Meta-Analysis of Federally Funded Teen Pregnancy Prevention Programs: Technical Supplement

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Randall Juras and Meredith Kelsey
Abt Associates
Mark Lipsey and Katarzyna Steinka-Fry
Vanderbilt University
Jean Layzer
Belmont Research Associates

Submitted to:
Amy Farb
The Office of Population Affairs
Lisa Trivits and Sarah Oberlander
The Office of the Assistant Secretary for Planning and Evaluation
Tia Brown, Jessica Johnson, and Kenyatta Parker
Administration for Children and Families
U.S. Department of Health and Human Services

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Project Director: Randall Juras
Abt Associates
5001 S. Miami Blvd #210
Durham, NC 27703

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Introduction

This document is a technical supplement to the final report for the Meta-Analysis of Federally Funded Teen Pregnancy Prevention Programs. It provides additional detail on the meta-analysis's design and implementation, including reproductions of documents used by the Abt team to determine study eligibility and clean and code data. The technical supplement is divided into three chapters. The first chapter of the supplement provides additional information on how studies were screened, how data were coded from reports, and how individual participant data were cleaned and coded. The second chapter provides a detailed discussion of methods that were pre-specified prior to data analysis and then discusses deviations from that pre-specified protocol. The last chapter provides detailed results for the full sample and for subgroups that supplement those discussed in the report, as well as sensitivity analyses.

1. Eligibility, Cleaning, and Coding

This chapter provides additional information on how studies were screened, how data were coded from reports, and how individual participant data were cleaned and coded.

1.1. Eligibility Criteria

This section provides additional detail on study eligibility criteria.

1.1.1 Eligibility Criteria

To be eligible for inclusion in the meta-analysis, studies had to meet each of the following criteria:

- Evaluated a teen pregnancy prevention program, broadly defined.[1]
- Included a comparison condition—no treatment, an alternative treatment such as driving skills training, or some form of business as usual (i.e., what participants would have received absent the evaluation study).[2]
- Used an experimental or controlled quasi-experimental design that compared participants receiving one pregnancy prevention program with at least one valid comparison condition. See below for descriptions of eligible designs.
- Assigned at least 10 study participants to the intervention and comparison group(s).
- Measured and reported on at least one sexual behavior or sexual risk behavior. There were no other restrictions on the type of measure, reporter, or scale used for these outcome measures.

1.1.2 Eligible Research Designs

To be eligible for inclusion in the meta-analysis, a study must have used one of the following research designs:

- A randomized design where participants were randomly assigned to intervention and comparison conditions. Randomization could occur at the individual or larger cluster (group) level.
- A quasi-randomized design where participants were assigned by a quasi-random procedure plausibly equivalent to randomization (e.g., alternation, date of birth, case record number).
- A quasi-experimental design with matching where participants were not randomly assigned to conditions, but participants were matched on at least one baseline measure of prior sexual behavior or a close proxy risk factor for sexual behavior. Baseline measures were required to have been measured prior to the receipt of the intervention.

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[1] We define such a program as an intervention that involved actions performed with the explicit expectation that services would reduce pregnancy and/or reduce the rate of sexually transmitted infections.

[2] Studies that compared two active teen pregnancy prevention programs were excluded from the meta-analysis because they only provided information about the relative effects of two active programs and did not measure the absolute effect of a teen pregnancy prevention program compared with usual practice.

1.2. Screening and Coding Procedures

This section gives an overview of the study's screening and coding procedures, followed by an exact reproduction in Section 1.2.2 of the coding manual used by the Abt team.

1.2.1 Study Screening and Coding Procedures

Eligibility screening was conducted by doctoral-level researchers. Any disagreements about study eligibility were resolved via discussion with the Co-Principal Investigator and Project Director.

Aggregate Data Sample. We used standard systematic reviewing and meta-analysis procedures (Lipsey and Wilson 2001) to extract data for the aggregate data (AD) meta-analysis. Data were extracted from the study evaluation reports by two master's- or doctoral-level researchers, each of whom participated in several weeks of initial training followed by weekly coding meetings. A doctoral-level researcher reviewed all study coding and resolved any coding disagreements via discussion with the coders and the Data Collection Lead. All data extraction followed a standardized coding protocol (see Section 1.2.2).

Individual Participant Data Sample. Through the Office of Adolescent Health (OAH) within the U.S. Department of Health and Human Services (HHS), we requested individual participant data (IPD) via e-mail for each eligible study that was completed prior to October 31, 2016. Each e-mail included a set of instructions (see Section 1.3), an Excel data shell, and a username and password for uploading the data to Abt's secure data-transfer site. We requested that grantees provide specific participant-level outcome and demographic variables, including group assignment (treatment vs. control/comparison), demographic characteristics (e.g., age, race, gender), baseline sexual risk and behavior measures, sexual risk and behavior outcomes at follow-up, and study design variables (e.g., weights and random assignment block dummies). Each grantee was assigned a Data Liaison from the Abt team who was available by phone and e-mail to answer any questions about the data request. Once received, each data set was reviewed by a doctoral-level researcher. When necessary, Data Liaisons sent follow-up questions to grantees to resolve unclear data labels or values.

1.2.2 Meta-Analysis Coding Manual

Meta-Analysis Coding Manual

[Variable Names Shown in Brackets]

Study Level

Study identification number. The "unit" you will code here consists of a study, i.e., one research investigation of a defined subject sample or subsamples compared to each other, and the treatments, measures, and statistical analyses applied to them. Sometimes there are several different reports about a single study. In such cases, the coding should be done from the full set of relevant reports, using whichever report is best for each item to be coded; be sure you have the full set of relevant reports before beginning to code. Sometimes a single report describes more than one study sample, e.g., evaluations at three separate sites. In these cases, each study sample will have a unique study identification number and each study should be coded separately as if it had been described in a separate report. [studyid]

Each study has its own study identification number, or StudyID (e.g., 619). Each report also has an identification number (e.g., 619.01), which you will find in the FileMaker bibliography. The ReportID has two parts; the part before the decimal is the StudyID, and the part after the decimal is used to distinguish the reports within a study. (These two types of ID numbers, along with bibliographic

information, are assigned and tracked using the bibliography.) When coding, use the study ID (e.g., 619) to refer to the study as a whole, and use the appropriate report ID (e.g., 619.01) when referring to an individual report.

Coder's initials [coder]

State in which the prevention program was implemented (check all that apply). [state]

1. Alabama
2. ….
3. …
51. District of Columbia
52. Single state (unspecified)
53. Multiple states (unspecified)

Group Identification and Selection

At this stage, you will need to identify the groups in the study for which effect size statistics can be computed. Note that for any group comparison coding, the two groups involved must be from the same experiment or quasi-experiment; that is, they must have been involved in the same randomization, matching, etc. from the same design. If two or more experiments or quasi-experiments are presented in the same report, each must be handled separately.

Intervention Groups Write in Name
[txa-d] 1-4 _____

Comparison Groups Write in Name
[cta-d] 1-4 _____

Study Design and Methods

Method of assignment to groups. This item focuses on the initial method of assignment to groups regardless of subsequent degradations due to attrition, refusal, etc. prior to treatment onset. These latter situations are coded elsewhere. [design]

Random or near-random:

1. Randomly assignment at the individual level. Individual participants are randomly assigned to conditions. In some cases random assignment may be done after individuals have been matched or blocked.
2. Random assignment by group; that is, intact groups such as classrooms are assigned.
3. Regression discontinuity design: quantitative cutting point defines groups on some continuum (this design will be rare).
4. Quasi-randomized procedure presumed to produce comparable groups. This applies to groups which have individuals assigned by some naturally occurring process that is apparently random, e.g. alternation, date of birth, medical record number. The key here is that the procedure used to select groups is not strictly random, but the method of allocation should not create nonequivalence between groups.

Non-random, but matched or statistically controlled:

Note: Matching refers to the process by which individuals are selected for conditions (e.g., treatment and comparison) in a manner that ensures that the individuals in one group are matched on certain relevant characteristics in the other group. Comparing the characteristics of the groups after they have been assigned to experimental conditions does not constitute matching.

5. Matched individually, through sampling, on one or more baseline measures of sexual behavior, sexual behavior risk factors, demographic characteristics, or other measures.
6. Statistical controls used to equate individuals on one or more baseline measures of sexual behavior, sexual behavior risk factors, demographic characteristics, or other measures (e.g., through regression control, ANCOVA, analysis of covariance, propensity score methods).
7. Matched at a larger group level; that is, intact groups were matched on their means for some set of characteristics; e.g., the mean ages of the groups are similar, but each subject in one group has not been individually matched to a subject in the other group on age.

Please list all of the variables used in the matching and/or statistical controls. [matchedvarlist]

For cluster randomized trials, please enter the average cluster size (i.e., average number of youth in each cluster). Code -9 for cannot tell. Code -8 for not applicable. [m]

What is the risk of selection bias due to inadequate generation of a randomized sequence? [rob_sg]

1. Low risk. The investigators describe a random component in the sequence generation process such as referring to a random number table, using a computer random number generator, coin tossing, shuffling cards/envelopes, throwing dice, drawing of lots, or minimization.
2. High risk. The investigators describe a non-random component in the sequence generation process. This might involve some systematic non-random approach such as odd/even birth dates, rules based on dates of admission, rules based on some sort of record number. Other non-random approaches might include allocation by judgement (e.g., teacher, practitioner ratings), allocation by participant preferences, or allocation by availability of the intervention. By definition, any quasi-experimental design where participants self-select into conditions is at high risk of bias.
3. Unclear risk of bias. Insufficient information is provided about the sequence generation process to permit judgement of low or high risk.

Provide a description of the information used to code the risk of bias due to sequence generation. [rob_sg_t]

What is the overall attrition rate (across all groups) in the study between the time of assignment to groups to the first follow-up? This item refers to overall attrition in the study; more detailed attrition calculations will be estimated using the assigned and observed sample sizes coded in the effect size section. [attrf_o]

What is the overall attrition rate (across all groups) in the study between the time of assignment to groups to the last follow-up? Again, this item refers to overall attrition in the study; more detailed attrition calculations will be estimated using the assigned and observed sample sizes coded in the effect size section. [attrl_o]

Did the authors use an intent-to-treat (ITT) analysis? Intent-to-treat analysis refers to situations where researchers 'analyze as randomized', meaning that all individuals that were randomized to the intervention/control groups are included in the final outcome analysis, regardless of whether they actually attended the intervention. Note, that it is possible for a study to conduct an ITT analysis even if they have attrition, as long as they had intended to include any non-compliers in their final model. [itt]

1. Yes – Explicitly stated
2. No
-9. Cannot tell

How did the authors handle missing data in their analysis? NOTE: If the authors use multiple methods choose the method used for missing data on the dependent variables. [missdata]

1. Listwise deletion
2. Pairwise deletion
3. Mean or mode imputation
4. Single regression imputation
5. Dummy variable approach (imputed value at zero with dummy variable)
6. Multiple imputation
7. Full information maximum likelihood (FIML)
8. Other method
9. Not applicable – no missing data
10. Cannot tell

Was there bias due to selective outcome reporting? [bias]

1. Low Risk of Bias. All baseline, pretest, and outcome measures outlined in the Methods section (or specified elsewhere in the report) are reported in the Results section.
2. High Risk of Bias. Code if any one of the following is true:
    a. Not all of the study's pre-specified baseline/pretest measures or primary outcomes have been reported.
    b. One or more baseline/pretest or outcome measures is reported using measurements, analysis methods, or subsets of the data (e.g., subscales) that were not pre-specified.
    c. One or more pre-specified baseline/pretest or outcome measures are reported incompletely so that they cannot be entered into meta-analysis.
    d. The report fails to include results for a key outcome that would be expected to have been reported for such a study.
    e. Evidence that analyses and other method choices may have been manipulated to bias the findings reported (e.g., choice of model fit, omission of key confounders).
3. Unclear/Cannot Tell. Insufficient information to permit judgment of "Low Risk" or "High Risk."

