

# Public Opinion About Condoms for HIV and STD Prevention: A Midwestern State Telephone Survey

By William L. Yarber, Robin R. Milhausen, Richard A. Crosby and Mohammad R. Torabi

William L. Yarber is professor of applied health science and senior research fellow, The Kinsey Institute for Research in Sex, Gender and Reproduction, Indiana University, Bloomington.

Robin R. Milhausen is postdoctoral research fellow in social justice and sexual health, University of Windsor, Ontario, Canada.

Richard A. Crosby is associate professor of health behavior, College of Public Health, University of Kentucky, Lexington.

Mohammad R. Torabi is Chancellor's Professor and chairperson of Applied Health Science at Indiana University.

**CONTEXT:** Public opinion is important in determining condom and condom education policies in public high schools.

**METHODS:** A random telephone survey of 517 Indiana residents was conducted from July through October 2003 to assess public opinion about education on correct condom use for HIV and STD prevention; condom availability in Indiana public high schools; and issues related to condom use, effectiveness and promotion. Data were analyzed using bivariate and linear regression techniques.

**RESULTS:** A majority of respondents strongly or somewhat agreed that instruction on correct condom use for HIV and STD prevention should be provided in public high schools (77%), classroom instruction should include condoms (71%), only medically accurate information about condoms should be given (94%) and the federal government should promote condoms (70%). Fewer than half (48%) strongly or somewhat agreed that condoms should be made available to teenagers in public high schools without parental permission. Nearly all (92%) considered condoms at least somewhat effective in preventing HIV and other STDs. Non-Republican party affiliation, younger age and condom use within the previous five years were each significantly associated with having positive opinions on many of the condom-related statements.

**CONCLUSIONS:** Public opinion appears to support the provision of correct condom use information in Indiana public schools. Schools should consider providing only medically accurate information about condoms and including condoms in instruction so students can see and touch them.

*Perspectives on Sexual and Reproductive Health, 2005, 37(3):148–154*

In the United States, STDs are epidemic among young people. About 18.9 million new cases of STDs were reported in 2000; approximately half of those occurred in 15–24-year-olds, although that age-group represented only one-quarter of the sexually experienced population.<sup>1</sup> Two summary reports from the Centers for Disease Control and Prevention (CDC) and the National Institutes of Health (NIH) concluded that male latex condoms, when used consistently and correctly, are effective in reducing the transmission of gonorrhea (for men only) and HIV.<sup>2</sup> In addition, CDC reported that latex condoms can reduce the spread of chlamydia, trichomoniasis and, when the infected areas are covered by the condom, genital herpes, syphilis, chancroid and human papillomavirus (HPV).<sup>3</sup> A review of prospective studies published after June 2000 (the date of the NIH report release) concluded that consistent condom use is associated with reduced transmission of HIV; reduced acquisition of urethral infection in men, genital herpes, syphilis, chlamydia, gonorrhea and possibly trichomoniasis; accelerated regression of cervical and penile HPV-associated lesions; and accelerated clearance of genital HPV infection in women.<sup>4</sup>

Although condom use at last sexual intercourse has increased in recent years, such use among adolescents is still not universal. For example, only 63% of currently sexually active participants in the 2003 Youth Risk Behavior Sur-

vey reported that they or their partner had used a condom at last intercourse.<sup>5</sup> Furthermore, recent research indicates a surprisingly high prevalence of condom use errors and problems among young adults.<sup>6</sup> Several factors may account for these findings, including inadequate condom education in schools, federal legislation that mandates educational messages focusing on sexual abstinence (Public Law 104-193), conflicting messages about condom use and condom effectiveness, explicit media depictions of sexuality and cultural ambivalence about adolescents as sexual persons.<sup>7</sup> A consistent public policy at the federal, state and local levels advocating effective condom use education and promotion could reduce many of barriers to use.

