016/S0140-6736(13)62071-1.

Wellings, K., Nanchahal, K., Macdowall, W., McManus, S., Erens, B., Mercer, C.H., Johnson, A.M., Copas, A.J., Korovessis, C., Fenton, K.A., and Field, J. (2001). 'Sexual behaviour in Britain: Early heterosexual experience', *The Lancet*, Vol. 358, No. 9296, pp.1843–1850, https://doi.org/10.1016/S0140-6736(01)06885-4.

Wesche, R., Kreager, D.A., Feinberg, M.E., and Lefkowitz, E.S. (2019). 'Peer acceptance and sexual behaviors from adolescence to young adulthood', *Journal of Youth and Adolescence*, Vol. 48, pp.996–1008, https://doi.org/10.1007/s10964-019-00991-7.

White, C.N., and Warner, L.A. (2015). 'Influence of family and school-level factors on age of sexual initiation', *Journal of Adolescent Health*, Vol. 56, No. 2, pp.231–237, https://doi.org/10.1016/j.jadohealth.2014.09.017.

Windle, M., Sales, J.M., and Windle, R.C. (2013). 'Chapter 10 – Influence of Alcohol and Illicit Drug Use on Sexual Behavior', *Handbook of Child and Adolescent Sexuality*, Bromberg, D.S., and O'Donohue, W.T. (Eds.), Academic Press, San Diego, pp. 253–274, https://doi.org/10.1016/B978-0-12-387759-8.00010-6.

Young, H., Burke, L., and Nic Gabhainn, S. (2018a). 'Sexual intercourse, age of initiation and contraception among adolescents in Ireland: Findings from the Health Behaviour in School-aged Children (HBSC) Ireland study', *BMC Public Health*, Vol. 18, pp.362–362, https://doi.org/10.1186/s12889-018-5217-z.

Young, H., Long, S.J., Hallingberg, B., Fletcher, A., Hewitt, G., Murphy, S., and Moore, G.F. (2018b). 'School practices important for students' sexual health: Analysis of the school health research network survey in Wales', *The European Journal of Public Health*, Vol. 28, No. 2, pp.309–314, https://doi.org/10.1093/eurpub/ckx203.

Zhu, G., and Bosma, A.K. (2019). 'Early sexual initiation in Europe and its relationship with legislative change: A systematic review', *International Journal of Law, Crime and Justice*, Vol. 57, pp.70–82, https://doi.org/10.1016/j.ijlcj.2019.03.001.

APPENDIX A

TABLE A.1 MULTINOMIAL LOGIT MODELS OF PARTNERSHIP STATUS AT FIRST SEX (BASE CATEGORY: STEADY RELATIONSHIP) (RELATIVE RISK RATIOS)

	Males		Females	
Variable	Met for first time	Knew but casual	Met for first time	Knew but casual
Demographic characteristics				
Aged 21 or more	1.167	0.870	0.758	1.346
Sexual orientation:				
Homosexual/bisexual/questioning (Ref. Heterosexual)	2.707**	1.212	0.579	1.450±
Social class:				
Managerial and technical	0.906	1.186	1.144	0.785
Other non-manual	1.030	1.112	1.115	0.547*
Skilled manual	1.008	0.955	1.496	1.108
Semi/unskilled manual	0.669	1.128	0.297±	0.851
Non-employed household (Ref. Professional)	0.294*	0.572	0.898	1.106
Lone-parent family	1.224	1.192	0.896	0.933
Migrant-origin family	1.048	1.421	1.652	0.785
Young person has an illness/disability	1.966**	0.809	0.841	0.702±
Urban area	0.753	0.822	0.888	1.210
Later timing of sexual initiation	5.065***	3.125***	2.713**	1.952***
School characteristics				
DEIS school (Ref. Non-DEIS)	0.810	1.300	1.139	0.882
Single-sex (Ref. Coeducational)	1.188	0.861	0.753	1.034
Neighbourhood characteristics				
Area level disadvantage:				
3rd quartile	0.741	0.969	1.284	0.949
2nd quartile	1.086	1.104	1.800*	0.882
Highest quartile (Ref. Lowest quartile)	0.802	0.967	0.935	0.842
Perceived disorder	0.974	0.956	1.000	1.023
School engagement				
Attitude to school:				
Like it quite a bit	0.799	0.757	0.838	1.357±
Like it a bit	1.141	1.019	1.816*	1.593*
Don't like/hate it (Ref. Like it very much)	1.542	1.063	1.019	1.105
Junior Certificate exam performance	1.029	0.990	1.083±	1.038
No JC results reported	0.865	0.464	0.257±	0.642
School a lot of benefit in preparation for adult life	0.768±	1.083	0.835	1.090
N	1,660		1,756	

Source: *GUI, '98 Cohort, wave 4 (age 20).*
Notes: *Population weights are employed. *** statistically significant at p<.001 level, ** p<.01, * p<.05, ± p<0.1.*

TABLE A.1 MULTINOMIAL LOGIT MODELS OF PARTNERSHIP STATUS AT FIRST SEX (BASE CATEGORY: STEADY RELATIONSHIP) (RELATIVE RISK RATIOS) (CONTINUED)

