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# Parental involvement in sexuality education: advancing understanding through an analysis of findings from the 2010 Irish Contraception and Crisis Pregnancy Survey

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1 **RESEARCH ARTICLE**

2 **Title:** Improving research on parental involvement in sexuality education: Findings from the  
3 Irish Contraception and Crisis Pregnancy Study - 2010

4  
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1 **Title:** Improving research on parental involvement in sexuality education: Findings from the  
2 Irish Contraception and Crisis Pregnancy Study – 2010

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1 **Abstract**

2 Sexuality education research has highlighted the importance of parental involvement.  
3 Investigating sexuality education frequently occurs via national sexual health surveys.  
4 Understanding the factors that influence parents in engaging in sexuality education would benefit  
5 from advances in research design and methods. This paper aims to identify key parental  
6 characteristics that predict parental involvement in sexuality education while also encouraging  
7 debate on how this topic is optimally investigated. Data were a subset from a nationally  
8 representative cross-sectional telephone survey of adults (18-45 years) living in Ireland  
9 (N=3002). Parents (21-45 years) of a child/children aged 6 years or older at the time of the study  
10 (*n*=966) were included in analyses. Results using propensity score analysis found that parents  
11 who reported engaging in sexuality education with their children were more likely to be women,  
12 aged 36-45 years, and have a larger number of children. Advancing the field of sexuality  
13 education research could be facilitated by the application of the survey method and advanced  
14 statistical techniques used here. Furthermore, a stand-alone national survey assessing parental  
15 involvement in sexuality education would be a worthy contribution to this knowledge base.

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20 **Keywords:** sexuality education;parental involvement; sexual health; national surveys; propensity  
21 score analysis

## 1 **Introduction**

2 The key aim of sexuality education is to provide young people with essential knowledge and  
3 skills that will enable them to make empowered and healthy decisions about their sexual health  
4 and relationships (Loeber, Reuter, Apter, van der Doef, Lazdane, and Pinter, 2010). National  
5 studies assessing the receipt of sexuality education generally embed questions within a broader  
6 assessment of sexual health. For example both the Irish Study on Sexual Health and  
7 Relationships (Rundle, Layte and McGee 2008) and the UK National Survey of Sexual Attitudes  
8 and Lifestyles II (National Centre for Social Research et al. 2005) included questions that asked  
9 participants about learning about sex when they were growing up. Finally, the intrinsic role of  
10 parents in sexuality education in particular, is a legislative certainty in many countries (e.g.UK  
11 Education Act 1993; Article 42 of the Irish Constitution) (Parker, Wellings, and Lazarus 2009).

12 Parental involvement in a child's education is an important factor in academic achievement and  
13 growth (Fan and Chen 2001). A number of key socio-demographic factors have been identified.  
14 Gender plays a role, with mothers more likely than fathers to be involved in school-related  
15 activities (Phares Fields and Kamboukos 2009). Parents who are socio-economically deprived  
16 have been found to participate less in their child's education possibly because they tend to have  
17 fewer years in formal education or they may have had more negative experiences within the  
18 education system (Boethel 2003). Byrne and Smyth (2010) also report that the more education a  
19 parent has, the more likely they are to be involved in their own child's education.

20 Whereas research on factors that influence the level of parental involvement in a child's  
21 sexuality education is not as extensive, it has reached broadly similar conclusions. For example,  
22 mothers have been found to be more likely to provide sexuality education to their children than

1 have fathers (Holland, Mauthner and Sharpe 1996; Turnbull, van Wersch and van Schaik 2008;  
2 Sprecher, Harris and Meyers 2008; Walker 2001). Walker (2004) suggests that this is likely  
3 because women are broadly the primary care-givers and often the main health educators in the  
4 home. Walker (2004) also conducted an analysis of three key studies in this field and classified  
5 the factors that influence whether parents provided sexuality education in the home under four  
6 main categories: *parents' sexual health careers* (e.g. parents past sexuality education, parents  
7 own beliefs and morals); *family structure and profile* (e.g. sex of the parent, socio-economic  
8 status (SES), education); *family ethos* (e.g. personal and social origins of the family); and *other*  
9 *sources of sexuality education* (e.g. school, peers etc.). Other characteristics include knowledge  
10 and comfort when talking about sexuality with their children (Byers, Sears and Weaver 2008);  
11 and parents' own experience of sexuality education (Walker 2001; Byers et al. 2008). Other  
12 research has indicated that older parents are more likely to report extensive parent-child  
13 communication in relation to sexual health topics (Byers, Sears and Weaver 2008).

