



The National Campaign  
to Prevent Teen and Unplanned Pregnancy

# Preventing Unplanned Pregnancy and Completing College

**AN EVALUATION OF ONLINE LESSONS**  
2ND EDITION



By Jill Antonishak, Ph.D.  
and Chelsey Connolly

## Preventing Unplanned Pregnancy and Completing College: An Evaluation of Online Lessons, 2nd Edition

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### About Us

The National Campaign to Prevent Teen and Unplanned Pregnancy is a non-profit, non-partisan organization that seeks to improve the lives and future prospects of children and families by preventing teen pregnancy and unplanned pregnancy among single, young adults. Helping students avoid unplanned pregnancy—which places additional stress on their time, finances, and relationships—can help them complete college. The National Campaign offers free publications and resources, including three online lessons, that college faculty and staff can use to bring this topic to their campus. For more information, please visit [TheNationalCampaign.org/colleges](http://TheNationalCampaign.org/colleges).

### About the Authors

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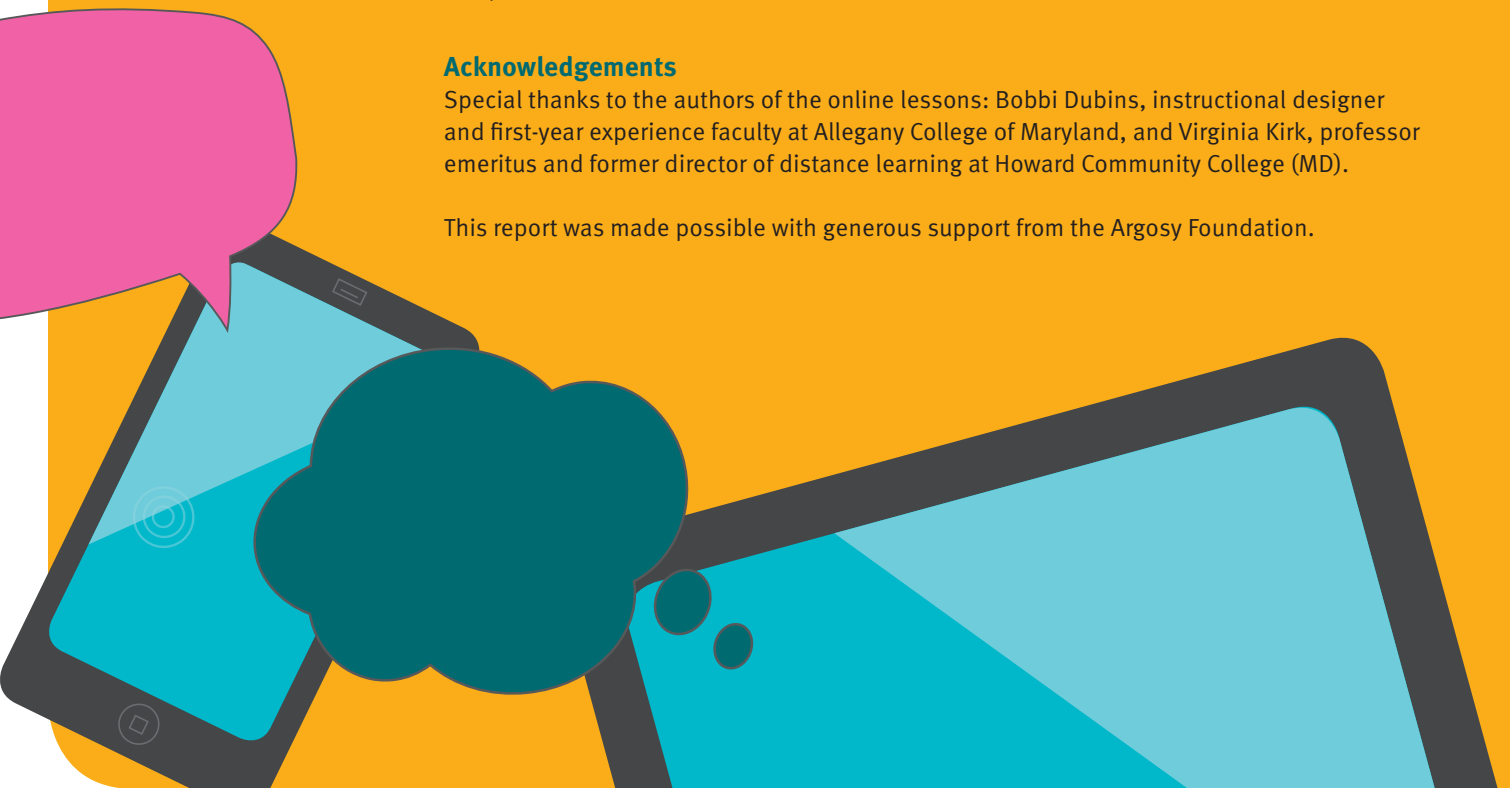
### About the Report

The 1st Edition of this report was published in October 2013 and analyzed a sample of 2,050 students from three colleges in the fall 2012 and spring 2013 semesters. The 2nd Edition builds on the positive results highlighted in the 1st Edition with an analysis of an expanded sample of approximately 2,800 students from four colleges in the fall 2012 through spring 2014 semesters.

### Acknowledgements

Special thanks to the authors of the online lessons: Bobbi Dubins, instructional designer and first-year experience faculty at Allegany College of Maryland, and Virginia Kirk, professor emeritus and former director of distance learning at Howard Community College (MD).

This report was made possible with generous support from the Argosy Foundation.



# Overview

An unplanned pregnancy can make it more difficult for students to stay in and complete college: 61% of women who have children after enrolling in community college do not finish their education. In addition, births resulting from an unplanned pregnancy account for nearly 10% of all dropouts among female students at community colleges and 7% of dropouts among community college students overall. In one study, 82% of community college students reported that having a child while still in school would make it harder to accomplish their educational goals. Research also shows that many young people harbor myths, misinformation, and magical thinking about sex, contraception, and pregnancy that puts them at risk for unplanned pregnancy.

For these reasons, The National Campaign to Prevent Teen and Unplanned Pregnancy created three free online lessons that help college students be thoughtful about pregnancy planning and complete their education. The lessons are designed to help students understand the impact an unplanned pregnancy can have on their educational goals, their social lives, their significant relationships, and their finances. Students who participate in the online lessons learn about various birth control methods; select the most appropriate methods for their values, lifestyles, and relationships; and create a plan to decrease their chances of unplanned pregnancy. Each of the three lessons takes approximately 30 minutes to complete and are available on The National Campaign's website at [TheNationalCampaign.org/resource/online-lessons](http://TheNationalCampaign.org/resource/online-lessons) and are available for free for college faculty to use in first-year experience, college success, and a variety of other courses. Much of the content in lessons two and three is provided by The National Campaign's online birth control support network, Bedsider.org.