Provide a description of the information used to code the risk of bias due to selective reporting. [bias_t]

Intervention and Comparison Groups

Create one record in this database for each of the intervention and/or comparison groups you selected earlier for coding. For example, studies with a single intervention group and a single comparison group will have two records in this section of the database.

Number each group consecutively within a study, starting with 1. [groupid]

Select the type of group you are coding. [tvc]

1. Intervention group
2. Control/comparison group

What type of services does this group receive? [type]

1. Focal/primary intervention program. There may be several focal programs in a study, as when two different types of programs are compared, both of which are expected to be effective.
2. Active treatment that is not a pregnancy prevention program. This is a group that receives a sham treatment (e.g., watches a video on nature, receives nutrition information, diet intervention) intended to take the same duration as the focal intervention program, but does not involve any active teen pregnancy prevention components.
3. Inactive treatment. This is a group that receives no prevention program and gets only assessments.
4. Active business as usual. This is a group that receives "usual" active treatment (e.g., sex education, teen pregnancy prevention) that may be effective in preventing teen pregnancy but is not the focal treatment of the study. This treatment must be limited to services that the youth would receive whether or not the research study was implemented (e.g., mandated school-based sex education).
5. Other (please specify).

Program name. Write in the program name or label for this group. [name]

Program description. Write in a brief description of the treatment this group receives. As much as possible, quote or give a close paraphrase of the relevant descriptive text in the study report; always include page numbers to the report when appropriate. It is acceptable to copy and paste directly from the article as long as you include the information in quotations and provide a page number for the quotation. [descrip]

Participant Characteristics

Enter the percent of males in this group. Use -9 for cannot tell. [permale]

Enter the percent of White participants in this group. Use -9 for cannot tell. [perwhite]

Enter the percent of Non-White participants in this group. Use -9 for cannot tell. [pernonwhite]

Enter the percent of Black participants in this group. Use -9 for cannot tell. [perblack]

Enter the percent of Hispanic participants in this group. Use -9 for cannot tell. [perhisp]

Enter the average age of the group using number of years. Use -9 for cannot tell. [age]

Enter the age range of the group using "XX-XX" format. Use -9 for cannot tell. [agerange]

Enter the percent of participants in this group who reported ever having had sex at baseline (vaginal intercourse, oral, or anal sex). Use -9 for cannot tell. [anysex]

Enter the percent of participants in this group who reported ever having had sexual (vaginal) intercourse at baseline. Variables that use the term "sexual intercourse" should be coded here. Use -9 for cannot tell. [anyint]

Enter the percent of participants in this group who reported ever having had oral sex at baseline. Use -9 for cannot tell. [anyor]

Enter the percent of participants in this group who reported ever having had anal sex at baseline. Use -9 for cannot tell. [anyan]

Enter the percent of participants in this group who reported recently having sex (e.g., in the past 3 months) at baseline (intercourse, oral, or anal sex). Use -9 for cannot tell. [recentsex]

Enter the percent of participants in this group who reported recently having any unsafe sex (intercourse, oral, or anal sex) at baseline. Use -9 if cannot tell. [recentuns]

Enter the percent of participants in this group who reported ever having any unsafe sex (intercourse, oral, or anal sex) at baseline. Use -9 for cannot tell. [unsafesex]

Enter the percent of participants in this group who reported ever having any unsafe vaginal sexual intercourse at baseline. Use -9 for cannot tell. [unsafeint]

Enter the percent of participants in this group who reported ever having any unsafe oral sex at baseline. Use -9 for cannot tell. [unsafeor]

Enter the percent of participants in this group who reported ever having any unsafe anal sex at baseline. Use -9 for cannot tell. [unsafean]

Intervention Group Characteristics

Is this pregnancy prevention program on the evidence-based program list? Tier 1 programs are evidence-based and Tier 2 programs are not. [rep]

1. Yes
2. No

What is the primary focus of this teen pregnancy prevention program?

Note that many programs include similar elements in their logic models (e.g., good decision-making, attitudes about risk behavior, development of refusal or negotiation skills). Programs with different goals in mind may all stress that abstinence is the only 100% protection against sexual risk, but that does not necessarily mean that the primary focus of the prevention program is on abstinence. If you are unsure how to code this item, please contact Meredith Kelsey or another content expert. [focus]

1. **Abstinence.** Abstinence is the only choice. The program provides no discussion of birth control methods.
2. **Sexual health**. The program may say that abstinence is the one sure way to avoid sexual risk, but also stresses need for protection if you are sexually active. The program always discusses different birth control methods and protection against infection.
3. **Youth development.** Sexual risk is not the major focus of the program and may not even be addressed explicitly. The program will mention a basis in positive youth development model, and include a broader focus on poor choices (educational, gang activity, drugs and alcohol) as well as possibly sexual risk behavior.

4. **HIV/AIDS prevention.** If the focus of the original model was as narrow as this, the description will say so, even if material on pregnancy prevention is added. Only code this if the description uses this terminology.
5. **Reproductive health services.** Possibly delivered in a clinic setting. Could have other elements, such as skills practice, reflective activities, but focus is on direct provision of health services.

What types of program components did this group receive? Only code components that are unique to the intervention group (i.e., components that the control group did not receive). Check all that apply for any component present in the program. [progtype]

1. **Condom demonstration.** This might be hands-on activity or a demonstration with actual models, a video, a mini-lecture, or a comic strip.
2. **Service learning.** This is a feature of at least one of the more frequently used models. It is not simply community service – it involves group reflection on the experience. Only code if the term "service learning" is used.
3. **Role-plays.** These are used to develop skills – most often refusal or negotiation skills with respect to sexual risk behavior, but could be to avoid a broader range of risks – gang or other illegal activity, drugs or alcohol, truancy. This component includes skits.
4. **Games.** Used to practice skills, communicate information, could be group activity or individual with computer.
5. **Reflective exercises.** Could include journaling, motivational interviewing.
6. **Mentoring/tutoring.** Individualized mentoring or tutoring. Most likely as part of a youth development program.
7. **Individualized counseling.** Could be face-to-face, through social media, via text messaging.
8. **Direct provision of reproductive health and other health services.** Note that many if not most programs provide linkages to health and other services – here their provision is part of the program.
9. **Parent activities.** Includes: homework for parents, or for parent/child dyad; informational materials distributed to parents; group sessions for parents or for parents with their child; text messaging to parents.
10. **Community outreach.** Could include media campaigns, public service announcements, rallies, presentations to churches, community groups.
11. **Positive role model(s).** Opportunities for exposure to positive role models who are not individual mentors.

Monitoring of treatment implementation. Was the implementation of the program monitored by the author/researcher or program personnel to assess whether it was delivered as intended? [monitored]

1. Yes, but no indication of feedback to treatment providers. Do not infer that monitoring happened. Select "yes" only if the report specifically indicates that implementation was monitored.
2. Yes, with indication that treatment providers received feedback. Do not infer that monitoring happened. Select "yes" only if the report specifically indicates that implementation was monitored.
0. No indication that service delivery was monitored.

Implementation quality. Based on evidence or author acknowledgment, was there any uncontrolled variation or degradation in implementation or delivery of treatment, e.g., high dropouts, erratic attendance, low treatment compliance, treatment not delivered as intended, wide differences between settings or providers, etc. Note that this question has to do with variation in treatment delivery, not research contact. That is, there is no "dropout" if all juveniles complete treatment, even if some fail to complete the outcome measures. [impprob]

1. Yes
2. Possible
3. No, apparently implemented as intended

Implementation fidelity. Provide a description of any other implementation fidelity measures, assessments, and/or findings including page numbers where appropriate. [impfid]

In what setting(s) was the prevention program typically delivered? [setting]

1. Classroom
2. Health clinic
3. Community
4. Other

In what format was the prevention program typically delivered? [format]

1. Individual youth with provider
2. Small groups (<10) with provider
3. Large group or whole classrooms with provider
4. Online
5. Other

Who typically delivered the prevention program? [provider]

1. Medical professionals (nurses, doctors, clinicians)
2. Health educators (agency staff)
3. Classroom teachers
4. Peer educators
5. Other
6. Mixed (no predominant provider type)

What is the sex composition of the intervention group? [mixedsex]

1. Same sex
2. Mixed sex
3. Cannot tell

Culturally specific program. Is the program specifically tailored to target a specific cultural, racial, or ethnic group? Only code yes if the report specifically describes the program as targeting a particular group (e.g., racial/ethnic, religious, or SES group, youth whose native language is not English, etc.). [cultural]

1. Yes – explicitly stated
2. No

If applicable, provide a brief description of the culturally specific group that the program targets. [culturaldes]

Duration of implemented program in weeks. Approximate (or exact) number of weeks for the period over which youth received the program, from first to last treatment contact, excluding follow-ups designated as such. Divide days by 7; multiply months by 4.3; multiply years by 52; round to a whole number. Estimate for this item if necessary and if you can come up with a reasonable order of magnitude number (e.g., take the midpoint of a range if it is all that's provided). Code -9 if cannot tell. [txwks]

Duration of program as intended in contact hours. Approximate (or exact) number of contact hours for the period over which the adolescents were intended to receive the program, from first program contact to last contact, excluding follow-ups designated as such. Code -9 if cannot tell. [txhours]

Approximate (or exact) frequency of contact between adolescent and provider or treatment activity. This refers only to the element of treatment that is different from what the control group receives or would have received had a control group been formed in treatment circumstances. [numsessions_cat]

1. Daily contact
2. 3-4 times a week
3. 1-2 times a week
4. Less than weekly
5. One day only

-9. Cannot tell

Provide page numbers for the information on implemented and intended program duration and dosage (weeks, hours, frequency of sessions). [duration]

Provider training, preparation, or qualifications. Describe any information provided about the intervention providers' training, level of preparation, or instructor qualifications required for delivery. [provid]

Incentives for recruitment or participation. Describe any incentives for participant recruitment and/or participation. Provide specific information about incentives (including dollar amounts), when available. [incent]

Outcomes

Study and DV Identification

Create one record for each dependent variable that you will be coding. If the study measures sexual activity and pregnancy outcomes, you will have two dependent variable records. This is different from the number of times a dependent variable is measured in a study. For example, if the study measures sexual activity before and after treatment, you will have only one record here – for the sexual activity measure (but you will have two effect sizes for this outcome measure: one at pretest and one at post-test).

