



Expectations for Sex without Birth Control among Young Men: Risk Factors from the USA National Survey of Reproductive and Contraceptive Knowledge

Brian T. Nguyen^{1,2}, Caroline Violette³, Hong Z. Li², Jeffrey T. Jensen²

¹Section of Family Planning, Department of Obstetrics and Gynecology, Keck School of Medicine of the University of Southern California, Los Angeles, CA, ²Department of Obstetrics and Gynecology, Oregon Health & Sciences University, Portland, OR, ³Emory University School of Medicine, Atlanta, GA, USA

Purpose: Male partner engagement in family planning can influence women's contraceptive behaviors and risk of unintended pregnancy. We identified factors associated with self-reported expectations for future contraceptive use among a nationally-representative sample of young men.

Materials and Methods: The National Survey of Reproductive and Contraceptive Knowledge asked unmarried, sexually active men (ages, 18–29 y), who were neither involved in nor trying for a pregnancy, about their likelihood of having sex without contraception in the following three months. Demographics, social factors, and contraceptive awareness and attitudes were examined for potential associations using weighted analyses.

Results: Of 903 men surveyed, nearly 600 were sexually active and expected to have sex in the following 3 months; nearly half (43%) reported at least some likelihood (23% slightly, 7% very, 13% extreme likely) that they would have sex without any contraception. Factors independently associated with sex without contraception included: not completing high school, not being in school full-time, not receiving sex education, limited awareness of contraceptive methods, multiple sexual partners, and friends with unintended pregnancies.

Conclusions: Despite not wanting a pregnancy, many young men report they will have sex without contraception. While comprehensive sex education may increase contraceptive use, interpersonal and social factors also influence men's expected use of contraception.

Keywords: Condoms; Contraception behavior; Family planning; Men; Pregnancy, unplanned; Unsafe sex

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INTRODUCTION

The influence of male partners on the incidence

and outcome of unintended or unwanted pregnancy is often overlooked, with interventions primarily aimed at women. Nevertheless, male partner involvement

Received: Jul 26, 2019 **Revised:** Sep 16, 2019 **Accepted:** Sep 30, 2019 **Published online** Oct 25, 2019

Correspondence to: Brian T. Nguyen <https://orcid.org/0000-0002-0282-3241>

Section of Family Planning, Department of Obstetrics and Gynecology, Keck School of Medicine of the University of Southern California, 2020 Zonal Ave IRD 505, Los Angeles, CA 90033, USA.

Tel: +1-323-409-5439, **Fax:** +1-360-208-8938, **E-mail:** nguyenbt@usc.edu

in decisions about sex and contraception can strongly influence contraceptive behaviors and strengthen relationships in ways that can impact rates of unintended pregnancy [1]. An equitable relationship, in which a woman receives emotional and decision-making support from her male partner, may facilitate pregnancy values clarification and the selection of a contraceptive method that is agreeable to both partners [2]. In communities or cultures where men are primary decision makers in relationships, male partners who want to avoid a pregnancy can facilitate access to and the use of emergency contraception (EC) [3,4]; yet, women and pharmacy workers are commonly unaware that men can purchase EC for their partners [5]. Knowledgeable and motivated male partners are especially important in minority communities where women may rely on them for health information [6]. Though modern contraceptives can give women nearly complete control over when to become pregnant—thereby relieving men of contraceptive responsibility—many couples continue to believe that contraception is a shared responsibility, whereby communication between partners about contraception can improve contraceptive consistency and continuation [7,8]. One survey of women in the United States reported that women were twice as likely to be using an effective method of contraception if they felt their male partner was also in favor of using contraception, again exemplifying the importance of men's involvement in contraceptive decision-making [9].

Men consider contraception to be important and want to take on their reproductive responsibility [10,11]. However, despite wanting to avoid pregnancy, some men choose to enter sexual relationships without using contraception [12]. Further, an analysis of contraceptive use at last sexual intercourse from the 2011 to 2015 National Survey of Family Growth (NSFG) noted the use of withdrawal among approximately 25% of unmarried male adolescents and a significant drop in the use of condoms from 75.5% at ages 15 to 19 years to 56.1% at ages 20 to 24 years [13]. Such discrepant behavior may be a function of negative attitudes towards specific methods of contraception, judgment-impairing behaviors like binge drinking, risk-avid behaviors like having multiple sexual partners, or a lack of perceived control or self-efficacy [12,14-18]. While choosing to no longer use condoms within a sexual relationship suggests trust that one's partner does not carry a sexually transmitted infection (STI) [15,19], such relationships

