

Original article

# First Sexual Partnerships—Age Differences and Their Significance: Empirical Evidence from the 2000 British National Survey of Sexual Attitudes and Lifestyles (‘Natsal 2000’)

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## Abstract

**Purpose:** To describe variations in age differences (ADs) between partners at first heterosexual intercourse and to examine associations between this AD, sociodemographic characteristics, and circumstances of first heterosexual intercourse, by gender.

**Methods:** A total of 3277 men and 4734 women aged 25–44 years who reported ever having heterosexual intercourse in a probability survey of the British population to obtain an unbiased sample of ADs at first intercourse. Face-to-face interviews collected sociodemographic data and information on first intercourse. Gender-specific cumulative distributions of ADs categorized respondents reporting relatively younger first partners (below fifth percentile) and those reporting relatively older first partners (above 95th percentile).

**Results:** Relatively older first partners were six years older than men and 10 years older than women. Relatively younger first partners were three years younger than men and one year younger than women. Men and women with relatively older first partners were more likely to have just met their partner (odds ratios adjusted for sociodemographic characteristics [AOR] 1.8, 95% confidence interval [CI] 1.2–2.7, and 3.1, 95% CI 2.1–4.6, respectively); had a more willing first partner (AOR 2.1, 95% CI 1.2–3.8, and 1.6, 95% CI 1.2–2.2, respectively); *not* used condoms at first sex (AOR 1.9, 95% CI 1.2–3.0, and 1.5, 95% CI 1.1–2.0, respectively); and reported a non-autonomous reason for first sex (AOR 1.6, 95% CI 1.1–2.4, women only). Men with relatively younger first partners were more likely to regret the timing of the first occasion (AOR 2.1, 95% CI 1.0–4.5).

**Conclusions:** First partnerships involving relatively older or younger partners are associated with adverse circumstances of first intercourse. Condoms and other reliable contraception are less likely to be used, and age differences may reflect unequal power relations. Promoting effective communication and negotiation skills may be particularly important for those with relatively older or younger first partners. © 2006 Society for Adolescent Medicine. All rights reserved.

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A number of studies have focused on the circumstances of first heterosexual intercourse [1–7], whereas rather fewer have focused on the age difference (AD) between sexual partners on this first occasion of intercourse. Yet ADs at first intercourse are of public health interest for a number of reasons. Existing research has shown that adolescent fe-

males with older ‘romantic’ partners are more likely to have sexual intercourse with that partner than their counterparts with similarly aged partners [8]. Additionally, women with older first sexual partners are more likely to regret first intercourse [3], and it has been proposed that the power balance of the relationship, for example in terms of the degree of control over first intercourse, may vary according to the magnitude of the AD [1,9–11]. A number of studies report that communication skills are associated with contraceptive use [5,7,10–14], and in turn, this may help to explain why the AD between partners appears also to influence whether intercourse is protected against sexually transmitted infections (STI) and unplanned conception [1,10–12,15,16]. For example, findings from the 1995 American National Survey of Family Growth showed that women with partners more than three years older had 36% lower odds of using contraception than did women with partners of a similar age or younger [10]. Similarly, data from the National Longitudinal Study of Adolescent Health (‘AddHealth’) showed that young women *and* young men were significantly less likely to report using condoms or indeed any contraception with partners who were at least two years older [12]. Manlove et al (2003) also reported from ‘AddHealth’ that adolescents with older sexual partners were also significantly less likely to use contraception consistently [7]. Given these studies’ findings, it is not surprising that young women with older sexual partners are reported to have a substantially greater risk of human immunodeficiency virus (HIV) infection [17] or pelvic inflammatory disease [18] than those who have age-equivalent partners, or that data from the U.S. National Maternal and Infant Health Survey showed that one in five mothers aged 15–17 years had a partner at least six years older [9]. Such adverse outcomes are not limited to younger women with older partners. Zavodny (2001) reported that women with *younger* first sexual partners were more likely to become pregnant and their pregnancies less likely to be terminated than those with similarly aged first partners [19].

Although studies that look at the impact of variations in the AD on young men are few and far between, adverse outcomes associated with dissimilarly aged partners have also been reported for men. For example, it has been shown that men whose first partners were at least two years older are more likely to subsequently accumulate large numbers of partners [20].

There is also evidence, largely for women, that the younger an individual is at first intercourse, the greater the AD with their first sexual partner [2,3,11,12,15,21]. As early first intercourse has been shown to be associated with adverse sexual health outcomes [1,3,5,6], the increased risk of adverse outcomes attendant upon an early age at first intercourse seems to compound risks associated with larger age differentials [8,10,15,21,22]. For example, Gleit (1999) reported that having a sexual partner more than three years older significantly decreased the chances of contraceptive

use among those aged under 18 but had little effect among women aged 18 and older [10].