Variable number. This number is an identification number for the dependent variable you are coding. Each dependent variable is numbered consecutively, within the study you are coding so that each has a unique VarNo for that study. If there is only one dependent measure for this study, you will create only one record in this worksheet, and the variable number will be 1. If there are three dependent measures, they will be numbered 1, 2, and 3. [varid]

Description of the dependent measure. Write in a brief description of the dependent measure you are coding. This should include the authors' label for this variable (e.g., ever has sexual intercourse, had sex within past three months, etc.), the instrument, the direction of scoring (e.g., lower scores are better), and information about what is being measured (e.g., problems associated with sexual behavior, etc.). Quote or closely paraphrase the description that is provided in the original report. For variables for group equivalence coding make sure the label describes successes (e.g., blacks, non-whites, younger age). As an exception (for consistency with the research reports), code sex as proportion of females. When coding race always default to white v. non-white. If the sample is only minority youth then default to black v Hispanic (with black as the success). [dvdes]

What type of dependent measures are you coding? [dvmicro]

01 Sexual Activity

1. Ever had sex (yes/no)
2. Recent sexual activity (yes/no)
3. Recent unprotected sex (yes/no) (sexual intercourse without a condom)
4. Number of sexual partners (in last xx days)
5. Number of sexual experiences (in last xx days)
6. Number of unprotected sex experiences (in last xx days)
7. Other sexual activity measure

02 Sexually Transmitted Infections

8. Any STI
9. Specific type of STI
10. Number of STIs
11. Other STI measure

03 Pregnancy and births

6. Ever pregnant (yes/no)
7. Number of pregnancies
8. Ever given birth or fathered a child (yes/no)
9. Other pregnancy measure

04 Other Characteristics Used for Group Equivalence Effect Sizes

10. Sex/Gender
11. Race/Ethnicity
12. Age
13. Other Pregnancy Risk Factor

Type of data collection used for outcome measure. [dvtype]

1. In-person interview
2. Phone interview
3. Pencil & paper questionnaire
4. Online/computer assisted questionnaire
5. Other

-9. Cannot tell

Number of Days. Enter the number of days over which outcome was counted. Enter -8 for lifetime measures. Enter -9 if cannot tell. Multiply months by 30 (e.g., enter 3 months as 90 days). [dvdays]

For cluster randomized trials, please enter the intraclass correlation coefficient (ICC) for each outcome variable coded. Code -8 for not applicable and -9 for cannot tell. [icc]

Effect Sizes

Although this is the final section of coding, it is a good idea to identify at least one codable effect size before you start coding a study, because studies that appear eligible frequently end up presenting data that cannot be coded into an effect size.

Note that effect sizes for breakouts (i.e., subsamples based on gender, race, etc.) are ineligible for coding. The only exception is breakouts of study participants who had not engaged in sex (i.e., vaginal, oral, or anal) at baseline. Effect sizes measuring sexual initiation (vaginal, oral, or anal) among those participants who had not initiated sex at baseline should be coded (with pre-test proportions coded as 1.00 successful).

Report ID for this effect size. Indicate the report number (e.g., 2098.01) for the report in which you found the information for this effect size. This is important so that we can find the source information for the effect sizes later on, if necessary, and is especially important for studies with multiple reports. [reportid]

Page number for this effect size. Indicate the page number of the report identified above on which you found the effect size data. If you used data from two different pages, you can type in both, but use a comma or dash between the page numbers. [page]

Type of effect size you are coding. [estype]

1. Pretest and Post-test
2. Group equivalence

There are 3 types of effect sizes that can be coded: pretest, post-test, and group equivalence (or baseline similarity) effect sizes. They are defined as follows:

- **Group equivalence effect size.** Group equivalence effect sizes are used to code the equivalence of two groups prior to treatment delivery on (a) gender, (b) age, (c) race/ethnicity, and/or (d) another risk measure for pregnancy. When multiple racial/ethnic group compositions are reported please report only White/nonwhite proportions (if not available, select another racial/ethnic group). When available, always code gender, age, and race/ethnicity. When multiple other risk factors are reported

select the three deemed to be most relevant (behaviors are more relevant than attitudes/intentions). Cap "other" risk factors at three.

- **Pretest effect size.** This effect size measures the difference between an intervention and comparison group before treatment (or at the beginning of treatment) on the same variable used as an outcome measure. Note: Use pretest data for different analytic samples if available. (e.g., separate pretest data for different follow-up waves).

- **Post-test/follow-up effect size.** This effect size measures the difference between two groups after treatment receipt on some outcome variable. Some post-tests can occur during treatment (after intake), immediately after treatment ends, or any subsequent follow-up period after treatment ends.

Group Selection

Select the groups being compared in this effect size. Always select the focal prevention program to be 'group 1.' [esgroup1] [esgroup2]

Dependent Variable Selection

Select the dependent variable for this effect size. [varid]

Timing of measurement. Approximate (or exact) number of weeks after the end of the intervention when measurement occurred. Divide days by 7; multiply months by 4.3. Enter -9 if cannot tell, but try to make an estimate if possible. [estiming]

Effect Size Calculation and Data Entry

It is now time to identify the data you will use to calculate the effect size and to calculate the effect size yourself if necessary.

You need to determine what effect size format you will use for each effect size calculation. There are two general formats you can use, each with its own section in FileMaker:

1. Compute ES from means, sds, variances, test statistics, etc.
2. Compute ES from frequencies, proportions, contingency tables, odds, odds ratios, etc.

Also note that within each of the above effect size formats, effect sizes can be calculated from a variety of statistical estimates; to determine which data you should use for effect size calculation, please refer to the following guidelines in order of preference:

1. Compute ES from regression coefficients with statistical controls for pretest measures and other potential confounding measures at baseline.
2. Compute ES from univariate descriptive statistics (means, sds, frequencies, proportions).
3. Compute ES from test statistics (t, F, Chi square).
4. If significance tests statistics are unavailable or unusable but p-values and degrees of freedom (df) are available, determine the corresponding value of the test statistic (e.g., t, chi-square) and compute ES as if that value had been reported. If you encounter these types of data, please see Emily for guidance.

Note that if the authors present both covariate adjusted and unadjusted means, you should use the covariate adjusted ones. If adjusted standard deviations are presented, however, they should not be used.

Which group is favored? [esfavor]

For intervention-control comparisons, the intervention group is favored when it does "better" than the comparison group. The comparison group is favored when it does "better" than the intervention group.

For group equivalence comparisons, the intervention group is favored when it is at lower risk of unsafe sexual activity than the comparison group (i.e., when respondents are male, younger in age, or non-White). Racial/ethnic group risk (from lowest to highest) is American Indian, Black, White, Hispanic (per the 2011 Youth Risk Behavior Survey).

Remember that you cannot rely on simple numerical values to determine which group is favored. For example, a researcher might assess the amount of sexual activity, and report this in terms of the number of sexual partners. Fewer sexual partners is better than more, so in this case a lower number, rather than a higher one, indicates a more favorable outcome.

Sometimes it may be difficult to tell which group is better off because a study uses multi-item measures in which it is unclear whether a high score or a low score is more favorable. In these situations, a thorough reading of the text from the results and discussions sections usually can bring to light the direction of effect – e.g., the authors will often state verbally which group did better on the measure you are coding, even when it is not clear in the data table.

Note that if you cannot determine which group has done better, you will not be able to calculate a numeric effect size. (You will still be able to create an effect size record—just not a numeric effect size.)

Select the group that has done "better":
1. Intervention
2. Comparison
3. Neither, Exactly Equal
-9. Cannot tell

Effect size derived from what type of statistics? [esdata]
1. N successful/unsuccessful (frequencies)
2. Proportion successful/unsuccessful (percentage successful or not)
3. Means and SDs; means and variances; means and standard errors
4. Independent t-test
5. Chi-square statistic (1 degree of freedom)
6. Effect sizes as reported directly in the study
7. Other statistical approximation

For this effect size, did you use adjusted data (e.g., covariate adjusted means) or unadjusted data? If both unadjusted and adjusted data are presented (for post-test measures), you should use the adjusted data for the group means or mean difference, but use unadjusted standard deviations or variances. (If both adjusted and unadjusted data are presented for baseline measures, use the unadjusted data). Adjusted data are most frequently presented as part of an analysis of covariance (ANCOVA). The covariate is often either the pretest or some personal characteristic such as socioeconomic status. If you encounter data that is adjusted using something other than a covariate, please see Emily. [esadj]
1. Unadjusted data
2. Pretest adjusted data (or other baseline measure of an outcome variable construct)
3. Data adjusted on some variable other than the pretest (e.g., socioeconomic status)
4. Data adjusted on pretest plus some other variables

Assigned N for the intervention group [estxasn]
Assigned N for the comparison group [exctasn]
Observed N for the intervention group [estxobn]
Observed N for the comparison group [exctobn]

Mean for intervention group [estxmean]
Mean for comparison group [esctmean]
Standard deviation for intervention group [estxsd]
Standard deviation for comparison group [esctsd]
N successful for intervention group [escella]
N successful for comparison group [escellc]
N failed for intervention group [escellb]
N failed for comparison group [escelld]
Independent t-value [esindt]
χ^2 (df=1) [eschisq]
Effect size reported by authors [esauth]
Odds ratio reported by authors [esor]

Final Effect Size Determination
Effect size value- standardized mean difference [es_fmsmd]
Effect size value- odds ratio [es_fmor]

Remember that you cannot rely on simple numerical values to determine which group has done better. For intervention-control comparisons, a positive effect size should indicate that the intervention group did "better" on the outcome measure than the comparison group, while a negative effect size indicates that the comparison group did "better" than the intervention group, and a zero effect size means that the two groups are exactly equal on the measure.

You must make sure that the sign of the effect size matches the way we think about direction, such that the effect size is positive when the intervention group (or post-test) is better and negative when the comparison group (or pretest) is better.

Effect sizes can range anywhere from around –3 to +3. However, you will most commonly see effect sizes in the –1 to +1 range.

Note: If the authors report an effect size, include that in your coding and use it for the final effect size value if no other information is reported. However, if the authors also include enough information to calculate the effect size, always calculate your own and report it in addition to that reported in the study.

