



PREP

The Personal Responsibility Education Program Evaluation

Focusing on the Boys:
**The Early Impacts of
Wise Guys in Davenport, Iowa**

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Focusing on the Boys: The Early Impacts of *Wise Guys* in Davenport, Iowa

April 2018

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Overview

Boys are often missing from research and policy on teen parenthood in the United States. In recent years, researchers and policymakers have increasingly recognized and prioritized the need to support young men in achieving positive educational and career outcomes and becoming responsible fathers. However, many of these efforts target young men only after they become fathers. The related issue of how to help adolescent males make responsible decisions about their sexual behavior and avoid early entry into fatherhood has received considerably less attention.

Recognizing the need for research on programs designed to support adolescent males, the Administration for Children & Families within the U.S. Department of Health and Human Services funded Mathematica Policy Research to rigorously evaluate the *Wise Guys Male Responsibility Curriculum* in middle schools in and near the city of Davenport, Iowa. In 2011, the Iowa Department of Public Health used federal funding from the Personal Responsibility Education Program (PREP) to support three community-based agencies to implement *Wise Guys* in three Iowa counties. For this study, Mathematica partnered with one of these agencies—Bethany for Children & Families—to rigorously evaluate *Wise Guys* with 7th grade boys in seven Davenport middle schools. The study is part of a broader national evaluation of PREP that Mathematica is conducting for ACF (Wood et al. 2015).

To test the effectiveness of *Wise Guys* in Davenport middle schools, the study team used a random assignment evaluation design. Boys assigned to the treatment group could attend the *Wise Guys* sessions during the regular school day as an elective supplement to the regular school curriculum. Boys assigned to the control group could not attend *Wise Guys* but continued to receive the sexuality and reproductive health education provided as part of the regular school curriculum. The study team enrolled and randomly assigned a total of 736 boys over three consecutive school years, from 2013–2014 to 2015–2016. Boys in both research groups completed a baseline survey upon enrolling in the study and follow-up surveys one and two years later. Data from the one-year survey are the focus of this report.

After one year, *Wise Guys* increased boys' exposure to information on healthy relationships and reproductive health topics. Boys in the *Wise Guys* group also had better knowledge of contraception and sexually transmitted infections, and expressed greater support when asked about the importance of condom use among sexually active youth. After one year, the program did not change boys' motivation to avoid getting someone pregnant, intentions to have sex, relationship attitudes, goal-setting abilities, or communication skills. Boys in both research groups were unlikely to report having ever had sexual intercourse, as was expected at the time of the one-year follow-up survey because of their young ages.

This report is the second in a series on the implementation and impacts of *Wise Guys* in Davenport middle schools. It presents evidence on the program's early impacts after one year. It also documents the study methods. An earlier process study report described the design and implementation of the program (Kisker and Murphy 2016). A future report will present evidence on the program's longer-term impacts after two years.

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Introduction

Boys are often missing from research and policy on teen parenthood in the United States. In recent years, researchers and policymakers have increasingly recognized and prioritized the need to support young men in achieving positive educational and career outcomes and becoming responsible fathers. Since 2005, for example, federal legislation has authorized at least \$50 million in annual funding for programs to help low-income fathers support their children (Cowan et al. 2010). However, these efforts target young men only after they become fathers (Avellar et al. 2011). The related issue of how to help adolescent males make responsible decisions about their sexual behavior and avoid early entry into fatherhood has received considerably less attention.

Recognizing the need for research on programs designed to support adolescent males, the Administration for Children & Families (ACF) within the U.S. Department of Health and Human Services (HHS) funded Mathematica Policy Research to rigorously evaluate the *Wise Guys Male Responsibility Curriculum*. Intended for adolescent males ages 11 to 17, *Wise Guys* is one of few teen pregnancy prevention curricula designed specifically for adolescent males. It aims to help boys make responsible decisions about their sexual behavior and ultimately avoid early entry into fatherhood. In 2011, the Iowa Department of Public Health used federal funding from the Personal Responsibility Education Program (PREP) to support three community-based agencies to implement *Wise Guys* in three Iowa counties. For this study, Mathematica partnered with one of these agencies—Bethany for Children & Families—to rigorously evaluate *Wise Guys* in middle schools in and near the city of Davenport, Iowa. The study is part of a broader national evaluation of PREP that Mathematica is conducting for ACF (Wood et al. 2015).

This report is the second in a series on the implementation and impacts of *Wise Guys* in Iowa. It presents evidence on the early impacts of the program after one year. An earlier process study report described the design and implementation of the program (Kisker and Murphy 2016). A future report will present evidence on the program’s longer-term impacts after two years.

The *Wise Guys* curriculum

Wise Guys is a long-standing, widely implemented curriculum designed to help adolescent males make responsible decisions about their sexual behavior and avoid early entry into fatherhood by promoting male responsibility (Family Life Council 2011). In 1990, with a grant from the state of North Carolina, the Family Life Council of Greater Greensboro, North Carolina, developed the curriculum and offered it on a volunteer basis to middle-school age males at a Greensboro Boys and Girls Club (Gruchow and Brown 2011). Since then, the curriculum has been periodically updated and implemented in more than 350 communities in 32 states. Currently, the Children’s Home Society of North Carolina, which merged with the Family Life Council, distributes *Wise Guys*.

The current version of the curriculum includes 10 sessions. In each session, trained facilitators lead a series of scripted activities and group discussions with groups of up to 25 boys. Facilitators pick the specific activities and discussion topics from a list specified in the curriculum materials. The curriculum distributor recommends delivering the sessions for 45 to 60 minutes each over a period of 5 to 12 weeks. The facilitators can deliver sessions either in

school as part of the regular school day or in an after-school program or other community-based setting. The use of male-only participant groups aims in part to create an environment in which boys feel comfortable sharing information and asking questions about potentially sensitive personal topics. The adult facilitators can be either male or female.

The curriculum sessions cover a broad range of topics. Similar to other coeducational teen pregnancy prevention curricula, *Wise Guys* provides factual information on human sexuality, pregnancy, and the transmission of sexually transmitted infections (STIs). For example, a session on sexuality provides information on puberty and the physical changes that occur during adolescence, focusing specifically on male physical development. The curriculum teaches that the most effective way to prevent pregnancy and STIs is by avoiding sexual activity. It also provides information on condoms and other contraceptives. Other *Wise Guys* sessions address broader adolescent development topics, such as setting goals, communication skills, healthy relationships, and identifying personal values and beliefs. In addressing these topics, the curriculum emphasizes the theme of male responsibility and encourages boys to view male strength as resulting from personal character, values, and wise decision making rather than physical traits.

This study of *Wise Guys* in Iowa provides the most definitive evidence to date on the effectiveness of the curriculum. An earlier study by Gruchow and Brown (2011) examined the impacts of *Wise Guys* among middle school students in Guilford County, North Carolina. The study found some evidence of favorable program effects, particularly on measures of boys' knowledge and attitudes. However, the study's relatively small sample size and high rate of sample attrition weakened the quality of its causal evidence. Other studies have examined the impacts of *Wise Guys* by comparing boys' outcomes before and after they participated in the program, or by comparing groups of students that might differ in ways other than their participation in *Wise Guys* (Gottsegen and Philliber 2001; Child Welfare League of America 2003; Herrman et al. 2016). Although these studies might provide suggestive evidence on the impacts of *Wise Guys*, more definitive evidence requires an experimental research design.

Implementing *Wise Guys* in Iowa

In 2010, staff from the Iowa Department of Public Health identified *Wise Guys* as one of three teen pregnancy prevention curricula the agency planned to support with Iowa's state PREP grant. In Iowa, PREP provides federal block grant funding for programs that provide education on abstinence, contraception, and associated adulthood preparation subjects (Zief et al. 2013). PREP is administered at the federal level by ACF in HHS. In preparing its initial PREP grant application, the Iowa Department of Public Health had formed an *ad hoc* advisory council comprising agency representatives and community members. With guidance from the council, the agency identified *Wise Guys* along with two other widely implemented teen pregnancy prevention curricula—*Teen Outreach Program (TOP)* and *Sisters, Informing, Healing, Living, & Empowering (SiHLE)*—as the three curricula the state planned to implement with PREP funding. With guidance from the council, the agency also planned to target programming to youth in counties with the highest risk of teen pregnancy.

After Iowa had received its initial PREP grant, staff from the Iowa Department of Public Health sponsored a competitive application process to identify and fund local community-based

agencies to implement *Wise Guys* in targeted high-risk counties of the state. In 2011, the Department selected three agencies for funding: (1) Bethany for Children & Families, (2) Women's Health Services of Eastern Iowa, and (3) Planned Parenthood of the Heartland. Each agency had responsibility for delivering *Wise Guys* in a different county. Bethany received funding to implement *Wise Guys* in middle schools in and near the city of Davenport in Scott County, on the eastern border of Iowa. Women's Health Services focused on students in Clinton County, a more rural county directly north of Scott County. Planned Parenthood of the Heartland received funding to serve youth in the city of Council Bluffs in Pottawattamie County, on the western border of the state.

Through conversations with the PREP program coordinator in the Iowa Department of Public Health, members of the Mathematica study team identified Bethany's implementation of *Wise Guys* in Davenport middle schools as a particularly promising opportunity for a rigorous evaluation of the program. Bethany is a nonprofit organization that provides a range of social services for children and families in eastern Iowa and western Illinois. The organization has a long history of delivering teen pregnancy prevention curricula in local schools and through after-school programs (Kisker and Murphy 2016). Of the three community-based agencies that received PREP funding for *Wise Guys* in Iowa, Bethany planned to serve the most students. As discussed later in this report, Bethany's plan to implement the program as a voluntary elective class in Davenport middle schools also created a viable setting for conducting a random assignment program impact study.