14 Parents largely concur with the idea that they should play a fundamental role in their children's  
15 sexuality education; indeed, 95% of parents in one national UK study felt that discussing  
16 contraception with their children was primarily their responsibility (Ingham 2002). However,  
17 only 58% of those parents had actually done so, suggesting that these beliefs are not always  
18 reflected in practice (Ingham 2002). Although family structure and profile can influence whether  
19 parents provide sexuality education in the home, parents are not an homogenous group (Walker  
20 2004). Efforts to increase parental involvement in sexuality education must be evidence-based  
21 and move beyond the elucidation of background characteristics that identify suitable target  
22 groups for health promotion campaigns. In Ireland, these efforts are compounded by the fact that  
23 the provision of sexuality education in schools has only been mandatory since 2003 (Maycock,

1 Kitching and Morgan 2007). Furthermore, as is the case for many European countries, the  
2 influence of the Roman Catholic Church in Ireland is likely to affect the provision of sexuality  
3 education to children both at home and school (Wellings and Parker 2006).

4 Against this backdrop, the authors aim to identify key parental characteristics that predict  
5 whether a parent reports providing sexuality education to his/her children, using data from a  
6 large national sexual health survey and the application of a novel statistical technique. In  
7 addition, we aim to encourage debate on how information relating to parental involvement in  
8 sexuality education can best be investigated.

## 9 **Method**

### 10 *Survey*

11 The sampling frame was data from the 2010 Irish Contraception and Crisis Pregnancy Survey  
12 (ICCP-2010, McBride, Morgan and McGee 2012a), a nationally representative cross-sectional  
13 telephone survey of adult men and women living in Ireland in 2010 aged 18-45 years (N = 3002).  
14 ICCP-2010 assessed knowledge, attitudes and behaviours in relation to sex, contraception and  
15 pregnancy. Quota sampling was used to ensure that the sample was representative of the general  
16 population. Detailed survey methodology is available elsewhere (McBride, Morgan and McGee  
17 2012b). Respondents were interviewed using both landline and mobile telephones. Telephone  
18 numbers were randomly generated using random digit dialling (RDD). Interviews were  
19 conducted using computer-assisted telephone interviewing (CATI). Experienced and trained  
20 female researchers carried out the interviews. The overall response rate for the survey was 69%  
21 (79% for the landline strand and 61% for the mobile telephone strand).

22



1 ***Sample description and variables of interest***

2 *Demographic characteristics*

3 Only respondents who were parents to a child/children aged 6 years or older at the time of the  
4 study ( $n=966$ ) were included in analyses. Key socio-demographic variables of interest were:  
5 *gender* (men (reference category) vs. women); *current age* (binary coded as 21-35 years  
6 (reference category) vs. 36-45 years); *education level* (binary coded as pre-Leaving Certificate  
7 level (i.e. non-completion of second level or leaving school before aged 17) and Leaving  
8 Certificate level or higher (reference category; i.e. completion of second level or leaving school  
9 aged 17 or over); *current relationship status* (coded as married (reference category), cohabiting,  
10 steady relationship not cohabiting, casual relationship, or not in a relationship); *number of*  
11 *children*; *locality* (binary coded as urban (reference category) or rural); and *social class* (coded  
12 as SC 1-2 including professional workers and managerial and technical workers (reference  
13 category); SC 3-4 including non-manual and skilled manual workers; SC 5-6 including semi-  
14 skilled and unskilled workers; and SC 7 which included all others including never worked and  
15 long-term unemployed). *Religiosity* was also included as a demographic variable as determined  
16 by parents indicating how important religion was to them on a 5-point Likert scale, ranging from  
17 ‘very important’ to ‘not at all important’.

