

Differences in Reproductive Health Knowledge, Attitudes, and Intentions among Adolescents by Pre-Sexual Experience

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Introduction

Despite significant declines in teen pregnancy since the mid-1990s, the United States still has the highest rate of teen pregnancy among industrialized nations, with especially high rates of unintended pregnancies among black and Latinx teens.^{1,2} Teen pregnancy prevention programs aim to reduce pregnancies among adolescents through reduced sexual activity and/or improved contraceptive use. Programs often target younger adolescents,^{3,4} introducing them to pregnancy prevention programming before they reach the average age of first sexual intercourse (17 years).⁵ These programs generally aim to delay sexual initiation and prepare teens with the knowledge and skills to avoid pregnancy should they become sexually active.⁶

Whether teens have “pre-sexual experience”—usually defined as having engaged in sexual touching or oral sex, but not vaginal sex—is an important consideration for teen pregnancy prevention program implementors and evaluators working with younger adolescents. Some previous research has found that adolescents with pre-sexual experience are more likely to initiate vaginal sex than those with no sexual experience.^{7,8,9} Understanding the knowledge, attitudes, and intentions of adolescents with differing levels of sexual experience can help programs target their message to students.

In this research brief, we examine students who participated in a teen pregnancy prevention program, Re:MIX. The study participants were mostly Latinx students in grades 8 to 10. We present findings on (1) students’ differing baseline levels of sexual experience (no sexual experience, pre-sexual experience, vaginal sex); (2) whether pre-sexual experience at baseline predicts vaginal sex at 12-month follow-up; and (3) how the knowledge, attitudes, and intentions of students who had pre-sexual experience at baseline compared to those who had no sexual experience or those who had vaginal sex at baseline. Findings highlight the importance of understanding these distinct groups for program implementors and evaluators.

Key findings

- At baseline, about 2 in 10 Re:MIX students (22%) had pre-sexual experience, 9 percent had had vaginal sex, and the remaining 69 percent had no sexual experience.
- Among control participants, students who had pre-sexual experience at baseline were more likely than those who had no sexual experience to have vaginal sex within the next 12 months (26% vs. 6%).
- Students with pre-sexual experience were more likely to intend to have sex in the next year than students with no sexual experience, but less likely to intend to have sex in the next year than students who had had vaginal sex. They also had more accepting attitudes toward having sex in early adolescence

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than students with no sexual experience, but less accepting attitudes than students who had had vaginal sex.

- Students with pre-sexual experience believed they were less likely to get pregnant (or get someone pregnant) between now and age 20 than those who had had vaginal sex.
- Students with pre-sexual experience were more knowledgeable about condoms and birth control efficacy and more likely to know where to get birth control than students with no sexual experience.
- Students with pre-sexual experience reported that they were less likely to be able to avoid unwanted sex and sexual contact than those with no sexual experience.

Background

Re:MIX, a sexual health education program developed by EngenderHealth, aims to reduce rates of unplanned pregnancy and sexually transmitted infections (STIs) among mostly Latinx students in Texas, a state with one of the highest teen birth rates in the country.¹⁰ Child Trends is evaluating the impact of Re:MIX on measures of knowledge, attitudes, self-efficacy, and intentions related to sexual activity, contraceptive use, and healthy relationships; as well as behavioral outcomes such as sexual initiation and unprotected sex (impact findings to be presented in future publications). The evaluation study enrolled students in grades 8 to 10 in three public charter schools in Austin across four semesters from 2016 to 2018. Fifty-seven classes and 626 students were enrolled in the study and randomized to receive Re:MIX or the control condition. Students' average age was 14, 71 percent of students were Latinx, half were male, and more than 40 percent had parents with less than a high school degree. For more information on Re:MIX, the study design, and student engagement, see our previously published report.¹¹

To study participants with pre-sexual experience, we classified students into three categories of sexual experience according to their baseline survey responses:

- **No sexual experience:** Students who had not engaged in any type of sexual activity
- **Pre-sexual experience:** Students who had engaged in pre-sexual behaviors (students who had engaged in sexual touching or engaged in oral sex, but had not had vaginal sex)^{*}
- **Vaginal sex:** Students who had had vaginal intercourse (vaginal sex is defined as a penis in a vagina)

^{*} Participants were not asked whether they had engaged in anal sex—only oral and vaginal sex.