From the fall of 2012 to the spring of 2014, approximately 2,800 students took the online lessons and participated in pre- and post-lesson evaluation surveys at four colleges—Cincinnati State Technical and Community College (OH), Georgia Perimeter College (GA), Miami Dade College (FL), and Palo Alto College (TX). How the lessons were assigned was at the discretion of participating instructors, but students primarily completed the online lessons as a class assignment, either in the classroom or at home. Sixty-seven percent of the students were women and 83% were younger than 30 years old. (For more about the breakdown of the sample, see the supplemental tables on page 17.)

The National Campaign analyzed the survey data to examine the differences in knowledge, attitudes, and behavioral intent with regard to preventing unplanned pregnancy. Note that this analysis updates an earlier report published in October 2013. In addition, some questions were changed or added between semesters; in these cases, the analysis is for a subset of the full cohort and is indicated in the footnotes.



## EVALUATION HIGHLIGHTS

Findings for this evaluation were very strong overall, and show that the lessons are generally effective across a diverse group of students (for specific group differences see page 7). Here are some specific highlights when comparing pre-lesson and post-lesson survey results:

### **After completing the lessons, both men and women were significantly more likely to:**

- ▶ Believe it is important to avoid becoming pregnant or avoid getting someone pregnant at this time in their lives.
- ▶ Believe a pregnancy would make it more difficult to achieve their educational goals.
- ▶ Report using a method of birth control in the previous month (both for individuals who did and did not have sex).
- ▶ Feel comfortable talking to their doctor about birth control.

### **Women were also more likely to:**

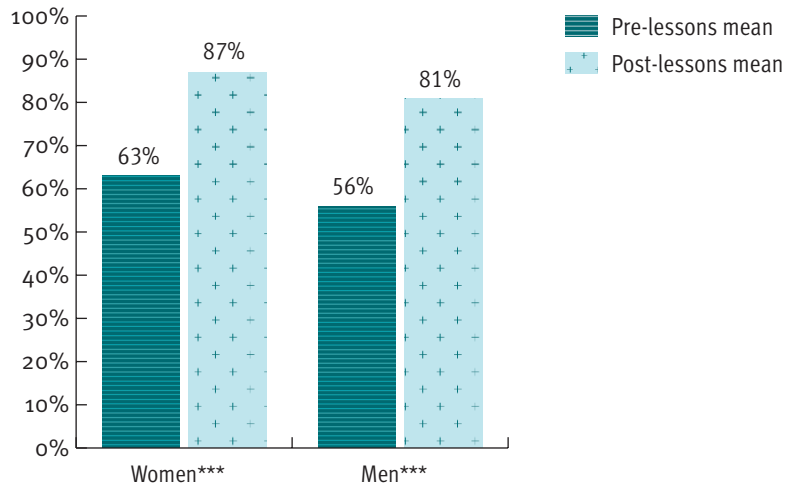
- ▶ Say they had a clear plan for avoiding an unplanned pregnancy.
- ▶ Believe that getting pregnant and having a child would get in the way of their plans for work or school.
- ▶ Believe it is realistic to expect a person to use birth control every time he or she has sex.
- ▶ Feel more comfortable talking to their sexual partner or potential partner about birth control.
- ▶ Be committed to avoiding an unplanned pregnancy.

In addition, on the post-lessons survey, eight in 10 students agreed or strongly agreed they are more aware of ways to prevent pregnancy as a result of the lessons, and six in 10 students agreed or strongly agreed that the lessons helped them make a decision about birth control.



### Changes in Knowledge

Participants answered seven questions related to their knowledge about birth control. Before taking the online lessons, students responded correctly, on average, to 61% of questions; after the lessons, they responded correctly to 85% of questions. See Figure 1 for scores for women and men, and see the supplemental tables at the end of this report for students' scores on each of the seven questions.

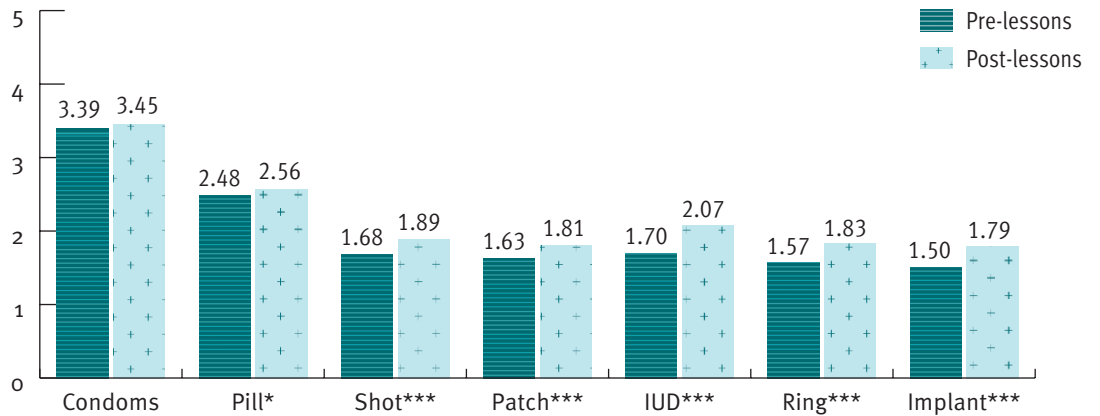


**Figure 1.** Knowledge gains pre-post lessons (average score on 7-items); this chart was included in the 1st Edition and has been updated in the 2nd Edition. \*\*\* $p < .001$

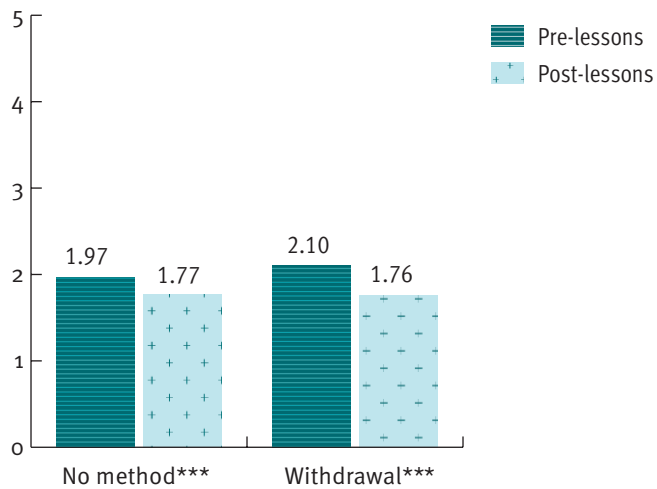
### Likelihood of using a new method of birth control

After taking the online lessons, both men and women were more likely to consider using a different method of birth control, including low maintenance, highly effective methods such as the IUD and the implant. For example, before taking the lessons, only 21% of women said they would be moderately, very, or strongly likely to try an IUD; after taking the online lessons, 32% said they would consider one.