18 *History of sexuality education received and sexuality education provided*

19 Parents were asked whether they had received sexuality education while growing up (*‘around*  
20 *the ages of 10-16 years’*) (binary coded as yes or no). Whether parents provided sexuality  
21 education to children was recorded by asking parents if they (or their partner) had ever talked to  
22 any of their children about sexual matters (binary coded as provided sexuality education versus

1 did not provide sexuality education). It is important to note that even though the question asked  
2 whether the respondent or their partner had spoken to any of their children about sexual matters,  
3 the demographic information presented apply specifically to the respondent.

#### 4 ***Rationale and analytic plan***

5 This study investigates the factors that predict whether parents provided sexuality education to  
6 their children. Ideally, the predictive effect would be assessed by randomly assigning parents to  
7 treatment (those who received sex education) and control (those who did not receive sex  
8 education) groups, so that the effect of background characteristics on the outcome variable could  
9 be controlled for. Whereas designing studies in this way is not always practical or ethical,  
10 propensity score matching offers a quasi-experimental design that can isolate treatment effects  
11 on an outcome variable using observational data (McCrorry and Layte 2011; Rosenbaum and  
12 Rubin 1985; Rudner and Peyton 2006). In sum, propensity score analysis (PSA) can be used to  
13 control for selection bias in cross-sectional studies.

14 Propensity score matching estimates a propensity score by combining all covariates of interest  
15 into a single (propensity) score using a binary logistic regression predicting treatment group  
16 membership. This is done on the assumption that the '*treatment group*' (parents who received  
17 sex education) will differ from the '*control group*' (parents who did not receive sex education)  
18 on a number of variables and that these variables may also predict the outcome variable  
19 (provided sexuality education to their child/children). These potential confounding variables  
20 (covariates) estimate a propensity score (ranging from 0 to 1) that represents each participant's  
21 probability of being assigned to the treatment group. This propensity score is then used to create  
22 a matched sample of treatment and control participants. Thus, the propensity score is a balancing

1 score of covariates, meaning the distribution of the covariates are the same for the treatment and  
2 control group. The covariates of interest in this study were: gender; current age; locality,  
3 education level; current relationship status; number of children; social class; and religiosity.

4 The first step in the PSA is to assess the differences between the two groups of interest on all  
5 covariates. Previous research strongly suggests that t-test scores can be misleading, due to  
6 statistical significance being partially influenced by the sample size (Rosenbaum and Rubin  
7 1985; Austin 2008; Loughran et al. 2010). Therefore, the initial step is to determine the level of  
8 covariate imbalance by calculating the average difference in means, as a percentage of the  
9 average standard deviation (i.e. subtract the mean value of the covariate for the control group  
10 from the mean value of the covariate for the treatment group and divide that difference by the  
11 square root of the average variance across the treatment and control group and then multiple the  
12 result by 100). Rosenbaum and Rubin (1985) suggest that a standardised absolute difference  
13 equal to or greater than 20% is an indication of imbalance. Results suggested that current age  
14 was imbalanced in the original full sample (before matching). This imbalance provided  
15 validation for the next step in this technique, propensity score matching.

16 After obtaining the propensity scores for each participant, a matching algorithm is utilized to  
17 match the treatment and control groups. In this study, full matching (Guo and Fraser 2010) was  
18 used which minimizes the total distance between *treatment* and *control* groups on their  
19 propensity scores. This allows the matching of parents who did and did not receive sexuality  
20 education, based on their propensity scores. The following formula (Rosenbaum and Rubin  
21 1985, D'Agostino 1998) was used to determine the percentage difference in bias reduction for  
22 initially imbalanced covariates:

1 
$$100(1 - b_m / b_i)$$

2 where  $b_i$  and  $b_m$  are the treatment and control covariate mean differences after matching and  
3 before matching, respectively.

4 With this new matched sample, logistic regression analysis was then performed to investigate  
5 what characteristics would predict whether parents provided sexuality education. The “*Match It*”  
6 package in R (Version 2.14.1) was used to perform the ‘*full matching*’ for the PSA while all  
7 other analyses were carried out using PAWS Statistics 18.0.