Bethany planned to deliver *Wise Guys* in six Davenport middle schools as a supplement to the regular school curriculum. Although the schools did not have specific requirements to provide education on sexuality or reproductive health, they all had a history of providing at least some education on these topics, typically as part of a required science or health class (Kisker and Murphy 2016). Bethany saw *Wise Guys* as an opportunity to supplement the regular school curriculum with a voluntary, elective class designed specifically for boys. For most schools, the planned dosage of *Wise Guys* matched or exceeded the amount of education boys received on these topics from the regular school curriculum (Kisker and Murphy 2016).

To help ensure that boys could regularly attend the *Wise Guys* sessions, Bethany planned to offer the program during the regular school day, rather than as an after-school program. Some schools planned to offer *Wise Guys* during an elective or free period. Other schools planned to pull students from their regular school schedule to attend *Wise Guys*. To minimize the number of times a student missed any given class period, the schools planned to vary the time of the *Wise Guys* classes from week to week. For example, in one school, a school counselor set up a rotating schedule at the start of each semester and shared the planned schedule with the relevant teachers. In another school, a school counselor informed teachers of the *Wise Guys* schedule at the start of each week and helped pull students from their classes at the designated times. Bethany also wanted the program to include a mix of higher- and lower-risk boys. Staff felt that having such a mix would improve the quality of the group interactions, as lower-risk boys could model behavior for those at higher risk. To help achieve this desired mix of students, Bethany planned to work with school staff in each school to identify the boys asked to participate.

Bethany made three planned adaptations to the standard *Wise Guys* curriculum. First, to meet federal grant requirements for the PREP funding, the Iowa Department of Public Health

provided Bethany and all other funded agencies in the state with three supplemental sessions, on healthy life skills, adolescent development, and healthy relationships. Bethany added these supplemental sessions to the standard *Wise Guys* curriculum. Second, to integrate the supplemental sessions, Bethany changed the order of one *Wise Guys* session so that the *Wise Guys* session on dating violence occurred immediately before the supplemental session on healthy relationships. Both the Iowa Department of Public Health and the *Wise Guys* curriculum distributor approved of this change in the order of sessions. Third, although not required by the grant, Bethany added a celebration session to the end of the program to recap key messages and recognize boys for completing the program.

With these planned adaptations, the resulting program had 14 sessions, each designed to cover a 40- to 60-minute class period (Table 1). The program began with the sessions from the standard *Wise Guys* curriculum, then covered the supplemental sessions provided by the Iowa Department of Public Health, and ended with a celebration session. In each school, Bethany planned to deliver the sessions on average once a week for 14 weeks. This schedule enabled Bethany to deliver the full program in each school up to twice per year—once in the fall semester and again in the spring.

Table 1. Overview of planned *Wise Guys* sessions

| Session | Objectives |
|--|---|
| Orientation, myself | Set expectations for the program and explore issues of self-esteem and confidence |
| Personal and family values | Help participants articulate and identify influences on their personal values |
| Communication and masculinity | Identify and practice effective communication skills; discuss the concept of <i>masculinity</i> and what it means to be a male |
| Sexuality | Provide information on the physical changes that occur during puberty; discuss the meaning of <i>sexuality</i> |
| Abstinence and contraceptives | Discuss abstinence as the only risk-free method of staying safe; identify the advantages and disadvantages of other contraceptive methods |
| Sexually transmitted infections (STIs) | Provide information on types of STIs and how they are transmitted |
| Goal setting | Introduce the importance of setting goals and discuss how unintended pregnancy and STIs can alter life plans |
| Decision making | Identify and practice effective decision-making skills |
| Parenthood | Identify the roles and responsibilities of fatherhood and how having a baby can affect a teen's life |
| Stress and mental health ^a | Discuss how stress can affect mental health and how to effectively manage stress |
| Dating violence | Identify and discuss the signs and risks of dating violence and unhealthy relationships |
| Healthy relationships ^a | Identify the features of healthy relationships and discuss how to achieve them |
| Social media ^a | Discuss the risks of social media and how to stay safe |
| Celebration | Review highlights of the program and recognize youth for participating |

^a Sessions supplemental to *Wise Guys* supplied by the Iowa Department of Public Health.

Evaluation design

To test the effectiveness of Bethany's implementation of *Wise Guys* in Davenport middle schools, the study team used a random assignment evaluation design. Boys assigned to the treatment group could attend the *Wise Guys* sessions as an elective supplement to the regular school curriculum. Boys assigned to the control group could not attend *Wise Guys* but continued to receive the sexuality and reproductive health education provided as part of the regular school curriculum. Boys in both research groups completed a baseline survey upon enrolling in the study and follow-up surveys one and two years later. Because the boys were assigned to the two research groups at random, any difference in outcomes between the two groups represents an unbiased estimate of the effect of adding *Wise Guys* as a supplement to the regular school curriculum.

Recruitment for the study occurred over three consecutive school years from 2013–2014 to 2015–2016. To enroll in the study, boys had to receive written permission from a parent or guardian and complete a baseline survey. The study team worked with Bethany and school staff to distribute and collect permission forms at the start of each semester. The study team had lead responsibility for administering the baseline surveys (described later). Bethany had initially planned to serve a mix of 7th-grade students in some schools and 8th-grade students in others. To standardize the recruiting process across schools, the study team asked Bethany to recruit only 7th-grade students. Because of the need to form a control group, Bethany had to recruit more students in each school than initially planned. To help boost the overall sample size for the study, the study team also asked Bethany to expand study recruiting and programming from a total of six to seven schools. Five of the seven schools were located within Davenport city limits. Two other schools were located in more rural areas just outside the city.

The study team designed the random assignment procedures to fit with Bethany's plans for implementing the program. For each school, the study team conducted random assignment either once or twice per academic year, depending on the school's enrollment and the number of students interested in the program. A first round of random assignment occurred in September to select the boys offered *Wise Guys* in fall semester. For schools with a sufficient number of interested students, a second round of random assignment occurred in January of each year to select a different group of boys offered *Wise Guys* in spring semester. To help ensure that each *Wise Guys* group had Bethany's desired mix of higher- and lower-risk students, the study team asked Bethany staff and school counselors to assign students to high-, medium-, and low-risk categories before each round of random assignment. Whenever possible, the study team accounted for these risk categories when conducting random assignment, by selecting students for the treatment group from each of the three categories.

Over the three-year study enrollment period, Bethany enrolled 736 boys in the study and delivered *Wise Guys* to 31 groups of students as part of the study. The 736 boys represented about 40 percent of all 7th grade boys in the study schools (Kisker and Murphy 2016). Of the total sample of 736 boys, the study team randomly assigned 417 boys (57 percent) to the treatment group and 319 boys (43 percent) to the control group. The two research groups had different numbers of boys because each semester the study team had to select a treatment group large enough to provide Bethany sufficient numbers of boys to start the new *Wise Guys* groups.

The appendix to this report contains additional details on the study enrollment and random assignment procedures.

The study team administered the baseline surveys and most of the follow-up surveys in school during the regular school day. The team designed the surveys as self-administered paper-and-pencil questionnaires that students could complete individually in their classrooms. For the one-year follow-up survey on which this report is based, the team administered a small proportion of surveys (about 3 percent) by telephone for students who had moved from the area or were otherwise unavailable to complete the survey in school. Using these methods, the study team achieved a response rate for the one-year follow-up survey of 94 percent for the treatment group and 95 percent for the control group. Data collection for the two-year follow-up survey was ongoing at the time the study team conducted the analysis for this report. The final impact report will contain the study team's analysis of the two-year follow-up.

For the purpose of the analysis presented in this report, the study team assessed the early impacts of the program for outcomes measured at the one-year follow-up survey (Table 2). As discussed earlier in the report, some of the *Wise Guys* sessions provide factual information on human sexuality, pregnancy, and the transmission of STIs, whereas other sessions address broader adolescent development topics, such as setting goals, communication skills, healthy relationships, and identifying personal values and beliefs. The study team sought to include outcomes reflecting both types of sessions. The team designated delayed sexual initiation as the study's confirmatory outcome—meaning that whether the program has an impact on that outcome represents the study's central test of overall effectiveness. Given the study's focus on a relatively young sample of 7th-grade boys, the study team did not expect the potential for an impact on delayed sexual initiation until the time of the longer-term two-year follow-up survey in 9th grade (Wood et al. 2015). For the shorter-term one-year follow-up that is the focus of this report, the study team expected that boys in both research groups would be unlikely to report having ever had sexual intercourse. Nationally representative survey data suggest that no more than 10 percent of boys nationwide have first sexual intercourse before their 14th birthday (Finer and Philbin 2013). In Iowa, the rate was about 5 percent at the time of the one-year follow-up survey (as shown later in this report).

All the impact findings presented in the main body of this report focus on the program's impact for the overall sample rather than subgroups of students. By focusing on the overall sample, the study team made use of all available data and maximized the sample size for the analysis. Focusing on the overall sample also limited the number of statistical tests required for the analysis, an important issue to help avoid finding an impact of the program just by chance (Schochet 2009). However, because the study team intentionally designed the *Wise Guys* groups to include a mix of higher- and lower-risk students, the study team also estimated impacts separately for different student risk groups. In addition, the study team examined whether the program's impacts varied for the five schools located within Davenport city limits compared with the two schools located in more rural areas just outside the city. The appendix to this report includes results and additional details on how the study team conducted these subgroup analyses.