In this article we use data from a national probability survey, the 2000 National Survey of Sexual Attitudes and Lifestyles (‘Natsal 2000’) to describe variations in the AD between partners at first heterosexual intercourse. The key objective of this article is to examine the relationship between these ADs and circumstances surrounding first intercourse. As a secondary objective, we examine the association between the AD and selected background sociodemographic characteristics as these may have confounding effects [6]. These objectives are examined separately for men and women in order to reflect gender differences in the timing and circumstances of first intercourse [3–6].

## Methods

Natsal 2000 was a stratified probability survey of 11,161 men and women aged 16–44 years, resident in Britain, who were interviewed between May 1999 and February 2001. The response rate was 65.4%, which is in line with other major surveys conducted in Britain [23,24]. In a face-to-face interview conducted by a trained interviewer, respondents were asked via a laptop computer “*How old were you when you first had sexual intercourse with someone of the opposite sex, or hasn’t this happened?*” Respondents reporting heterosexual intercourse aged at least 13 years (to avoid probing early experiences that may have been non-consensual) were asked questions about the circumstances of their first sexual intercourse and the nature of that partnership. These questions included the age of the respondent’s first partner, whether the respondent thought/knew it was their partner’s first time, whether both the respondent and their first partner were equally willing to have sexual intercourse, the nature of the partnership at first intercourse, and use of contraception. If the interviewer did not consider the interview to be sufficiently private for the respondent to articulate their responses, then the respondent was asked to complete a paper version of this component of the questionnaire. Further details of Natsal 2000’s methodology are published elsewhere [25,26].

Because not all respondents in Natsal 2000 had experienced intercourse [6], data for this analysis are restricted to those aged 25–44 years at interview who had ever had heterosexual intercourse. We focus on those aged at least 25 years because 95.7% (95% confidence interval [95% CI] 95.1%–96.3%) of men and 97.6% (95% CI 97.2%–98.0%) of women interviewed reported heterosexual intercourse by age 25 years. This sample therefore broadly represents all people from this birth cohort who have had heterosexual intercourse at interview or will go on to do so. We do not include those sexually experienced participants aged 16–24 as there is over-representation of those with an earlier age at first intercourse in this group.

The AD between the respondent and their first sexual

Table 1  
Variations in the age difference at first heterosexual intercourse, by gender<sup>a,b</sup>

	Men	<i>p</i> <.0001 <sup>c</sup>	Women
	Years		Years
Mean (95% CI)	.6 (.5, .7)		2.6 (2.5, 2.7)
Standard deviation	3.1		3.6
Median	0		2
Lower, upper quartiles	0, 1		0, 4
5 <sup>th</sup> , 95 <sup>th</sup> percentiles	–3, 6		–1, 10
Distribution of age differences	% (95% CI)		% (95% CI)
At least –5 years	1.4 (1.0–1.9)		.1 (0–.3)
–3 to –4 years	2.7 (2.2–3.4)		.6 (.3–.8)
–1 to –2 years	20.7 (19.2–22.)		4.0 (3.5–4.7)
0 years	45.1 (43.3–47.0)		24.4 (23.1–25.8)
+1 to +2 years	19.1 (17.7–20.7)		36.2 (34.7–37.7)
+3 to +4 years	4.8 (4.1–5.7)		16.5 (15.4–17.7)
+5 to +9 years	3.6 (2.9–4.3)		13.0 (12.1–14.2)
At least +10 years	2.6 (2.1–3.2)		5.2 (4.6–5.9)
All	100.0		100.0
Denominator <sup>c,d</sup>	3912, 3277		3872, 4734
Excluded from denominator <sup>f,g</sup>	130, 112		100, 128

<sup>a</sup> The age difference is calculated as the age of the first sexual partner minus the respondent's age. A positive age difference therefore indicates that the partner was older than the respondent, whereas a negative age differences indicates that the partner was younger than the respondent.

<sup>b</sup> Ages are calculated in completed years.

<sup>c</sup> *p* value for the gender difference in the distribution of age differences at first heterosexual intercourse, grouped.

<sup>d</sup> Denominator is respondents aged 25–44 at interview reporting to have ever had heterosexual intercourse.

<sup>e</sup> Weighted, unweighted denominators.

<sup>f</sup> Respondents are excluded from the denominator if they did not report the age of their first partner.

<sup>g</sup> There is no statistically significant association between either age at interview or age at first intercourse, and whether or not the respondent reported the age of their first sexual partner.

partner is calculated by subtracting the respondent's age at first intercourse (in completed years) from their partner's age (in completed years) on that first occasion. Thus, a positive AD signifies that the partner was older than the respondent, and a negative AD signifies that the partner was younger than the respondent.