## 8 **Results**

9 The comparison of parents who reported that they or their partner *had* ( $n=475$ ) or *had not*  
10 ( $n=488$ ) spoken to their children about sexual matters on the key socio-demographic factors are  
11 presented in Table 1. Approximately two thirds ( $230/475$ , 67.4%) of the parents who reported  
12 providing sexuality education to their children were women. Almost eight in every ten parents  
13 ( $379/475$ , 79.8%) in the older age group (36-45 years) had spoken to their children about sexual  
14 matters. As evidenced in Table 1, both groups were broadly similar in terms of education level,  
15 those currently married and living with a spouse, locality, household social class and importance  
16 of religious beliefs. Parents who did not provide sexuality education to their children also had  
17 slightly smaller families in terms of the number of children.

18 [Insert Table 1 about here]

## 19 ***Propensity score analysis (PSA)***

20 Table 2 presents characteristics of unmatched and matched samples, and balance improvement  
21 after propensity score matching. The results indicate that all variables improved their balance

1 after matching except: *casual relationship; no relationship; social class 3-4; and social class 7.*  
2 (Note: the balance improvement for these variables was 0 or negative which suggests that the  
3 difference between both groups is greater than it was before the matching procedure. However,  
4 the covariates did not exceed 20% standardized absolute difference).

5 [Insert Table 2 about here]

### 6 *Post-matching regression model*

7 Post-matching hierarchical binary logistic regression analysis was employed to determine which  
8 covariates could be used to identify key characteristics that predict whether a parent reports that  
9 they (or their partner) provided sexuality education to their children. The first step of regression  
10 analysis (model 1) looked at the association between receipt of sexuality education and whether  
11 parents provided sexuality education. The results suggested that receiving sexuality education as  
12 a child does not predict whether the parent provided sexuality education (OR = 0.91;  $p > .05$ ).  
13 The second step (model 2) consisted of entering interaction terms coding interaction between  
14 receipt of sex education and current age. The interactions between receipt of sex education and  
15 current age was statistically significant (OR = 1.79;  $p < .05$ ), suggesting that the older parents  
16 (age group 36-45) who received sex education, in contrast to those who did not receive sex  
17 education, were more likely to provide sex education to their children compared with younger  
18 parents (21-35 years). The final step (model 3) consisted of entering all covariates: gender,  
19 education, current relationship status, number of children, locality, social class and religiosity. A  
20 test of the full model containing all predictor variables (and the interaction term between receipt  
21 of sex education and current age) against constant-only model was statistically significant,  $\chi^2(15,$   
22  $951) = 85.67, p < .001$ , indicating that the model was able to distinguish between parents who

1 reported providing sexuality education and those who did not. After controlling for all  
2 covariates, the association between receipt of sex education and whether parents provided sex  
3 education, moderated by current age, became statistically non-significant. As shown in Table 3,  
4 only three of the independent variables made a unique statistically significant contribution to the  
5 model. Results indicated current age as a significant predictor (OR = 1.87,  $p < .05$ ). This  
6 indicates that older parents (aged between 36-45 years) were more likely to report that either  
7 they or their partner provided sexuality education to their children than those in the younger age  
8 group (21-35 years), controlling for all other factors in the model. The second predictor  
9 identified was gender (OR = 2.08,  $p < .001$ ). This finding suggests that mothers were twice as  
10 likely to report that they or their partner provided sexuality education compared to fathers. The  
11 last statistically significant predictor was the number of children (OR = 1.18,  $p < .05$ ). This  
12 suggests that the more children a parent reported having, the more likely they were to have  
13 spoken to them about sexual matters.

14 [Insert Table 3 about here]

## 15 **Discussion**

16 This study aims to make a valuable contribution to our knowledge of factors that predict parental  
17 involvement in sexuality education in Ireland. Our findings suggest a need to advance our  
18 knowledge in this field through the re-evaluation of appropriate research methods and analyses.  
19 Therefore, this section considers some of the key limitations of this study first, before a  
20 discussion of the main findings. A synthesis of what has been learned from this study based on  
21 its' strengths and limitations, with a view to advancing methods and analyses in sexuality  
22 education research, concludes this section.