Table 2. Outcome measures

| Domain and outcome | Definition |
|--|---|
| Exposure to information | |
| Attended classes on healthy relationships and reproductive health topics | Series of five continuous variables: student report of the number of classes he attended in the past 12 months on each of the following five topics: relationships, dating, or marriage; abstinence; birth control methods; where to get birth control; and STIs |
| Knowledge | |
| Knowledge of contraception and STIs | Continuous index variable: sum of correct responses to 10 knowledge questions—for example, “If condoms are used correctly and consistently, how much can they decrease the risk of pregnancy?” and “Can a woman give HIV to a man if they are having sexual intercourse without a condom?”; questions were adapted from Goldstein et al. (2010) and Trenholm et al. (2007); values on the index range from 0 to 10, with higher values indicating greater knowledge |
| Attitudes | |
| Support for abstinence | Continuous scale variable: average of responses to four survey questions; each question asked students to report their level of agreement with a statement such as “At your age right now, having sex would create problems” or “Having sex is a good thing for you to do at your age”; questions were adapted from Smith et al. (2012); values on the scale range from 1 to 4, with higher values indicating greater support for abstinence |
| Support for condom use | Continuous scale variable: average of responses to two survey questions that asked students to report their level of agreement with the following two statements: “Condoms should always be used if a person your age has sex” and “Condoms are important to make sex safer;” questions were adapted from Smith et al. (2012); values on the scale range from 1 to 5, with higher values indicating greater support for condom use among sexually active youth |
| Motivation and intentions | |
| Motivation to avoid teen pregnancy | Single-item scale variable indicating how the respondent would feel if he got someone pregnant; values on the scale range from 1 (very happy) to 5 (very upset), with higher values indicating greater motivation to avoid teen pregnancy |
| Intentions to have sexual intercourse | Binary variable: equals 1 if student reported intentions to have sexual intercourse in the next year; equals 0 if student did not report intentions to have sexual intercourse in the next year |
| Relationship attitudes | |
| Support for respect in romantic relationships | Single-item scale variable indicating the level of agreement with the statement: “A good dating relationship is based on mutual respect, not just sex;” values on the scale range from 1 to 4, with higher numbers reflecting more agreement with the statement |
| Disapproval of dating violence | Single-item scale variable indicating the level of disapproval with the following statement: “There are times when hitting or pushing between people who are dating is okay;” the question was adapted from Foshee et al. (1992); values on the scale range from 1 to 4, with higher numbers reflecting greater disapproval |

| Domain and outcome | Definition |
|---------------------------------------|--|
| Goal setting | |
| Goals and plans for future career | Multiple-item continuous scale variable: average of responses to the following two survey questions: (1) "I have specific goals for my future career," and (2) "I have a plan for achieving my future career goals;" questions were adapted from Carson and Bedeian (1994) and Diemer and Blustein (2007); values on the scale range from 1 to 4, with higher values indicating greater perceived confidence in goals set to obtain a future career |
| Communication skills | |
| Communication with parents | Multiple-item continuous scale variable: average of responses to six survey questions that asked students to report how often they talked with their mother or father about topics such as "how things are going with your school work or grades" and "romantic relationships and dating;" questions were adapted from Smith et al. (2012); values on the scale range from 1 to 4, with higher values indicating greater communication with parents. |
| Perceived conflict management ability | Multiple-item continuous scale variable: average of responses to five survey questions on which students rated their ability to manage conflict by doing things such as "admit that you might be wrong during a disagreement," "avoid saying things that could turn a disagreement into a big fight," and "accept another person's point of view even if you don't agree with it;" questions were adapted from Buhrmester et al. (1998); values on the scale range from 1 to 4, with higher values indicating greater perceived communication skills when involved in a disagreement with another person |
| Delayed sexual initiation | |
| Ever had sexual intercourse | Binary variable: equals 1 if student reported ever having had vaginal intercourse; equals 0 if student reported never having had vaginal intercourse |

Study sample

The boys recruited for the study were racially diverse and relatively disadvantaged (Table 3). About half were non-Hispanic whites (51 percent). The others were mostly Hispanic (22 percent) or African American (14 percent). Slightly less than half the boys (48 percent) reported living with both biological parents, compared with 66 percent among all children ages 12 to 17 nationally (U.S. Census Bureau 2014). Although the study did not ask boys to report their families' economic or poverty status, school records data showed that 56 percent of students in the study schools were eligible for free or reduced-price lunch, compared with about half of all middle school students nationwide. As discussed earlier, Bethany staff and school counselors assigned students to different risk levels before each round of random assignment. About 3 in 10 boys were assigned to the highest risk group. All the boys were in 7th grade at the time they enrolled in the study.

Table 3. Participants' baseline characteristics

| Measure | Percentage |
|--|------------|
| Demographics | |
| Age | |
| 12 or younger | 80 |
| 13 or older | 20 |
| Race or ethnicity | |
| White, non-Hispanic | 51 |
| African American, non-Hispanic | 14 |
| Hispanic | 22 |
| Other | 13 |
| Identified as high risk by school counselors | 29 |
| Family relationships | |
| Lives with both biological parents most or all of the time | 48 |
| Talked with mother or father in the past three months about: | |
| Schoolwork or grades | 94 |
| A personal problem | 61 |
| Avoiding drugs or alcohol | 52 |
| Romantic relationships or dating | 47 |
| Whether you should have sex at this time in your life | 24 |
| How to resist pressure to have sex | 18 |
| Information and knowledge | |
| Attended a class in the prior year on: | |
| Sexually transmitted infections (STIs) | 19 |
| Abstinence | 13 |
| Relationships, dating, or marriage | 12 |
| Methods of birth control | 11 |
| Where to get birth control | 5 |
| Correctly answered knowledge question on: | |
| Condoms and risk of pregnancy | 34 |
| Condoms and risk of getting HIV | 28 |
| Birth control pills and risk of pregnancy | 27 |
| Birth control pills and risk of getting HIV | 13 |
| Romantic relationships and risk behaviors | |
| Currently in a dating relationship | 26 |
| Ever had sexual intercourse | 5 |
| Smoked in past 30 days | 3 |
| Drank alcohol in past 30 days | 4 |
| Used marijuana in past 30 days | 2 |
| Sample size | 736 |

Source: Baseline survey conducted by Mathematica Policy Research.

At the time of study enrollment, the boys reported relatively limited exposure to information on reproductive health topics and limited knowledge of the effectiveness of contraceptive methods (Table 2). About one in five students (19 percent) reported having had a class on STIs in the past year. Fewer students reported having had a class on abstinence (13 percent); relationships, dating, or marriage (12 percent); methods of birth control (11 percent); or where to get birth control (5 percent). When asked a series of four knowledge questions about the effectiveness of condoms and birth control pills in reducing the risk of pregnancy and HIV, no more than 34 percent of the boys answered any one question correctly.

Consistent with their young age, the boys reported relatively limited involvement in sexual activity and other risk behaviors at the time of study enrollment. Only 5 percent reported having ever had sexual intercourse, a rate in line with the national average for this age group (Finer and Philbin 2013). Few boys reported smoking cigarettes (3 percent), drinking alcohol (4 percent), or using marijuana (2 percent) in the past 30 days. About one in four boys (26 percent) said they were currently in a dating relationship.

Program implementation

The process study of *Wise Guys* found that Bethany staff generally adhered to their implementation plan (Kisker and Murphy 2016). A single team of two facilitators—an African American male and a white female—delivered the *Wise Guys* sessions in all seven study schools. Both facilitators had at least a bachelor's degree in a relevant field and prior experience working together to deliver programming related to preventing teen pregnancy. The facilitators attended a two-day training on *Wise Guys* sponsored by the Iowa Department of Public Health and led by the curriculum distributor. In addition, the PREP program coordinator from the Iowa Department of Public Health provided ongoing technical assistance to the Bethany facilitators through monthly telephone calls and biannual site visits. According to classroom logs completed by the two Bethany facilitators, the facilitators offered 96 percent of planned sessions during the first two years of the program.

The program sessions were generally well attended. Almost all boys (97 percent) assigned to the treatment group in the first two years of the study attended at least one *Wise Guys* session (Kisker and Murphy 2016). On average, the boys attended 77 percent of all sessions. To promote attendance, each week the facilitators drew a name from among the boys in attendance for a \$5 gift card. In focus groups, boys cited practical issues such as scheduling conflicts or illness as the most common reasons for missing a session, rather than lack of interest. Most boys said they enjoyed the program and wished it had more sessions (Kisker and Murphy 2016).

As expected for a program offered during the regular school day, scheduling conflicts and limited class time were the two main challenges the facilitators faced. School weather closures, holidays, student testing, and school assemblies forced Bethany to cancel some scheduled *Wise Guys* sessions. When Bethany cancelled a scheduled session, the facilitators either omitted a session from the program or combined sessions into one class period. In schools with shorter class periods, the facilitators reported having to rush through some program activities or not having enough class time to fully answer all boys' questions. Across the seven study schools, class periods ranged in length from about 40 to 60 minutes (Kisker and Murphy 2016). In part to address the challenges of scheduling conflicts and limited class time, after the first year of study,

Bethany received approval from the Iowa Department of Public Health to reduce the number of planned sessions from 14 to 13, by combining the two sessions on setting goals and making decisions. This change made it easier for Bethany to adjust the program schedule if needed and complete the program within a single semester as intended. The *Wise Guys* curriculum distributor approves of combining the sessions on setting goals and making decisions for programs facing time constraints, because of the similarity in content of the two sessions (Kisker and Murphy 2016).

Boys perceived the program as a meaningful supplement to the sex education typically offered in these schools (Kisker and Murphy 2016). In focus groups, boys expressed that the content of the *Wise Guys* sessions went beyond the information they received in their regular science or health classes. For example, as one focus group participant explained, “Some of the topics we talk about are the same, but we learn more in *Wise Guys*; they go deeper into it” (Kisker and Murphy 2016). Some boys also expressed more comfort discussing potentially sensitive and personal topics in the *Wise Guys* groups than in their regular classes. They appreciated the environment of smaller boys-only groups and having the groups led by adults other than their regular school teachers.

Program impacts

The one-year impact findings test whether Bethany’s implementation of *Wise Guys* in Iowa successfully added to the sexuality and reproductive health education boys received from the regular school curriculum. At the one-year follow-up, boys in the *Wise Guys* group had finished their participation in the program, but they were still an age at which few boys had become sexually active. As a result, the impact findings presented in this section of the report focus primarily on shorter-term or more proximate outcomes, such as knowledge, attitudes, and exposure to information on healthy relationships and reproductive health topics. This section of the report also presents evidence on rates of sexual activity at the one-year follow-up. However, given the age of the study participants, the program was unlikely to have an impact on sexual activity at the one-year follow-up.