We firstly consider variations in the AD at first intercourse by gender, then we assess unadjusted associations between AD and (1) sociodemographic factors and (2) circumstances surrounding first sexual intercourse in two ways. The fifth and the 95th percentiles in the gender-specific cumulative distributions of ADs are used as thresholds to denote relatively younger and relatively older first sexual partners, respectively. This categorization forms a way of testing for association with the extremes of the AD distribution using the survey equivalent of the  $\chi^2$  test. Because ADs were calculated in completed years, these thresholds are approximate. All analyses are conducted separately for men and women in order to reflect gender differences in the timing and circumstances of first intercourse [3–6] and the statistical variation, by gender, in the distribution of ADs (Table 1). We also examine variations in the AD by age at first intercourse separately for men and women.

Logistic regression is used to estimate the odds ratio (OR) of reporting various circumstances surrounding first intercourse for those reporting a relatively younger first partner, and separately for those reporting a relatively older

first partner. We also present the OR adjusting for background sociodemographic factors (including age at interview, i.e., birth cohort), to control for confounding associations previously identified [6], and age at first intercourse. Age at first intercourse may be considered to be linked inherently to the AD between partners [2,3,8,15,21], but here, by adjusting for age at first intercourse, we assess the association with the AD beyond that potentially explained by age at first intercourse. Respondents with an AD between the fifth and 95th percentile in the gender-specific cumulative distribution of AD form the reference category. The effects of reporting a relatively younger or a relatively older partner are considered separately to reflect possible sociological and psychosocial differences between having a relatively older versus a relatively young partner [8]. We note that because the data are from a cross-sectional survey it is not possible to determine causality. Some factors are likely to be precursors, others likely consequences of sexual activity with a relatively younger or older partner.

It may be hypothesized that the association between having a relatively older first partner and adverse circumstances of first intercourse will differ according to age at first intercourse, for example, a stronger association for those aged 15 than those aged 20 at first intercourse. We examine the evidence for such an interaction after adjusting for the sociodemographic variables described above by using a term defined as the product of the AD at first inter-

course in years and a binary indicator of whether or not first intercourse occurred before age 16—the age of consent for heterosexual intercourse in Britain.

The survey analysis functions of STATA 7.0 were used for all analyses to account for the stratification, clustering and weighting of the sample [27]. The data were weighted to correct for unequal selection probabilities and to match the age/sex profile of the British population [25,26]. Statistical significance is considered at  $p < .05$  for all analyses.

We obtained ethical approval from University College Hospital, North Thames Multicentre, and all local research ethics committees in Britain.

## Results

On average, men were the same age as their partners at first heterosexual intercourse; the median AD being zero years (Table 1). In comparison, the median AD between women and their first heterosexual partner was two years, thus women's first sexual partners were on average two years older than them. ADs tended to be clustered around the median, especially for men. The interquartile range was one year for men, compared with four years for women. Almost a third of men (30.1%) first had intercourse with an older female partner, whereas over two-thirds of women (70.9%) reported an older male partner. Around one-quarter (24.8%) of men reported a younger first heterosexual partner, whereas only one in 20 (4.7%) women reported having had a younger first partner.

For men, the fifth percentile in the cumulative percentage distribution of ADs at first intercourse corresponds to an AD of  $-3$  years, i.e., a female partner who was at least three years younger. At the other extreme, the 95th percentile corresponds to an AD of  $+6$  years, i.e., a female partner who was at least six years older. For women, the fifth percentile in the cumulative percentage distribution of ADs at first intercourse corresponds to an AD of  $-1$  years, i.e., a male partner who was at least a year younger, and the 95th percentile corresponds to an AD of  $+10$  years, i.e., a male partner who was at least 10 years older. The terms 'relatively older' and 'relatively younger' partners are used for brevity from hereon.

Table 2 shows variations in the mean and distributions of AD for various sociodemographic characteristics, for men and women, respectively. For men, an older age at interview was significantly associated with reporting a relatively younger first sexual partner. Of men aged 25–29 years at interview, 1.6% reported that their first partner was at least three years younger compared with 6.4% of men aged 40–44 years at interview. The proportion of men who reported a relatively older first partner did not vary significantly by age at interview. There were no such associations for women. There were, however, significant ethnic variations in the distributions of ADs for both men and women ( $p < .0001$ ). Those who did not report their ethnicity as white

were significantly more likely to report either a relatively younger or relatively older first partner. For example, a larger proportion of black Caribbean men reported that their first female partner was relatively *older* than them than did white men (12.3% and 4.9%, respectively). In contrast, a larger proportion of Indian men reported that their first female partner was relatively *younger* than white men (26.5% and 3.6%, respectively). Among women, 13.2% of black African women interviewed reported that their first male partner was relatively older compared with 4.7% of white women. There were no significant variations in the AD by respondent's education or their parents' social class, but men who did not live with both parents until age 16 had, on average, significantly older first partners ( $p = .001$ ). Women who, when they were teenagers, did not talk to their parents about sex, had a significantly older first partner, on average ( $p = .011$ ).