Furthermore, after completing the online lessons, students were less likely to consider using no birth control at all or to consider using the withdrawal method. There was no difference between the pre- and post-lesson survey results on likelihood of using condoms for men or women, and only men were significantly more likely to report their partners would be more likely to use the pill in the future. Figures 2–3 show the average likelihood of trying a new method for all men and women. [Full results, including the effect size, are included in the supplemental tables.]



**Figure 2.** Likelihood of using a new method pre-post lessons (average score on 5-point scale of agreement); this chart was included in the 1st Edition and has been updated in the 2nd Edition. \*\*\*p < .001, \*\*p < .01, \*p < .05



**Figure 3.** Likelihood of using no method or withdrawal pre-post lessons (Average score on 5-point scale of agreement); this is a new chart that was not included in the 1st Edition. \*\*\*p < .001, \*\*p < .01, \*p < .05

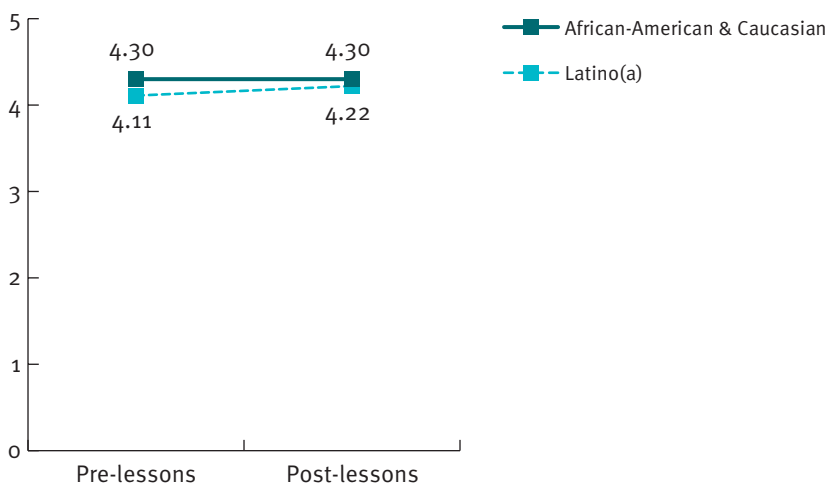
# Group Differences

Given the large sample size, for the 2nd Edition we were able to examine a range of demographic characteristics to determine if changes in attitudes and behaviors differed by group, including:

- ▶ Race/ethnicity
- ▶ Age
- ▶ Relationship status
- ▶ Students who have children
- ▶ Course content
- ▶ College attended

## Race/ethnicity

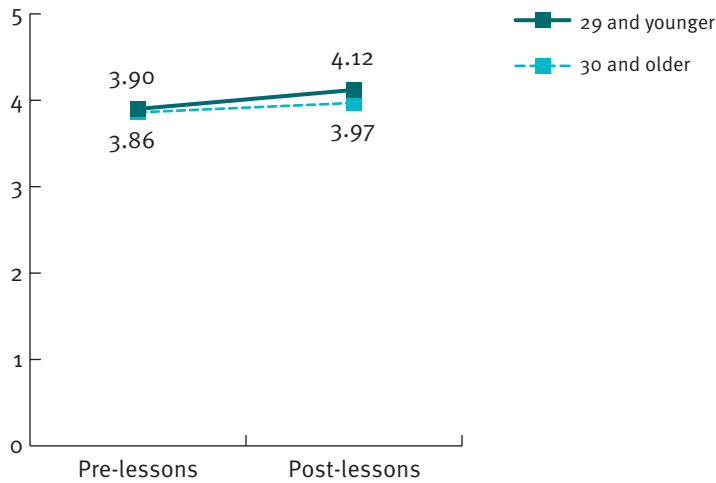
There was only one difference in the outcomes based on students' race or ethnicity: Latino students were less comfortable than both African-American and Caucasian students in discussing birth control with their partner before the lessons, but reported a significant increase in their comfort with at the post-lesson survey (see Figure 4). There were no differences by race/ethnicity on other attitude questions or knowledge gains.



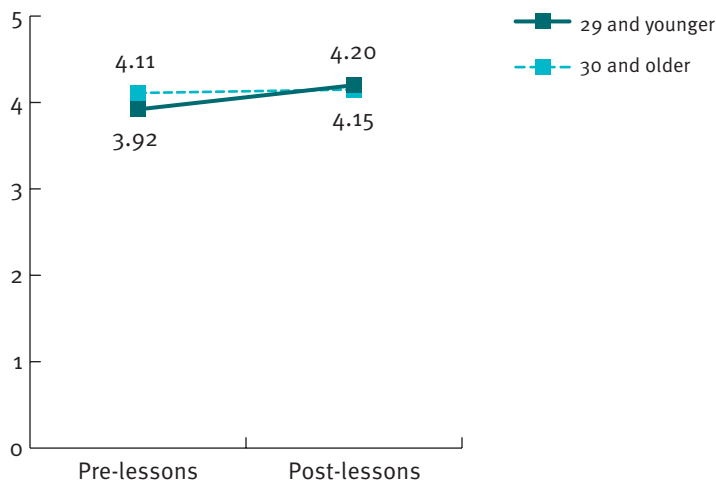
**Figure 4.** Significant difference between pre- and post-lesson scores for Latino students and African-American & Caucasian students on comfort in talking to their partner about birth control.

## Age

There were significant differences between participants who were 29 and younger and those who were 30 or older. After completing the online lessons, younger students (who made up 85% of the sample) were more likely than older students to believe an unintended pregnancy would make it more difficult to achieve their educational goals (see Figure 5a), and to know where in their community to get birth control (other than condoms) (see Figure 5b).



**Figure 5a.** Significant difference between pre- and post-lesson scores for students 29 and younger compared to students 30 and older on belief that an unplanned pregnancy would make it difficult to achieve their educational goals.



**Figure 5b.** Significant difference between pre- and post-lesson scores for students 29 and younger compared to students 30 and older on knowing where to get birth control (other than condoms).