Methodology

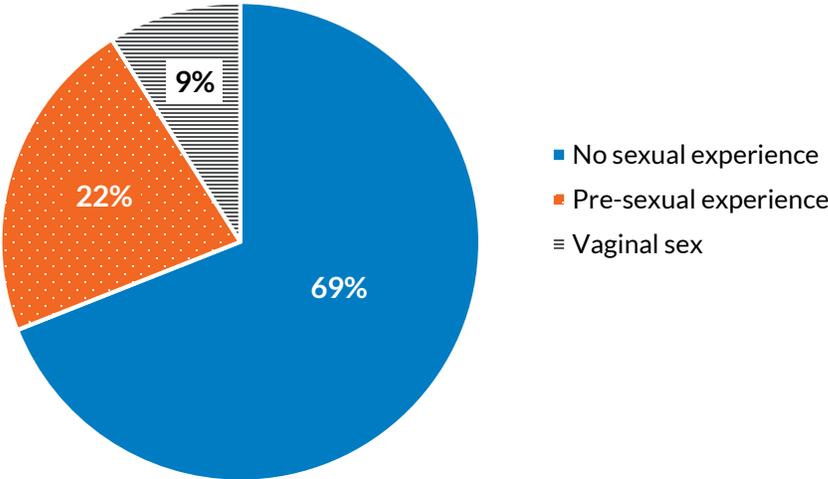
Starting with the sample of 621 intervention and control students who completed the Re:MIX baseline survey, we performed three types of analyses. First, to describe students' engagement in sexual activity, we performed descriptive analyses on the number of students who had no sexual experience, who had pre-sexual experience, and who had had vaginal sex. Next, to assess whether having pre-sexual experience at baseline was associated with a higher likelihood of having vaginal sex at the 12-month follow-up, we performed multivariate logistic regressions, controlling for students' age, gender, race/ethnicity, and mother's education. For this analysis, we used baseline and 12-month survey data of control group students who had not had vaginal sex at baseline. We restricted this sample to control students because we anticipated an intervention effect that might bias the findings for those who received program content. As mentioned, results from the intervention group are forthcoming. Finally, to describe the relationship(s) between level of sexual experience (categorical: no sexual experience, pre-sexual experience, or vaginal sex) and students' knowledge, attitudes, and intentions (binary and categorical), we performed multinomial logistic regressions and logistic regressions, controlling for students' age and gender. All analyses were conducted using Stata 13.1 and accounted for classroom clustering. In our findings section, we report differences that are significant at $p < 0.05$.

Findings

Sexual experience

Before the start of the program, one-fifth of students (22%) had pre-sexual experience (see Figure 1). Only 1 in 10 students (9%) had vaginal sex before the start of the program, whereas 69 percent of students had no sexual experience.