Table 3 shows how the AD with the first sexual partner varies significantly by age at first heterosexual intercourse for men and women, respectively. For example, whereas 1.8% of women who were aged under 16 at first intercourse had relatively younger first sexual partners, 13.5% of women who were aged at least 20 years at first intercourse had such an AD ( $p < .0001$ ). A similar significant trend is observed for men ( $p < .0001$ ). The proportion with relatively older first partners also significantly increased with age at first intercourse, from 3.5% of men aged under 16 to 7.3% of men who were aged at least 20 at first intercourse ( $p = .0017$ ), and from 4.8% to 7.8% of women in these groups ( $p = .0023$ ).

The associations between the AD at first intercourse and circumstances of first intercourse are shown in Table 4 with the corresponding ORs after adjusting for age at first intercourse and the sociodemographic characteristics reported in Table 2. Men and women who reported that their first partner was relatively older than them were significantly more likely to report that they had only just met, or recently met their first partner (AOR 1.79 and 3.11, for men and women, respectively). There were no such significant associations with reporting a relatively younger first partner. In terms of willingness to have sexual intercourse, men and women with a relatively older partner were significantly more likely to report that their first partner was more willing to have intercourse than they were (AOR 2.12 and 1.59, for men and women, respectively). Women (only) with relatively younger partners were significantly less likely to report this (AOR .55). Those respondents with relatively older first partners were not significantly more likely to report that they 'should have waited longer to have sex', but men (only) whose first partner was relatively younger were more likely to report that they should have waited longer to have first intercourse (AOR 2.13).

Women reporting a relatively older partner were significantly more likely *not* to report an autonomous reason for first intercourse with that partner, (i.e., a main reason other

Table 2

Variations in the percentage of men and women reporting relatively younger and relatively older first sexual partners by sociodemographic characteristics

Sociodemographic characteristic	Men			Women		
	% (95% CI) of men in each sociodemographic characteristic category reporting an age difference where:			% (95% CI) of women in each sociodemographic characteristic category reporting an age difference where:		
	First partner relatively younger <sup>a</sup>	First partner relatively older <sup>b</sup>	Denominator <sup>c,d</sup>	First partner relatively younger <sup>a</sup>	First partner relatively older <sup>b</sup>	Denominator <sup>c,d</sup>
All	4.1 (3.5–4.9)	5.1 (4.3–5.9)	3912, 3277	4.7 (4.1–5.4)	5.2 (4.6–5.9)	3872, 4734
Age at interview	$p = .0006$			$p = .700$		
25–29	1.6 (.9–2.9)	4.5 (3.1–6.4)	933, 745	5.2 (4.0–6.8)	6.1 (4.8–7.7)	924, 1120
30–34	3.7 (2.6–5.3)	4.9 (3.6–6.5)	1058, 913	4.5 (3.5–5.9)	4.6 (3.6–5.9)	1052, 1313
35–39	5.0 (3.7–6.7)	5.8 (4.3–7.6)	1046, 851	4.4 (3.4–5.9)	4.8 (3.7–6.1)	1017, 1229
40–44	6.4 (4.8–8.6)	5.1 (3.7–7.0)	875, 768	4.6 (3.4–6.1)	5.4 (4.1–7.0)	880, 1072
Self-reported ethnicity	$p < .0001$			$p = .0001$		
White	3.6 (3.0–4.4)	4.9 (4.2–5.8)	3610, 2950	4.6 (4.0–5.3)	4.7 (4.1–5.4)	3577, 4240
Black Caribbean	3.8 (.9–14.0)	12.3 (4.9–27.4)	46, 63	2.5 (.6–10.0)	4.4 (1.8–10.6)	57, 114
Black African	9.8 (3.7–23.7)	9.5 (3.6–23.1)	42, 59	2.9 (.9–8.7)	13.2 (6.8–24.2)	35, 78
Indian	26.5 (15.1–42.3)	7.5 (2.0–24.2)	55, 50	7.9 (3.5–16.6)	9.5 (4.7–18.2)	54, 70
Pakistani <sup>e</sup>	[0]	[0]	[22, 18]	[4.2 (.6–24.9)]	[13.4 (4.8–32.1)]	[24, 27]
Other	9.4 (4.9–17.3)	5.0 (2.3–10.6)	120, 123	6.8 (3.5–12.6)	12.6 (8.0–19.3)	114, 190
Educational background	$p = .877$			$p = .696$		
Left school at 16+ having gained qualifications	4.1 (3.4–5.0)	5.1 (4.3–6.1)	3180, 2679	4.5 (3.9–5.3)	5.1 (4.4–5.8)	3216, 3913
Left school at 16 without gaining any qualifications	4.0 (2.5–6.4)	4.6 (3.0–6.8)	636, 509	5.3 (3.7–7.4)	5.3 (3.9–7.3)	598, 731
Lived with both parents until aged at least 16 years	$p = .021$			$p = .776$		
Yes	4.3 (3.6–5.2)	4.5 (3.8–5.4)	3184, 2645	4.7 (4.0–5.5)	5.1 (4.4–5.8)	3087, 3734
No	3.4 (2.1–5.4)	7.4 (5.4–9.9)	728, 632	4.7 (3.4–6.4)	5.7 (4.3–7.4)	785, 1000
Parent(s)' social class <sup>f</sup>	$p = .298$			$p = .906$		
I/II/III	4.0 (3.3–4.9)	4.6 (3.8–5.6)	2833, 2378	4.6 (3.9–5.4)	5.0 (4.2–5.8)	2734, 3341
IV/V/unemployed	5.0 (3.5–5.1)	5.7 (4.1–7.9)	795, 647	4.7 (3.5–6.3)	5.3 (4.1–6.9)	866, 1026
Talked to parent(s) about sex when aged approximately 14 years	$p = .392$			$p = .072$		
Yes	3.2 (2.2–4.8)	5.3 (3.8–7.2)	883, 752	4.6 (3.7–5.8)	4.2 (3.3–5.3)	1503, 2930
No	4.4 (3.6–5.3)	5.0 (4.2–6.0)	3025, 2522	4.7 (4.0–5.6)	5.8 (5.0–6.8)	2366, 1799