Any problems coding this effect size? [esprob]

Does this effect size measure the difference between two groups on confirmatory outcome variable? Confirmatory outcome variable and measurement timing are designated by the authors. Authors often define the confirmatory outcomes (including a measurement and time period) in the section called "primary research question." [primaryes]

1. Yes
2. No

1.3. Individual Participant Data Request

This section provides an overview of the request for IPD, followed by an exact reproduction in Section 1.3.2 of the instructions given to grantees on how to provide IPD from the grantee's evaluation study.

1.3.1 Overview

As described in Section 1.2, we requested IPD via e-mail for each eligible study completed prior to October 31, 2016. We offered grantees incentive payments of $1,000 for complying with the request, to compensate for time and effort spent providing the data. The payment was conditional on receipt of the data as well as a signed memorandum of understanding specifying each party's roles and responsibilities regarding data security and participant anonymity. Grantees were required to de-identify data prior to uploading it to Abt's data transfer site.

1.3.2 Instructions for Providing Individual Participant Data

The instructions reproduced below were provided to grantees, describing how to provide data for the cross-grantee quantitative synthesis.

General Information

Ideally, you will provide OAH with a single dataset, formatted as in the example Excel spreadsheet that is attached to this e-mail. Each row in the dataset should correspond to an individual participant, and the columns in the dataset should correspond to the variables that are being requested by OAH. There should only be one row for each study participant.

This dataset can be in any table-readable format, such as a file created in Excel, R, SAS, SPSS, Stata, or a comma-separated or tab-delimited format.

As you will see below, OAH is requesting text or numeric data for several variables. We appreciate that the format of variables will vary across sites, so we request that you label or describe any data value labels that may be unclear (e.g., specify participant gender as 0=Male 1=Female, or Male Female). Providing clear labels in the datasets (and/or providing a codebook with values for each variable) so that we can decipher the data, will prevent follow-up requests from us.

In the e-mail to which these instructions were attached, you should have received a username and password for uploading data to the secure file transfer site, [redacted]. At the end of this document are step-by-step instructions for using the site. Once you have uploaded the data, please contact your data liaison by e-mail and/or phone to let them know. If we subsequently have any questions about the data, your data liaison will contact you for clarification. If you do not have a username and password, or if you have any trouble accessing the transfer site, please contact your Abt data liaison.

Thank you for helping OAH with this important effort. If you have any questions about the study or about how to provide the data, please do not hesitate to contact OAH or your Abt Associates data liaison.

List of Variables Requested

Immediately below is a short description of each of the variables that OAH is requesting. Please provide each of these variables for each member of your study's analytic sample (i.e., the sample you used in your final analysis). If you did not collect data on one or more of these variables, please simply omit that variable from the dataset you provide. Please code any participant-level missing values using whatever

method is most commonly used in your software package (e.g., "." in Stata or a blank cell in Excel). Please do not provide any identifiable data to OAH (e.g., names or addresses).

ID#

This should be a non-identifiable identification number for each unique participant. Please do not provide any personally-identifying information such as name, address, or date of birth.

Group Assignment

This is an indicator for the participant's treatment status; i.e., whether they were assigned to treatment or control. (For a QED, this would indicate treatment or comparison). Text or numeric values are acceptable, provided the numbers are clearly labeled.

Age

Please provide each participant's age (in years) at baseline. You do not need to provide fractions of years if that information is not readily available (e.g., 14 years 6 months or 14.5 years could be coded as 14).

Ethnicity

Please provide each participant's ethnicity (i.e., Hispanic or non-Hispanic). Text or numeric values are acceptable, provided all numeric values are clearly labeled.

Race

Please provide each participant's race, as you coded it for your analysis (i.e., if you collapsed or cleaned open-ended responses prior to analysis, please provide the final cleaned/collapsed version. However, if you combined race and ethnicity into a single variable for your analysis, please back out ethnicity as a separate variable). Text or numeric values are acceptable, provided all numeric values are clearly labeled.

Gender

Please indicate each participant's gender (e.g., male or female). Text or numeric values are acceptable, provided all numeric values are clearly labeled.

Ever Had Sex at Baseline

This variable or variables should indicate whether the participant has ever had sex (intercourse, oral, and/or anal sex) at baseline (i.e., before the intervention started). Text or numeric values are acceptable, provided all numeric values are clearly labeled. If you have more than one measure of baseline sexual history, please provide each measure (e.g., one variable for "ever had intercourse" and another for "ever had oral sex") and label the variables accordingly (e.g. baseline_ever_intercourse and baseline_ever_oral). Please make sure that each of these variables is clearly labeled as a baseline measure.

Other Baseline Sexual History

Please provide any other measures of participants' baseline sexual history or sexual experience. Text or numeric values are acceptable, provided all numeric values are clearly labeled. If you have more than one measure of baseline sexual history, please provide each measure (e.g., one variable for "lifetime number of partners" and another for "had intercourse in the past 90 days") and label the variables accordingly

(e.g. lifetime_num_partners and baseline_intercourse_90). Please make sure that each of these variables is clearly labeled as a baseline measure.

Sexual Risk/Behavior Outcomes

Please provide data on any outcomes that you measured at post-test related to sexual risk or sexual behavior, including (but not limited to) those you analyzed in the final report to OAH. These could include outcomes such as abstinence, condom use, or number of partners. Please do not provide non-sexual behavioral outcomes such as school attendance. If you measured outcomes at more than one follow-up time point, please provide outcomes for the time point that was analyzed in your final report. If you are providing more outcomes than were used in your final report, please indicate which measures were included in the report and which were not, either by including this information in the variable labels or by sending an e-mail to your data coordinator. Finally, please clearly identify which variables correspond to the following performance measures:

1. Ever had sexual intercourse
2. Ever been pregnant or gotten someone pregnant
3. Had intercourse in the past 3 months
4. Had intercourse without a condom in the past 3 months
5. Had intercourse without birth control in the past 3 months

Intentions Outcomes

Please provide any post-test measures of intentions to engage in sexual behaviors. Please clearly label each outcome as a measure of intentions, and identify which variables correspond to the following performance measures:

1. Intention to have intercourse in the next year
2. Intention to use condoms for intercourse in the next year
3. Intention to use birth control for intercourse in the next year

Knowledge/Attitude/Skill Outcomes

Please provide data on any other knowledge, attitude, and/or skill outcomes that you measured at post-test, whether or not you reported them in your study (i.e., any non-behavioral outcomes that you measured). Please clearly label each outcome as a measure of knowledge, attitudes, or skills.

Study Design Variables

If your study used a blocked or stratified random assignment design, please include any blocking or stratification variables that you included in your analysis (e.g., you might have a set of dummy variables representing random assignment blocks). Likewise, if you matched treatment group participants with comparisons in a QED, please include any variables used in the matching process. If observations were weighted for the final analysis, please provide those weights. Please clearly label these variables as study design variables, and send an e-mail to your Abt data liaison explaining what these variables are and how they were used in your analysis.

Instructions for Uploading Data

[Detailed instructions for accessing Abt Associates' secure web portal redacted]

1.4. Calculation of Effect Sizes and Standard Errors

This section provides additional detail on how we calculated effect sizes and standard errors using aggregate data from study reports.

Most studies reported binary measures for the sexual behavior outcomes, so the primary effect size metric we used to measure TPP program effects was the *log odds ratio* (*LOR*):

$$LOR = \ln\left(\frac{A * D}{B * C}\right)$$

$$SE_{LOR} = \sqrt{\frac{1}{A} + \frac{1}{B} + \frac{1}{C} + \frac{1}{D}}$$

where

A is the count of "successes" in the intervention group (e.g., number of participants who did not engage in unprotected sex);

B is the count of "failures" in the intervention group (e.g., number of participants who engaged in unprotected sex);

C is the count of "successes" in the comparison group; and

D is the count of "failures" in the comparison group.

Log odds ratios were coded such that values greater than zero indicated beneficial TPP program effects relative to the comparison condition (e.g., lower odds of sexual behavior, lower odds of pregnancy). We conducted all analyses using the log odds ratio (unless noted otherwise), translating final results back into the odds ratio metric, for ease of interpretability.

When studies measured outcomes on a continuous scale (e.g., mean number of sexual partners), we measured TPP program effects using the *small-sample corrected standardized mean difference effect size,* or Hedges' *g* (Hedges 1981):

$$g = \left[1-\left(\frac{3}{4N-9}\right)\right]*d$$

$$SE_g = \sqrt{\frac{n_{TX}+n_{CT}}{n_{TX}*n_{CT}}+\frac{g^2}{2(n_{TX}+n_{CT})}}$$

where

d is the standardized mean difference effect size calculated as the difference in post-test means for the intervention and comparison groups divided by the pooled standard deviation;

N is the total sample size for the intervention and comparison groups combined;

n_{TX} is the sample size for the intervention group; and

n_{CT} is the sample size for the comparison group.

When synthesizing effect sizes within outcome categories that only included Hedges' *g* effect sizes (e.g., number of sexual partners), we conducted all analyses using the Hedges' *g* effect size metric, for ease of interpretability. For all other analyses, however (e.g., when combining results across outcome categories), we transformed these standardized mean difference effect sizes into log odds ratio effect sizes using the Cox transformation (Sánchez-Meca, Marín-Martínez, and Chacón-Moscoso 2003):

$$LOR_{Cox} = g * 1.65$$

$$SE_{LOR_{Cox}} = \sqrt{\frac{V_g}{0.367}}$$

where Vg is the variance (i.e., squared standard error) of the Hedges' *g* effect size.

Sensitivity analyses excluding these Cox-transformed effect sizes yielded no substantial changes to the findings (see Section 3.4 of this technical supplement), so all main analyses proceeded using the Cox-transformed effect sizes.

We examined the distribution of effect sizes and sample sizes for outliers (defined as three times the interquartile ranges above/below upper fence values), identifying only a small number of effect size outliers. Sensitivity analyses using effect size values Winsorized to the upper/lower fence values yielded no substantial changes to the findings (again, see Section 3.4; therefore, all main analyses proceeded using the original, non-Winsorized effect sizes.

We adjusted the standard errors of the effect size estimates used in the meta-analysis for the nesting of participants within clusters (e.g., schools) for those studies (number of included studies $k = 20$) using designs in which clusters were assigned to conditions. In these cases, we multiplied the standard error of the effect size by the square root of the design effect (Higgins, Deeks, and Altman 2008). When cluster-assigned trials did not report the intra-class correlation (ICC), or the ICC was not available in the IPD, we assumed ICC values of .01

(*ever had sex* outcomes), .003 (*ever pregnant*), and .00 (all other outcomes). We estimated these assumed ICC values as the conditional ICC estimates using the IPD from the 15 studies with cluster designs in the IPD sample. These assumed ICC values are similar to those reported in prior reviews of ICCs in group design studies of adolescent sexual health programs (Glassman, Potter, Baumler, and Coyle 2015).

1.5. Moderator Definitions and Coding

The study's key moderators, corresponding to the study's first four research questions, related to program design, program implementation, participant characteristics, and study methods. This section defines moderators in each of these categories and specifies how they were coded.