***Wise Guys* increased boys’ exposure to information on healthy relationships and reproductive health topics**

At the one-year follow-up, boys in the *Wise Guys* group reported having attended more classes on healthy relationships and reproductive health topics than boys in the control group (Table 4). On average, boys in the *Wise Guys* group reported attendance at two to three classes on abstinence; two to three classes on methods of birth control; one to two classes on where to get birth control; two to three classes on relationships, dating, or marriage; and two to three classes on STIs. As expected, boys in the control group also reported having attended classes on these topics. For each topic, however, the control group boys reported about one fewer class than boys in the *Wise Guys* group.

Table 4. Impacts of *Wise Guys* on exposure to information

| Measure | <i>Wise Guys</i> group | Control group | Impact | Effect size |
|---|------------------------|---------------|--------|-------------|
| Number of classes attended in the prior year on: | | | | |
| Abstinence from sex | 2.7 | 1.6 | 1.1 ** | 0.34 |
| Methods of birth control | 2.4 | 1.5 | 0.9 ** | 0.32 |
| Where to get birth control | 1.7 | 1.1 | 0.7 ** | 0.24 |
| Relationships, dating, or marriage | 2.2 | 1.5 | 0.8 ** | 0.26 |
| Sexually transmitted infections (STIs) | 2.8 | 1.9 | 0.9 ** | 0.29 |
| Sample size | 392 | 302 | | |

Sources: Baseline and one-year follow-up surveys conducted by Mathematica Policy Research.

Note: The numbers in the columns labeled *Wise Guys* group and Control group are regression-adjusted predicted values.

**/+ Impact estimates are statistically significant at the .01/.05/.10 levels, respectively, two-tailed test.

At the one-year follow-up, *Wise Guys* increased boys' knowledge of contraception and STIs, and increased boys' support for condom use among sexually active students

At the one-year follow-up, boys in the *Wise Guys* group knew more about contraception and STIs than did control group boys (Table 5). Boys in the *Wise Guys* group answered an average of 5.6 of 10 knowledge questions correctly, compared with an average of 4.8 correct responses for boys in the control group. Looking at boys' answers to each of the 10 individual knowledge questions, boys in the *Wise Guys* group were more likely to answer correctly on 6 of the 10 questions (shown in the appendix). For example, 70 percent of boys in the *Wise Guys* group answered correctly that it is possible to get an STI from having oral sex, compared with 59 percent of boys in the control group.

Table 5. Impacts of *Wise Guys* on knowledge and attitudes

| Measure | <i>Wise Guys</i> group | Control group | Impact | Effect size |
|--|------------------------|---------------|--------|-------------|
| Knowledge of contraception and sexually transmitted infections (STIs) index (range: 0 to 10) | 5.6 | 4.8 | 0.9 ** | 0.34 |
| Support for abstinence scale (range: 1 to 4) | 3.3 | 3.3 | 0.0 | 0.07 |
| Support for condom use scale (range: 1 to 5) | 4.6 | 4.4 | 0.2 ** | 0.22 |
| Sample size | 392 | 302 | | |

Sources: Baseline and one-year follow-up surveys conducted by Mathematica Policy Research.

Note: The numbers in the columns labeled *Wise Guys* group and Control group are regression-adjusted predicted values.

**/+ Impact estimates are statistically significant at the .01/.05/.10 levels, respectively, two-tailed test.

Boys in the *Wise Guys* group were more likely than control group boys to agree with statements indicating that sexually active youth should use condoms (Table 5). On a scale ranging from 1 to 5, with higher values indicating more agreement, boys in the *Wise Guys* group had an average scale score of 4.6, compared with an average score of 4.4 for boys in the control group. The difference in average scores is statistically significant and corresponds to an effect size of 0.22. In contrast, boys in both research groups were equally likely to agree with statements indicating that people their age should not have sex. On a scale ranging from one to

four, with higher values indicating more agreement, boys in both groups had an average score of 3.3.

At the one-year follow-up, *Wise Guys* did not change boys' motivation to avoid getting someone pregnant, intentions to have sex, relationship attitudes, goal-setting ability, or communication skills

On average, boys in both research groups expressed a high level of motivation to avoid getting someone pregnant (Table 6). On a five-point scale, the average score was 3.9 for boys in the *Wise Guys* group and 3.7 for boys in the control group, a difference that was not statistically significant. An average score of 4.0 on the scale corresponds with a boy saying he would feel upset if he got someone pregnant at this age. When asked if they intended to have sexual intercourse in the next year if they had the chance, fewer than one in five boys in both research groups said they definitely or probably would have sex (17 percent and 19 percent, respectively).

Table 6. Impacts of *Wise Guys* on motivation and intentions, relationship attitudes, goal setting, and communication skills

| Measure | <i>Wise Guys</i> group | Control group | Impact | Effect size |
|---|------------------------|---------------|--------|-------------|
| Motivation to avoid teen pregnancy scale (range: 1 to 5) | 3.9 | 3.7 | 0.2 | 0.11 |
| Intends to have sexual intercourse in the next year (%) | 17 | 19 | -2 | -0.05 |
| Support for respect in romantic relationships scale (range: 1 to 4) | 3.5 | 3.5 | 0.0 | 0.00 |
| Disapproval of dating violence scale (range: 1 to 4) | 3.5 | 3.4 | 0.1 | 0.10 |
| Goals and plans for future career scale (range: 1 to 4) | 3.4 | 3.4 | 0.0 | 0.03 |
| Communication with parents scale (range: 1 to 4) | 2.0 | 1.9 | 0.0 | 0.07 |
| Perceived conflict management ability scale (range: 1 to 4) | 2.5 | 2.4 | 0.1 | 0.10 |
| Sample size | 392 | 302 | | |

Sources: Baseline and one-year follow-up surveys conducted by Mathematica Policy Research.

Note: The numbers in the columns labeled *Wise Guys* group and Control group are regression-adjusted predicted values.

**/*/+ Impact estimates are statistically significant at the .01/.05/.10 levels, respectively, two-tailed test.

Similarly, boys in both research groups recognized the signs of healthy romantic relationships and expressed a high level of confidence in their ability to plan for and achieve their goals. On a four-point scale measuring support for respect in romantic relationships, boys in both research groups had an average score of 3.5. When asked if hitting or pushing between people who are dating is acceptable, boys in both research groups were equally likely to disapprove. On a four-point scale measuring future career goals and plans, boys in both research groups had an average score of 3.4.

At the one-year follow-up, boys in both research groups reported similar levels of communication with their parents and similar perceptions of their conflict management skills. On a four-point scale measuring frequency of communication with parents, the average score was 2.0 for boys in the *Wise Guys* group and 1.9 for boys in the control group. An average score of 2.0 on the scale corresponds with a boy saying he talked with his parents about such topics as personal problems or how things are going in school about once or twice a week. On a four-point

scale measuring perceived conflict management skills, the average score was 2.5 for boys in the *Wise Guys* group and 2.4 for boys in the control group. For both outcomes, the small difference between groups was not statistically significant.

As expected, boys in both research groups were unlikely to report having ever had sexual intercourse at the time of the one-year follow-up survey because of their young ages

Only 5 percent of boys in the *Wise Guys* group and 6 percent of boys in the control group reported having ever had sexual intercourse at the time of the one-year follow-up (Table 7). The small one-percentage point difference between groups was not statistically significant. As discussed earlier in this report, the longer-term two-year follow-up survey will enable the study team to analyze whether an impact on this outcome emerges as the boys enter high school and the prevalence of sexual activity increases.

Table 7. Impacts of *Wise Guys* on delayed sexual initiation

| Measure | <i>Wise Guys</i> group | Control group | Impact | Effect size |
|---------------------------------|------------------------|---------------|--------|-------------|
| Ever had sexual intercourse (%) | 5 | 6 | -1 | -0.04 |
| Sample size | 392 | 302 | | |

Sources: Baseline and one-year follow-up surveys conducted by Mathematica Policy Research.

Note: The numbers in the columns labeled *Wise Guys* group and Control group are regression-adjusted predicted values.

***/+ Impact estimates are statistically significant at the .01/.05/.10 levels, respectively, two-tailed test.

Discussion

Bethany's implementation of *Wise Guys* in Davenport middle schools provided an opportunity to expand available evidence on programs to help adolescent males make responsible decisions about their sexual behavior and avoid early entry into fatherhood. *Wise Guys* is one of a few teen pregnancy prevention curricula designed specifically for adolescent males. Although the curriculum was first developed nearly 30 years ago and remains widely implemented, there is little definitive evidence on its impacts. The process study of *Wise Guys* in Iowa found that the program was generally well implemented (Kisker and Murphy 2016). For the impact study, Bethany recruited a large sample of more than 700 boys and delivered the program up to twice per year in each of seven schools in and around Davenport. The combination of sound program implementation and a large sample size give this study a strong basis for drawing conclusions about the impacts of the program.

The impact findings after one year confirm that *Wise Guys* provided a meaningful supplement to the sexuality and reproductive health education typically offered in these schools. Bethany designed the program to supplement, not replace, the education offered on these topics as part of the regular school curriculum. By offering the program as a voluntary elective class during the regular school day, Bethany also helped ensure that boys could regularly attend the program sessions. The impact findings for the one-year follow-up survey are consistent with these plans. Boys in the *Wise Guys* group reported greater exposure than control group boys to information on healthy relationships and reproductive health topics. Boys in the *Wise Guys* group also knew more about contraception and STIs than did control group boys, and they were more likely to agree with statements indicating that sexually active youth should use condoms.

After one year, the program did not change any of the other outcomes examined. *Wise Guys* aims to promote male responsibility in part by providing instruction on broader adolescent development topics, such as setting goals, communication skills, healthy relationships, and identifying personal values and beliefs. The study team sought to address the program's impacts on these outcomes by including in the analysis some measures of boys' motivation and intentions, goal setting, communication skills, and relationship attitudes. For most of these outcomes, boys in both research groups expressed attitudes and perceptions that align with those promoted by the *Wise Guys* sessions. For example, boys in both groups expressed a high level of motivation to avoid getting someone pregnant and a high level of confidence in their ability to plan for and achieve their goals. In addition, boys in both groups recognized the signs of healthy romantic relationships and reported similar levels of communication with their parents and similar perceptions of their conflict management skills. As a result, the analysis found that group differences in these outcomes were small and not statistically significant.