Figure 1. Sexual experience among students

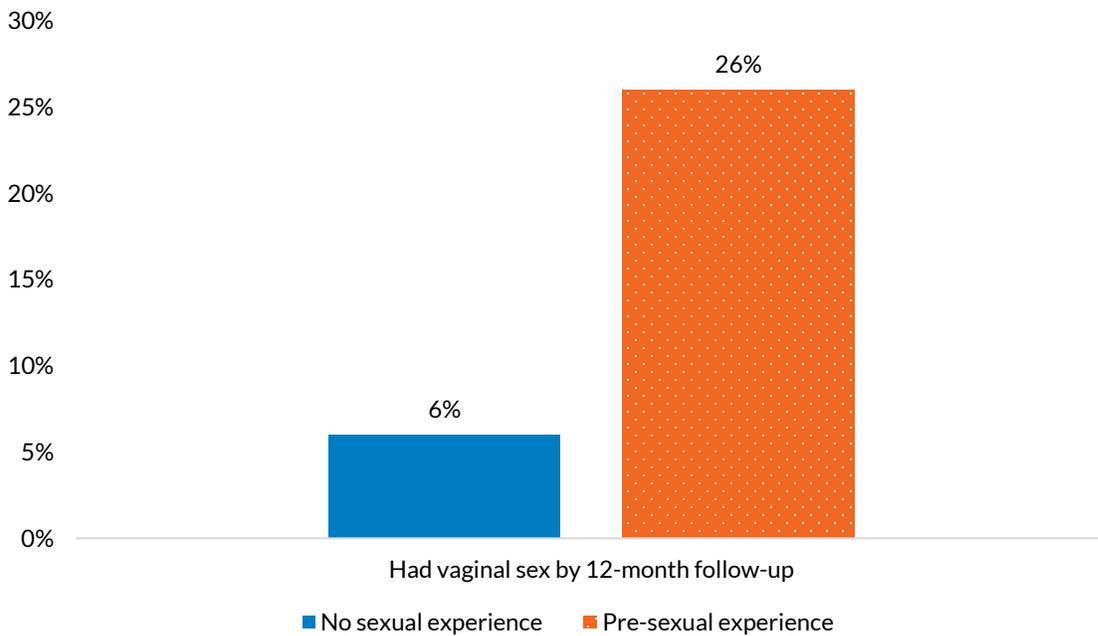


Source: Authors' analyses of primary data collected from the Re:MIX study (full baseline sample, N=621), 2016-2018

Links between pre-sexual experience and vaginal sex

Students in the control group who had pre-sexual experience at baseline were four times more likely to have vaginal sex by the 12-month follow-up than control group students who had no sexual experience, accounting for demographic characteristics.

Figure 2. Vaginal sex at 12-month follow-up among those who had not had vaginal sex at baseline, by pre-sexual experience

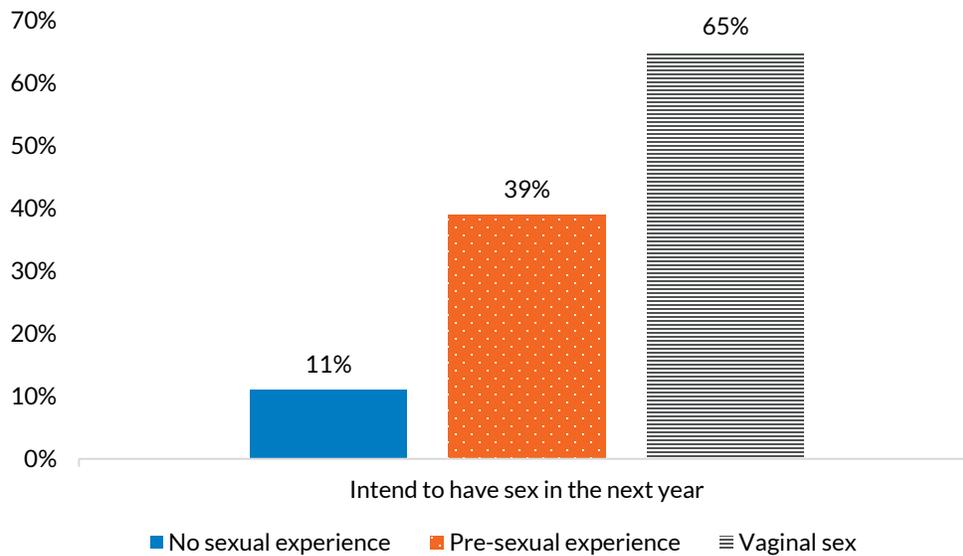


Source: Authors' analyses of primary data collected from the *Re:MIX* study (control group sample 12-month follow-up data, N=205), 2017-2019

Knowledge, attitudes, and intentions of students with pre-sexual experience

At baseline, students with pre-sexual experience were more likely to report that they would have sex in the next year compared to students who had no sexual experience (39% vs. 11%). However, they were less likely to report that they would have sex in the next year compared to students who had had vaginal sex (65%; Figure 3).