1 One of the key limitations of this study was the wording of the question on whether sexuality  
2 education was provided to children asked the respondent whether they *or their partner* had  
3 provided sexuality education to their children. Thus, the predictors of whether sexuality  
4 education was provided found in the current study may not be the predictors of the individual  
5 who provided the sexuality education per se. In addition, as the sexuality education components  
6 of this survey were part of a much broader investigation of crisis pregnancy and contraception,  
7 the analyses and suppositions we can make are limited due to lack of information (e.g. the age of  
8 the child/children at the time they received the sexuality education).

9 This study identified a number of demographic factors that predicted parental involvement in  
10 their child's sexuality education. First, parents who reported that they or their partner had spoken  
11 to their children about sexual matters were more likely to be female, aged between 36-45 years  
12 and have a larger number of children. Therefore, mothers, older parents, and those with  
13 increasing numbers of children, are more likely report that they (or their partner) have engaged in  
14 sexuality education with their children. These findings support previous research which has  
15 highlighted the link between parental age, gender, and number of children with the increased  
16 likelihood of engaging in sexuality education with children (Byers, Sears and Weaver 2008;  
17 Turnbull, van Wersch and van Schaik 2008; Walker 2001). For example, parents generally  
18 engage in more sexuality education with their older children (Weaver et al. 2002). In our sample,  
19 it is plausible to assume that some of the children of the older parents were chronologically older  
20 than those of the younger parents. Thus, it is more likely that these older parents would have  
21 provided some degree of sexuality education to their children at the time the data was collected.

22 Linked to this was the finding that parents who had a higher number of children were also more  
23 likely to have engaged in sexuality education. It is possible the experience of parenting more

1 than one child may have made these parents more willing and more open to communication with  
2 their children about sexual matters; a factor that has been previously found to influence whether  
3 parents provided sexuality education (Walker 2001). Alternatively, this communication may  
4 have been child-led, as a result of subsequent pregnancies that prompted the older child/children  
5 to enquire about sexual reproduction.

6 Due to the health risks associated with inconsistent safe sex practices, adolescent sexuality has  
7 transitioned from the domain of the private family sphere to a pressing public health issue  
8 (Sprecher, Harris and Meyers 2008). Parents have an enduring and empirically supported role in  
9 influencing adolescent risk-taking behaviours (Resnick et al. 1997). More recently, a review by  
10 Yu (2010) on school-based sex education and the role of social factors in influencing teenage  
11 sexual behaviour, reiterated the critical role of parents' in making sex education more effective.  
12 Broadly speaking, the basis for our empirical knowledge on the involvement of parents in  
13 sexuality education is predominantly based on findings from two research sources: national  
14 health or sexual health surveys that embed items related to parents, children and sexuality  
15 education (e.g. NATSAL (UK), National Centre for Social Research et al. 2005; National Survey  
16 of Family Growth (US), Martinez, Abma& Copen, 2010) or smaller scale qualitative studies that  
17 explore the experiences of parents' in providing sexuality education or assessing their  
18 participation in programmes/interventions designed to increase their engagement in this  
19 activity(e.g. Kesterton and Coleman, 2010; Weaver et al., 2002; Hyde et al, 2010). Given parents  
20 integral role, sexuality education research would benefit from being developed further.

21 The key contributions of this paper emerge from both its strengths and its limitations. One of the  
22 strengths of this study was the large nationally representative cross-sectional sample. This  
23 quality is important as it is reflective of the type of individuals for whom sexual health issues and



1 sexuality education planning for the future is most relevant (McBride, Morgan and McGee  
2 2012b). Pioneering recruitment strategies also demonstrated the feasibility of using mobile  
3 telephones in general population health surveys, and as well as contributing to the high response  
4 rate of 69% (McBride, Morgan and McGee 2012b). This study also benefited from the  
5 application of a novel statistical technique designed to overcome the problem of selection bias in  
6 cross-sectional studies (propensity score analysis). This meant that comparisons made between  
7 parents from the *treatment* (those who received sex education) and *control* (those who did not  
8 receive sex education) group were as similar as possible. The application of this statistical  
9 technique appears to be a worthwhile contribution to improving statistical analyses in this field.