Public opinion can be a powerful determinant of public policy, particularly for issues related to sexuality; however, limited empirical research has focused on public opinion related to condoms. In one study, nearly all parents believed that condoms are somewhat or very effective in preventing STDs.<sup>8</sup> The vast majority of parents enrolled in a Kaiser Family Foundation study indicated that school sex education should provide instruction on correct condom use.<sup>9</sup> Another study reported that slightly more than half of parents nationwide believe that high schools should provide students with condoms on demand.<sup>10</sup> In addition, a random telephone surveys conducted in a Midwestern state in 1993 and 1998 found that public opinion supported pro-

motion of correct condom use in schools and by the federal government, and that the vast majority of the public believed that condoms were either very or somewhat effective in preventing HIV transmission.<sup>11</sup>

However, previous studies considered only a small number of specific condom-related issues. Moreover, they did not thoroughly examine contextual influences on public opinion regarding condom use. For example, persons of different ages may have varied opinions. Other factors, such as political party affiliation and experience using condoms, may also be influential. Identification of such factors could be important in the process of developing public policy and educational programs related to correct condom use.

Given the current contentious debates concerning condom use education and promotion in the United States, and the importance of public opinion in determining public policy, further public opinion research is needed on a broad range of condom-related issues. Accordingly, this study assessed public opinion and correlates of public opinion concerning a wide range of condom-related issues in a Midwestern state (Indiana) in 2003.

## METHODS

### Questionnaire

The questionnaire used for this study consisted of 19 items soliciting opinions about condom availability and education on correct condom use in public high schools, persons who use condoms, condom use promotion by the federal government and the media, and condom effectiveness for HIV and STD prevention (see box). We derived the items from the literature and contributions from researchers, HIV and STD prevention educators, and federal government HIV and STD prevention specialists; the items were reviewed by a jury of sex educators. We used a Likert-type scale (“strongly agree,” “somewhat agree,” “somewhat disagree” or “strongly disagree”) for almost all of the items. Because the item regarding the federal government was phrased as a question rather than a statement, the response alternatives were “all,” “some” and “none.” Similarly, the condom effectiveness items were phrased as questions; their response alternatives were “very effective,” “somewhat effective,” “not too effective” and “not at all effective.”

In addition, the questionnaire included eight demographic variables: gender, area of residence, marital status, religious affiliation, political party, age, education and annual household income. Finally, we assessed whether respondents had used condoms in the past five years.

### Data Collection and Analysis

Following the study’s approval by the institutional review board, trained and supervised interviewers from the Indiana University Center for Survey Research conducted telephone interviews between July and October 2003. Residential telephone numbers were randomly generated using the Genesys list-assisted method,<sup>12</sup> which allows for unpublished numbers and new listings to be included in the sample. Any person 18 or older who resided in a house-

### Questionnaire items used in a statewide telephone survey assessing public opinion about condoms for HIV and other STD prevention, Indiana, 2003

- Condoms should be made available to teenagers in Indiana public high schools without parental permission.
- Condoms should be made available to high school students free of charge.
- Regardless of whether or not they are sexually active, all teenagers need information about how to correctly use condoms.
- Indiana public high schools should educate teenagers about how to use condoms to prevent the spread of HIV.
- The views of the majority of local parents should determine what information about condoms should be given to teenagers in Indiana public high schools.
- The views of the majority of local teenagers should determine what information should be given to teenagers in Indiana public high schools.
- If there were classroom instruction about condoms in Indiana public high schools, it should include condoms so students could see and touch them.
- Classroom instruction about condoms in Indiana public high school should use an object, like a banana or cucumber, so students can learn to correctly put on a condom.
- Classroom instruction that tells high school students that condoms reduce the risk of AIDS and other sexually transmitted diseases is the same as telling them a lie.
- If information about the effectiveness of condoms is given to teenagers in Indiana public high schools, only medically accurate information should be given.
- Promoting condom use is the same as promoting sex.
- Teenagers who use condoms for sex are being responsible.
- For people who have sex, it is essential to use a condom with new sex partners until medical tests show that both partners are free from HIV.
- If a person carries a condom, it means that person has a lot of casual sex.
- As one way to prevent the spread of HIV, the major television networks should air commercials for condoms.
- The federal government should promote condom use as a way to stop the spread of HIV.
- How much do you believe of what the federal government says about the effectiveness of condoms for HIV prevention?
- If used properly, how effective do you think condoms are in preventing the transmission of HIV?
- If used properly, how effective do you think condoms are in preventing the transmission of sexually transmitted diseases other than HIV?