<sup>a</sup> Relatively younger partner defined for men as partner at least three years younger, and for women as partner at least one year younger.

<sup>b</sup> Relatively older partner defined for men as partner at least six years older, and for women as partner at least 10 years older.

<sup>c</sup> Denominator is respondents aged 25–44 at interview reporting to have ever had heterosexual intercourse.

<sup>d</sup> Weighted, unweighted denominators.

<sup>e</sup> Estimates should be interpreted with caution given the small denominator.

<sup>f</sup> Based on parent(s)' occupation when respondent was aged 16 years.

than 'to please partner', 'drunk', 'raped' or 'because peers were sexually active'), even after adjustment (AOR 1.58). Women reporting a relatively older partner were also significantly more likely to report their first male partner as their main source of sex education, again even after adjustment (AOR 1.63).

In terms of adverse sexual-health related factors, Table 4 shows that condom use at first intercourse was significantly associated with the AD between first sexual partners. The AOR of *not* using condoms at first intercourse was 1.91 and 1.48, respectively, for men and women reporting a relatively older first partner. In addition, men reporting a relatively

older first partner were significantly more likely to *not* have used any reliable method of contraception (i.e., condoms, the contraceptive pill, 'other methods of contraception' excluding withdrawal or the rhythm method/safe period), than those men reporting an AD of between the fifth and 95th percentiles (AOR 1.59). Men reporting a relatively younger first partner were also significantly more likely to have *not* used any reliable contraception on that first occasion (AOR 1.92).

As described above, we also examined the interaction between the AD and reporting early intercourse, i.e., occurring before age 16. This was not significant for any of the

Table 3  
Variations in the percentage reporting relatively younger or relatively older first sexual partners by age at first heterosexual intercourse and gender

	Age at heterosexual intercourse, years, grouped			
	13–15	16–17	18–19	20+
<b>Men</b>				
Percentage reporting (95% CI):				
Relatively younger first sexual partner <sup>a</sup>	.2 (0–.8)	.7 (.4–1.4)	2.3 (1.3–4.0)	24.6 (20.7–29.1)
First sexual partner of similar age	96.3 (94.7–97.4)	95.0 (93.6–96.1)	90.3 (87.6–92.5)	68.1 (63.5–72.4)
Relatively older first sexual partner <sup>b</sup>	3.5 (2.5–5.1)	4.3 (3.3–5.6)	7.4 (5.5–9.0)	7.3 (5.0–10.4)
Total	100.0	100.0	100.0	100.0
Denominator <sup>cd</sup>	897, 1089	1268, 1581	636, 705	476, 537
<b>Women</b>				
Percentage reporting (95% CI)				
Relatively younger first sexual partner <sup>a</sup>	1.8 (1.1–3.0)	2.2 (1.6–3.1)	5.6 (4.3–7.2)	13.5 (11.0–16.4)
First sexual partner of similar age	93.4 (91.5–95.0)	93.6 (92.4–94.7)	88.7 (86.6–90.5)	78.7 (75.4–81.7)
Relatively older first sexual partner <sup>b</sup>	4.8 (3.4–6.6)	4.1 (3.3–5.1)	5.7 (4.5–7.3)	7.8 (6.1–9.9)
Total	100.0	100.0	100.0	100.0
Denominator <sup>cd</sup>	853, 703	1958, 1646	1177, 939	746, 584

<sup>a</sup> Relatively younger partner defined for men as partner at least three years younger, and for women as partner at least one year younger.