may be less common or considered less predictable among young men. As more than half of young men in one survey reported sex with multiple partners [20], their underutilization of barrier methods for both infection prevention and contraception warrant public health attention. As the majority of studies on male contraceptive utilization examine past usage (*e.g.*, NSFG) or are conducted in special populations, we took advantage of the National Survey of Reproductive and Contraceptive Knowledge's (NSRCK) query of young men's prospective expectations for contraceptive use when having sex, exploring its association with sociodemographic factors, sexual experience, contraceptive and pregnancy attitudes, and awareness of contraceptive methods.

MATERIALS AND METHODS

1. Survey and sample population

In 2009, the National Campaign to Prevent Teen and Unplanned Pregnancy, in collaboration with the Guttmacher Institute, conducted the NSRCK, a nationally-representative phone survey of 1,800 young, unmarried men and women between the ages of 18 and 29. Offered in both English and Spanish, the survey was the first and remains one of the only to assess family planning-related attitudes and behaviors among unmarried young adults, reflecting the perspectives and experiences of 37.6 million young adults. Survey sampling was stratified by type of phone number (listed landline, random-digit-dial landline, and cellular phone) and race/ethnicity; African American and Hispanic adults were over-sampled to improve subgroup analyses. Participants were contacted by phone and asked a series of questions developed by the Guttmacher Institute in consultation with the National Campaign to Prevent Teen and Unplanned Pregnancy that sought to assess contraceptive knowledge, attitudes, and behaviors. Further details regarding the NSRCK's survey methodology are detailed in separate publications [21]. The population examined in this analysis was restricted to sexually active (specifically defined during survey administration as "penile-vaginal intercourse"), heterosexual men, who reported neither being involved in nor trying for pregnancy within the 3 months following survey participation.

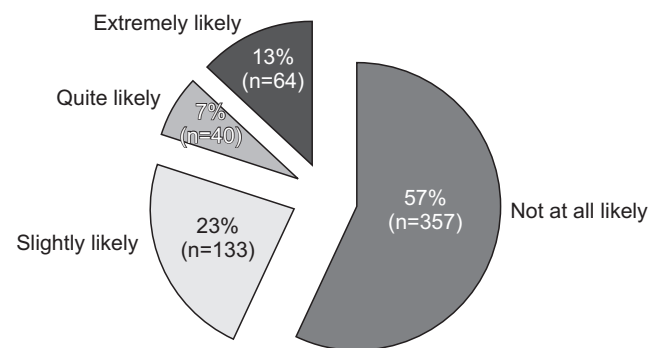
2. Outcome of interest

The primary outcome of interest was men's response to the question, "In the next 3 months, how likely is it that you will have sex without using any method of birth control?" Responses were measured using a 4-point Likert scale from "Not at all likely" to "Extremely likely," with responses collapsed such that respondents reporting "Not at all likely" represented only respondents who would "definitely use contraception." All other respondents were "possible non-users." Of note, respondents were specifically reminded by interviewers that their use was inclusive of reliance on their female partner's method (e.g., pills, patches, rings, injectables, or implants). Thus, respondents reporting at least some likelihood of sex without using contraception would include men who: (1) did not personally use contraception, (2) did not know his female partner's method, (3) did not think she would use contraception, or (4) were not involved in any decision-making, yet who might still have sex without contraception.

3. Covariates

The analysis considered demographic and socioeconomic status-related variables including age, race/ethnicity (non-Hispanic White, non-Hispanic Black, Hispanic, and non-Hispanic other), highest achieved education, and job status. Relationship strength and

status were not queried in the NSRCK, though respondents were excluded if they were married. Survey items on reproductive experience included receipt of sex education, number of sexual partners in the last year, and age at coitarche. Contraceptive awareness was measured by the sum of contraceptives known to the respondent from a list of 16 (abstinence, pills, condoms, injectables, patches, intrauterine devices, rings, female barriers, foams, sponges, implants, fertility awareness, withdrawal, female/male sterilization, and EC). As 12 was the median number of reportedly known methods, awareness was collapsed binarily into



*Weighted proportion and unweighted frequency

Fig. 2. Distribution of responses to the question: "In the next 3 months, how likely is it that you will have sex without using any method of birth control?"