TABLE 1.5.1: MODERATORS RELATED TO RQ1, PROGRAM DESIGN

Moderator Category	Typology	Coding
Program Focus	Abstinence Sexual health Youth development HIV/AIDS prevention Reproductive health services	Five (exclusive) dummy variables indicating primary program focus
Program Components	Condom demonstration Service learning Role plays Games Reflective exercises Mentoring/tutoring Individualized counseling Direct provision of reproductive or other health services Parent activities Community outreach Positive role model	11 dummy variables indicating whether the program included each of the 11 components
Group Size	Individual Small group (<10) with provider Large group or whole classroom with provider Online Other strategies	Five (exclusive) dummy variables indicating standard format of delivery
Group Composition	Same-gender delivery vs. Mixed-gender delivery	One dummy variable
Program Length	Frequency of contact: Daily 3-4 times per week 1-2 times per week Less than weekly One day only	One ordinal variable indicating frequency of contact
	Hours of contact time	One continuous variable indicating intended length/intensity in number of hours
	Weeks from first to last contact	One continuous variable indicating the number of weeks from first to last contact
Level of Prior Evidence	Tier 1 (evidence-based) vs. Tier 2 (new and innovative)	One dummy variable

TABLE 1.5.2: MODERATORS RELATED TO RQ2, PROGRAM IMPLEMENTATION

Moderator Category	Typology	Coding
Program Setting	Classrooms Health clinics Community centers Other settings	Four (exclusive) dummy variables indicating the primary program setting
Program Delivery Personnel	Medical professionals Health educators Classroom teachers Peer educators Other providers Mixed (no predominant provider type)	Six (exclusive) dummy variables indicating the type of staff who typically delivered the intervention
Implementation Characteristics	Average facilitator-reported fidelity	One continuous measure of average fidelity observed across all program periods
	Average participant attendance rate	One continuous measure of average attendance rates across all program periods (from OAH performance measures database)
	Participant retention rate	One continuous measure of retention rates across all program periods (defined as the average proportion of participants attending 75% or more of the program sessions) (from OAH performance measures database)

TABLE 1.5.3: MODERATORS RELATED TO RQ3, PARTICIPANT CHARACTERISTICS

Moderator Category	Typology	Coding
Gender	Boys	One dummy variable indicating the proportion of boys present in the intervention group
Race/Ethnicity	White Black Hispanic	Three (non-exclusive) dummy variables indicating the proportion of White, Black, and Hispanic participants in the intervention group
Age	Average age	One continuous variable indicating the average age of participants in the intervention group
Sexual Risk Behavior	Control/comparison group sexual activity at post-test	One continuous variable indicating the proportion of participants in the comparison group who reported ever having sex at the first post-test assessment

TABLE 1.5.4: MODERATORS RELATED TO RQ4, STUDY METHODS

Moderator Category	Typology	Coding
Study Design	Randomized experiment vs. Quasi-experiment	One dummy variable indicating whether the study used a randomized experimental design
Overall Attrition	Attrition rate	One continuous variable indicating the overall attrition rate at the first follow-up
Differential Attrition	Differential attrition rate	One continuous variable indicating the differential attrition rate between the intervention and control/comparison groups at the first follow-up
Active Comparison Condition	Active comparison vs. Inactive comparison (assessments only)	One dummy variable indicating whether the study used an active comparison condition

2. Analysis Plan

This chapter provides details on the study's analysis plan. Section 2.1 provides methodological details, which were pre-specified prior to data analysis. Section 2.2 discusses deviations from the pre-specified protocol.

2.1. Methodological Specifications

This section provides a detailed description of the study's methodological specifications.

2.1.1 Aggregate Data Meta-Analysis

The AD meta-analyses were conducted using a meta-regression framework with *robust variance estimates* (RVE), which permits the synthesis of statistically dependent effect sizes (Hedges, Tipton, and Johnson 2010; Tanner-Smith and Tipton 2014; Tipton 2013; Tipton 2015). Because studies often reported multiple (dependent) effect size estimates even for confirmatory outcomes (e.g., different operationalization of measures in the same outcome category), the RVE meta-regression model was necessary for synthesizing all available effect sizes without loss of information. The RVE meta-regression is similar in form to traditional meta-regression, which has the structure of Equation (1):

$$(1) \qquad y_{ij} = \beta_0 + u_j + e_{ij}$$

where

y_{ij} is the ith effect size in the jth study;

β_0 is the average population effect;

u_j is the study-level random effect such that $\mathrm{Var}(u_j) = \tau^2$ is the between-study variance component; and

e_{ij} is the residual for the ith effect size in the jth study.

This intercept-only RVE meta-regression model is used for estimating the mean effect size β_0, but can then be extended to examine potential effect size moderators by adding p covariates $x_1 \ldots x_p$, as in Equation (2):

$$(2) \qquad y_{ij} = \beta_0 + \beta_1 x_{1j} + \ldots + \beta_p x_{pj} + u_j + e_{ij}.$$

Consistent with standard meta-analysis models, the RVE meta-regression approach gives more weight to studies whose effect size estimates have greater precision, where precision is primarily driven by study sample size (Borenstein, Hedges, Higgins, and Rothstein 2010). In the RVE meta-regression approach, the weights include a within-study as well as a between-study component to the variance. The within-study component is the average variance across effect sizes within the study, and the between-study component is calculated using a method of moments estimator (Hedges, Tipton, and Johnson 2010).

The RVE approach requires an assumed average correlation between effect size estimates within studies (ρ) which we conservatively assumed to be .80. Sensitivity analyses using different assumed values of this parameter, ranging from .10 to .90, yielded robust findings (see Section 3.4 of this technical supplement; results were robust across assumed values of ρ given the homogeneity in effect sizes in all analyses).

To address our research questions, we first estimated unconditional RVE meta-regression models for each of the nine outcome categories (*ever had sex, recent sexual activity, recent unprotected sexual activity, number of sexual partners, number of sexual experiences, proportion of sexual experiences that were unprotected, sexually transmitted infections, ever pregnant, recent pregnancy*), where we used the intercept (β_0) from the unconditional model to estimate the average effect size across studies within each outcome category and overall.

We then estimated a series of RVE meta-regression models to address the research questions as to whether **program design, program implementation, participant characteristics,** and **study methods** were associated with effect size magnitude. We examined each block of moderators in a separate meta-regression model, given that the small number of included studies precluded our ability to estimate complex multivariable meta-regression models that simultaneously included all moderator variables. Because these meta-regression models often included multiple variables (e.g., 11 dummy variables measuring program component presence/absence), we used an omnibus *F*-statistic to assess the overall significance of each meta-regression model (Pustejovsky 2015; Tipton and Pustejovsky 2015), followed by an examination of the statistical significance of individual regression coefficients ($\beta_1 \ldots \beta_p$).

Although this modeling approach—examining one block of moderators at a time—limited our ability to control for potential confounding between different moderators, the bivariate correlations between all of the examined variables were low to moderate in size, providing some reassurances against the possibility of confounded moderators (see Section 3.5). We also report sensitivity analyses showing results from models examining one moderator variable at a time (without adjusting for other variables within a moderator block) and examining all moderators simultaneously in a single multivariable meta-regression model (see Section 3.6).

2.1.2 Individual Participant Data Meta-Analysis

Whereas the standard AD meta-analysis approach can be used to examine whether study-level participant characteristics are associated with larger or smaller program effects (e.g., whether programs with higher proportions of girls are more effective), IPD meta-analysis can be used to examine whether individual-level participant characteristics are associated with program effects (e.g., whether the programs as a whole are more or less effective for girls). IPD meta-analysis can thus provide more detailed information about variability in program effects for clinically relevant subgroups by separating participant-level heterogeneity and study-level heterogeneity, something that is impossible to do in a standard AD meta-analysis that only includes study-level information. Therefore, we used IPD meta-analyses to further examine variability in TPP program effects across the participant characteristics of age, gender, race, and ethnicity.

Because some evaluators did not provide IPD (and we did not request them for studies completed after October 31, 2016), the final IPD analysis model included a mixture of IPD and AD. We therefore used a one-stage approach to synthesize findings with a combination of IPD and AD (Fisher, Copas, Tierney, and Parmar 2011; Riley et al. 2008). The one-stage approach uses a multilevel logit model with the structure of Equations (3) and (4) below.[3] In this model, only the IPD trials contribute information to the

[3] IPD data were consistently available for only four outcomes (*ever had sex, recent sexual activity, recent unprotected sexual activity,* and *ever pregnant*), all of which are binary measures at the participant level.

analysis examining the effect of participant-level moderators, but both the IPD and AD trials contribute information to the overall average program effect as well as the between-study variance component (Riley and Steyerberg 2010):

$$(3) \quad y_{jk} \sim \text{Bernoulli}(p_{jk})$$

$$(4) \quad \text{logit}(p_{jk}) = \beta_0 + \gamma_1 TX_{jk} + \gamma_{2W} D_j(x_{jk} - \bar{x}_j) + \gamma_{3B}\bar{x}_j + \gamma_4 D_j[(x_{jk} - \bar{x}_j)^* TX_{jk}] + \gamma_{5W}(\bar{x}_j^* TX_{jk}) + e_j + u_{\gamma 1} + u_{\gamma 4}$$

where

y_{jk} is the outcome (1 = event, 0 = non-event) of participant k in study j;

D_j is a dummy variable indicating whether study j provided IPD or AD data (1 = IPD, 0 = AD only);

TX_{jk} is a dummy variable indicating whether participant k in study j was in the treatment or comparison group (1 = TPP group, 0 = comparison group); and

x_{jk} is a participant-level covariate (i.e., gender, race, ethnicity, or age).

The parameter γ_1 estimates the average TPP program effect, γ_{2W} estimates the within-study effect of the participant-level covariate, γ_{3B} estimates the between-study effect of the participant-level covariate, γ_4 estimates the interaction between the TPP program effect and within-study participant-level covariate, and γ_5 estimates the interaction between the TPP program effect and between-study participant-level covariate. The coefficients for γ_1, γ_2, and γ_4 are treated as random, to permit variability in program effects and program by covariate interactions across studies (see Section 3.3 for subgroup findings from each study contributing IPD data).

2.1.3 Analysis of Program Attendance and Retention

The study's fifth research question explores the extent to which participant attendance and retention were affected by program characteristics. To address this research question, we used linear regression models to predict the two continuously measured outcomes of **participant attendance** and **retention**. Using a parallel approach to the meta-regression model described in Equation (2), we estimated a series of regression models examining blocks of moderators related to program focus, components, group size, group composition, gender specificity, program length, program setting, delivery personnel, implementation fidelity, and participant characteristics. Again, because these regression models often included multiple variables (e.g., several dummy variables measuring program component presence/absence), we used an omnibus *F*-statistic to assess the overall significance of each regression model, followed by an examination of the statistical significance of individual regression coefficients.