	Males		Females	
	Met for first time	Knew but casual	Met for first time	Knew but casual
Friendship group characteristics				
Number of friends at 17:				
3–5	0.420*	0.667	1.949	1.646
6–10	0.850	0.835	1.916	1.685
>10	0.749	0.738	1.182	1.680
(Ref. 0–2)				
At least some friends two years older (Ref. None)	1.346	1.415±	1.564±	1.314
Peer sexual behaviours				
Friends having sex:				
None	2.057*	1.011	1.801±	0.970
Most	1.394	1.584*	1.292	1.053
All	7.032***	3.100*	1.178	1.234
(Ref. Some)				
Felt under pressure to have sex:				
A lot/a little	1.499±	1.571*	1.397	0.987
Not sure	0.384	1.043	2.307	1.858
(Ref. No)				
N	1,660		1,756	

Source: *GUI, '98 Cohort, wave 4 (age 20).*
Notes: *Population weights are employed. *** statistically significant at p<.001 level, ** p<.01, * p<.05, ± p<0.1.*

TABLE A.2 BINARY LOGIT REGRESSION MODELS OF USE OF CONTRACEPTION AT FIRST SEX (AVERAGE MARGINAL EFFECTS)

	Males	Females
Demographic characteristics		
Aged 21 or more	0.016	0.008
Sexual orientation:		
Homosexual/bisexual/questioning	-0.106*	-0.112**
(Ref. Heterosexual)		
Social class:		
Managerial and technical	-0.013	-0.024
Other non-manual	-0.026	-0.051
Skilled manual	0.001	-0.053
Semi/unskilled manual	0.000	-0.041
Non-employed household	-0.064	0.019
(Ref. Professional)		
Lone-parent family	0.025	-0.017
Migrant-origin family	0.017	-0.015
Young person has an illness/disability	-0.044	-0.009
Urban area	-0.016	0.000
Later timing of sexual initiation	-0.017	0.008
Partnership status at first sex:		
Met for the first time	-0.078*	-0.100*
Knew but casual	-0.079*	-0.062**
(Ref. Steady relationship)		
School characteristics		
DEIS school	-0.031	-0.006
(Ref. Non-DEIS)		
Single-sex	-0.020	-0.011
(Ref. Coeducational)		
Neighbourhood characteristics		
Area level disadvantage:		
3rd quartile	0.005	0.049
2nd quartile	0.008	0.028
Highest quartile	-0.018	0.037
(Ref. Lowest quartile)		
Perceived disorder	-0.007	-0.008*
School engagement		
Attitude to school:		
Like it quite a bit	0.021	-0.010
Like it a bit	0.021	0.053*
Don't like/hate it	-0.019	0.026
(Ref. Like it very much)		
Junior Certificate exam performance	0.008*	0.009*
No JC results reported	-0.132*	-0.083*
School a lot of benefit in preparation for adult life	0.016	-0.011
N	1,606	1,707

Source: *GUI '98 Cohort, wave 4 (age 20).*
Notes: *Population weights are employed. *** statistically significant at p<.001 level, ** p<.01, * p<.05, ± p<0.1.*

TABLE A.2 BINARY LOGIT REGRESSION MODELS OF USE OF CONTRACEPTION AT FIRST SEX (AVERAGE MARGINAL EFFECTS) (CONTINUED)

	Males	Females
Friendship group characteristics		
Number of friends at 17:		
3–5	-0.006	-0.011
6–10	0.017	-0.016
>10	0.058	0.028
(Ref. 0–2)		
At least some friends two years older (Ref. None)	0.011	-0.067**
Peer sexual behaviours		
Friends having sex:		
None	-0.030	-0.033
Most	-0.065*	0.003
All	-0.0045	-0.033
(Ref. Some)		
Felt under pressure to have sex:		
A lot/a little	-0.011	-0.012
Not sure	-0.082	0.064*
(Ref. No)		
N	1,606	1,707

Source: *GUI, '98 Cohort, wave 4 (age 20).*
Notes: *Population weights are employed. *** statistically significant at p<.001 level, ** p<.01, * p<.05, ± p<0.1.*

TABLE A.3 MULTINOMIAL LOGIT MODELS OF PERCEPTION OF TIMING OF FIRST SEX (BASE CATEGORY: ABOUT THE RIGHT TIME) (RELATIVE RISK RATIOS)

