

Teen sex and statistics: Will the media report both?

A case study

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American Public Health Association,
November 10, 2009

Acknowledgements

Thanks to:

- Don Rubin, Kimberly Thompson, Alan Zaslavsky.
- Rebekah Maggor, Harvard's Derek Bok Center for Teaching and Learning
- Robin Herman, Harvard School of Public Health.

Evidence-based policy needs the best evidence

- Statistics is the science of reaching conclusions from data.
 - ▶ The best conclusions are the ones that most closely reflect reality.
 - ▶ The best policy comes from the best conclusions.
- Statistical model choices affect the conclusions reached.
- Important to communicate to policy makers which statistical method is best.

Background

- Published paper in *Pediatrics* on virginity pledges in late December 2008.
- Matched sampling got different results than regression:
 - ▶ Regression found pledgers delay by 18 months.
 - ▶ After matching: no difference .

Janet Rosenbaum. Patient teenagers?: Virginity pledges as a marker for lower sexual activity. *Pediatrics*. 2009 Jan;123(1):e110-20.

Study design

- Used 3:1 exact and nearest-neighbor matching within propensity score calipers using R Matchit package and verified balance on 120 variables.
- Control variables at wave 1, pledge at wave 2, outcomes at wave 3.
- Data: nationally-representative sample of 289 virginity pledgers and 3400 non-pledgers. After matching, 645 non-pledgers.

Media dissemination

Interviews December 22, 2008 –January 6, 2009.

- Pre-embargo: Washington Post, Bloomberg, CNN.com, Today Show, British Medical Journal.
- Secondary reporting, original reports based on first media reports: international press, blogs.
- Post-embargo direct interviews.
 - ▶ Radio and TV: NPR, ABC, CBS, Clear Channel.
 - ▶ Print: Time, Reuters, USA Today.
 - ▶ Columnists: Ellen Goodman.
 - ▶ Evangelical publications: Focus on the Family Radio.
 - ▶ International radio.

Talking Points

- Pledgers are more conservative and religious than non-pledgers before they take the pledge, so they are likely to delay sex even without the pledge.
- Past studies compared pledgers with all non-pledgers and found that pledgers were likely to delay sex, but that might be because they were more conservative.
- This study compared pledgers only with non-pledgers similar on 120 variables; it found no difference in sexual behavior.
- This study compares apples to apples; the method in previous studies tries to turn an orange into an apple.

Who is interested in methodology?

- In-depth reporting:
 - ▶ Why do the studies differ?
 - ▶ How is this study better?
- Medical journal abstracts: BMJ.
- Popular science: New Scientist.

Even those who aren't interested in methods may mention them if you put it in your talking points.

Example: Washington Post

100 variables

“Rosenbaum ... based that judgment [of similarity] on about 100 variables, including their attitudes and their parents’ attitudes about sex and their perception of their friends’ attitudes about sex and birth control.

‘This study came about because somebody who decides to take a virginity pledge tends to be different from the average American teenager. The pledgers tend to be more religious. They tend to be more conservative. They tend to be less positive about sex. There are some striking differences,’ Rosenbaum said. ‘So comparing pledgers to all non-pledgers doesn’t make a lot of sense.’ ”

Example of second hand reporting: IT Wire

“It is important to note that the Rosenbaum group looked at both groups because they were very similar in their attitudes toward sex.

“Both groups were analyzed with respect to one hundred variables that gauged their sexual preferences and habits (along with their friend’s preferences and habits) including likelihood to use birth control if participating in sexual activities.”

Example: Today Show (NBC)

“This was a much more comprehensive study that used much more complicated statistics than just a simple regression analysis that prior studies had used... [P]rior studies did not match the teens on other variables so they compared pledgers and non-pledgers, but there were no other similarities on religious background, sexual attitudes and other social attitudes. In this study, they were similar on 120 social and emotional variables.”

PhD psychologist Laura Berman, December 29, 2008.

Rhetorical impact: Wall Street Journal op-ed

“[T]he only way the study’s author, Janet Elise Rosenbaum of Johns Hopkins University, could reach such results was by comparing teens who take a virginity pledge with a very small subset of other teens: those who are just as religious and conservative as the pledge-takers.”

William McGurn, January 6, 2009.

Evangelical publication: Christianity Today

“Rosenbaum uses a newer, more appropriate method for this type of research called ‘propensity score matching.’ The method has become very popular in the social and behavioral sciences because it allows the researcher to have much more confidence that the differences in outcomes (in this case, of sexual behavior) are due to different ‘treatments’ (taking a pledge or not). Rosenbaum is able to test whether virginity pledges per se make a difference in sexual behavior, or if the differences between pledge takers and all other teenagers are due to some other cause...

“By using the propensity score matching method, Rosenbaum was able to test whether taking a virginity pledge actually changes a person’s sexual behavior, which is why her research is important.”

Tobin Grant, January 7, 2009.

Two goals of interview

- 1 Teach the journalist, despite slight resistance.

Journalists gather evidence. Since they already have your paper, they may try to focus interview on issues beyond the paper.

- 2 Give punchy quotes that go beyond the paper.

Typical questions

- Summarize the paper: background, method, result, implications.
- What's most important? Is the finding surprising?
- How did you come to study this subject? Why was this study conducted?
- What's the take home point? How should the average person act differently due to your research?

Note that only the first question is within the paper itself. The rest is educated speculation.

Specific tips

- Before you go beyond the paper, make sure they understand the paper itself.
 - ▶ Just as in teaching, you know what they need to know. Direct the interview.
 - ▶ “Let’s back up so I can tell you the background.”
- Write talking points both on the study itself and beyond the study. Make sure your quotes are quotable.
- Use vivid terms and analogies to describe statistics.
- Avoid jargon and clichés (e.g., “controlling for”). They all get tuned out.
- As a last resort, invoke statistical authority.

Specific tips, part 2

- Avoid long and compound sentences. Structure thoughts according to listeners' interests: e.g., start with motivation and then say what you did.
- Practice, practice, practice. All of this is easier said than done. Formats: 10, 30, 60 seconds, 5 minutes, 20-60 minutes.
- Again: make sure you have at least one lively, punchy quote.

Considerations for politically sensitive issues

- Avoid negative language, and ask journalists to avoid.
- Send note and press release to “the other side” if they have helped you.
- Consideration is rewarded with better coverage or, if they can't say anything nice, no coverage. (E.g., Fox News, Baptist Press, Christianity Today, Family News in Focus radio.)

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Start Here



Your Research
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