<sup>b</sup> Relatively older partner defined for men as partner at least six years older, and for women as partner at least 10 years older.

<sup>c</sup> Denominator is respondents aged 25–44 at interview reporting to have ever had heterosexual intercourse.

<sup>d</sup> Weighted, unweighted denominators.

circumstances examined for men (smallest  $p$  value .148). Thus, the ‘effect’ of having a relatively older first partner was similar, regardless of how old men were when they first had intercourse. In contrast for women, there was evidence of one significant ( $p = .042$ ) interaction, thus, reporting that the first partner was more willing to have intercourse was more strongly associated with reporting an older first partner for women younger than 16 at first intercourse compared with women aged 16 or over (AORs 2.35 [95% CI 1.05–5.27],  $p = .038$  and 1.34 [95% CI .94–1.93],  $p = .109$ , respectively).

## Discussion

This study has examined variations in the AD between partners at first heterosexual intercourse using data from Britain’s Natsal 2000, a national probability survey. Our findings are consistent with those of others in that men tend to have first intercourse with a partner of a similar age [3], whereas women tend to have first intercourse with an older partner [2,3,11,15]. One of the study’s strengths is that it expands upon previous research into variations in the average AD by additionally examining variations in the proportion of women and men reporting relatively older and younger first partners. We defined these measures using the fifth and 95th percentiles in the distribution of ADs for each gender. We acknowledge that these measures each represent only 5% of the population, and thus correspond to somewhat extreme ADs, a point that must be borne in mind when considering the study’s results. Furthermore, we acknowledge that this approach must be regarded as subjective because there is, as yet, no consensus in the literature as to what constitutes a ‘large’ AD in either direction as Darroch et al also commented [21]. However, our empiri-

cally derived definition of a relatively older partner for women, defined as a male at least 10 years older, does correspond to the United Kingdom’s law regarding the age of sexual consent according to which a male having intercourse with a young woman before the age of 16 is rarely prosecuted unless he is at least 10 years older [28]. An advantage of this approach is that it enabled us to define gender-specific measures of relatively older and younger partners, reflecting how the distribution of ADs at first intercourse varies for men and women, as we and others observed [3]. Unlike previous studies of the AD that tend to focus on young women with older male partners [1,2,8,9,11,15,16,21,29,30], our approach has the additional advantage that it enabled us to consider the impact of relatively older and younger partners at first intercourse for both women and men. Also, using data from a national probability survey meant that we were able to study ADs reported by men and women in the general population, rather than just those who had experienced a particular event such as a birth [2,9,29], STI clinic attendance [14], or admission to a juvenile detention centre [20].

We found that reporting a relatively older or younger first partner varied with some sociodemographic characteristics such as year of birth, ethnicity, and, among men, whether the respondent lived with both parents to age 16. We also found that reporting a relatively older or younger partner was significantly associated with a number of adverse circumstances of first intercourse, even after adjusting for the background sociodemographic characteristics and age at first intercourse, the latter being correlated with the AD as we, and others [2,3,11,15], have shown. For those men and women who reported having a relatively older first partner, that person was likely to be someone the respondent had met only recently, more willing to have intercourse, and

Table 4  
 Variations in the percentage of men and women reporting relatively younger or relatively older first sexual partners by circumstances surrounding first sexual intercourse