Note: The response choices for all items were given on a four-point Likert-type scale (1=strongly disagree, 2=somewhat disagree 3=somewhat agree and 4=strongly agree), except for the item about what the federal government says about condoms, which was given on a three-point Likert-type scale (1=none, 2=some and 3=all), and the two items about condom effectiveness, which were given on a four-point Likert-type scale (1=not at all effective, 2=not too effective, 3=somewhat effective and 4=very effective).

hold with a selected telephone number was eligible to participate in the survey. The interview took 23–36 minutes to complete. The response rate for the survey using the American Association for Public Opinion Research response rate 3 was 28%, which is similar to that of many random digit dialing omnibus surveys.<sup>13</sup> This rate represents the number of completed household interviews as a proportion of the number of interviews that might have been conducted (i.e., completed interviews, refusals, respondents who were not available during the study period and telephone numbers at which calls were never answered).<sup>14</sup> Among the eligible potential respondents who were contacted, 45% agreed to participate in the survey.

Descriptive statistics were generated for all response items; the margin of error for these results was plus or minus 4.4 percentage points (95% confidence interval). Chi-square tests and Pearson product moment correlations were used to screen for bivariate relationships between the assessed correlates (i.e., the eight demographic variables and condom use in the past five years) and the 19 condom statements. Correlates associated with the condom statements

at a screening level of significance ( $p < .15$ ) were included in a series of linear regression models (with each of the 19 condom statements as an outcome variable) to determine multivariate significance. For the regression analysis, most noncontinuous demographic variables were dichotomized: residence was entered as rural versus urban, suburban or small town; marital status as currently married versus never-married, cohabiting, widowed, separated or divorced; religious affiliation as none versus Catholic, Protestant, other Christian or other; and political party as Republican versus Democrat, Independent or other. Education was divided into five categories (0–11 years, 12 years, some college and college degree or higher) and annual household income into six (less than \$15,000, \$15,000–25,000, \$25,000–35,000, \$35,000–50,000, \$50,000–75,000 and \$75,000 or more). Acceptance of multivariate significance was based on the .05 alpha level.

**Sample**

The sample consisted of 517 adult Indiana residents who completed the entire telephone interview. Twenty respondents were excluded because they answered demographic questions but refused to provide an opinion on any condom statements. Throughout the condom questions, another 21 dropped out, and thus were excluded. Dropouts occurred randomly over the series of questions; no item had a uniquely large number of nonrespondents. On average, 38 people opted not to respond to each condom statement. Those who responded to the condom questions and statements did not differ significantly from those who declined in regard to the assessed demographic variables.

Respondents who completed the condom items ranged in age from 18 to 91; the mean age was 49. Some 60% were female, and 93% were white. One-quarter were from a rural area, and more than half (57%) were married. Three out of four participants reported a religious affiliation, mainly Protestant or other Christian faith. Thirty-six percent said they were Republican, 28% Democrat, 27% independent and 9% other. Nearly four of every 10 respondents had a high school education or less; one-quarter had some college, and one-third had at least a college degree. Half of the sample reported an annual household income of less than \$50,000; 10% earned \$15,000–25,000 per year and 7% earned less than \$15,000 per year. Fifteen percent of respondents reported that they had not had sex in the past five years. Of those who reported having had sex over the past five years, 14% indicated that they had used condoms sometimes or rarely during that time, and 20% had used condoms most of the time, or always.