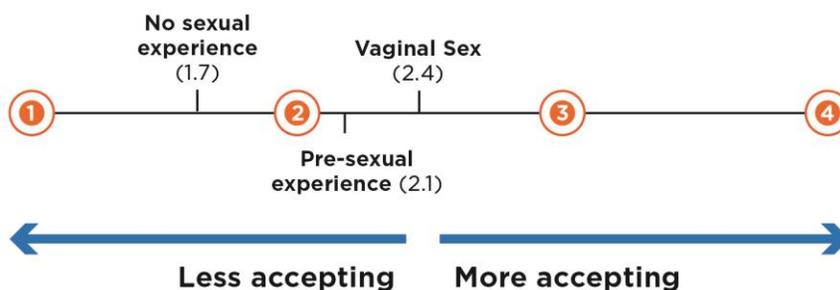
Figure 3. Percentage of students who intend to have sex in the next year, by sexual experience



Source: Authors' analyses of primary data collected from the *Re:MIX* study (full baseline sample, N=621), 2016-2018

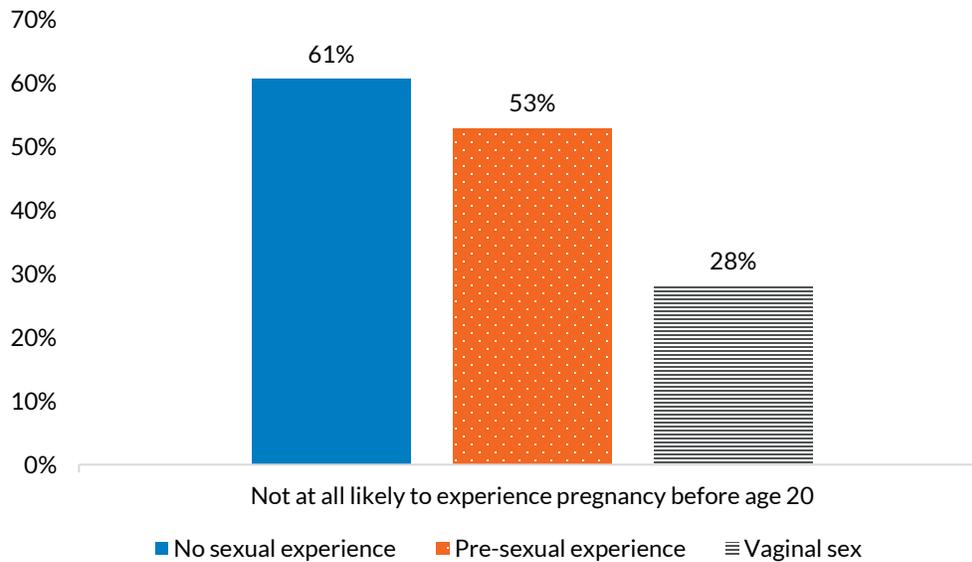
Additionally, students with pre-sexual experience had more accepting attitudes toward having sex in early adolescence (2.1 on a 4-point scale combining 4 questions) compared to those who had no sexual experience (1.7 out of 4). For example, these students were more likely to agree with the statement “sex is a good thing for me to do at my age”. By contrast, students with pre-sexual experience had less accepting attitudes toward having sex in early adolescence than students who had had vaginal sex at baseline (2.4 out of 4; Figure 4). However, the three groups did not differ in their attitudes toward condom use (all three groups were equally likely to strongly disagree that it is “okay to forget to use condoms sometimes”).

Figure 4. Attitudes towards having sex in early adolescence



At baseline, students who had no sexual experience and students with pre-sexual experience were more likely to report that they would not get pregnant before age 20 (61% and 53%, respectively) than students who had had vaginal sex (28%; Figure 5). However, students who had no sexual experience and students with pre-sexual experience had less confidence in their ability to communicate assertively in romantic relationships—for example, telling a partner how they want to be treated or talking out a disagreement (3.7 out of a 5-point scale)—compared to students who had had vaginal sex (4.0 out of 5; not shown).