Circumstance surrounding first intercourse	Men					Women				
	% (95% CI) of men in each circumstance category reporting an age difference where:		Adjusted <sup>c</sup> OR <sup>d</sup> (95% CI) for reporting circumstance if:		Denominator <sup>ef</sup>	% (95% CI) of women in each circumstance category reporting an age difference where:		Adjusted <sup>c</sup> OR <sup>d</sup> (95% CI) for reporting circumstance if:		Denominator <sup>ef</sup>
	First partner relatively younger <sup>a</sup>	First partner relatively older <sup>b</sup>	First partner relatively younger <sup>a</sup>	First partner relatively older <sup>b</sup>		First partner relatively younger <sup>a</sup>	First partner relatively older <sup>b</sup>	First partner relatively younger <sup>a</sup>	First partner relatively older <sup>b</sup>	
All	4.1 (3.5–4.9)	5.1 (4.3–5.9)	-	-	3912, 3277	4.7 (4.1–5.4)	5.2 (4.6–5.9)	-	-	3972, 4862
Just/recently met first partner	<i>p</i> = .0001		<i>p</i> = .111	<i>p</i> = .004		<i>p</i> < .0001		<i>p</i> = .454	<i>p</i> < .0001	
No	4.4 (3.6–5.3)	4.2 (3.4–5.1)	-	-	3110, 2568	4.7 (4.0–5.4)	4.5 (3.9–5.1)	-	-	3602, 4362
Yes	3.2 (2.1–4.8)	8.2 (6.3–10.7)	.63 (.36–1.11)	1.79 (1.21–2.66)	785, 692	4.7 (3.0–7.5)	11.4 (8.6–15.0)	1.25 (.70–2.24)	3.11 (2.09–4.63)	348, 468
First partner was more willing to have intercourse	<i>p</i> < .0001		<i>p</i> = .814	<i>p</i> = .010		<i>p</i> < .0001		<i>p</i> = .024	<i>p</i> = .005	
No	4.2 (3.5–5.0)	4.6 (3.9–5.5)	-	-	3681, 3060	5.4 (4.6–6.2)	4.5 (3.8–5.2)	-	-	3059, 3711
Yes	2.9 (1.4–6.2)	12.4 (8.2–18.3)	.89 (.33–2.38)	2.12 (1.20–3.77)	220, 207	2.3 (1.5–3.5)	7.5 (6.0–9.3)	.55 (.33–.92)	1.59 (1.15–2.20)	903, 1139
Should have waited longer to have intercourse	<i>p</i> = .004		<i>p</i> = .048	<i>p</i> = .150		<i>p</i> < .0001		<i>p</i> = .810	<i>p</i> = .788	
No	4.5 (3.8–5.4)	5.5 (4.6–6.4)	-	-	3277, 2763	5.7 (4.9–6.7)	5.2 (4.5–6.1)	-	-	2602, 3171
Yes	2.2 (1.2–3.8)	3.1 (1.8–5.1)	2.13 (1.01–4.52)	.62 (.32–1.19)	605, 494	2.6 (1.9–3.6)	4.9 (3.9–6.1)	.95 (.62–1.46)	1.05 (.74–1.48)	1359, 1674
Autonomous main reason for first intercourse <sup>g</sup>	<i>p</i> = .167		<i>p</i> = .703	<i>p</i> = .872		<i>p</i> = .014		<i>p</i> = .560	<i>p</i> = .028	
Yes	4.4 (3.7–5.2)	5.2 (4.4–6.2)	-	-	3355, 2829	4.9 (4.3–5.7)	4.8 (4.2–5.5)	-	-	3450, 4215
No	2.8 (1.5–4.9)	4.0 (2.5–6.4)	.87 (.42–1.80)	.96 (.55–1.66)	549, 443	3.1 (1.9–5.0)	7.2 (5.3–9.8)	1.19 (.66–2.14)	1.58 (1.05–2.39)	505, 625
First partner quoted as main sex education source	<i>p</i> = .235		<i>p</i> = .052	<i>p</i> = .202		<i>p</i> = .142		<i>p</i> = .598	<i>p</i> = .038	
No	4.4 (3.7–5.3)	4.9 (4.1–5.9)	-	-	3192, 2670	4.8 (4.1–5.5)	5.0 (4.4–5.7)	-	-	3632, 4428
Yes	2.8 (1.7–4.6)	5.4 (3.7–7.7)	1.88 (.99–3.54)	1.38 (.84–2.28)	717, 602	3.8 (2.3–6.4)	7.2 (5.0–10.2)	1.19 (.62–2.29)	1.63 (1.03–2.58)	339, 432
Condom(s) used for first intercourse	<i>p</i> = .014		<i>p</i> = .831	<i>p</i> = .004		<i>p</i> = .017		<i>p</i> = .891	<i>p</i> = .010	
Yes	4.1 (3.1–5.3)	3.6 (2.6–4.8)	-	-	1544, 1292	4.9 (4.0–6.0)	4.2 (3.4–5.1)	-	-	1832, 2215
No	4.2 (3.4–5.3)	6.0 (5.0–7.2)	1.05 (.67–1.64)	1.91 (1.23–2.98)	2351, 1969	4.5 (3.7–5.4)	6.1 (5.2–7.1)	.98 (.70–1.37)	1.48 (1.10–1.99)	2126, 2625
Reliable contraceptive method(s) used for first intercourse <sup>h</sup>	<i>p</i> = .306		<i>p</i> = .010	<i>p</i> = .049		<i>p</i> = .006		<i>p</i> = .569	<i>p</i> = .083	
Yes	4.3 (3.5–5.4)	4.5 (3.7–5.6)	-	-	2317, 1936	5.1 (4.4–6.0)	4.6 (3.9–5.4)	-	-	2671, 3192
No	3.9 (3.0–5.2)	5.8 (4.5–7.2)	1.92 (1.17–3.15)	1.59 (1.00–2.53)	1578, 1325	3.7 (2.8–4.8)	6.4 (5.3–7.8)	1.12 (.76–1.63)	1.33 (.96–1.83)	1287, 1648