The sample was similar to the overall population of Indiana with respect to gender, age, race, marital status, education and income.<sup>15</sup> For example, 57% of the sample was married and 93% was white, compared with 56% and 89% of the Indiana population, respectively.

**RESULTS**

**Descriptive Findings**

Fewer than one-half of respondents strongly or somewhat agreed that condoms should be available in high schools without parental permission and without cost (48% and 46%, respectively—Table 1). A majority agreed that teenagers need information about condoms (83%), high schools

**TABLE 1. Percentage distribution of adult Indiana residents, by responses to condom-related survey items; and mean response scores**

| Item   | Strongly disagree | Somewhat disagree | Somewhat agree   | Strongly agree | Total | Mean (SD)   |
|--|-------------------|-------------------|------------------|----------------|-------|-------------|
| Condoms should be available in schools without parental permission (N=494)   | 37.4              | 15.0              | 24.5             | 23.1           | 100.0 | 2.33 (1.20) |
| Condoms should be available in schools free of charge (N=477)                | 32.9              | 21.4              | 23.7             | 22.0           | 100.0 | 2.35 (1.15) |
| All teenagers need information about correct condom use (N=486)              | 10.7              | 6.2               | 26.7             | 56.4           | 100.0 | 3.29 (0.99) |
| Schools should educate about condoms to prevent HIV (N=492)                  | 12.4              | 10.4              | 24.6             | 52.6           | 100.0 | 3.17 (1.05) |
| Local parents should determine condom information given in schools (N=489)   | 14.1              | 14.5              | 33.1             | 38.2           | 100.0 | 2.96 (1.05) |
| Local teenagers should determine condom information given in schools (N=484) | 32.2              | 19.4              | 29.5             | 18.8           | 100.0 | 2.35 (1.12) |
| Instruction should include condoms (N=482)                                   | 17.4              | 11.6              | 30.5             | 40.5           | 100.0 | 2.94 (1.10) |
| Instruction should use an object to put a condom on (N=473)                  | 29.8              | 15.4              | 28.5             | 26.2           | 100.0 | 2.51 (1.17) |
| Instruction saying condoms reduce the risk of AIDS is a lie (N=473)          | 63.2              | 18.6              | 10.8             | 7.4            | 100.0 | 1.62 (0.95) |
| Only medically accurate information should be given (N=476)                  | 1.9               | 3.8               | 25.8             | 68.5           | 100.0 | 3.61 (0.65) |
| Promoting condoms is promoting sex (N=481)                                   | 45.3              | 23.3              | 19.5             | 11.9           | 100.0 | 1.98 (1.06) |
| Teenagers who use condoms are responsible (N=479)                            | 9.4               | 8.6               | 34.7             | 47.4           | 100.0 | 3.20 (0.95) |
| It is essential to use a condom with new sex partners (N=469)                | 6.8               | 4.9               | 18.8             | 69.5           | 100.0 | 3.51 (0.87) |
| Carrying condoms means that a person has a lot of casual sex (N=480)         | 45.0              | 34.6              | 17.0             | 6.5            | 100.0 | 1.82 (0.90) |
| Major TV networks should air condom commercials (N=481)                      | 29.7              | 21.2              | 27.7             | 21.4           | 100.0 | 2.41 (1.13) |
| Federal government should promote condom use (N=482)                         | 19.5              | 10.2              | 27.0             | 43.4           | 100.0 | 2.94 (1.15) |
| Believe what the federal government says about condoms? (N=468)              | None<br>3.6       | Some<br>78.6      | All<br>17.7      | na             | 100.0 | 2.14 (0.44) |
| Condom effectiveness in preventing HIV? (N=471)                              | Not at all<br>1.5 | Not too<br>7.0    | Somewhat<br>52.9 | Very<br>38.6   | 100.0 | 3.29 (0.66) |
| Condom effectiveness in preventing other STDs? (N=475)                       | 1.5               | 6.3               | 58.5             | 33.7           | 100.0 | 3.24 (0.63) |