2.2. Deviations from Pre-Specified Analysis Protocol

Our final analysis deviated from the original protocol in a few ways. First, our fourth research question (RQ4) originally included an additional study design moderator, *missing data handling*, intended to capture the analytic methods used by evaluation teams to handle missing data (and whether those were modern methods such as multiple imputation/full information maximum likelihood, or less preferred methods such as listwise/pairwise deletion and/or dummy variable imputation). We dropped this moderator from the final analysis because many studies did not report the methods for handling missing data or reported multiple methods for handling missing data (e.g., dummy variable imputation approaches

combined with pairwise deletion). Furthermore, only one study reported using a modern method (multiple imputation). It appears this was because the technical assistance provided to grantees encouraged them to use techniques such as listwise deletion, pairwise deletion, or dummy variable imputation. Given that we had no directional hypotheses regarding how missing data handling might moderate effect size, and given the imprecision in measurement of this variable, we ultimately elected to drop this variable from the final analysis.

Second, the original protocol for RQ4 specified another study design moderator: whether authors conducted an intent-to-treat (ITT) analysis or a treatment-on-the-treated analysis (TOT).[4] We dropped this moderator from the final analysis due to inconsistent reporting and the nature of the technical assistance provided to grantees: Because the TA provider for many of the grantees encouraged all of them to conduct ITT analysis, they may have conducted an ITT analysis but not reported it explicitly.

Third, the original protocol for RQ4 specified another study design moderator: potential risk of bias due to random sequence generation. We dropped this moderator from the final analysis because it was perfectly collinear with study design, such that all randomized experiments were deemed at low risk of bias due to random sequence generation, whereas all studies using non-randomized quasi-experimental designs were deemed at high risk of bias due to sequence generation.

Fourth, the original protocol did not include the implementation characteristics of fidelity, attendance, and retention as moderators of interest in RQ2. This was an unintentional omission from the protocol, so our final analysis included these three implementation variables as potential moderators of effect sizes.

Fifth, our protocol suggested that multivariable meta-regression models might be used in the AD meta-analysis to examine the effect of each moderator variable after adjusting for all other candidate moderators. As noted previously, this procedure was ultimately not feasible given the limited sample size available for fitting such models. As a result, we opted to instead examine each moderator block simultaneously while also assessing bivariate correlations between moderators to assess for potential confounding.

Sixth, our protocol stated that we would examine participants' baseline sexual activity as a moderator in both the AD and IPD meta-analyses. Ultimately, too few studies measured or reported participants' baseline sexual activity (either in their final evaluation reports or in the IPD data provided) for us to include this as an effect size moderator in our analysis. To address this limitation, we added an additional moderator variable to the analysis, the control group event rate for sexual behavior at post-test, which we included as a crude proxy for the risk level or sexual experience rates of the sample.

Finally, our original protocol implied that the meta-analysis would calculate averages across all effect sizes from each study. Prior to our final analysis, an expert panel convened to review the meta-analysis research design recommended that the primary analysis use only the confirmatory outcomes from each study. The expert panel's concern was that by including all of the outcomes that studies reported—some

[4] An intent to treat analysis captures impacts for all sample members, regardless of whether those assigned to the treatment group actually received the program's services. In other words, it assesses whether the existence of the program led to better outcomes for those offered the chance to participate in it, relative to what they could have obtained without the program. For a voluntary (rather than mandatory) program, the intent to treat estimate is often the most policy relevant.

of which might not be very relevant to the programs being evaluated—favorable impacts on key outcomes might be watered down. In theory, looking only at confirmatory outcomes should mitigate this concern to the degree that the study evaluators, after careful consideration, chose confirmatory outcomes that were well aligned with their programs' logic models and thus amenable to change. To address this recommendation, our Final Report presents results from both types of analysis, but with the analysis of confirmatory outcomes considered primary.

3. Additional Results and Sensitivity Analyses

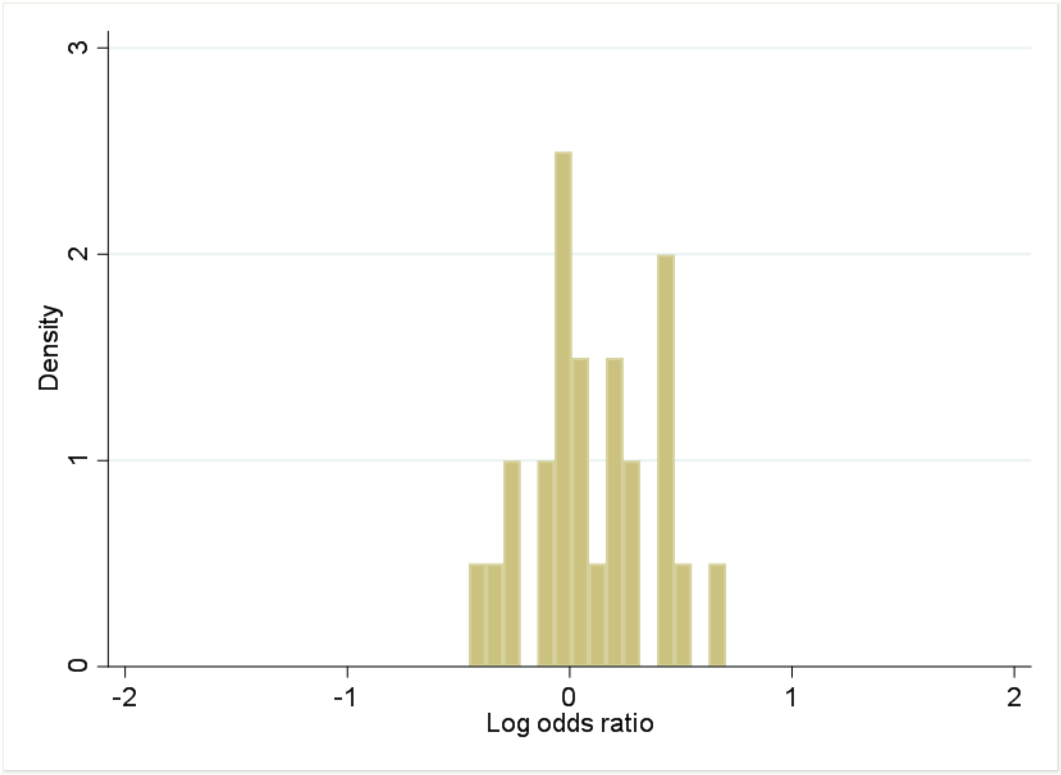
This chapter provides detailed results for the full sample and for subgroups that supplement those discussed in the report, as well as sensitivity analyses. Sections 3.1–3.3 present detailed results for the AD sample (Section 3.1) and the IPD sample (Sections 3.2 and 3.3) that supplement those presented in the main report. Sections 3.4–3.9 present sensitivity analyses exploring alternate model specifications and assumptions.

3.1. Distribution of Synthesized Effect Sizes and Statistical Findings by Outcome

This appendix provides histograms displaying the distribution of effect sizes for each outcome construct reported in Chapter 5 of the report (**Overall Effects of the Evaluated Programs**).

Ever had sex. Figure 3.1.1 shows the distribution of effect sizes from the studies that reported a confirmatory impact for the odds of ever having sex. These 22 studies reported $n = 26$ effect sizes indexing program effects on lifetime sexual activity, so the histogram includes multiple effect sizes from each study (when available). All effect sizes were coded such that log odds ratios (LOR) greater than zero indicate a beneficial program effect.

FIGURE 3.1.1: DISTRIBUTION OF PROGRAM EFFECTS FOR ODDS OF EVER HAVING SEX

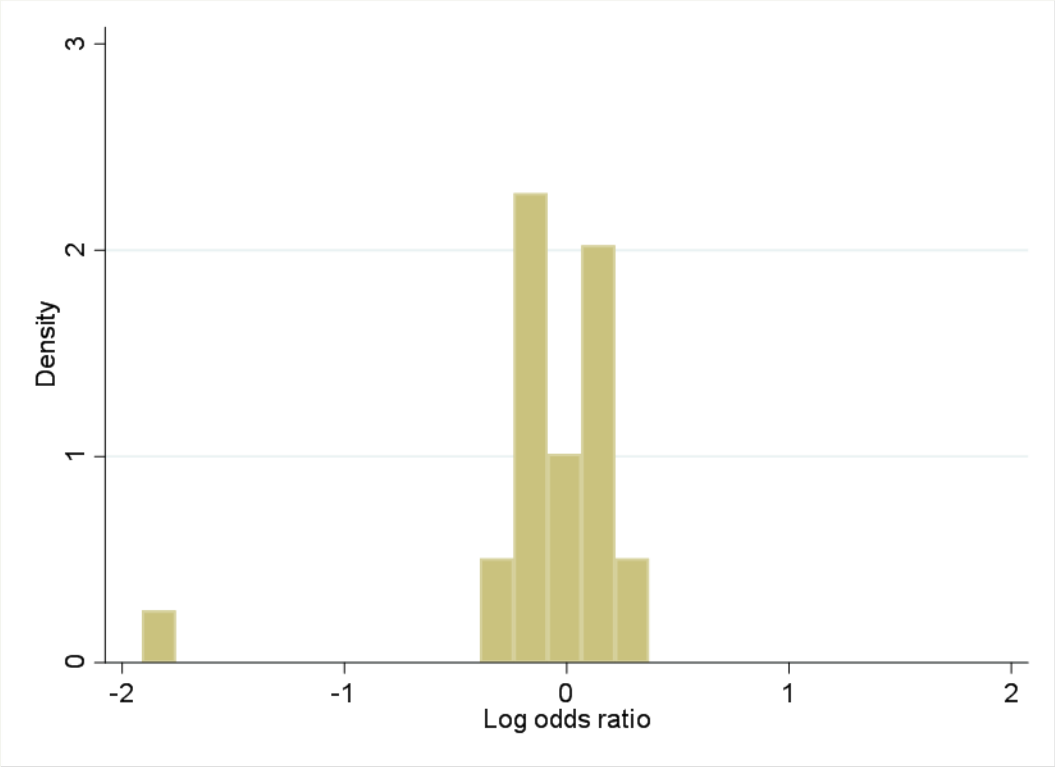


Notes. Figure 3.1.1 shows the distribution of log odds ratios across all 22 studies that reported at least one confirmatory effect size in the outcome category of *ever had sex*. Some studies reported multiple effect sizes in this category (e.g., different operational definitions or multiple follow-ups), so the distribution includes all available effect sizes from each study. All effect sizes coded such that log odds ratios greater than zero indicate a beneficial effect of the program (i.e., never engaged in sexual activity).

As shown in Figure 3.1.1 above, effect sizes for this outcome category are narrowly clustered around the mean effect size, which was small and marginally statistically significant (*LOR* = 0.07, 95% CI [−0.01, 0.14]; *k* = 22, *n* = *26*). This indicates that, on average, these TPP programs had slightly more beneficial effects on lifetime sexual activity than did the comparison conditions. Moreover, these null program effects were remarkably homogeneous across studies (τ^2 = 0.00, I^2 = 0%).