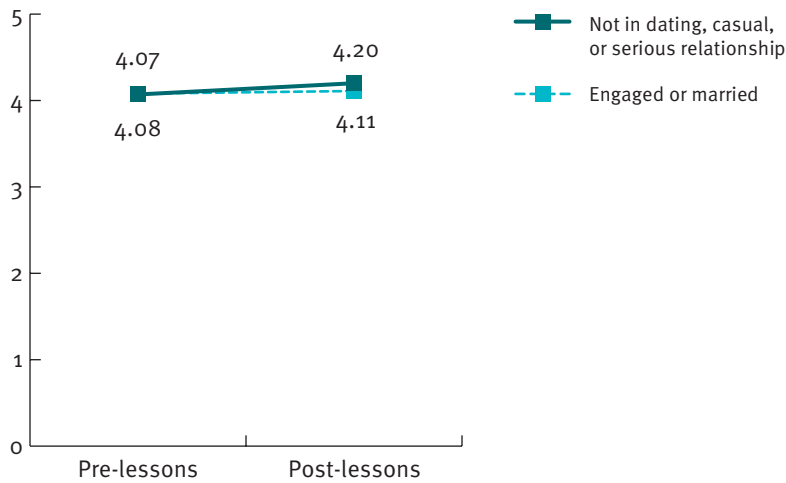
## Relationship status

The pre-lesson survey asked participants to report if they were:

- ▶ Currently not in a romantic relationship or dating anyone in particular;
- ▶ Casually seeing or dating one or more people;
- ▶ In a relationship that they would describe as serious, committed, or long-term but not engaged or married;
- ▶ Engaged; or
- ▶ Married.



The National Campaign dichotomized relationship status in order to compare participants who were married or engaged with those in dating relationships. The only group difference found was that, after completing the lessons, students who were not in a romantic relationship or dating anyone in particular, or who were casually seeing or dating one or more people, were significantly more likely than married or engaged students to report an increase in having a clear plan to prevent pregnancy (see Figure 6).

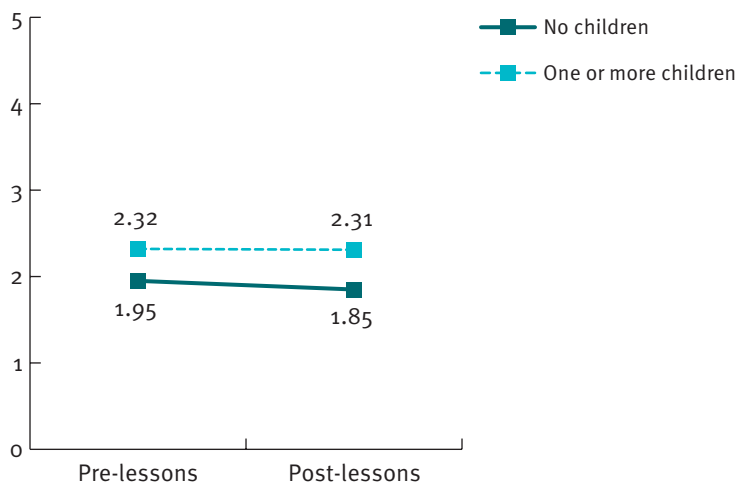


**Figure 6.** Significant difference between pre- and post-lesson scores for students who are not dating, dating casually, or dating seriously compared to students who are engaged or married on report of having a clear plan for preventing pregnancy.

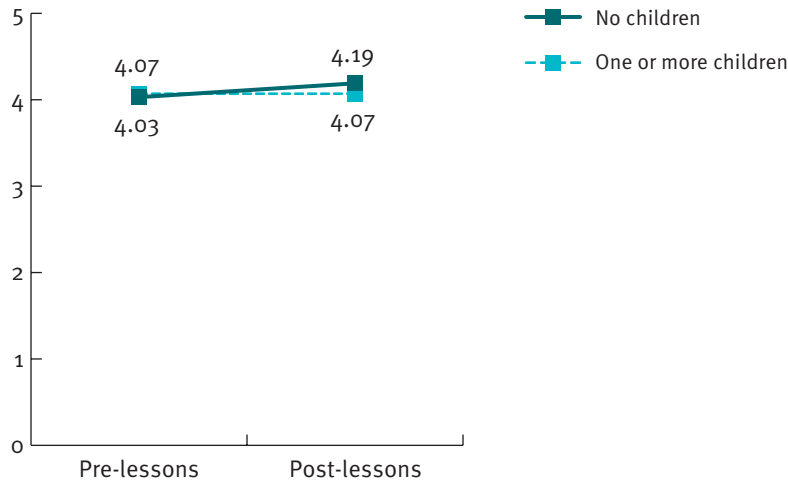
### Students who have had children

Approximately 70% of students who completed the pre- and post-lesson survey did not have any children. Twelve percent reported having one child, and 17% reported having two or more children.

Comparing the pre- and post-lessons surveys, after completing the lessons, students who did not have children were increasingly more likely than students who did have children to report that, if they had sex in the next three months, they would use birth control (see Figure 7a), and they had a clear plan to prevent pregnancy (see Figure 7b). These effects remained, even after accounting for participants' age.



**Figure 7a.** Significant difference between pre- and post-lesson scores for students who do not have children compared to students who have children on likelihood of having sex without using a method of birth control in the next three months. Higher scores indicate increased likelihood of having sex without using a method of birth control.



**Figure 7b.** Significant difference between pre- and post-lesson scores for students who do not have children compared to students who have children on report of having a clear plan for preventing pregnancy.

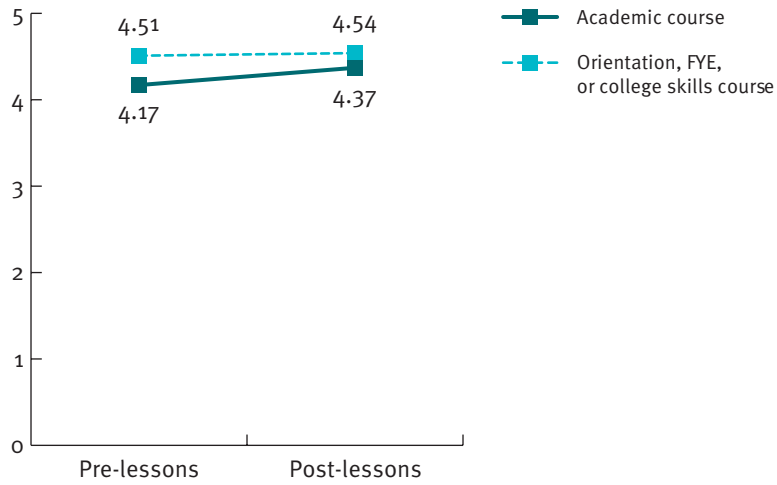
### Course content

Students were asked in what setting or class they were assigned the online lessons:<sup>a</sup>