Notes: SD=standard deviation. na=not applicable. The response choices for all items were given on a four-point Likert-type scale, except for the item about what the federal government says about condoms, which was given on a three-point Likert-type scale (see box, page 149).

should educate teenagers about how to use condoms to help prevent the spread of HIV (77%), classroom instruction should include condoms so students can see and touch them (71%) and only medically accurate information should be given (94%). Fifty-five percent agreed that classroom instruction should include objects (e.g., a banana) so students can learn how to apply condoms. Seventy-one percent agreed that parents should determine information given about condoms, whereas 48% thought teenagers should decide. Fewer than one-fifth agreed that instruction claiming condoms reduce AIDS risk is a lie, and fewer than one-third believed that promoting condoms is the same as promoting sex. More than eight in 10 agreed that teenagers using condoms are responsible and that it is essential to use condoms with new sex partners. About one-quarter agreed that carrying condoms means the person has a lot of casual sex. Finally, 49% agreed that television networks should air condom commercials, and 70% agreed that the federal government should promote condoms.

Only 18% of respondents indicated that they believed all information about condoms from the federal government; 79% believed some of the information. The vast majority agreed that condoms are somewhat or very effective in preventing HIV or other STDs (92% for each).

To help characterize the data, we also include means representing each of the assessed opinions. Because most opinions were assessed on a scale ranging from 1.0 to 4.0, mean values between 2.0 and 3.0 represent a relatively even mix of opinion. Responses to nine statements fell into this category, including those related to condom commercials, the federal government's promoting condom use and believing what the federal government says about condoms. For seven items, however, the mean values were above 3.0, suggesting favorable public opinion toward condoms. Respondents seemed to particularly support the ideas that only medically accurate information about condoms should be given (mean, 3.6), one should use condoms with new sex partners (3.5), condoms are effective against HIV (3.3) and other STDs (3.2), all teenagers need information about condoms (3.3) and public schools should educate teenagers about how to use condoms for HIV prevention (3.2). Only two items—"instruction saying condoms reduce the risk of AIDS is a lie" and "promoting condoms is promoting sex"—had mean values of less than 2.0, and both were worded such that a low mean value reflects a largely unresponsive public opinion. None of the 19 items produced a mean value that suggests the majority of respondents had negative opinions about condoms.

### Analytic Findings

In the regression analyses, three correlates commonly achieved significance: political affiliation, age and condom use (Table 2, page 152).

- **Political affiliation.** Political affiliation was significantly associated with 15 of the opinion items. Without exception, being a non-Republican was associated with greater agreement with statements that support condom use, con-

dom availability in schools, high school instruction on correct condom use and the promotion of condoms on television or by the government. Also, non-Republican identification was associated with reduced agreement for the following three items: saying condoms reduce AIDS risk is a lie, promoting condoms is the same as promoting sex and carrying condoms means the person has a lot of casual sex. Finally, being a non-Republican was associated with greater belief that condoms are effective for the prevention of STDs other than HIV.

- **Age.** Age achieved significance for 14 of the opinion items. The younger respondents were, the greater their support of statements pertaining to condom use, condom availability in schools, high school instruction on correct condom use and the promotion of condoms on television or by the government. In addition, the younger they were, the lower their agreement that promoting condoms is the same as promoting sex and that carrying condoms means the person has a lot of casual sex. Finally, younger age was associated with greater belief that condoms are effective for the prevention of STDs other than HIV.

- **Condom use.** Having used a condom in the past five years was significantly associated with support for eight of the opinion statements, including those about condom use, condom availability in schools, high school instruction on correct condom use and condom promotion by television or the government. Having used a condom was also associated with respondents' increased belief that condoms are effective for the prevention of STDs other than HIV.