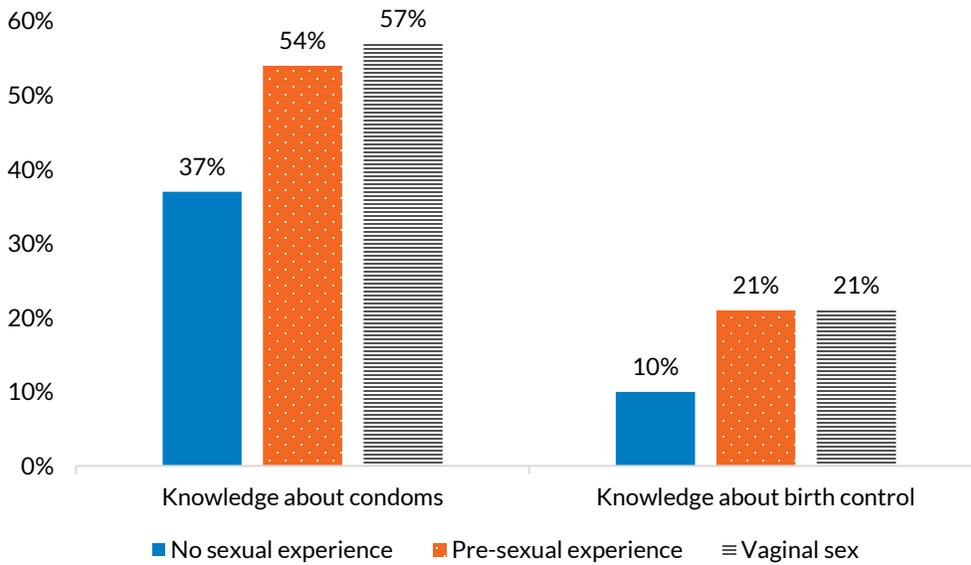
Figure 5. Percentage of students reporting they are not at all likely to experience a pregnancy before age 20, by sexual experience



Source: Authors' analyses of primary data collected from the *Re:MIX* study (full baseline sample, N=621), 2016-2018

At baseline, students with pre-sexual experience and students who had had vaginal sex had higher levels of knowledge about condoms and birth control efficacy than students who had no sexual experience. Figure 6 below shows the average percentage of correct answers, for each group, across five true/false questions about condoms (e.g., “True or false: It is okay to use the same condom more than once.”) and across two true/false questions about birth control efficacy (e.g., “True or false: The condom is more effective at preventing pregnancy than the birth control pill.”)

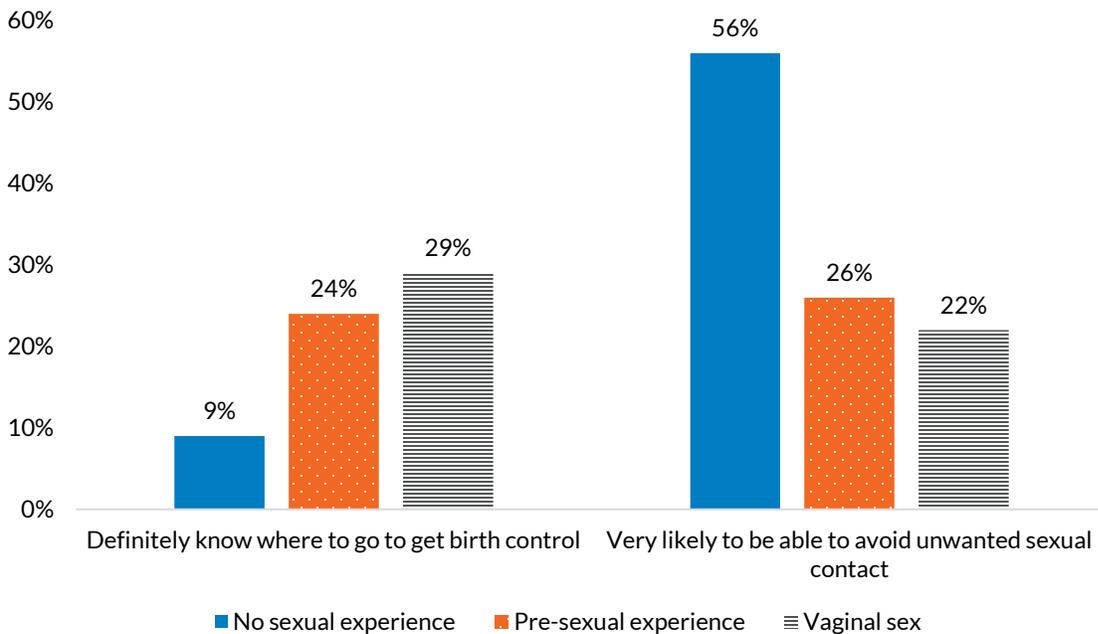
Figure 6. Accurate knowledge about condoms and birth control, by sexual experience



Source: Authors' analyses of primary data collected from the *Re:MIX* study (full baseline sample, N=621), 2016-2018