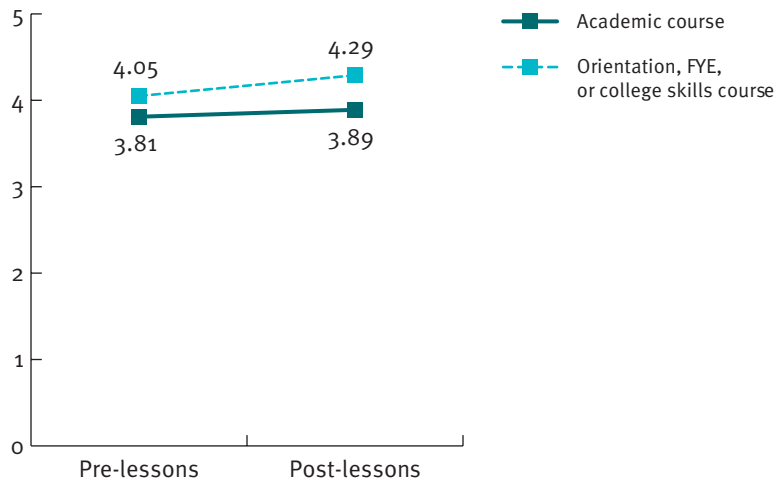
- ▶ College orientation, first-year experience, or college skills course;
- ▶ Academic course (e.g., English, political science, biology, etc.);
- ▶ Mentoring program; or
- ▶ Other.

There were significant differences between students who reported taking the lessons as part of college orientation, first-year experience, or college skills course, and those students who took the lesson as part of an academic course. Forty-two percent (n=455) took the online lessons as part of a college orientation, first-year experience, or college skills course, and 58% (n=633) took the lessons as part of an academic course. Generally, there were few significant differences between the students who took the course as part of college orientation and those in an academic course; however, while students in the academic courses had little change in their attitudes about the importance of pregnancy, students in the orientation course had a significant increase in their belief that it was important to avoid a pregnancy (see Figure 8a). Students in the academic course were increasingly more likely to believe they would find a birth control method to fit their needs (see Figure 8b), and have a clear plan to prevent an unplanned pregnancy (see Figure 8c), compared to students in the orientation courses. The potential reason for these differences are only speculative, but it may be that the in-class discussion that accompanied the online lessons in academic classes differed from that of the orientation courses or the assignment was weighted differently. It should be noted that only two students reported being assigned the online lessons as part of a mentoring program.

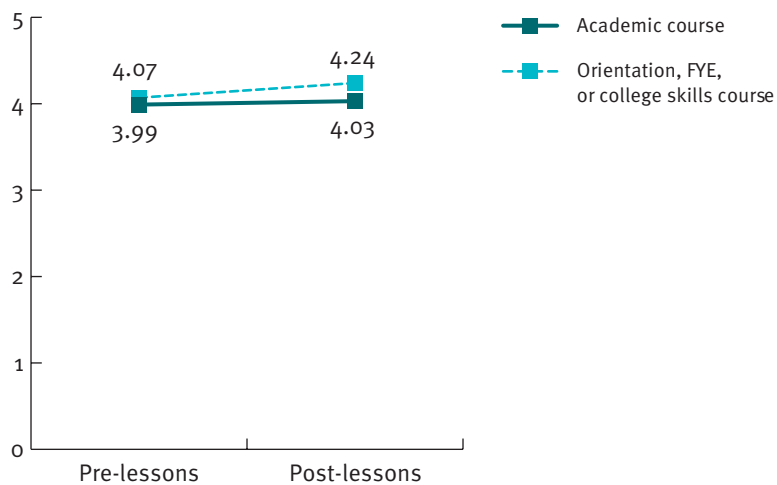
<sup>a</sup> The question about the type of class or setting where they were assigned the online lessons was added to the pre/post survey in the fall of 2013, so data are only available for fall 2013 and spring 2014.



**Figure 8a.** Significant difference between pre- and post-lesson scores for first year orientation and academic courses on the importance of avoiding a pregnancy.



**Figure 8b.** Significant difference between pre- and post-lesson survey for first year orientation and academic courses on finding a birth control that fits their needs.



**Figure 8c.** Significant difference between pre- and post-lesson survey for first year orientation and academic courses on having a clear plan to prevent pregnancy.

### College attended

There were significant gains in knowledge among students at all four colleges who participated in the evaluation. However, although students from each college had significant gains in knowledge after taking the lessons, the gains were statistically larger at Miami Dade College and Georgia Perimeter College, compared to Palo Alto College and Cincinnati State Technical and Community College. There were no significant differences among the colleges in changes in attitudes or behavioral intent (see Figure 9).

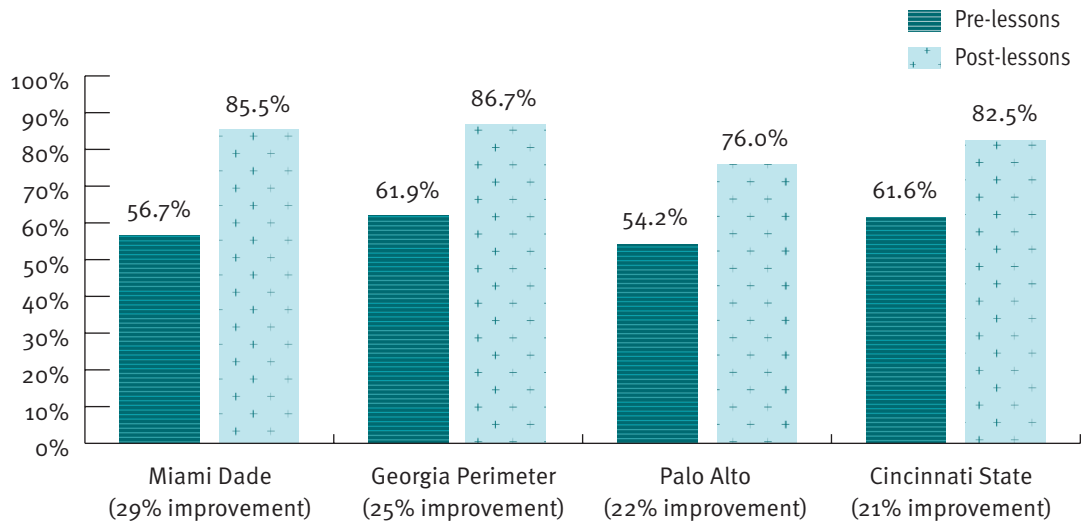


Figure 9. Pre-and post-lesson knowledge scores, by college.