- **Other correlates.** For the most part, other correlates were associated with only one or two opinion statements. Non-rural residence was associated with greater support for educating students about condoms to prevent HIV, female gender was associated with greater belief that teenagers who use condoms are responsible, and being married was associated with greater support for having condom commercials on network television. Being religious was associated with the greater belief that parents should determine the information about condoms given in high schools and that only medically accurate information should be provided. With increasing education, people were less likely to agree that carrying condoms equates with having lots of casual sex and that instruction saying condoms reduces the risk of AIDS is a lie. In addition, education was associated with the opinion that teenagers, not parents, should determine the content of condom instruction. Finally, income was negatively associated with believing what the federal government says about condoms and that condoms are effective against HIV, and positively associated with believing that condoms are effective against other STDs.

### DISCUSSION

Overall, our findings suggest that Indiana residents strongly support education about correct condom use in their public high schools, condom use among teenagers and the promotion of condoms by the media and the federal government. This support is particularly intriguing in a state

**TABLE 2. Beta weights from logistic regression analysis indicating associations between selected correlates and responses to condom-related survey items**

| Item/correlates   | Beta weight | R <sup>2</sup> | Item/correlates   | Beta weight | R <sup>2</sup> |
|---|-------------|----------------|---|-------------|----------------|
| <b>Condoms should be available in schools without parental permission</b>   |             |                | <b>Only medically accurate information should be given</b>          |             |                |
| Political affiliation†  | -0.209***   | .189           | Religious   | 0.094*      | .009           |
| Age   | -0.213***   |                | <b>Promoting condoms is promoting sex</b>                           |             |                |
| Used condom in previous five years  | 0.124*      |                | Political affiliation†  | 0.207***    | .125           |
| <b>Condoms should be available in schools free of charge</b>                |             |                | Age   | 0.210***    |                |
| Political affiliation†  | -0.233***   | .212           | <b>Teenagers who use condoms are responsible</b>                    |             |                |
| Age   | -0.275***   |                | Female  | -0.132**    | .116           |
| Used condom in previous five years  | 0.160**     |                | Political affiliation†  | -0.213***   |                |
| <b>All teenagers need information about correct condom use</b>              |             |                | Used condom in previous five years                                  | 0.138*      |                |
| Political affiliation†  | -0.226***   | .156           | <b>It is essential to use a condom with new sex partners</b>        |             |                |
| Age   | -0.108*     |                | Political affiliation†  | -0.133      | .035           |
| Used condom in previous five years  | -0.180**    |                | <b>Carrying condoms means that a person has a lot of casual sex</b> |             |                |
| <b>Schools should educate about condoms to prevent HIV</b>                  |             |                | Political affiliation†  | 0.170***    | .147           |
| Residence‡  | -0.098*     | .173           | Age   | 0.275***    |                |
| Political affiliation†  | -0.211***   |                | Education   | -0.107*     |                |
| Age   | -0.125*     |                | <b>Major TV networks should air condom commercials</b>              |             |                |
| Used condom in previous five years  | 0.129*      |                | Married   | -0.128*     | .229           |
| <b>Local parents should determine condom information given in schools</b>   |             |                | Political affiliation†  | -0.194***   |                |
| Religious   | 0.101*      | .027           | Age   | -0.247***   |                |
| Education   | -0.093*     |                | Used condom in previous five years                                  | 0.135*      |                |
| <b>Local teenagers should determine condom information given in schools</b> |             |                | <b>Federal government should promote condom use</b>                 |             |                |
| Political affiliation†  | -0.161**    | .110           | Political affiliation†  | -0.256***   | .190           |
| Age   | -0.122*     |                | Age   | -0.213***   |                |
| Education   | -0.139*     |                | Used condom in previous five years                                  | 0.201**     |                |
| <b>Instruction should include condoms</b>                                   |             |                | <b>Believes what the federal government says about condoms</b>      |             |                |
| Political affiliation†  | -0.245***   | .128           | Income  | -0.181***   | .061           |
| Age   | -0.146**    |                | Age   | 0.122*      |                |
| <b>Instruction should use an object to put a condom on</b>                  |             |                | <b>Condoms are effective in preventing HIV</b>                      |             |                |
| Political affiliation†  | -0.235***   | .183           | Income  | -0.151**    | .066           |
| Age   | -0.217***   |                | Age   | 0.162**     |                |
| Used condom in previous five years  | 0.153*      |                | <b>Condoms are effective in preventing other STDs</b>               |             |                |
| <b>Instruction saying condoms reduce the risk of AIDS is a lie</b>          |             |                | Political affiliation†  | -0.159**    | .100           |
| Political affiliation†  | 0.168**     | .079           | Age   | -0.140*     |                |
| Education   | -0.173**    |                | Income  | 0.185**     |                |
|   |             |                | Used condom in previous five years                                  | 0.142*      |                |