Recent sexual activity. Figure 3.1.2 shows the distribution of effect sizes from the 17 studies that measured participants' recent sexual activity after receipt of the TPP programs. Effect sizes are clustered around zero, suggesting that there were no differences between the TPP and comparison conditions (*LOR* = −0.05, 95% CI [−0.18, 0.08]; *k* = 17, *n* = 26). The average percentage of participants who reported no recent sexual activity was 60 percent in the TPP conditions and 60 percent in the comparison conditions. These (null) program effects were also homogeneous across studies (τ^2 = 0.05, I^2 = 59.87%).

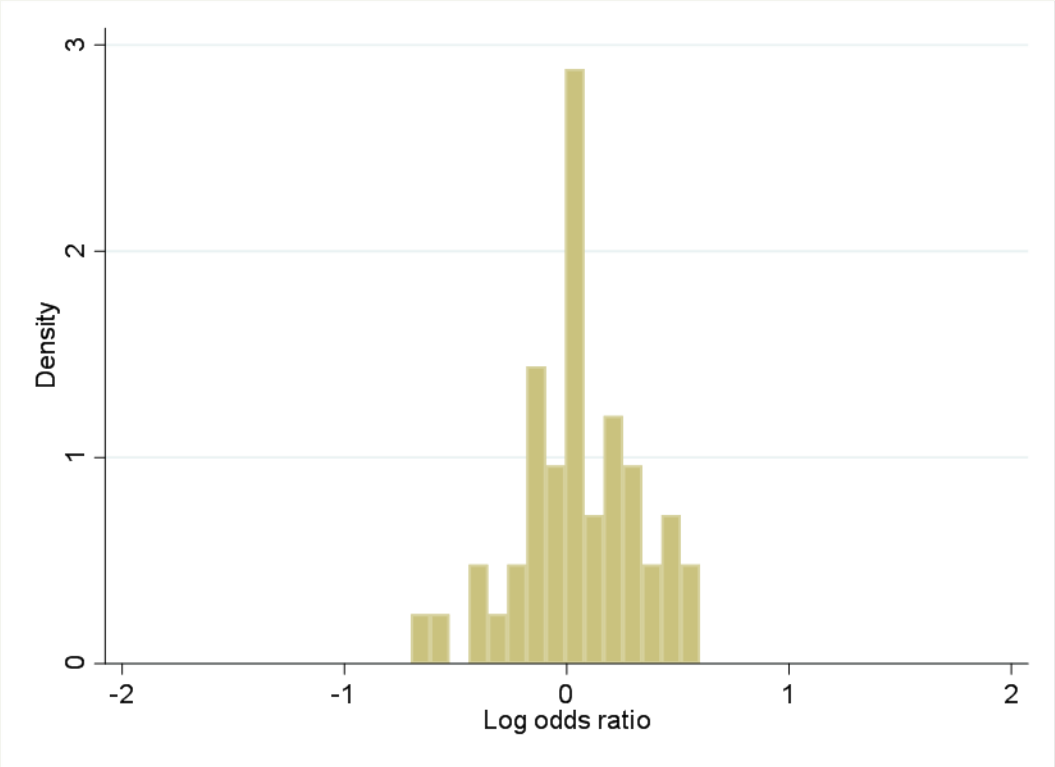
FIGURE 3.1.2: DISTRIBUTION OF PROGRAM EFFECTS FOR ODDS OF RECENT SEXUAL ACTIVITY



Notes. Figure 3.1.2 shows the distribution of log odds ratios across all 17 studies that reported at least one confirmatory effect size in the outcome category of ***recent sexual activity***. Several studies reported multiple effect sizes in this outcome category (e.g., different operational definitions or multiple follow-ups), so the distribution includes all available effect sizes from each study. All effect sizes coded such that log odds ratios greater than zero indicate a beneficial effect of the program (i.e., no recent sexual activity).

Recent unprotected sexual activity. The distribution of effect sizes for this outcome category is shown in Figure 3.1.3. Similar to the results for *recent sexual activity*, the mean effect size for the odds of having recent unprotected sex was not statistically significant (*LOR* = 0.05, 95% CI [−0.04, 0.15]; *k* = 32, *n* = 48). Although this mean effect size was positive in direction (indicating beneficial effects for TPP participants), it was small and statistically non-significant—whereas 83 percent of TPP participants reported no recent unprotected sexual activity, 82 percent of comparison participants reported no recent unprotected sex either. Again, these null findings were homogeneous across studies ($\tau^2 = 0.00$, $I^2 = 0\%$).

FIGURE 3.1.3: DISTRIBUTION OF PROGRAM EFFECTS FOR ODDS OF RECENT UNPROTECTED SEXUAL ACTIVITY

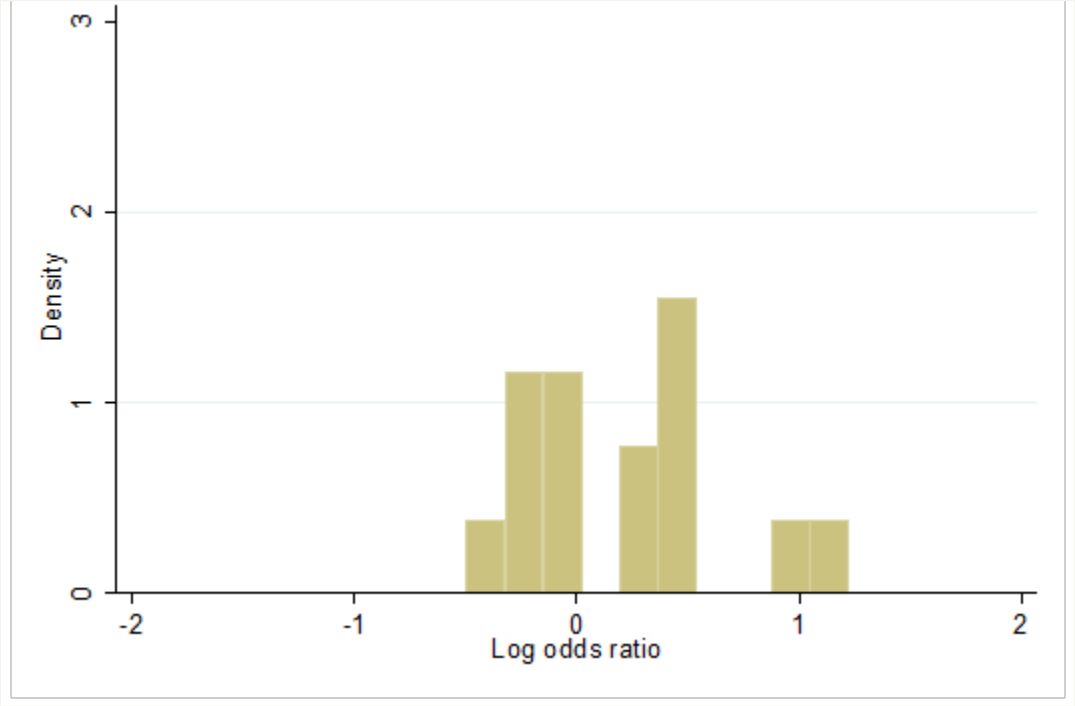


Notes. Figure 3.1.3 shows the distribution of recent unprotected sexual activity across all 32 studies that reported at least one confirmatory outcome in the category. Some studies reported multiple effect sizes in this category (e.g., different operational definitions or multiple follow-ups), so the distribution includes all available effect sizes from each study. All effect sizes coded such that log odds ratios greater than zero indicate a beneficial effect of the program (i.e., no recent unprotected sexual activity).

Proportion of sexual experiences that were unprotected. Only one study reported an effect size for this outcome category, which was not statistically significant (*LOR* = −0.29, 95% CI [−0.85, 0.27]).

Ever pregnant. Figure 3.1.4 shows the distribution of effect sizes for this outcome category. The mean effect size for the odds of any lifetime pregnancy was not statistically significant (*LOR* = 0.19, 95% CI [−0.68, 1.06]; $k = 4$, $n = 4$). This indicates that, on average, these TPP programs did not have more or less beneficial effects on lifetime pregnancy than did the comparison conditions. These null program effects were relatively homogeneous ($\tau^2 = 0.13$, $I^2 = 68.73\%$).

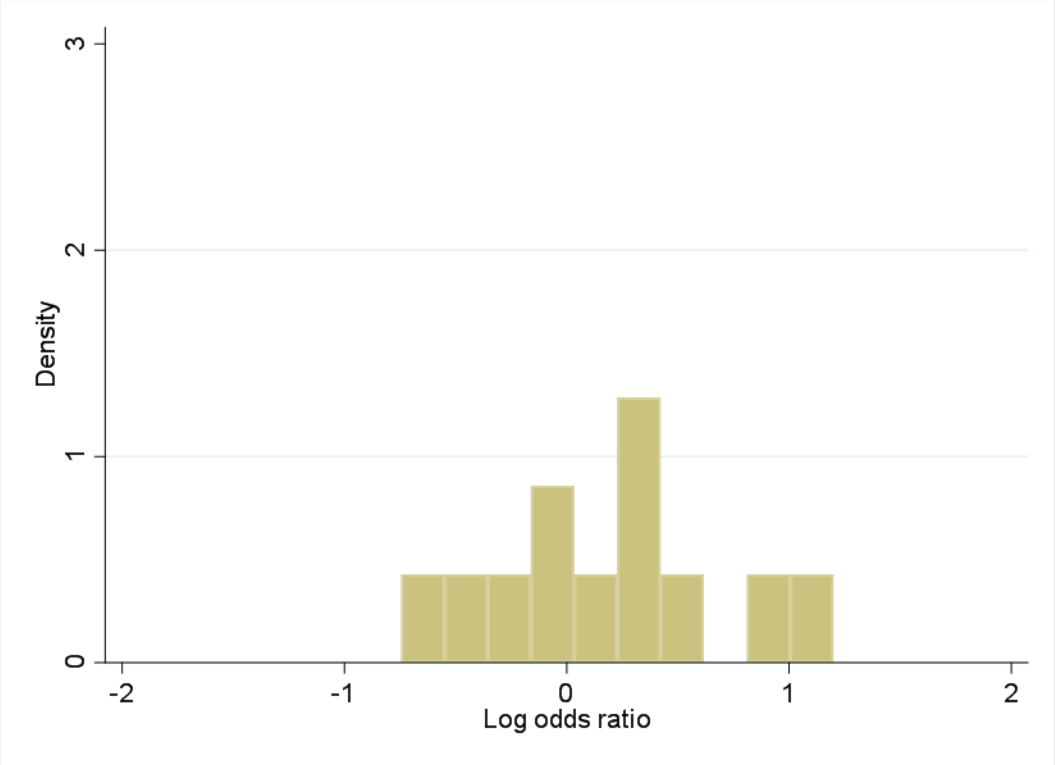
FIGURE 3.1.4: DISTRIBUTION OF PROGRAM EFFECTS FOR ODDS OF ANY PREGNANCY



Notes. Figure 3.1.4 shows the distribution of log odds ratios across all 4 studies that reported at least one confirmatory effect size in the outcome category of *ever pregnant*. All effect sizes coded such that log odds ratios greater than zero indicate a beneficial effect of the program (i.e., never pregnant).