Students with no sexual experience differed from those with pre-sexual experience and those who had had vaginal sex on two measures of self-efficacy. Compared to students with no sexual experience, students with pre-sexual experience and those who had had vaginal sex at baseline were more than twice as likely to answer “definitely” when asked whether they knew where to get birth control (as opposed to “probably,” “probably not,” or “definitely not”). Meanwhile, only about one-quarter of students with pre-sexual experience and one-quarter of students who had had vaginal sex at baseline reported they were “very likely” to be able to avoid unwanted sex and sexual contact, compared to more than half of students with no sexual experience (Figure 7). Across the three categories of sexual experience, there were no differences in students’ reported confidence about asking for and giving consent, or their confidence about negotiating condom use (not shown).

Figure 7. Self-efficacy, by sexual experience



Source: Authors’ analyses of primary data collected from the Re:MIX study (full baseline sample, N=621), 2016-2018

Discussion of Findings

Among the sample of Re:MIX students in grades 8 to 10, about 2 in 10 (22%) had pre-sexual experience prior to the start of the program, and another 1 in 10 had ever had vaginal sex (9%). Put another way, among youth who had not had vaginal sex, approximately one-quarter had engaged in sexual touching, oral sex, or both, which increases their likelihood of initiating vaginal sex in early adolescence. Compared to study participants with no sexual experience, students with pre-sexual experience were more than four times as likely to have vaginal sex within 12 months, a finding that confirms some previous research.^{7,8,9} We also found that pre-sexual experience (compared to no sexual experience) was associated with more accepting attitudes toward having sex in early adolescence and greater intentions to have sex. Additionally, students with pre-sexual experience had lower reported self-efficacy with respect to avoiding unwanted sexual experiences, compared to those with no sexual experience. While the survey did not ask students whether their pre-sexual experiences were desired, Re:MIX health educators reported receiving many questions (through an anonymous question box) regarding unwanted touch, incest, and abusive relationship dynamics, indicating that students with pre-sexual experience may have suffered coerced oral sex or sexual touching.

Although many teens with pre-sexual experience go on to have vaginal sex within a year, study participants in this group still viewed their risk of experiencing a teen pregnancy as low, compared to the risk reported by students who already had vaginal sex. However, while students with pre-sexual experience had more knowledge about condoms and birth control than their peers with no sexual experience, their knowledge (prior to teen pregnancy prevention programming) was still quite limited, indicating that they may be at risk of unintended pregnancy should they become sexually active. Knowledge of contraceptives is associated with a higher probability of having protected sex (if youth do have sex) and a reduced risk of unplanned pregnancy.^{11,12} Additionally, less than one-third of students with pre-sexual or sexual experience “definitely” knew where to get birth control at the start of the program, indicating a need for linkages to community resources.

This study highlights the importance of considering students’ pre-sexual experience when evaluating the effectiveness of teen pregnancy prevention programs. Failing to account for pre-sexual experience could bias impact findings, particularly when the outcome of interest is sexual initiation, if students with pre-sexual experience are not randomly distributed between treatment and control groups. Future evaluations could consider pre-sexual experience as a primary outcome, especially for programs implemented with younger teens. Recently, evaluators of teen pregnancy prevention programs have argued for studying outcomes that are *associated with* sex in early adolescence and are more relevant for younger teens, such as sexual touching.^{13,14,15} Detecting measurable impacts on sexual activity is often difficult in samples of younger teens where few are sexually active; for this reason, using pre-sexual experience as an outcome may improve evaluators’ ability to detect behavioral changes and to determine which curricula are most effective with younger teens.¹³ Future studies could also consider different definitions and levels of pre-sexual experience, including behaviors such as kissing or sexting.

By understanding the prevalence of pre-sexual experience among students, as well as the intentions, knowledge, and attitudes associated with pre-sexual experience, providers of teen pregnancy prevention programs—particularly those working with populations of younger adolescents—can target their curricula to those most likely to have sex in early adolescence. Additionally, providers can deliver more supportive programming by being aware that some students might enter the program having had nonconsensual sexual experiences. One Re:MIX health educator concluded that “more trauma-informed and trauma-responsive sexuality education for young people is needed to best ensure comprehensive support for students who have experienced consent violations, unwanted touch, or sexual trauma.”

Acknowledgments

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