# In-person Seminars

In addition to the four colleges listed above, 392 students from Tarrant County College (TX) attended in-person seminars guided by facilitators using the online lessons. Students at Tarrant County College volunteered to attend the one-time seminars, while students at the other four colleges were generally required to complete the online lessons as a graded assignment in a course or orientation. Because this delivery of the online lessons was so different from the rest of the group, The National Campaign chose to analyze these results separately.

## **Comparing the pre- and post-seminar results, both men and women were more likely to:**

- ▶ Believe a pregnancy would make it difficult to achieve their educational goals.
- ▶ Know where to find birth control in their communities (other than condoms).

## **Comparing the pre- and post-seminar results, women were more likely to:**

- ▶ Believe it is important to avoid pregnancy.
- ▶ More likely to use an IUD, the patch, or an implant.

While there were some significant differences between the pre-seminar findings and the post-seminar findings, the effects were not as strong as when the online lessons were used as an assignment for a course. Unlike the students who completed the online lessons as part of a course, students who attended the in-person seminars did not improve in knowledge gains, and there were no differences in their intent to use withdrawal or no method of birth control in the future. This may be because students taking the online lessons as part of a course benefited from the self-directed nature of the online lessons (seminar participants were not given time to work through the lessons on their own), or because students who attended the seminars were not as concerned about learning the material as students who completed the online lessons as part of a course.

# Student Perceptions of the Online Lessons

The online lessons were well received by the students. During the post-lesson survey, students were asked what they thought about the online lessons.

- ▶ Six out of 10 students agreed or strongly agreed the lessons helped them make a decision about birth control.
- ▶ Eight out of 10 students agreed or strongly agreed that they are more aware of ways to prevent pregnancy as a result of the lessons.
- ▶ Two-thirds of students who completed the online lessons said they would recommend Bedsider.org to a friend or another student.

Students' open-ended feedback was overall very positive—more than nine in 10 comments were positive. Below is a sample of the positive comments from students who completed the lessons:

- ▶ “I thought this was a big reminder of the things that can possibly come crashing my way and I most definitely need to be smarter about my decisions on sex with my partner.”
- ▶ “I learned a lot about the pregnancies and birth control. I will be studying more about the modules that [were] in the lessons.”
- ▶ “This lesson really helped me to think things through. If I want to complete college I need to make a plan to wait to have more children.”
- ▶ “These lessons were very informative and helped me better understand my options for contraceptives and how well they work.”
- ▶ “This online lesson was very helpful. Even though I had clear in my head that an unplanned pregnancy can change my life, this lesson showed me methods of contraception that I was never aware of.”
- ▶ “The lessons were very informative and the videos were very helpful and useful in delivering the information. While I am not sexually active I was opened [sic] to some methods that I was not aware of beforehand to have for future reference should I need it.”
- ▶ “This was very informative! I am now thinking about changing my birth control method to the IUD after reading about it.”
- ▶ “I am currently taking the NuvaRing. This online session made me know more about the different birth controls and also made me happy in the type of birth control I chose. I also learned how important it is to just wait to have sex or be very cautious.”

- ▶ “I really enjoyed how interactive the online lessons were. I learned a lot especially from the self-check and true & false questions. I thought that I was fairly knowledgeable about pregnancy and birth control but I was extremely humbled by the questions that I could not answer with certainty. As a college student there are many who feel the same as I did before going through the lessons and I believe that they can benefit from them as I did.”
- ▶ “My spouse and I have been married 25 years and I had a [tubal ligation] after our third son but I must admit that I learned about some new preventions I had not heard of and I will forward our sons to [Bedsider] for 411... two are in college and do not want children yet.”

Out of 316 responses, 15 were neutral and 14 were negative. When feedback was negative, it was most often about the student being older or LGBT and not being able to relate to the material.

# Faculty Feedback about the Online Lessons

Twenty-six faculty provided feedback about their experience using the online lessons in their courses. Fourteen participated in a pilot phase of the project in early 2012, and 12 faculty who participated in the evaluation between 2012 and 2014 provided feedback. All faculty agreed that the online lessons were easy to integrate into their courses, and they would recommend the online lessons to colleagues.

Here are some of their comments:

- ▶ “The videos and the study guides were quite helpful for the students. In addition, the myths, magical thinking, and the lack of knowledge pointed out in Lesson Two were an eye opener for most of my students.”
- ▶ “I would have no problem continuing to use the online lessons. I think it is such an important issue and I can’t imagine where else they could get all this information so easily.”
- ▶ “Students reported that the budget sheet regarding cost of care for an infant and the virtual birth control methods were the most helpful.”
- ▶ “Male students, especially nontraditional, were very appreciative of the opportunity not because of extra credit but because this was a useful assignment.”
- ▶ “Initially, some of the men were reluctant to participate in the assignment saying that they don’t need any ‘education’ on pregnancy. But, once they completed the lessons/quizzes, they were happy that they took the time to do it. In fact, a few of the students told me that they will be asking some of their friends to take the online lessons.”
- ▶ “A nontraditional self-described ‘post-menopausal’ woman found it ironic to be asked to take the [lessons] but did so for extra credit because she said she needed it. She did applaud the project because she thought her younger classmates needed it and was planning to share info with [her] daughters.”
- ▶ “Several of my students were able to directly relate to the materials provided in the lessons because they were pregnant as teens. My students were passionate about this topic because they feel that higher education does not do an adequate job of educating students about sexual health.”
- ▶ “I did not encounter any problems or negative reactions. They all had positive comments.”
- ▶ “The videos allowed students to learn about other students’ values and beliefs. They also gave different perspectives which allowed my students to make their own decisions.”
- ▶ “I enjoyed our conversations about birth control methods and how students were unaware of the many options available to them.”



# Supplemental Tables

## Participant Demographics

*Sample Size:* Approximately 2,985 students completed both the pre-and post-lesson survey from the fall of 2012 to the spring of 2014. Note: numbers do not equal 2,985 because of inconsistent or missing data.