10 The limitations of the questions included on sexuality education in this survey highlight the  
11 limitations of embedding these in sexual health surveys in general. Sexuality education,  
12 including the role of parents, very often competes for space in these surveys with various other  
13 pressing public health topics (e.g. contraception use, sexual health screening behaviour). Future  
14 research should consider assessing parental involvement in sexuality education in a national  
15 stand-alone survey format that could generate novel and informative data in this area. Detailed  
16 information of this nature, on a national level, would provide a comprehensive knowledge base  
17 that could inform educational curriculum planning and health services policy in the area. For  
18 example, little is known, in a comprehensive way, about who provides sexuality education in the  
19 home. Furthermore, there is a lack of information on the type and range of topics discussed, the  
20 individual or familial reasons why certain topics are discussed and others are not discussed, and  
21 the manner and media in which sexuality information is provided (i.e. ‘the birds and the bees  
22 talk’; books; other media etc.).

1 In conclusion, the findings reported identified parental age, gender and the number of children as  
2 key predictors in the likelihood of a parent, or their partner, speaking to their children about  
3 sexual matters. These findings have also highlighted the need to advance the field of sexuality  
4 education research. The effective recruitment methodology demonstrates a successful way of  
5 securing robust sample numbers on a national level for sensitive research such as this. The  
6 application of advanced statistical methods demonstrates a technique to overcome some of the  
7 limitations presented by cross-sectional data. Future research should incorporate these factors  
8 into the design of a national assessment of parental involvement in sexuality education with a  
9 view to elucidating a more comprehensive profile of parents and the level and nature of sexuality  
10 education they engage in.

11

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**Table 1:** Socio-demographic characteristics of parents who did and did not provide sexuality education to their children

	Parents who provided sexuality education ( <i>n</i> = 475)		Parents who did not provide sexuality education ( <i>n</i> = 488)	
	Unweighted N (%)	Weighted %	Unweighted N (%)	Weighted %
<b>Gender</b>				
Men	155 (32.6)	33.2	230 (47.1)	48.1
Women	230 (67.4)	66.8	258 (52.9)	51.9
<b>Current age</b>				
18-35 years	96 (20.2)	19.7	182 (37.3)	36.7
36-45 years	379 (79.8)	80.3	306 (62.7)	63.3
<b>Education level</b>				
Pre Leaving Cert.	85 (17.9)	25.3	98 (20.1)	30.3
Leaving Cert. or higher	390 (82.1)	74.7	390 (82.1)	69.7
<b>Relationship status</b>				
Married (and living with spouse)	361 (76.2)	79.0	353 (72.3)	75.9
Cohabiting	34 (7.2)	5.7	52 (10.7)	9.2
Steady relationship (not cohabiting)	19 (4.0)	3.6	18 (3.7)	2.2
Casual relationship	14 (2.9)	2.3	8 (1.6)	1.9
Not in a relationship	45 (9.5)	9.1	53(10.9)	9.3
<b>Number of children<sup>a</sup></b>				
1-2	219 (46.1)	45.6	283 (58.0)	56.7
3-4	230 (48.4)	47.5	190 (38.9)	39.8
5 plus	23 (4.8)	6.2	15 (3.1)	3.5
<b>Locality</b>				
Urban	179 (37.7)	38.7	180 (36.9)	36.8
Rural	296 (62.3)	61.3	308 (63.1)	63.2
<b>Household social class</b>				
Social Class 1-2	168 (35.4)	29.6	188 (38.5)	31.0
Social Class 3-4	170 (35.8)	38.0	178 (36.5)	37.9
Social Class 5-6	55 (11.6)	12.1	46 (9.4)	12.7
Social Class 7	82 (17.3)	20.4	76 (15.6)	18.4
<b>Religiosity<sup>b</sup></b>				
Important	265 (55.8)	57.2	285 (58.4)	61.2
Don't know/Neither	49 (10.3)	10.3	57 (11.7)	10.8
Not important	161 (33.9)	32.5	146 (29.9)	28.0

*Note.* <sup>a</sup> Variable contains minimal levels of missing data. <sup>b</sup> For brevity the levels of religiosity were recoded into three categories.