	Males			Females		
Variable	Too early	Too late	Not sure	Too early	Too late	Not sure
Demographic characteristics						
Aged 21 or more	0.657	0.673	1.258	0.707	1.115	0.319
Sexual orientation: Homosexual/bisexual/questioning (Ref. Heterosexual)	1.892*	1.533	1.261	0.592*	2.201±	0.673
Social class:						
Managerial and technical	0.987	1.336	1.376	1.562	2.060	1.162
Other non-manual	0.948	1.385	1.434	1.316	1.815	1.256
Skilled manual	1.187	1.065	0.834	2.181*	0.641	1.150
Semi/unskilled manual	1.840	1.792	2.726*	2.158*	-	1.067
Non-employed household (Ref. Professional)	1.869	5.028**	1.012	0.764	3.702	1.427
Lone-parent family	1.362	0.575	1.244	1.956***	0.769	1.775
Migrant-origin family	0.912	0.548	1.568	2.011±	0.450	0.915
Young person has illness/disability	0.744	0.648	1.200	0.507**	0.952	0.711
Urban area	1.041	1.014	1.188	1.049	1.301	1.342
Later timing of sexual initiation	0.345***	1.956*	1.176	0.678±	15.302***	0.942
Partnership status at first sex:						
Met for the first time	8.015***	4.137***	3.568***	4.192***	2.757*	5.238***
Knew but casual (Ref. Steady relationship)	1.796*	3.264***	2.481**	3.086***	1.153	3.559***
School characteristics						
DEIS school (Ref. Non-DEIS)	0.719	0.974	1.145	0.930	2.249	0.897
Single-sex (Ref. Coeducational)	0.745	1.034	1.257	1.109	1.423	0.985
Neighbourhood characteristics						
Area level disadvantage:						
3rd quartile	0.725	0.732	0.830	0.881	0.363±	0.932
2nd quartile	0.820	0.675	1.280	0.735	0.510	1.081
Highest quartile (Ref. Lowest quartile)	0.492±	0.437*	0.823	0.762	0.481	0.659
Perceived disorder	1.029	0.934	1.121*	0.943±	1.151*	0.952
School engagement						
Attitude to school:						
Like it quite a bit	0.558±	1.282	0.720	1.011	0.722	2.262**
Like it a bit	0.825	0.846	0.973	1.403	0.708	2.369*
Don't like/hate it (Ref. Like it very much)	0.538	1.068	1.051	1.005	1.360	1.443
Junior Certificate exam performance	0.945	0.983	1.017	0.945	1.178*	0.955
No JC results reported	2.003	2.364	2.013	1.539	1.157	3.312±
School a lot of benefit in preparation for adult life	1.249	1.118	1.104	0.976	1.103	1.077
N		1,644			1,743	

Source: *GUI, '98 Cohort, wave 4 (age 20).*

Notes: *Population weights are employed. *** statistically significant at p<.001 level, ** p<.01, * p<.05, ± p<0.1; - not estimated.*

TABLE A.3 MULTINOMIAL LOGIT MODELS OF PERCEPTION OF TIMING OF FIRST SEX (BASE CATEGORY: ABOUT THE RIGHT TIME) (RELATIVE RISK RATIOS) (CONTINUED)

	Males			Females		
	Too early	Too late	Not sure	Too early	Too late	Not sure
Friendship group characteristics						
Number of friends						
at 17	2.713	0.374*	1.318	0.687	0.351	0.718
3–5	1.329	0.244**	1.297	0.549±	0.290	0.540
6–10	0.766	0.387±	0.451	0.328*	0.086*	1.230
>10						
(Ref. 0–2)						
At least some friends two years older	1.020	1.145	1.444	1.276	0.722	0.699
(Ref. None)						
Peer sexual behaviours						
Friends having sex:						
None	1.872	0.752	0.707	0.727	1.303	0.743
Most	0.826	1.775±	1.052	0.977	1.248	1.012
All	1.524	0.858	0.999	2.729**	1.096	1.441
(Ref. Some)						
Felt under pressure to have sex:						
A lot/a little	1.347	1.200	1.381	0.619±	0.989	1.290
Not sure	0.744	2.512	0.171*	0.492	0.484	1.694
(Ref. No)						
N		1,644			1,743	

Source: *GUI, '98 Cohort, wave 4 (age 20).*
Notes: *Population weights are employed. *** statistically significant at p<.001 level, ** p<.01, * p<.05, ± p<0.1.*

APPENDIX B

Members of the steering committee

Dr Gráinne Collins, National Economic and Social Council (formerly the Department of Children, Equality, Disability, Integration and Youth)

Mella Cusack, National Council for Curriculum and Assessment

Moira Germaine, Sexual Health Programme, HSE Health and Wellbeing

Prof Richard Layte, Department of Sociology, Trinity College Dublin

Dr Fiona Mansergh, Health and Wellbeing Programme, Department of Health

Orla McGowan, Sexual Health Programme, HSE Health and Wellbeing

Deirdre McHugh, National Educational Psychological Service, Department of Education

Prof Anne Nolan, Economic and Social Research Institute (ESRI)

Dr Nicola O'Connell, Sexual Health Programme, HSE Health and Wellbeing

Prof Emer Smyth, Economic and Social Research Institute (ESRI)

Alice Wainwright, Department of Justice

Economic & Social Research Institute

Whitaker Square
Sir John Rogerson's Quay
Dublin 2

Telephone: +353 1 863 2000
Email: admin@esri.ie
Web: www.esri.ie

An Institiúid um Thaighde Eacnamaíochta agus Sóisialta

Cearnóg Whitaker
Cé Sir John Rogerson
Baile Átha Cliath 2

Teileafón: +353 1 863 2000
Ríomhphost: admin@esri.ie
Suíomh Gréasáin: www.esri.ie