<sup>a</sup> Relatively younger partner defined for men as partner at least three years younger, and for women as partner at least one year younger.

<sup>b</sup> Relatively older partner defined for men as partner at least six years older, and for women as partner at least 10 years older.

<sup>c</sup> Adjusted for the sociodemographic characteristics in Table 2 and respondent's age at first heterosexual intercourse.

<sup>d</sup> Relative to respondents with age differences between the fifth and 95th percentiles.

<sup>e</sup> Denominator is respondents aged 25–44 at interview reporting to have ever had heterosexual intercourse.

<sup>f</sup> Weighted, unweighted denominators.

<sup>g</sup> Main reason reported for first intercourse was *not* to please partner, drunk, because peers were sexually active, raped.

<sup>h</sup> Reliable contraceptive methods include condoms, contraceptive pill, and 'other contraception'.

as others have reported, at least for women [1,7,11,15], with whom first intercourse was not protected from infection or conception. Among women, having a relatively older first partner was also associated with a non-autonomous reason for first having intercourse and reporting that their first partner was their main source of sex education. Miller et al (1997) suggest that such relationships are concerning as they may mean that older male partners can influence the development or reinforcement of subsequent risky sexual behaviour among young women [15].

Although reporting a relatively younger partner was not significantly associated with as many adverse circumstances as reporting a relatively older partner, it is interesting to observe that men with relatively younger first partners were more likely to regret the timing of their first intercourse and to have had unprotected intercourse. This study's exposure of the significance of having a relatively younger partner, at least at first intercourse, will hopefully encourage other studies to examine the significance of younger partners as well as older partners.

We also examined whether or not the magnitude of the association between these circumstances and reporting an older partner was greater for those who had first intercourse at an early age, which we defined as before 16. We found no evidence of any such interactions for men, and among women, the interaction term was significant for only one of the circumstances considered. It is therefore difficult to conclude from these data that reporting a relatively older partner is more strongly correlated with reporting adverse circumstances of first intercourse for those who reported first intercourse at a young age. This finding contradicts others' findings [8,10,11], which, as noted above, may be partly due to this study using more extreme ADs to define relatively older and younger partners.

Our findings may support hypotheses relating ADs between young people and their first partners and possible power imbalances [10] and an absence of protection from unplanned conception and STI [1,10–12,15,16]. As others have suggested [5,7,11,12,15,16], this has implications for sex and relationship education and counseling. Previously, we reported that three-quarters of men and women would have liked more information about sex at the time they felt ready to first have sexual intercourse, and of these, one in 10 men and almost one in five women reported wanting better negotiation skills [31]. The data presented in this article suggest that this may be a particular need for those with either relatively older or relatively younger partners, if improving young people's negotiation skills is considered a way of addressing power imbalances hypothesized to be associated with large ADs. However, it is important to reiterate that causality cannot be assumed from these cross-sectional survey data. Additionally, the Natsal 2000 data are retrospective, so opinions of an individual's experience of first intercourse may have changed over time as other studies have noted [2,4,6], a pertinent point given our inclusion

of respondents in their early 40s at interview for whom recall could be 20–30 years. However, as noted above, the whole range of ADs at first intercourse can be captured *only* by using this age range at interview. Simply focusing on today's sexually experienced adolescents would result in a biased picture of the distribution of ADs at first intercourse.

In conclusion, we have identified a number of circumstances of first heterosexual intercourse associated with reporting a relatively older or younger partner, for both men and women, above and beyond age at first intercourse. Condoms and other reliable contraceptive methods are less likely to be used, with implications for risk of STI transmission and unplanned conception. Unequal power relations may manifest themselves, for example, in a partner's greater willingness to have intercourse and/or reporting non-autonomous reasons for first intercourse, which, in turn, may have negative emotional and psychological health implications. A number of studies have proposed promoting effective communication and negotiation skills as key components of sex and relationship education to encourage egalitarian relationships [4,5,9,12,15], skills that may be of even greater importance when young women's *and* men's first sexual partners are not of a similar age.

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