Data from the study's longer-term two-year follow-up survey will provide a more definitive test of the impacts of the program. Especially when delivered to middle school students, programs such as *Wise Guys* are designed to work as preventative interventions. They aim to prevent youth from developing unhealthy attitudes and behaviors that can emerge as students complete middle school and enter high school. Given this design, it is possible that Bethany's implementation of *Wise Guys* in Iowa might show impacts on a broader range of outcomes as the boys age and their attitudes toward teen parenthood and responsible sexual behavior could change. In addition, data from national surveys show that rates of sexual activity rise sharply in high school (Kann et al. 2016). With data from the two-year follow-up survey in Iowa, it will be possible to assess the central question of whether *Wise Guys* delayed sexual initiation for these boys.

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Technical Appendix

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This appendix is a technical supplement to the early impacts report of the implementation of *Wise Guys* in Davenport, Iowa, conducted as part of the Personal Responsibility Education Program (PREP) Multi-Component Evaluation. The appendix provides additional details on the impact study design, methods, and findings. The first section of the appendix describes the methods used to recruit boys for the study and randomly assign them to the treatment and control groups. The second section describes the survey administration procedures and response rates. The third and fourth sections of the appendix describe the outcome measures and analytic methods, respectively. The fifth section presents impact findings for key subgroups, and the last section presents impact findings for secondary outcomes not included in the main body of the report.

Recruitment and random assignment

As discussed earlier in this report, recruitment for the study occurred over three consecutive school years from 2013–2014 to 2015–2016. At the start of each semester, the study team from Mathematica Policy Research worked with staff from Bethany and the participating schools to distribute permission forms to the parents or guardians of 7th-grade boys in seven Davenport-area middle schools. In addition to helping distribute the permission forms, Bethany staff made themselves available to school staff and parents to answer questions about the study and program. Bethany also encouraged participation by hosting assemblies in which former participants talked about their experiences in *Wise Guys*. Only those boys who received written permission from a parent or guardian were eligible to participate in the study. The New England Institutional Review Board approved the study's procedures and permission form.

For each of the seven participating schools, the study team conducted random assignment either once or twice per academic year, depending on the school's enrollment and the number of boys who received written permission from a parent or guardian. The team conducted a first round of random assignment in September of each academic year to select the boys offered *Wise Guys* in the fall semester. For schools with a sufficient number of students, the team conducted a second round of random assignment in January of each year to select a different group of boys offered *Wise Guys* in the spring semester. The team repeated this process for each school over the three consecutive academic years of the study.

This approach to random assignment resulted in a blocked evaluation design (Schochet 2016). A combination of school, semester (fall or spring), and academic year defined each block. Within each block, the study team randomly assigned boys to either a treatment group that could participate in the *Wise Guys* sessions or a control group that could not. By the end of the third academic year, the study team had conducted random assignment for 31 separate blocks, each ranging in size from 11 to 50 boys. In the smallest blocks, the study team had to randomly assign a relatively larger proportion of boys to the treatment group than control group, to give Bethany a sufficient number of boys to start a new *Wise Guys* group. In the larger blocks, the study team assigned the boys more evenly between the treatment and control groups. Per the group sizes recommended by the *Wise Guys* curriculum distributor, the team assigned no more than 25 boys to any one *Wise Guys* group. In total across the 31 blocks, the study team randomly assigned 417 boys to the treatment group and 319 boys to the control group. As discussed later in this appendix, the study team accounted for the blocked design in the regression models used to estimate the impacts of the program.

To help ensure that each *Wise Guys* group had Bethany's desired mix of higher- and lower-risk students, the study team asked Bethany program staff to work with the student counselors in each school to group boys into high-, medium-, and low-risk categories before each round of random assignment. The counselors made these assessments on a personal, subjective basis, without following a formal protocol or assessment tool. In conducting the analyses presented in this report, the study team found a strong correlation between the risk levels assigned by the school counselors and boys' self-reported risk behaviors on the study surveys. Whenever possible, the study team accounted for the boys' risk levels when conducting random assignment by selecting boys for the treatment group from each of the three categories. During the three years of sample enrollment, schools did not always recruit enough boys in a given semester to allow for an intentional mix of students across risk categories. In these cases, the study team conducted random assignment by combining multiple risk categories into larger groups.

Data from the baseline survey show that the random assignment process yielded groups of boys who were similar at baseline (Table A.1). The groups were similar on the demographic characteristics of age, race and ethnicity, and residence with both biological parents. The groups also had similar baseline values on all of the outcome measures examined in this report.

Students in both research groups continued to receive the sex education provided as part of the regular school curriculum, which varied from school to school (Table A.2). For example, one school offered one week of sexuality education to 7th graders as part of a required nine-week health class. Another school provided two or three class periods on pregnancy and sexually transmitted infections (STIs) as part of a broader unit on human growth and development. The schools had no standardized or mandated district-wide health curriculum. Because Bethany offered the *Wise Guys* sessions as part of a voluntary elective class, there was relatively little risk of control group boys mistakenly attending the *Wise Guys* sessions. After each round of random assignment, the study team provided Bethany a roster of boys selected for *Wise Guys*, which Bethany used to track attendance at the *Wise Guys* sessions. It is possible that control group boys received second-hand information about the *Wise Guys* sessions from friends or classmates who were selected for the program. However, without direct exposure to the *Wise Guys* sessions or Bethany facilitators, it is unlikely that this second-hand information would have changed boys' attitudes or behaviors (Keogh-Brown et al. 2007).

Table A.1. Baseline characteristics for the full sample

| Measure | Wise Guys group | Control group | Difference |
|---|-----------------|---------------|------------|
| Demographics | | | |
| Age (%) | | | |
| 12 or younger | 81 | 81 | 0 |
| 13 or older | 19 | 19 | 0 |
| Race and ethnicity (%) | | | |
| White, non-Hispanic | 49 | 54 | -5 |
| African American, non-Hispanic | 14 | 13 | 1 |
| Hispanic | 22 | 21 | 1 |
| Other | 15 | 12 | 3 |
| Lives with both biological parents most or all of the time (%) | 46 | 51 | -5 |
| Identified as high risk by school counselors (%) | 30 | 29 | 1 |
| Exposure to information | | | |
| Number of classes or sessions attended in the past year on: | | | |
| Relationships, dating, or marriage | 1.32 | 1.32 | 0.01 |
| Abstinence from sex | 1.32 | 1.27 | 0.05 |
| Methods of birth control | 1.35 | 1.30 | 0.05 |
| Where to get birth control | 1.43 | 1.42 | 0.01 |
| Sexually transmitted infections (STIs) | 1.21 | 1.22 | 0.00 |
| Knowledge and attitudes | | | |
| Knowledge of contraception and STIs index (range: 0 to 4) | 1.01 | 1.04 | -0.03 |
| Support for abstinence scale (range: 1 to 4) | 3.38 | 3.35 | 0.03 |
| Support for condom use scale (range: 1 to 5) | 4.39 | 4.32 | 0.07 |
| Motivation and intentions | | | |
| Motivation to avoid a teen pregnancy scale (range: 1 to 5) | 3.91 | 3.95 | -0.03 |
| Intends to have sexual intercourse in the next year (%) | 13 | 12 | 0.00 |
| Relationship attitudes | | | |
| Support for respect in romantic relationships scale (range: 1 to 4) | 3.52 | 3.43 | 0.09 |
| Disapproval of dating violence scale (range: 1 to 4) | 3.49 | 3.46 | 0.03 |
| Goal setting and communication skills | | | |
| Goals and plans for future career scale (range: 1 to 4) | 3.37 | 3.37 | 0.00 |
| Communication with parents scale (range: 1 to 4) | 1.89 | 1.90 | -0.01 |
| Perceived conflict management ability scale (range: 1 to 4) | 2.48 | 2.46 | 0.03 |
| Sexual risk behavior | | | |
| Ever had sexual intercourse (%) | 4 | 5 | -2 |
| Sample size | 417 | 319 | |

Sources: Baseline survey conducted by Mathematica Policy Research.

***/+ Differences are statistically significant at the .01/.05/.10 levels, respectively, two-tailed test.

Table A.2. Timing and dosage of sex education provided in study schools (beyond that provided by *Wise Guys*)

| School | Grade level | Number of sessions |
|----------|-------------|--------------------|
| School A | 7th | 5 |
| School B | 8th | 9 |
| School C | 7th | NA |
| School D | 8th | 10 |
| School E | 7th | 2 or 3 |
| School F | 7th | 20 |
| School G | 6th–8th | NA |

Source: Kisker and Murphy (2016).

NA = Not available; schools were unable to provide information on the number of sessions offered.

Survey administration

For all boys who received permission from a parent or guardian to participate in the study, trained members of the study team administered surveys at three time points: (1) baseline, before random assignment and the start of the program; (2) one year later, about 12 months after the start of the program; and (3) two years later, about 24 months after the start of the program. The study team designed the surveys as paper-and-pencil questionnaires that boys could complete individually during the regular school day. For the one-year follow-up survey on which this report is based, the study team administered a small proportion of surveys by telephone (about 3 percent) for students who had moved from the area or were otherwise unavailable to complete the survey in school. The study team also requested assent from the boys themselves before each round of surveys. Using these methods, the study team achieved a response rate for the one-year follow-up survey of 94 percent for the treatment group and 95 percent for the control group. Data collection for the two-year follow-up survey was ongoing at the time the study team conducted this analysis.