College	Number of participants	Percent of sample
Cincinnati State Technical and Community College	710	23%
Georgia Perimeter College	1,883	60%
Miami Dade College	245	8%
Palo Alto College	267	9%

Gender	Total	Percent of sample
Men	947	32%
Women	1,987	68%

Participant Age	Total	Percent of sample
19 or younger	840	30%
20–24	980	35%
25–29	392	14%
30–40	390	14%
Over 40	196	7%

Race/Ethnicity	Total	Percent of sample
Asian/Pacific Islander	190	7%
Black/African American	1,120	40%
Caucasian/White/European American (non-Hispanic)	840	30%
Latino(a)/Hispanic	448	16%
Other/Multiple ethnicities	196	7%

## Attitude and Behavioral Intent Questions

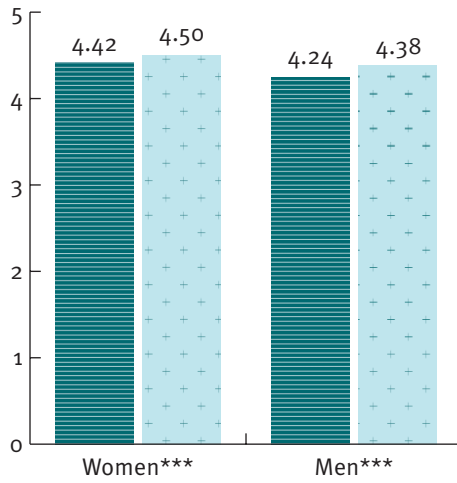
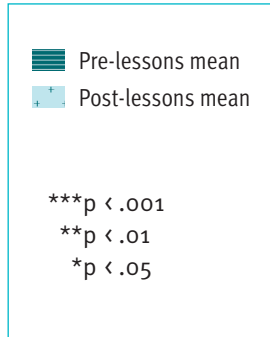
N=approximately 2,800. The National Campaign used repeated measures of analysis of variance (ANOVA) to assess whether participation in the online lessons influenced attitudes and behavioral intent. Effect sizes are based on partial- $\eta^2$ , and are a way to quantify the magnitude of difference between the pre- and post-lesson scores. As a guideline, an effect size of .01 is considered a small effect size, .06 is a medium effect, and .14 is a large effect. P-values are in parentheses under the effect sizes and represent the level of statistical significance of the F-value (low p-values represent a larger difference and ns=no significant differences between pre- and post-lesson scores).

Survey Item	Women			Men		
	Pre-test mean	Post-test mean	Effect size P-value	Pre-test mean	Post-test mean	Effect size P-value
Thinking about your life right now, how important is it to you to avoid becoming pregnant or avoid getting someone pregnant? (1=Not at all important; 5=Very important—see Figure 3) Approximately 6% of participants said they could not get pregnant or could not get someone else pregnant.	4.42	4.50	.01 (p= .000)	4.24	4.38	.02 (p= .000)
Let's say you got pregnant or got someone pregnant. How difficult do you think a pregnancy would make it for you to achieve your educational goals? (1=Not at all difficult; 5=Very difficult—see Figure 4)	3.92	4.15	.03 (p=.04)	3.84	4.02	.07 (p= .000)
If you have sex in the next three months, how likely is it that you will have sex without using any method of birth control? (1=Not at all likely; 5=Very likely)	1.97	2.00	.00 (p=ns)	2.00	2.08	.00 (p= ns)
In the last month, I used a method of birth control (among individuals who had sex). (1=Never; 5=Always)	3.26	3.41	.04 (p= .000)	3.26	3.41	.03 (p= .000)
How likely are you to talk to your doctor about birth control? (1=Not at all likely; 5=Very likely—see Figure 5)	3.17	3.63	.22 (p= .000)	1.90	2.67	.12 (p=.000)
How comfortable are you talking about birth control with your sexual partner or potential partner? (1=Not at all comfortable; 5=Very comfortable)	4.32	4.37	.01 (p= .02)	4.03	4.02	.00 (p= ns)
I think there is a birth control method that fits my needs. <sup>b</sup> (1=Strongly disagree; 5=Strongly agree)	4.00	4.17	.03 (p= .000)	3.86	4.02	.02 (p= .007)
It is realistic to expect a person to use birth control every time he or she has sex. <sup>c</sup> (1=Strongly disagree; 5=Strongly agree)	3.62	3.77	.02 (p= .001)	3.49	3.55	.00 (p= ns)
It would get in the way of my plans for work or school if I got pregnant (or got someone pregnant) and had a baby now. (1=Strongly disagree; 5=Strongly agree)	4.30	4.35	.00 (p= .03)	4.14	4.10	.00 (p= ns)
I have a clear plan for preventing an unplanned pregnancy. (1=Strongly disagree; 5=Strongly agree—see Figure 6)	4.14	4.27	.02 (p= .000)	3.93	4.00	.00 (p= ns)
I am committed to avoiding an unplanned pregnancy. (1=Strongly disagree; 5=Strongly agree)	4.34	4.40	.01 (p= .02)	4.26	4.20	.00 (p= ns)
I know where to go in my community to get birth control (other than condoms). (1=Strongly disagree; 5=Strongly agree—see Figure 7)	4.12	4.32	.03 (p= .000)	3.56	3.95	.08 (p= .000)

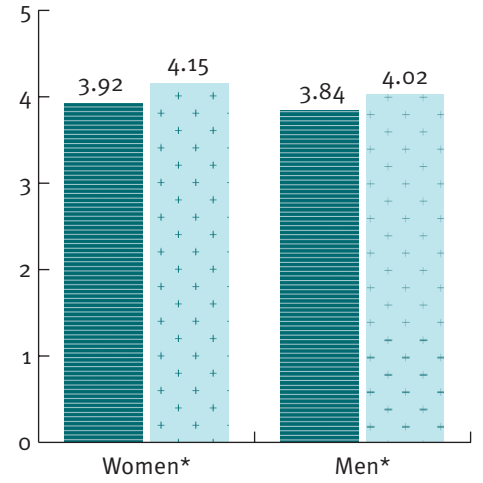
<sup>b</sup> Question was changed in the fall of 2013, so data are from sample size of 1,073, representing only respondents from fall 2013 and spring 2014.

<sup>c</sup> Question was changed in the fall of 2013, so data are from sample size of 1,073, representing only respondents from fall 2013 and spring 2014.