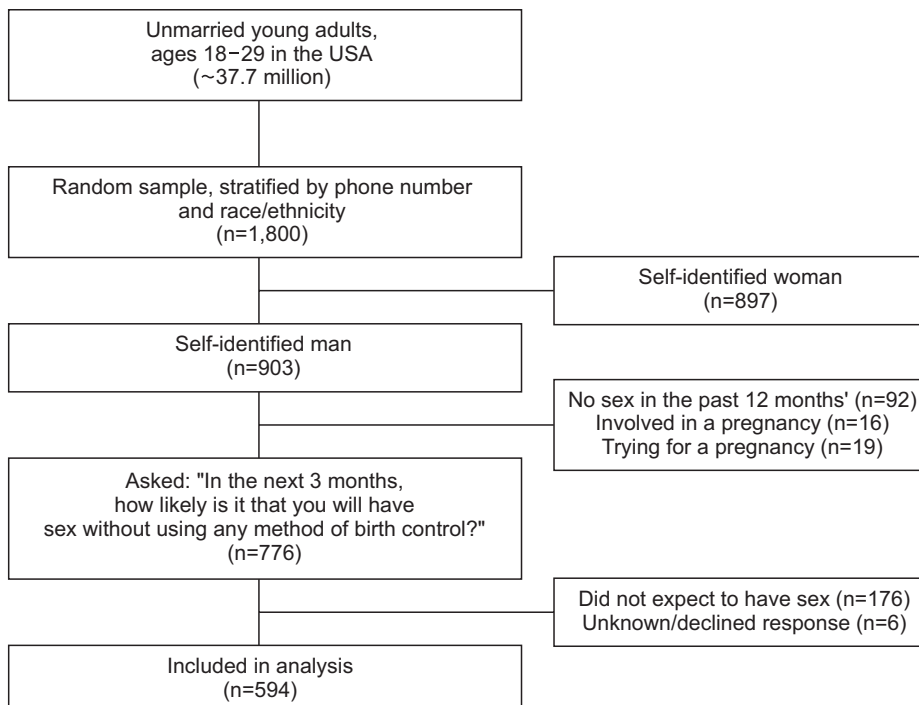


Fig. 1. Study population and sampling frame.

lower (≤ 12) or higher (> 12) than average awareness. The NSRCK additionally measured the respondent's contraceptive knowledge *via* a series of true-false items; however, as composite scores of knowledge were highly correlated to those of contraceptive awareness ($r=0.6$), awareness was included in the analysis as a prerequisite for knowledge. Contraceptive and pregnancy attitudes were extrapolated from respondents' agreement to such statements as: "It's a hassle to use condoms every time" and "I'd be upset if my partner were pregnant." Each statement was linked to a 5-point Likert

scale where "somewhat" and "strong agreement" were collapsed as general agreement with the attitude.

4. Statistical analysis

All analyses were performed using SUDAAN 10.0 (Raleigh, NC, USA, 2008; www.rti.org/sudaan) to account for sampling design and weights given by the National Campaign to Prevent Teen and Unplanned Pregnancy. Sample frequencies and weighted proportions for expected contraceptive use are presented. Young men who reported that they would "definitely

Table 1. Associations of sociodemographics and reproductive experience with expected use of contraception with intercourse in the next 3 months

Men expecting to be sexually active in the next 3 months, neither involved in nor trying for a pregnancy (n=594; weighted n=13,962,792)	Subheading	Will definitely use contraception (n=357) ^a	Might not use contraception (n=237) ^a	p-value
Age (y)	18–19	98 (26.2)	69 (25.3)	0.95
	20–24	167 (39.3)	103 (40.9)	
	25–29	92 (34.5)	65 (33.7)	
Race	White	199 (59.2)	114 (59.2)	0.71
	Hispanic	79 (20.1)	63 (22.6)	
	Black	52 (13.5)	45 (13.6)	
	Other	27 (7.1)	15 (4.7)	
Education level	Less than high school	34 (11.4)	49 (22.1)	0.01
	At least high school	108 (30.4)	83 (35.1)	
	College or more	214 (58.3)	105 (42.8)	
Currently enrolled in school	Yes	88 (27.9)	46 (16.0)	0.01
	No	267 (72.1)	190 (84.1)	
Received sex education	Yes	298 (83.7)	179 (73.9)	0.03
	No	56 (16.3)	57 (26.1)	
Religious attendance	Every week	73 (17.6)	52 (20.5)	0.22
	1–3×/mo	71 (15.8)	50 (22.4)	
	Less than 1×/mo	208 (66.5)	134 (57.1)	
Has health insurance coverage	Yes	277 (75.1)	165 (67.5)	0.16
	No	76 (24.9)	72 (32.5)	
Awareness of contraceptive methods (> 12 , sample median)	Yes	178 (43.6)	143 (60.1)	< 0.01
	No	179 (56.4)	94 (39.9)	
No. of sex partners in the last year	1	205 (58.1)	95 (34.9)	< 0.01
	2	65 (16.0)	48 (19.4)	
	3 or more	87 (25.9)	94 (45.7)	
Age at first sex (y)	≥ 18	113 (31.8)	44 (20.2)	0.02
	< 18	242 (68.2)	188 (79.8)	
Previous use of sexual health services	Yes	145 (45.2)	96 (44.2)	0.86
	No	212 (54.8)	140 (55.8)	
Previous experience of an unplanned pregnancy	Yes	45 (15.1)	48 (22.8)	0.11
	No	312 (84.9)	188 (77.2)	