The study team designed the surveys to capture a broad range of demographic and personal characteristics, including boys' exposure to information on reproductive health topics, knowledge of contraception and STIs, views and attitudes toward sexual activity, and involvement in sexual activity and other risk behaviors. To avoid asking boys who were not yet sexually active potentially sensitive questions about contraceptive use and other sexual risk behaviors, the study team designed the survey to have three separate parts. All boys completed Part A of the survey, which asked general questions about demographics, family background, views, attitudes, and knowledge. At the end of Part A, the survey asked boys a single yes or no screening question about whether they had ever had sexual intercourse or oral sex. For boys who answered yes to the screening question, the survey directed them to complete Part B1 of the survey, which contained more detailed questions about sexual activity, contraceptive use, and other risk behaviors. For boys who answered no to the screening question, the survey directed them to instead complete Part B2 of the survey, which included an alternative set of questions. The study team formatted Parts B1 and B2 of the survey to look indistinguishable, so that when administering the survey in a group setting, boys could not tell which part of the survey other

boys were answering. Parts B1 and B2 also began by repeating the screening question from the end of Part A, to confirm boys were responding to the correct section of the questionnaire.

The small amount of nonresponse to the one-year follow-up survey had little material effect on the similarity of boys in the treatment and control groups (Table A.3). When examining baseline demographic and personal characteristics for only those boys who completed a one-year follow-up survey, the study team found two marginally significant differences. First, boys in the *Wise Guys* group were less likely to be white than boys in the control group (49 versus 55 percent). Second, boys in the *Wise Guys* group were more likely than control group boys to agree with statements about the importance of respect in romantic relationships. On a four-point scale, the average score was 3.53 for boys in the *Wise Guys* group and 3.43 for boys in the control group. To adjust for these marginal differences, the study team included race and ethnicity as a control variable in the regression models used to estimate program impacts, as described later in this appendix. In addition, the study team controlled for the marginal baseline difference in respect for romantic relationships in the regression model for that one outcome.

Table A.3. Baseline characteristics for the analytic sample

| Measure | Wise Guys group | Control group | Difference |
|--|-----------------|---------------|------------|
| Demographics | | | |
| Age (%) | | | |
| 12 or younger | 82 | 81 | 1 |
| 13 or older | 18 | 19 | -1 |
| Race and ethnicity (%) | | | |
| White, non-Hispanic | 49 | 55 | -7+ |
| African American, non-Hispanic | 14 | 12 | 2 |
| Hispanic | 23 | 20 | 3 |
| Other | 14 | 12 | 2 |
| Lives with both biological parents most or all of the time (%) | 48 | 52 | -4 |
| Identified as high risk by school counselors | 29 | 29 | 0 |
| Exposure to information | | | |
| Number of classes or sessions attended in the past year on: | | | |
| Relationships, dating, or marriage | 1.32 | 1.33 | -0.01 |
| Abstinence | 1.33 | 1.28 | 0.05 |
| Methods of birth control | 1.35 | 1.31 | 0.04 |
| Where to get birth control | 1.43 | 1.41 | 0.02 |
| Sexually transmitted infections (STIs) | 1.22 | 1.23 | -0.01 |
| Knowledge and attitudes | | | |
| Knowledge of contraception and STIs index (range: 0 to 4) | 0.99 | 1.06 | -0.06 |
| Support for abstinence scale (range: 1 to 4) | 3.40 | 3.39 | 0.01 |
| Support for condom use scale (range: 1 to 5) | 4.40 | 4.34 | 0.06 |

| Measure | Wise Guys group | Control group | Difference |
|---|-----------------|---------------|------------|
| Motivation and intentions | | | |
| Motivation to avoid a teen pregnancy scale (range: 1 to 5) | 3.90 | 3.98 | -0.08 |
| Intends to have sexual intercourse in the next year (%) | 12 | 11 | 1 |
| Relationship attitudes | | | |
| Support for respect in romantic relationships scale (range: 1 to 4) | 3.53 | 3.43 | 0.10+ |
| Disapproval of dating violence scale (range: 1 to 4) | 3.49 | 3.46 | 0.03 |
| Goal setting and communication skills | | | |
| Goals and plans for future career scale (range: 1 to 4) | 3.38 | 3.37 | 0.01 |
| Communication with parents scale (range: 1 to 4) | 1.90 | 1.88 | 0.02 |
| Perceived conflict management ability scale (range: 1 to 4) | 2.50 | 2.46 | 0.04 |
| Sexual risk behavior | | | |
| Ever had sexual intercourse (%) | 3 | 5 | -1 |
| Sample size | 392 | 302 | |

Source: Baseline survey conducted by Mathematica Policy Research.

***/+ Differences are statistically significant at the .01/.05/.10 levels, respectively, two-tailed test

Outcome measures

In selecting outcome measures for the impact analysis, the study team sought to balance two competing demands: (1) the need to examine the full range of outcomes addressed by the curriculum and (2) the need to minimize multiple comparison concerns. As described earlier in the report, the *Wise Guys* sessions cover a broad range of topics. Some sessions provide factual information on human sexuality, pregnancy, and STI transmission, whereas other sessions address broader adolescent topics, such as goal setting and communication skills. The study team sought to include outcomes reflecting both types of sessions. However, focusing on a broad range of outcomes can increase the chances of identifying a spurious statistically significant impact (Schochet 2009). As discussed later in this appendix, the study team deemed program impacts statistically significant if the associated p -value of the estimate fell below 5 percent, a common standard. A 5 percent chance of incorrectly identifying an estimated effect as a true impact is a relatively modest risk for a single test. However, the more outcomes examined, the more likely that at least one of the tests will estimate a spuriously statistically significant impact.

To balance these demands, the study selected outcomes covering a broad range of topics but limited the number of outcomes selected for any one topic. As discussed in greater detail later in this section, the team selected outcomes covering the following eight topics: (1) exposure to information, (2) knowledge, (3) attitudes, (4) motivations and intentions, (5) attitudes toward relationships, (6) goal setting, (7) communication skills, and (8) delayed sexual initiation. For most of these topics, the team selected no more than one or two outcomes. By limiting the number of outcomes for each topic, this approach helped limit the number of statistical tests while maximizing the breadth of coverage.

The study team also sought outcomes appropriate for a relatively young sample of 7th-grade boys. As described earlier in the report, the team designated delayed sexual initiation as the study's confirmatory outcome—meaning that whether the program has an impact on that outcome represents the study's central test of overall effectiveness. However, the study team did not expect the potential for an impact on delayed sexual initiation until the time of the longer-term follow-up survey when boys would be in 9th grade (Wood et al. 2015). For the purpose of the one-year impact analysis presented in this report, the team focused primarily on measures of boys' attitudes and perceptions, which had the potential for an impact after one year. The rest of this section describes the selected outcomes in greater detail.

1. Exposure to information

The survey asked a series of questions designed to assess boys' exposure to information on healthy relationships and reproductive health topics. The questions asked how often boys had attended any classes or sessions in the past 12 months on each of the following topics: (1) relationships, dating, or marriage; (2) abstinence from sex; (3) methods of birth control; (4) where to get birth control; and (5) STIs. Response categories ranged from never to 10 or more times. The study team assigned numerical values to each response category, then used the numerical values to construct a series of five continuous variables indicating the number of classes or sessions attended on each topic. For the highest response category of 10 or more times, the study team top coded a value of 15—the median of the range defined by the highest observed number (10) and an amount twice the highest observed number (20).

2. Knowledge

The study team created a summary measure of boys' knowledge of contraception and STIs from the following questions included on the survey:

- If condoms are used correctly and consistently, how much can they decrease the risk of pregnancy? Not at all, a little, a lot, completely, or don't know.
- If condoms are used correctly and consistently, how much can they decrease the risk of getting HIV, the virus that causes AIDS? Not at all, a little, a lot, completely, or don't know.
- If birth control pills are used correctly and consistently, how much can they decrease the risk of pregnancy? Not at all, a little, a lot, completely, or don't know.
- If birth control pills are used correctly and consistently, how much can they decrease the risk of getting HIV, the virus that causes AIDS? Not at all, a little, a lot, completely, or don't know.
- Can you get a sexually transmitted disease, also known as an STD or STI, from having oral sex? Yes, no, or don't know.
- Can you tell if people have HIV, the virus that causes AIDS, by looking at them? Yes, no, or don't know.
- Can a woman give HIV to a man if they are having sexual intercourse without a condom? Yes, no, or don't know.

- Can a person who has sexual intercourse only with people he or she knows well ever get HIV? Yes, no, or don't know.
- Can a pregnant woman who has HIV pass it on to her newborn baby? Yes, no, or don't know.
- Which of the following methods offers the most protection against HIV, the virus that causes AIDS, and other sexually transmitted diseases, also known as STDs or STIs? Birth control pills, the shot (Depo-Provera), condoms, the patch, or don't know.

The study team adapted these questions from prior studies of adolescents (Goldstein et al. 2010; Trenholm et al. 2007). For each question, the study team coded each boy as having provided either a correct or an incorrect response. The study team considered skipped questions as incorrect responses. The team then totaled the number of correct responses across the 10 questions to create a 10-item knowledge test of contraception and STIs. Possible scores on the measure ranged from 0 to 10, with higher values indicating more correct responses.

3. Attitudes

The study team constructed two summary measures of boys' attitudes: one measuring support for abstinence and the other measuring support for condom use among sexually active youth. For the measure of support for abstinence, the survey asked boys to report their level of agreement with each of the following statements:

- Having sex is a good thing for you to do at your age.
- At your age right now, having sex would create problems.
- At your age right now, not having sex is important for you to be safe and healthy.
- At your age right now, it is okay for you to have sex if you use birth control, such as a condom, the pill, and so on.

For each statement, the survey asked boys to respond on a four-point scale ranging from strongly disagree to strongly agree. The study team drew the questions from a similar survey administered as part of the Evaluation of Adolescent Pregnancy Prevention Approaches (Smith et al. 2012). To construct a scale from boys' responses to these statements, the study team first assigned each response category a number ranging from one to four. They organized the response categories for each statement so that higher values indicated greater support for abstinence. For boys who responded to at least three of the four statements, the study team calculated a scale score by taking the average value of the boy's responses across the different statements. The team did not calculate scores for boys who responded to only one or two statements. The resulting scale ranged from one to four, with higher values indicating greater support for abstinence. The scale had sufficient internal reliability at baseline (alpha coefficient = 0.70) and the one-year follow-up (alpha coefficient = 0.74).