1 **Table 2:** Characteristics of unmatched and matched sample and balance improvement after  
 2 propensity score matching

	Means before matching			Means after matching			% Balance Improvement
	R	NR	Mean difference	R	NR	Mean difference	
Distance (propensity score)	0.61	0.57	0.04	0.61	0.61	0.00	99.81%
Gender	0.63	0.56	0.06	0.63	0.67	0.04	15.66%
Current age	0.66	0.79	-0.13	0.66	0.64	0.02	91.16%
Education	0.18	0.20	-0.02	0.18	0.17	0.01	49.25%
Married	0.71	0.79	-0.08	0.71	0.73	0.02	78.35%
Cohabiting	0.10	0.07	0.03	0.10	0.09	0.01	56.93%
Steady relationship	0.05	0.03	0.02	0.05	0.05	0.00	63.21%
Casual relationship	0.02	0.02	0.00	0.02	0.03	-0.01	-31.97%
No relationship	0.11	0.09	0.02	0.11	0.09	0.02	0%
Number of children	2.43	2.64	-0.21	2.43	2.53	-0.10	51.24%
Locality	0.40	0.33	0.07	0.40	0.39	0.01	88.16%
Religiosity	2.84	2.71	0.13	2.84	2.80	0.04	70.58%
Social class 1-2	0.37	0.36	0.01	0.37	0.37	0.00	33.37%
Social class 3-4	0.34	0.38	-0.04	0.34	0.38	-0.04	0%
Social class 5-6	0.12	0.09	0.03	0.12	0.11	0.01	80.79%
Social class 7	0.16	0.17	-0.01	0.16	0.14	0.02	-64.17%
Sex education provided	0.48	0.51	-0.03	0.48	0.49	-0.01	49.95%

3 *Note.* R = Participants who received sex education; NR = Participants who did not received sex education

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1 **Table 3.** Post-matching hierarchical binary logistic regression on the predictors of provision of sexuality  
 2 education

Model	Variables	B	Adjusted OR (95% CI)	SE
<b>1</b>	<b>Sexuality education received</b>	-0.09	0.91(0.65-1.17)	0.13
<b>2</b>	<b>Sexuality education received</b>	-0.42	0.66 (0.12-1.18)	0.27
	<b>Current age</b>		1	
	21-35 years			
	36-45 years	0.48	1.63* (1.13-2.12)	0.25
	<b>Sexuality education received by Age</b>	0.58	1.79* (1.18-2.40)	0.31
<b>3</b>	<b>Sexuality education received</b>	-0.40	0.67 (0.14-1.99)	0.27
	<b>Current age</b>		1	
	21-35 years			
	36-45 years	0.62	1.87* (1.34-2.36)	0.26
	<b>Sexuality education received by Age</b>	0.53	1.70 (1.07-2.36)	0.32
	<b>Gender</b>		1	
	Men			
	Women	0.73	2.08*** (1.80-2.34)	0.14
	<b>Education level</b>		1	
	Leaving Cert. or higher			
	Pre-leaving cert	-0.12	0.88 (0.53-1.24)	0.18
	<b>Relationship status</b>		1	
	Married			
	Cohabiting	-0.07	0.93 (0.44-1.42)	0.25
	Steady relationship	0.34	1.41 (0.70-2.11)	0.36
	Casual relationship	0.75	2.12 (1.18-3.06)	0.48
	No relationship	-0.04	0.96 (0.49-1.43)	0.24
	<b>Number of children</b>	0.16	1.18** (1.06-1.29)	0.06
	<b>Locality</b>		1	
	Rural			
	Urban	0.17	1.18 (0.91-1.46)	0.14
	<b>Social Class</b>		1	
	Social Class 1-2			
	Social Class 3-4	0.15	1.16 (0.84-1.48)	0.16
	Social Class 5-6	0.30	1.35 (0.88-1.82)	0.24
	Social Class 7	0.34	1.41 (0.99-1.81)	0.21
	<b>Religiosity</b>	-0.04	0.96 (0.86-1.06)	0.05

3 *Note.* OR = Odds ratio; CI = Confidence interval; SE = Standard error; SC = Social class.

4 \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$