\*p<.05. \*\*p<.01. \*\*\*p<.001. †Non-Republican identification was coded as "0"; thus, a negative beta weight signifies that non-Republicans were more likely to agree with the item. ‡Nonrural residence was coded as "1"; thus, a positive beta weight signifies that nonrural residents were more likely to agree with the item.

that might be considered “traditional” in its values regarding sexual health issues.

The investigation of correlates yielded several interesting findings, such as the strong, independent associations between non-Republican party affiliation and support for condom availability and correct condom use instruction in public high schools, condom use and promotion of condoms. The degree to which this pattern can be attributed to the abstinence-only political agenda advanced by the current federal administration is unknown, but that agenda quite possibly has had at least some influence.

As might be anticipated, younger people and those who had used condoms in the past five years had relatively positive opinions about condoms. These findings could be a reflection of several factors. For example, younger people may view condoms as an important option in their ongoing efforts to prevent or plan conception, as well as to avoid the acquisition and transmission of STDs, including HIV.

In addition, they may be generally more comfortable with sexuality than older people, resulting in a more positive opinion about condoms. Alternatively, older respondents may be less concerned than younger ones about pregnancy and STD prevention, and therefore may base their opinions less on practical concerns than on more “traditional” perspectives about sexuality.

Several correlates were largely unimportant. For example, residence was associated only with the statement pertaining to schools’ educating students about condoms to prevent HIV. This observation implies that statewide opinions about condoms transcend any differences that may exist between urban or suburban residents and their rural counterparts. Similarly, religion was largely nonsignificant, suggesting that opinions about condoms do not differ much between people with and without a religious affiliation. It is worth emphasizing that residence and religious affiliation were tested in the presence of political affiliation, there-

by controlling for any collinearity between these correlates.

Four of the assessed condom opinions were inversely associated with respondents' level of education. With increasing education, people were less likely to believe that those who carry condoms have a lot of casual sex and that instruction saying condoms reduce the risk of AIDS is a lie. Whether these associations are the product of specific condom education or of advanced education in general (perhaps by leading to more analytic thinking) warrants further investigation. Interpretation of the two remaining opinions associated with education is, unfortunately, problematic. For example, as education increased, respondents were less likely to agree that parents should determine the content of condom instruction. This association may represent a belief that local control by parents is restrictive and, therefore, should be avoided.

A final correlate that warrants mention is income, which was inversely associated with believing what the federal government says about condoms. Whether this distrust is specific to the subject of condoms and why it is associated with high income is unknown. Ironically, income was inversely associated with believing that condoms are effective for HIV prevention, but positively associated with the belief that they are effective for the prevention of other STDs. This difference between HIV and other STDs may be an artifact of the multiple analyses and warrants further investigation.