Values are presented as number (%).

^aWeighted proportion.

use” *versus* “possibly not use” contraception at the time of intercourse were compared against sociodemographic, reproductive, and contraceptive-related characteristics, using chi-square tests of association. Two-sided p-values are presented, where $p < 0.05$ was considered statistically significant. All potential predictors ($p < 0.05$) from the bivariate analyses were included in a multivariable model. Age and race/ethnicity were included regardless of association with the outcome. Goodness-of-fit was confirmed *via* the Hosmer and Lemeshow test; crude and adjusted odds ratios are presented.

5. Ethics

As the following findings reflect secondary data analysis, human subjects approval and the need for informed consent were waived by the Oregon Health & Sciences Institutional Review Board (IRB).

RESULTS

Of 903 men surveyed, 776 were sexually active in the past year and neither involved in nor trying for a pregnancy in the next 3 months. After excluding 176 men who did not expect to have sex in the next 3 months and 6 who did not respond to the contraceptive use survey item, 594 men were included (Fig. 1). The average respondent was 22 years old (range, 18–29 y).

More than half of respondents had at least some college education, nearly 30% were uninsured; 40% had received sexual health services (any visit to a clinic for condoms or testing for/treatment of a STI). Nearly 1 in 6 young men had been involved in an unplanned pregnancy. More than half (57%) reported that they were “not at all likely” to have sex without using any birth control in the next 3 months; 23% were “slightly likely,” 7% were “quite likely,” and 13% were “extremely likely” (Fig. 2). Table 1 describes characteristics of the population by expected use of contraception, with the following significant associations identified ($p < 0.05$): education level, being in school, receipt of sex education, contraceptive method awareness, age at first sex, and number of sex partners in the last year. Table 2 describes contraceptive and pregnancy attitudes by expected use of contraception, with the following significant associations ($p < 0.05$): self-identification as a risk taker, believing condoms to be a hassle to use every time, or having friends previously involved in unintended pregnancies. Table 3 presents findings from the multivariable, adjusted model, with independent factors associated with expectations to have sex without using contraception in the 3 months following survey including: men who had not completed high school (adjusted odds ratio [adjOR], 2.36; 95% confidence interval [CI], 1.06–5.25), who were not in school (adjOR, 2.05; 95%

Table 2. Associations of contraceptive and pregnancy attitudes with expected use of contraception with intercourse in the next 3 months

Contraceptive and pregnancy attitudes (strongly or somewhat agree) (n=594; weighted n=13,962,792)	Will definitely use contraception (n=357) ^a	Might not use contraception (n=237) ^a	p-value
I take more risks than other people.	142 (42.1)	131 (59.0)	<0.01
Things just happen to me in life.	174 (54.6)	146 (63.4)	0.11
Using birth control is morally wrong.	42 (10.5)	41 (16.6)	0.11
Birth control decisions are a woman's responsibility.	169 (47.6)	113 (50.5)	0.62
Using birth control doesn't affect chances of pregnancy.	118 (34.9)	101 (42.1)	0.20
It's a hassle to use condoms every time.	77 (22.1)	86 (37.5)	<0.01
I'd be upset if my partner were pregnant.	186 (51.8)	113 (49.1)	0.65
Having a child out of wedlock is unacceptable.	164 (42.0)	92 (43.6)	0.79
It's okay for unmarried females to have a child.	233 (68.0)	180 (74.1)	0.23
I'd love to have a baby if life was different.	173 (53.9)	126 (51.7)	0.70
My friends have had unplanned pregnancies.	212 (57.2)	170 (70.9)	0.02
My friends think using birth control is important.	307 (86.0)	188 (84.5)	0.68
Every pregnancy is a blessing.	257 (72.0)	183 (74.3)	0.66
All pregnancies should be planned.	326 (94.7)	221 (95.2)	0.80
I have all the information needed to avoid pregnancy.	317 (90.3)	201 (87.6)	0.42

Values are presented as number (%).