For the measure of support for condom use among sexually active youth, the survey asked boys to report their level of agreement with the following statements:

- Condoms should always be used if a person your age has sex.

- Condoms are important to make sex safer.

For each statement, the survey asked boys to respond on a five-point scale ranging from strongly disagree to strongly agree. The study team drew the questions from a similar survey administered as part of the Evaluation of Adolescent Pregnancy Prevention Approaches (Smith et al. 2012). To construct a scale from boys' responses to these statements, the study team first assigned each response category a number ranging from one to five. For boys who responded to both statements, the team calculated a scale score by taking the average value of their responses across the two statements. The team did not calculate scale scores for boys who responded to only one statement. The resulting scale ranged from one to five, with higher values indicating greater support for condom use if one is sexually active. The scale had sufficient internal reliability at baseline (alpha coefficient = 0.80) and the one-year follow-up (alpha coefficient = 0.76).

4. Motivation and intentions

To measure boys' motivation to avoid teen pregnancy, the survey asked how they would feel if they got someone pregnant at their age. The question had five response categories ranging from very happy to very upset. To construct a scale from boys' responses to this statement, the study team assigned each response category a number ranging from one to five. The team organized the response categories so that higher values indicated greater motivation to avoid getting someone pregnant.

To measure boys' intentions to have sexual intercourse, the survey asked the following question: "Do you intend to have sexual intercourse in the next year, if you have the chance?" Response categories were yes, definitely; yes, probably; no, probably not; and no, definitely not. The study team used responses to this question to construct a binary measure coded 1 for boys who said they definitely or probably intended to have sex and coded 0 for boys who said they definitely or probably would not have sex.

5. Attitudes toward relationships

To measure boys' attitudes about romantic relationships, the study team constructed two measures: one measuring boys' support for respect in romantic relationships and one measuring their disapproval of dating violence. For the first measure, the study team used boys' responses to the following statement: "A good dating relationship is based on mutual respect, not just sex." For the second measure, the study team used boys' responses to the following statement: "There are times when hitting or pushing between people who are dating is okay." For both statements, the survey asked boys to respond on a four-point scale ranging from strongly disagree to strongly agree. The study team calculated a score for each measure by assigning each response category a number ranging from one to four. Higher values indicated greater support for respect in romantic relationships and greater disapproval of dating violence.

6. Goal setting

The survey included two questions designed to measure goal setting. The first question asked boys if they had specific goals for their future career. The second asked if they had a plan for achieving their future career goals. The study team adapted the questions from earlier studies by Carson and Bedeian (1994) and Diemer and Blustein (2007). For each statement, the survey

asked boys to respond on a four-point scale ranging from strongly disagree to strongly agree. The study team assigned each response category a number ranging from one to four. The team organized the response categories for each statement so that higher values indicated greater perceived confidence in established career goals and plans. For boys who responded to both statements, the study team calculated a scale score by taking the average value of the boy's responses to the two statements. The team did not calculate scale scores for boys who responded to only one statement. The scale had sufficient internal reliability at baseline (alpha coefficient = 0.77) and the one-year follow-up (alpha coefficient = 0.82).

7. Communication skills

The study team created two summary measures of boys' communication skills: one measuring perceived conflict management ability and the other measuring frequency of communication with parents. For the measure of conflict management ability, the survey asked boys to report their perceived ability to do each of the following:

- Admit that you might be wrong during a disagreement.
- Avoid saying things that could turn a disagreement into a big fight.
- Accept another person's point of view even if you don't agree with it.
- Listen to another person's opinion during a disagreement.
- Work through problems without arguing.

For each statement, the survey asked boys to respond on a four-point scale ranging from bad to extremely good. The study team adapted the questions from an earlier study by Buhrmester et al. (1998). To construct a scale from boys' responses to these statements, the study team first assigned each response category a number ranging from one to four. The team organized the response categories for each statement so that higher values indicated greater perceived skill. For boys who responded to at least four of the five statements, the study team calculated a scale score for each boy by taking the average value of the boy's responses across the different statements. The team did not calculate scores for boys who responded to three or fewer statements. The resulting scale ranged from one to four, with higher values indicating greater perceived conflict management ability. The scale had sufficient internal reliability at baseline (alpha coefficient = 0.74) and the one-year follow-up (alpha coefficient = 0.78).

To measure boys' frequency of communication with their parents, the survey asked how many times they had discussed each of the following topics with their mother or father in the past three months:

- How things are going with your school work or grades
- A personal problem you were having
- Romantic relationships or dating
- How to resist pressures to have sex
- Avoiding drugs or alcohol

- Whether you should be having sex at this time in your life

For each topic, response categories ranged from never to 10 or more times. The study team adapted the questions from a similar survey administered as part of the Evaluation of Adolescent Pregnancy Prevention Approaches (Smith et al. 2012). To construct a scale from boys' responses to these questions, the study team first assigned each response category a number ranging from one to four. The team organized the response categories for each topic so that higher values indicated more frequent communication. For boys who responded to at least five of the six questions, the study team calculated a scale score by taking the average value of the boy's responses across the different topics. The team did not calculate scores for boys who responded to four or fewer topics. The resulting scale ranged from one to four, with higher values indicating more frequent communication with parents. The scale had sufficient internal reliability at baseline (alpha coefficient = 0.71) and the one-year follow-up (alpha coefficient = 0.75).

8. Delayed sexual initiation

Given the age of the boys enrolled in the study, the study team focused on delayed sexual initiation as the primary measure of sexual risk behavior. The survey asked boys if they had ever had sexual intercourse. The study team used responses to this question to construct a binary measure of delayed sexual initiation. This measure was limited to vaginal intercourse and did not include oral or anal intercourse.

In constructing this measure, the study team accounted for missing data (item nonresponse) and the potential for misreporting of sexual risk behavior by comparing boys' responses across multiple survey questions. The team constructed this measure on the basis of responses to the screening question at the end of Part A of the survey (described earlier). For boys who completed Part B1 of the survey (described earlier), the team also used their responses to a direct question asking if they had ever had vaginal intercourse. In some cases, boys did not respond to this direct question but responded to other survey questions about sexual activity, such as number of sexual partners or age at first sex. For some of these boys, the study team could logically infer their sexual initiation status from their responses to these other survey questions. Similarly, if a boy reported having had sex on the baseline survey but did not respond to the direct question on the follow-up survey, the study team logically inferred his sexual initiation status at follow-up using the baseline survey response. In other cases, boys provided contradictory information about their sexual initiation status across different survey questions. For these cases, the study team coded the boys' sexual initiation status as missing if the team could not clearly determine the status.

The study team conducted two sensitivity tests to determine if these coding decisions materially changed the study findings. They conducted the first test by changing the coding of the sexual initiation measure to account for inconsistencies in reported sexual activity across the surveys. For example, the study team coded sexual initiation to missing if boys reported having had sex at baseline and then reported not having had sex at follow-up. For the second test, the study team took the boys' responses to the relevant survey questions as given, without accounting for any missing data or inconsistencies across survey questions. The results of this sensitivity test (Table A.4) showed that the estimated rates of the sexual initiation and the estimated impacts of *Wise Guys* on this outcome were similar regardless of the coding decisions used.

Table A.4. Sensitivity of impacts to coding of sexual risk behavior outcomes

| Measure | Wise Guys group | Control group | Impact | Effect size |
|--|-----------------|---------------|--------|-------------|
| Ever had sexual intercourse (%) | | | | |
| Primary coding ^a | 5 | 6 | -1 | -0.04 |
| Alternative coding ^b | 6 | 6 | -1 | -0.04 |
| Alternative coding ^c | 5 | 6 | -2 | -0.06 |

Sample size

Sources: Baseline and one-year follow-up surveys conducted by Mathematica Policy Research.

Notes: The numbers in the columns labeled *Wise Guys* group and Control group are regression-adjusted predicted values.

^a Refers to the coding used to produce the findings reported in the main text of this report.

^b Refers to a coding that accounts for inconsistent responses across the surveys.

^c Refers to a coding that took students' responses to the relevant survey questions.

***/+ Impact estimates are statistically significant at the .01/.05/.10 levels, respectively, two-tailed test.

Analytic methods

The study team estimated the impacts of *Wise Guys* on boys' outcomes using *RCT-YES*, a publicly available statistical software tool (<https://www.rct-yes.com/>). *RCT-YES* uses estimation methods designed specifically for estimating treatment effects with data from randomized controlled trials. For the evaluation of *Wise Guys* in Iowa, the study team used the estimation methods for what *RCT-YES* describes as Design 2: the nonclustered, blocked design (Schochet 2016). These methods account for the fact that the study team randomly assigned boys to the treatment and control groups within separate blocks defined by the combination of school, semester (fall or spring), and academic year. Impact estimates are calculated as a regression-based weighted average across blocks of the difference in outcomes for boys in the treatment and control groups.

RCT-YES requires users to input certain technical specifications of the model, such as the approach for covariate adjustment and handling of missing data. The study team used data from the baseline survey to include covariates for boys' age, race and ethnicity, risk level as identified by the school counselors, and the baseline value of the outcome measure (when available). To the extent that these covariates are correlated with boys' outcomes, they can improve the precision of the impact estimates by reducing the residual variation in the outcome measures (Orr 1999). For missing data, the study team used the default *RCT-YES* options of mean imputation for missing baseline covariates and case deletion for missing outcome data—meaning that the impact estimates for a particular outcome exclude boys with missing data for that outcome. The study team also used the *RCT-YES* default assumptions to calculate impacts assuming a finite-population model ($SUPER_POP = 0$) and including block-by-treatment interactions ($BLOCK_FE = 0$). The team deemed the resulting impact estimates as statistically significant or marginally significant if the estimated p -value for the coefficient fell below 5 or 10 percent, respectively, based on a two-tailed hypothesis test. To help interpret the magnitude of the impact estimates, the study team also included in the report estimates of the standardized mean difference in outcomes (effect sizes) as calculated by *RCT-YES*.