A distinctive feature of this study was the assessment of opinions about instruction in Indiana public high schools on how to use condoms to prevent the spread of HIV and other STDs, rather than opinions about condom instruction in general. Although many secondary school HIV and STD prevention education classes include discussion about condoms, the specific content of such instruction has not been assessed in research on school HIV and STD prevention education and sex education.<sup>16</sup> If correct condom use is an expected outcome of school programs, instruction about condoms should go beyond providing information to give detailed information on correct use.<sup>17</sup> Our findings suggest that the sample believed that correct condom use instruction is an important component of HIV and STD prevention education. These results are congruent with those of a Kaiser Family Foundation national study of parents of teenagers in grades 7–12, in which 85% indicated that school sex education should discuss how to use condoms correctly.<sup>18</sup> Furthermore, our results are consistent with those of a previous study of Indiana residents that found that about three-quarters of adults supported education about correct condom use.<sup>19</sup> Because Indiana may be similar to other "traditional" states, the data suggest that people in such states also may support correct condom use instruction.

The sample's high level of agreement (nearly eight of 10 respondents) that public high schools in Indiana should provide instruction on how to use a condom conflicts with previous data showing that 32% of Midwestern public secondary schools in 1999 taught the proper way to use condoms,<sup>20</sup> illustrating a disparity that often occurs between public opinion and actual instructional practice. Despite

the strong support for education about correct condom use, support for using an object, like a banana, to show students how to correctly put on a condom was mixed.

Public high school curriculum decisions are influenced by factors beyond public opinion, such as teachers' comfort with, knowledge of and skill in condom use instruction; perceived or real pressure to avoid controversial topics; support from local parents; and the schools' and students' needs.<sup>21</sup> Although the relative importance of these factors may vary from school district to school district, the overall support we found for education in public high schools on correct condom use may result in some schools' feeling more "safe" in providing information about correct condom use.

The vast majority of respondents believed that condoms are at least somewhat effective at preventing HIV and other STDs. These findings are similar to those from a survey of Minnesota and Wisconsin parents.<sup>22</sup> It is possible that recent efforts by the far right to discredit condom effectiveness<sup>23</sup> have not prevailed. Actually, these efforts may have backfired, by increasing the attention public health officials and scientists give to condom effectiveness, and thereby creating favorable public opinion.

In addition, our findings suggest that Indiana residents may have overall positive beliefs about condoms and persons who use them. Also notable is that this sample did not agree that promoting condoms is the same as promoting sex, a frequent assertion made by opponents of condom education.<sup>24</sup> This finding is congruent with research on school comprehensive sex education that indicates that condom information does not lead to increased sexual intercourse.<sup>25</sup> Support for providing condoms to teenagers in Indiana public high schools without parental permission or free of charge was mixed, with only about half agreeing with the statements. However, a recent study of condom availability programs in Massachusetts high schools found that adolescents in schools where condoms were available were less likely than others to report lifetime or recent sexual intercourse.<sup>26</sup>

### Limitations

The results of this study must be viewed in the context of its limitations. This study surveyed only Indiana residents; results may differ in other states. In addition, the 55% refusal rate among contacted eligible respondents may be problematic. Although the refusal rate was similar to rates from other random digit dialing omnibus surveys, no information is available on whether those who chose to be interviewed differed from those who refused. Sample bias is always a concern, although such bias in this study may be minimal, as it is plausible that those with strongly favorable and strongly unfavorable opinions were equally likely to participate. And although the effect of missing data can never be known, any bias due to item nonresponse is likely to be fairly small because dropouts occurred randomly over the series of questions and because no item had a uniquely large number of nonrespondents.

## CONCLUSIONS

A strong majority of Indiana residents appear to have positive opinions about condoms and condom-related issues. Given that public opinion is one criterion for determining content and pedagogy of high school condom education, Indiana public high schools should consider providing information on correct condom use. Also, they should consider providing only medically accurate information about condoms and including condoms in instruction so students can see and touch them. Further instruction on correct use of condoms for HIV and STD prevention may help reduce STD prevalence among young adults. Finally, the public's opinion about condoms should be made known to educators, decision makers and funding agencies.

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**Author contact:** yarber@indiana.edu