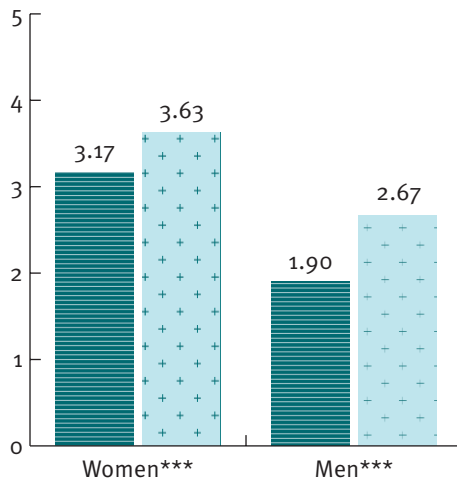
## Item-level graphs



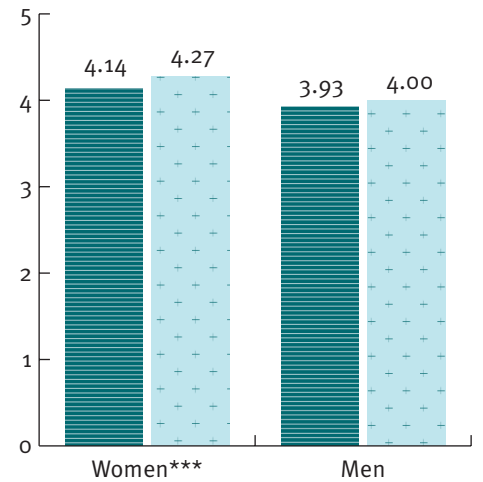
**Figure 10.** Importance of avoiding becoming pregnant or getting someone pregnant.



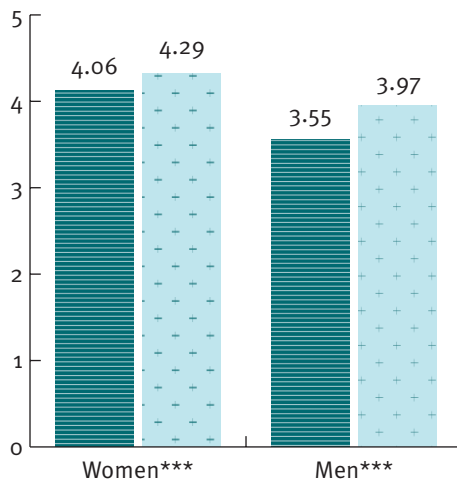
**Figure 11.** How difficult a pregnancy would make it to achieve educational goals.



**Figure 12.** Likelihood of talking to doctor about birth control.



**Figure 13.** Have a clear plan for preventing unplanned pregnancy.



**Figure 14.** Know where to get birth control (other than condoms).

### Likelihood of using a method in the future

N=approximately 2,800. Participants were asked how likely it would be that they would use the following contraceptive methods. They endorsed likelihood on a 5-point scale from not at all likely to very likely. The National Campaign used repeated measures of analysis of variance (ANOVA) to assess whether participation in the online lessons influenced attitudes and behavioral intent. Means are included only for participants who are not already using the method. Effect sizes are based on partial- $\eta^2$ , and are a way to quantify the magnitude of difference between the pre- and post-lesson scores. As a guideline, an effect size of .01 is considered a small effect size, .06 is a medium effect, and .14 is a large effect. P-values are in parentheses under the effect sizes and represent the level of statistical significance of the F-value (low p-values represent a larger difference and ns=no significant differences between pre- and post-lesson scores).

Method	Women			Men		
	Pre-test mean	Post-test mean	Effect size P-value	Pre-test mean	Post-test mean	Effect size P-value
Male or female condom	3.32	3.41	.00 (p=ns)	3.31	3.41	.00 (p=ns)
The pill	2.63	2.68	.00 (p=ns)	2.16	2.34	.01 (p=.002)
The shot	1.72	1.92	.03 (p=.000)	1.61	1.85	.04 (p=.000)
The patch	1.65	1.83	.03 (p=.000)	1.60	1.79	.03 (p=.000)
IUD	1.76	2.17	.09 (p=.000)	1.56	1.87	.06 (p=.000)
Ring	1.59	1.82	.04 (p=.000)	1.55	1.84	.05 (p=.000)
Implant	1.51	1.79	.06 (p=.000)	1.49	1.79	.06 (p=.000)
No method	1.99	1.76	.03 (p=.000)	1.93	1.74	.01 (p=.05)
Withdrawal	1.83	1.64	.02 (p=.000)	2.04	2.02	.00 (p=ns)

## Knowledge gains

N=approximately 2,800. The National Campaign used repeated measures of analysis of variance (ANOVA) to assess whether participation in the online lessons influenced knowledge. Effect sizes are based on partial- $\eta^2$ , and are a way to quantify the magnitude of difference between the pre- and post-lesson scores. As a guideline, an effect size of .01 is considered a small effect size, .06 is a medium effect, and .14 is a large effect. P-values are in parentheses under the effect sizes and represent the level of statistical significance of the F-value (low p-values represent a larger difference and ns=no significant differences between pre- and post-lesson scores).

	Women			Men		
	Pre-test mean	Post-test mean	Effect size P-value	Pre-test mean	Post-test mean	Effect size P-value
Average score on knowledge items (percent correct on 7 items)	63%	87%	.57 (p= .000)	56%	81%	.53 (p= .000)

Knowledge item-level analysis: Items were analyzed using Chi-square to determine statistical significance. P-values represent the level of statistical significance of the F-value (low p-values represent a larger difference and ns=no significant differences between pre- and post-lesson scores).

Relative effectiveness	Women			Men		
	Percent correct pre-test	Percent correct post-test	P-value	Percent correct pre-test	Percent correct post-test	P-value
Which of the listed birth control methods is least effective? (Comparing IUD, the ring, and diaphragm; the diaphragm is the correct answer.)	54%	73%	.000	40%	61%	.000
Which of these birth control methods is most effective? (Comparing the implant, condoms, and the patch; the implant is the correct answer.)	43%	70%	.000	28%	61%	.000
There is at least one kind of emergency contraceptive (EC) pill that anyone can purchase without a prescription. <sup>d</sup> (True)	81%	89%	.000	75%	80%	.000
It is okay to use petroleum jelly or Vaseline as a lubricant when using latex condoms. (False)	76%	92%	.000	72%	88%	.000
Birth control pills reduce the risk of certain types of cancer. (True)	30%	88%	.000	27%	80%	.001
It's ok to use a condom more than once. (False)	89%	94%	.000	89%	91%	.002
To get an IUD, a woman must have a surgical operation. (False)	61%	81%	.000	52%	70%	.000

<sup>d</sup> Before the FDA approved sales of one type of EC pill over-the-counter and without age restriction in spring 2013, this question was worded as follows: "Emergency contraception can be purchased without a prescription if you are 17 or older."

## SOURCES

<sup>1</sup> Prentice, M., Storin, C., & Robinson, G. (2012). *Make It Personal: How Pregnancy Planning and Prevention Help Students Complete College*. Washington, DC: American Association of Community Colleges.



[www.TheNationalCampaign.org](http://www.TheNationalCampaign.org)  
[www.Bedsider.org](http://www.Bedsider.org)  
[www.StayTeen.org](http://www.StayTeen.org)