Subgroup impacts

As an additional exploratory analysis, the study team examined whether the one-year impacts of *Wise Guys* differed for certain subgroups of boys. First, the team tested for differences in impacts according to the risk categories assigned by the school counselors. As discussed earlier in the report, before each round of random assignment, Bethany program staff worked with the student counselors in each school to group boys into high-, medium-, and low-risk categories. The impact estimates presented in the main body of this report reflect the average impact of the program across boys with different risk levels. However, it is possible that the impacts were larger for the higher-risk boys, who potentially had more to gain from the program. Second, the study team also tested for differences in impacts for the five study schools located within the city of Davenport in comparison to the two schools located in more rural areas just outside the city. The process study of *Wise Guys* found that these two groups of schools had substantially different student populations. Namely, the five schools within the city of Davenport had a higher percentage of minority students (48 versus 10 percent) and students eligible for free or reduced-price lunch (67 versus 28 percent). Given these differences, it is possible that the impacts of the program varied across the two groups of schools. The study team conducted these analyses using the optional “SUBGROUP” input command in the *RCT-YES* statistical software tool (described earlier).

The subgroup analysis is exploratory for two reasons. First, the study team determined the required sample size for the evaluation assuming an analysis of data for all boys who completed the one-year follow-up survey. Because of the smaller sample sizes, the reported impact estimates for subgroups of boys might not have sufficient precision. Second, estimating impacts for different subgroups of boys increases the number of outcomes examined. As discussed earlier, the more outcomes examined, the more likely that at least one of the tests will find a spurious, statistically significant impact (Schochet 2009). In part to reduce the chances of reporting a spurious, statistically significant impact, the study team specified the subgroup impacts as exploratory before the data analysis began.

Results of the analysis showed only one difference in impacts across subgroups (Tables A.5 and A.6). For the measure of knowledge of contraception and STIs, the program had a larger impact for the two schools located in more rural areas just outside of Davenport than for the five schools located within Davenport city limits. The difference in impacts was marginally significant. There were no statistically significant differences in impacts for any of the other outcomes examined, or for subgroups defined by risk categories.

Table A.5. Subgroup impacts by risk category

| Measure | Full sample | High risk | Medium or low risk |
|---|-------------|------------|--------------------|
| Exposure to information | | | |
| Number of classes or sessions attended in the past year on: | | | |
| Relationships, dating, or marriage | 0.77** | 0.55 | 0.83** |
| Abstinence | 1.08** | 1.15* | 1.07** |
| Methods of birth control | 0.94** | 0.79 | 1.03** |
| Where to get birth control | 0.65** | 0.62 | 0.70** |
| Sexually transmitted infections (STIs) | 0.94** | 0.43 | 1.17** |
| Knowledge and attitudes | | | |
| Knowledge of contraception and STIs index (range: 0 to 10) | 0.89** | 1.01** | 0.85** |
| Support for abstinence scale (range: 1 to 4) | 0.04 | 0.04 | 0.04 |
| Support for condom use scale (range: 1 to 5) | 0.18** | 0.15 | 0.18** |
| Motivation and intentions | | | |
| Motivation to avoid teen pregnancy scale (range: 1 to 5) | 0.15 | 0.06 | 0.22+ |
| Intends to have sexual intercourse in the next year (%) | -2 | -2 | -3 |
| Relationship attitudes | | | |
| Support for respect in romantic relationships scale (range: 1 to 4) | 0.00 | -0.04 | 0.01 |
| Disapproval of dating violence scale (range: 1 to 4) | 0.07 | -0.04 | 0.12+ |
| Goal setting and communication skills | | | |
| Goals and plans for future career scale (range: 1 to 4) | 0.02 | 0.00 | 0.04 |
| Communication with parents scale (range: 1 to 4) | 0.04 | 0.01 | 0.04 |
| Perceived conflict management ability scale (range: 1 to 4) | 0.06 | -0.02 | 0.07 |
| Delayed sexual initiation | | | |
| Ever had sexual intercourse (%) | -1 | 3 | -3+ |
| Sample size | 694 | 200 | 494 |

Sources: Baseline and one-year follow-up surveys conducted by Mathematica Policy Research.

***/+ Impact is statistically significant at the .01/.05/.10 levels, respectively, two-tailed test.

†††/†††/† Difference in impacts between subgroups is statistically significant at the .01/.05/.10 levels, respectively, two-tailed test.

Table A.6. Subgroup impacts by school setting

| Measure | Full sample | Schools in Davenport | Schools outside Davenport |
|---|-------------|----------------------|---------------------------|
| Exposure to information | | | |
| Number of classes or sessions attended in the past year on: | | | |
| Relationships, dating, or marriage | 0.77** | 0.74* | 0.87* |
| Abstinence | 1.08** | 1.00** | 1.30** |
| Methods of birth control | 0.94** | 0.83** | 1.07* |
| Where to get birth control | 0.65** | 0.65* | 0.65 |
| Sexually transmitted infections (STIs) | 0.94** | 0.97** | 0.87+ |
| Knowledge and attitudes | | | |
| Knowledge of contraception and STIs index (range: 0 to 10) † | 0.89** | 0.68** | 1.45** |
| Support for abstinence scale (range: 1 to 4) | 0.04 | 0.03 | 0.09 |
| Support for condom use scale (range: 1 to 5) | 0.18** | 0.17* | 0.20+ |
| Motivation and intentions | | | |
| Motivation to avoid teen pregnancy scale (range: 1 to 5) | 0.15 | 0.09 | 0.32 |
| Intends to have sexual intercourse in the next year (%) | -2 | -3 | 2 |
| Relationship attitudes | | | |
| Support for respect in romantic relationships scale (range: 1 to 4) | 0.00 | 0.03 | 0.01 |
| Disapproval of dating violence scale (range: 1 to 4) | 0.07 | 0.05 | 0.15 |
| Goal setting and communication skills | | | |
| Goals and plans for future career scale (range: 1 to 4) | 0.02 | -0.01 | 0.11 |
| Parental communication frequency scale (range: 1 to 4) | 0.04 | 0.06 | -0.01 |
| Perceived conflict management ability scale (range: 1 to 4) | 0.06 | 0.08 | 0.00 |
| Delayed sexual initiation | | | |
| Ever had sexual intercourse (%) | -1 | NA | NA |
| Sample size | 694 | 553 | 141 |

Source: Baseline and one-year follow-up surveys conducted by Mathematica Policy Research.

***/+ Impact is statistically significant at the .01/.05/.10 levels, respectively, two-tailed test.

†††/†††/† Difference in impacts between subgroups is statistically significant at the .01/.05/.10 levels, respectively, two-tailed test.

NA = Not available. The number of students who reported having had sexual intercourse was too low in the schools outside Davenport to conduct a subgroup analysis for this outcome.

Impacts on secondary outcomes

As an additional exploratory analysis, the study team estimated impacts on three groups of secondary outcomes: (1) the 10 individual survey questions that make up the summary knowledge index included in the main body of the report; (2) an additional measure of sexual

risk behavior; and (3) three alternative measures of youth risk behavior (cigarette, alcohol, and marijuana use).

The results of this exploratory analysis corroborate the overall substantive findings presented in the main body of the report (Table A.7). For the individual knowledge questions, the secondary impact findings showed that boys in the *Wise Guys* group were more likely than boys in the control group to provide a correct response for 6 of the 10 questions. For these six questions, the magnitude of the impact ranged from 8 to 17 percentage points. For the additional measures of risk behaviors, the impacts were small and not statistically significant. As expected, boys in both research groups were unlikely to report having had more than one sexual partner. Boys in both research groups had an equal likelihood to report smoking cigarettes, drinking alcohol, or using marijuana in the past 30 days.

Table A.7. Impacts on secondary outcomes

| Measure | Wise Guys group | Control group | Impact | Effect size |
|--|-----------------|---------------|--------|-------------|
| Knowledge | | | | |
| Correctly answered question on: (%) | | | | |
| Condoms and risk of pregnancy | 61 | 50 | 11** | 0.21 |
| Condoms and risk of getting HIV | 41 | 36 | 5 | 0.10 |
| Birth control pills and risk of pregnancy | 48 | 44 | 3 | 0.07 |
| Birth control pills and risk of getting HIV | 41 | 35 | 6 | 0.12 |
| Deciding if someone has HIV by looking at them | 61 | 53 | 8* | 0.15 |
| Female-to-male transmission of HIV when condoms are used | 81 | 66 | 16** | 0.33 |
| Risk of getting HIV from people you know well | 54 | 49 | 5 | 0.10 |
| Protective methods against HIV | 42 | 34 | 8* | 0.17 |
| Risk of pregnant woman with HIV passing it to her newborn baby | 65 | 48 | 17** | 0.34 |
| Getting STIs from oral sex | 70 | 59 | 10** | 0.21 |
| Sexual risk behavior | | | | |
| Had more than one sexual partner (%) | 3 | 4 | -1 | -0.06 |
| Other risk behaviors | | | | |
| Smoked in the past 30 days (%) | 3 | 3 | -1 | -0.05 |
| Drank alcohol in the past 30 days (%) | 6 | 7 | -2 | -0.06 |
| Used marijuana in the past 30 days (%) | 5 | 5 | 0 | -0.02 |
| Sample size | 392 | 302 | | |

Sources: Baseline and one-year follow-up surveys conducted by Mathematica Policy Research.

Notes: The numbers in the columns labeled *Wise Guys* Group and Control Group are regression-adjusted predicted values.

**/*/+ Impact estimates are statistically significant at the .01/.05/.10 levels, respectively, two-tailed test.

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The Personal Responsibility Education Program Evaluation