^aWeighted proportion.

Table 3. Factors associated with the possibility of not using contraception with intercourse in the next 3 months; multivariable analysis

Variable	Subheading	Unadjusted OR (95% CI)	Model AdjOR (95% CI)
Age (y)	18–19	Reference	Reference
	20–24	0.93 (0.55–1.56)	0.75 (0.40–1.41)
	25–29	0.99 (0.54–1.82)	1.02 (0.51–2.04)
Race	White	Reference	Reference
	Hispanic	0.89 (0.51–1.56)	1.75 (0.88–3.47)
	Black	0.99 (0.53–1.84)	1.79 (0.83–3.85)
	Other	1.52 (0.65–3.56)	1.62 (0.57–4.56)
Education level	Less than high school	2.65 (1.39–5.04)	2.36 (1.06–5.25)
	At least high school	1.57 (0.94–2.62)	0.99 (0.57–1.70)
	College or more	Reference	Reference
Not currently enrolled in school		2.04 (1.17–3.54)	2.05 (1.07–3.94)
Did not receive sex education		1.81 (1.05–3.11)	1.79 (1.04–3.20)
Aware of fewer than 12 contraceptives (population median)		1.95 (1.24–3.08)	1.71 (1.02–2.83)
First sex at less than 18 years of age		1.84 (1.09–3.11)	0.93 (0.52–1.67)
No. of sex partners in the last year	1	Reference	Reference
	2	2.16 (1.31–3.57)	2.11 (1.14–3.91)
	3 or more	3.68 (1.97–6.87)	2.80 (1.60–4.91)
Agreement with the following statements	“I take more risks than other people.”	1.98 (1.26–3.13)	1.45 (0.90–2.34)
	“It’s a hassle to use condoms every time.”	2.12 (1.29–3.46)	1.51 (0.91–2.52)
	“My friends have had unplanned pregnancies.”	1.82 (1.11–3.00)	2.03 (1.20–3.42)

OR: odds ratio, CI: confidence interval, adjOR: adjusted odds ratio.

CI, 1.07–3.94), had more than one sexual partner in the last year (adjOR, 2.11; 95% CI, 1.14–3.91), or who had friends with unplanned pregnancies (adjOR, 2.03; 95% CI, 1.20–3.42).

DISCUSSION

More than 2 in 5 (43%) young men speculated that in the three months after being surveyed, they might have sex without using any contraceptive. This finding echoes results from a survey of men at reproductive health clinics in California where 52% reported at least slight likelihood of unprotected sex in the future [22]. A previous analysis of the NSRCK by Frost et al [23] in 2012, exploring factors associated with the expected use of contraception among both young men and women agreed with our findings that both educational attainment and contraceptive knowledge are important contributors. NSFG data also support the protective role of education on contraceptive use [24]. However, previous NSRCK regressions did not include reproductive and sexual background as possible associations, specifically young men’s receipt of sex education and

number of sexual partners in the last 12 months, both of which were independently associated with expected use of contraception in our model. In both analyses, desire to avoid pregnancy, as well as attitudes about birth control and responsibility were not associated with expected contraceptive use. These negative findings may support the role of additional factors, such as how differing contraceptive attitudes and preferences between sexual partners are managed; contraceptive-decision making among couples may be related to the respondent’s relationship with his partner [2].

While asking male partners about their expected use of contraception does not address the actual antecedents of their behaviors (e.g., contraceptive accessibility or issues encountered at the time of intercourse), responses indicating that they might not use contraception despite not wanting to be involved in a pregnancy reflect a disconnect between desired outcome and behavior. While ambivalence is difficult to quantify, almost half of participants (49.1%) who stated they would be upset if their partner were to become pregnant also responded that they might not use contraception, which suggests that the male partner was unlikely to

be ambivalent about getting involved in a pregnancy. Our finding that men with multiple sexual partners in the last year had nearly triple the odds of reporting that they might not use contraception, raises concern that they may share similar attitudes about STIs. Active behaviors to avoid pregnancy and/or STIs require an individual's acknowledgment that their actions will have negative consequences. Accordingly, groups with an inherently negative outlook on life or perceived limitations for social mobility—as often seen in low resource settings—may not perceive an unplanned pregnancy to be a negative consequence; an unplanned pregnancy or an unencumbered sexual encounter may both be seen as meaningful goals [25]. This premise may be supported by our collective findings that young men who had not completed high school, who were not actively in school, who had multiple sexual partners, or who had friends with unplanned pregnancies had more than twice the odds of reporting that they might have sex without contraception.

Fortunately, the influence of low resource settings may be mitigated by increasing men's awareness of contraceptive methods, which in the NSRCK data, nearly halved the odds of expecting to have sex without contraception. While other sections of the survey specifically examined contraceptive knowledge, knowledge is not always correlated with future behavior [26]. For this reason, simple contraceptive awareness was used to contextualize the participant's contraceptive expectations. Being aware of the variety of available methods of contraception can facilitate the initiation of conversations about contraception and the pursuit of more information, if desired. Contraceptive education for young men commonly focuses on abstinence and condom use; consequently, men have few opportunities to learn about the range of methods available to their female partners. As men from this study were more likely to anticipate use if they were aware of more methods of contraception, broadening contraceptive curricula may facilitate their participation in pregnancy prevention. Additionally, the similar, though independent, association of receiving sex education, suggests that teaching contraceptive methods alone may only be a fraction of sex education's influence on contraceptive use. Some comprehensive sex education programs, such as *PlayForward* have been more successful in reducing sexual risk-taking behavior in young men than in young women [27]. The effective-

ness of these curricula among young men in decreasing reported numbers of sexual partners and age of sexual onset may be related to the rare public opportunity for assessment, reflection, modeling, and discussion of sexual behaviors/situations, all of which might counteract the social pressures or hegemonic masculinities that young men commonly face to perform or be sexually active [28,29]. These social pressures may also explain our analysis' association of expected sex without contraception and having friends with unplanned pregnancies.

The NSRCK is valuable for its uncommon provision of information on men's attitudes towards and expected use of contraception. Yet, as the available data only allowed analysis of expected use, our results may not be an accurate assessment of risk nor a comprehensive assessment of circumstances that may impact actual non-use of contraception. The proportion of young men who reported that they would definitely use contraception may be an overestimate given concerns about social acceptability. This problem might be exacerbated if young men were more likely to say that they were going to use contraception in the face of responding to a female survey administrator. However, this consideration would suggest that more young men are at risk than reported. This risk may also be an overestimate if the male partner is unaware of his female partner's contraceptive use. The NSRCK also did not directly assess relationship status, which can influence contraceptive discussions and utilization within couples [30]. However, regardless of relationship status, it is reasonable for men to feel empowered to be involved in the conversation surrounding contraception, as it is a joint decision to enter into a sexual relationship, which may have health-related and socioeconomic consequences for both partners.

CONCLUSIONS

Contraception and the prevention of STI transmission should not solely be women's responsibilities. As such, men should be aware of their risks and actively affect them by communicating with their female partners towards mutually agreeable reproductive life plans and preventive behaviors. Expecting to have sex without contraception may serve as an important marker of risk for unintended pregnancy, although longitudinal data should be collected along with specif-

ic examination of the male partner's use of contraception in the future. Future surveys should also examine men's engagement with and awareness of their female partner's contraceptive decisions.

ACKNOWLEDGEMENTS

The presented data were provided by the National Campaign to Prevent Teen and Unplanned Pregnancy and collected in collaboration with the Guttmacher Institute.

Conflict of Interest

The authors have nothing to disclose.

Author Contribution

Conceptualization: BTN, JTJ. Data curation: BTN, CV. Formal analysis: BTN, HZL. Investigation: BTN, HZL. Methodology: BTN, HZL. Resources: BTN, CV. Software: BTN, HZL. Supervision: HZL, JTJ. Writing – original draft: BTN, JTJ. Writing – review & editing: BTN, CV, JTJ.

Data Sharing Statement

The data analyzed for this study are available at https://www.cdc.gov/nchs/nsfg/nsfg_questionnaires.htm.

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