Recent pregnancy. Figure 3.1.5 shows the distribution of effect sizes for this outcome category. The mean effect size was positive in direction (i.e., favorable) and statistically significant (*LOR* = 0.26, 95% CI [0.00, 0.52]; $k = 12$, $n = 12$). Among studies reporting recent pregnancy as a confirmatory outcome, 87 percent of TPP participants reported no recent pregnancies, 84 percent of comparison participants reported no recent pregnancies. These program effects were homogeneous across studies ($\tau^2 = 0.08$, $I^2 = 54.77\%$).

FIGURE 3.1.5: DISTRIBUTION OF PROGRAM EFFECTS FOR ODDS OF RECENT PREGNANCY



Notes. Figure 3.1.5 shows the distribution of log odds ratios across all 12 studies that reported at least one confirmatory effect size in the outcome category of *recent pregnancy*. All effect sizes coded such that log odds ratios greater than zero indicate a beneficial effect of the program (i.e., not recently pregnant).

Number of sexual partners. Only two studies reported a confirmatory effect size in this outcome category. The mean effect size was not statistically significant (Hedges' $g = 0.08$, 95% CI [−1.27, 1.44], $k = 2$, $n = 2$, $\tau^2 = 0.00$, $I^2 = 20.76\%$). This indicates that, on average, TPP programs did not lead to fewer (or more) sexual partners relative to the comparison conditions.

3.2. IPD Analysis Detailed Results

Using IPD, we were able to examine impacts for subgroups of participants defined by gender, race/ethnicity, and age. IPD were consistently available for four confirmatory outcomes: *ever had sex*, *recent sexual activity*, *recent unprotected sexual activity*, and *ever pregnant* (i.e., pregnancy for girls, causing pregnancy for boys).[5] The TPP program effects on each of these four outcomes for each

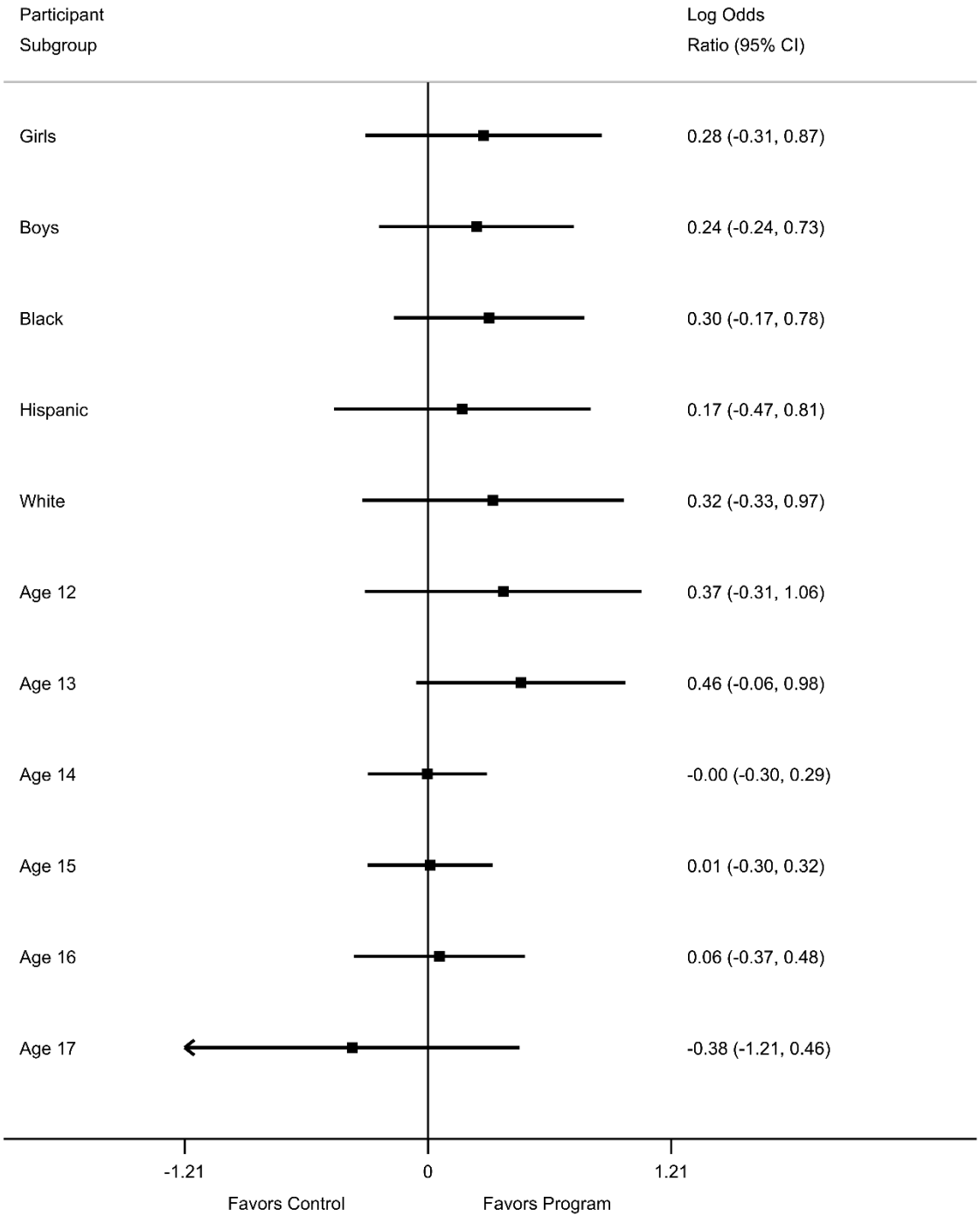
[5] We also ran these analyses using all available outcomes for each study; results were similar.

participant subgroup are displayed in Figures 3.2.1 through 3.2.4. Each of these figures draws on data from only the studies available prior to October 31, 2016, that provided IPD.

In each of the figures, the average treatment effect size for each subgroup of participants is expressed as a log odds ratio, where a positive number indicates an effect favoring the treatment group and a negative number indicates an effect favoring the comparison group. The figures include 95 percent confidence intervals for each estimate of the treatment effect size. The 95 percent confidence intervals for each of the subgroups in each of the figures include lower confidence limits that are less than zero, indicating a non-trivial probability that the true effect is negative, and upper limits that are above zero, indicating a non-trivial probability that the true effect is positive.

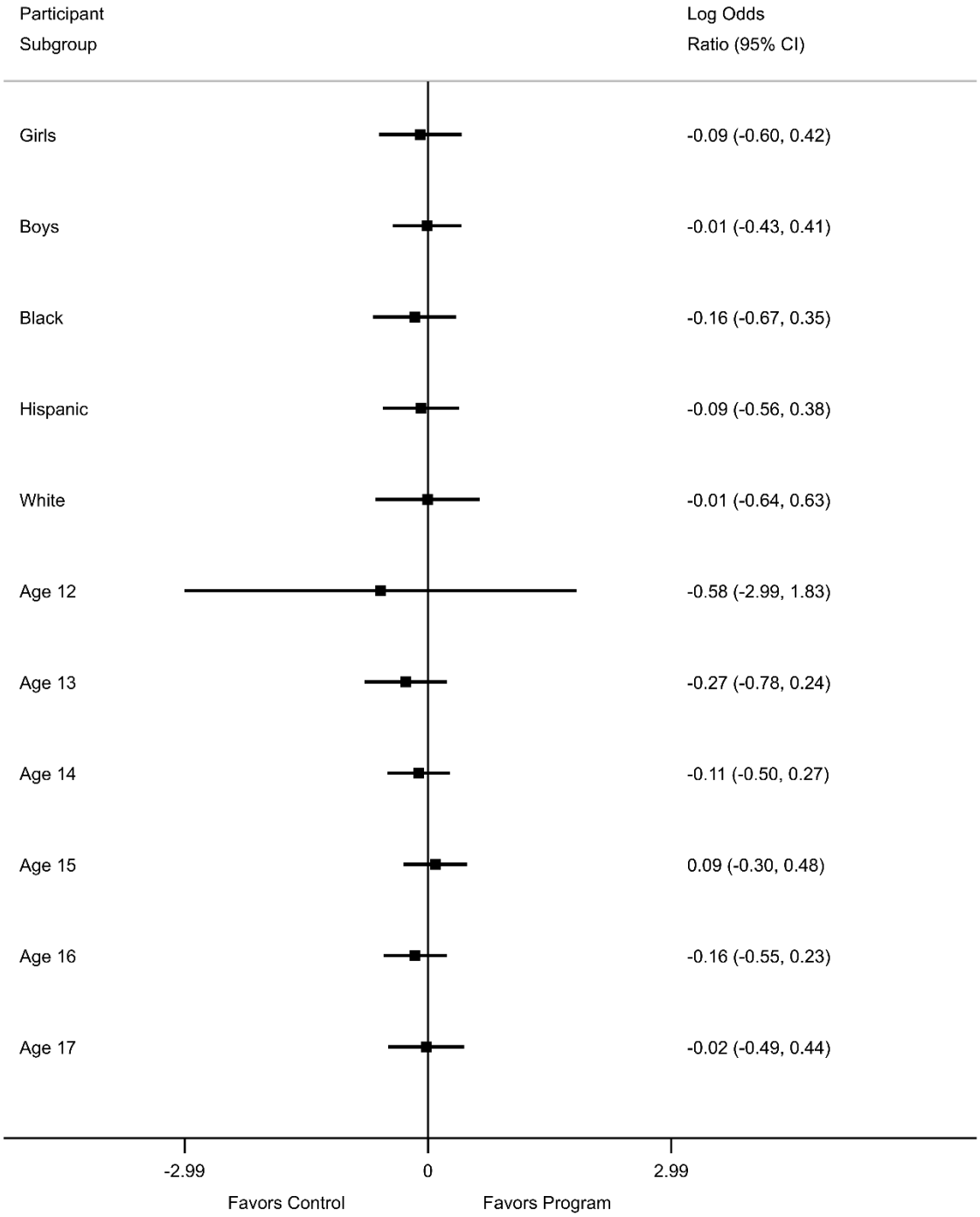
We therefore conclude that for these four outcomes, program impacts are not significantly different from zero for any of the participant subgroups examined.

FIGURE 3.2.1: *EVER HAD SEX*: PROGRAM EFFECTS FOR PARTICIPANT SUBGROUPS



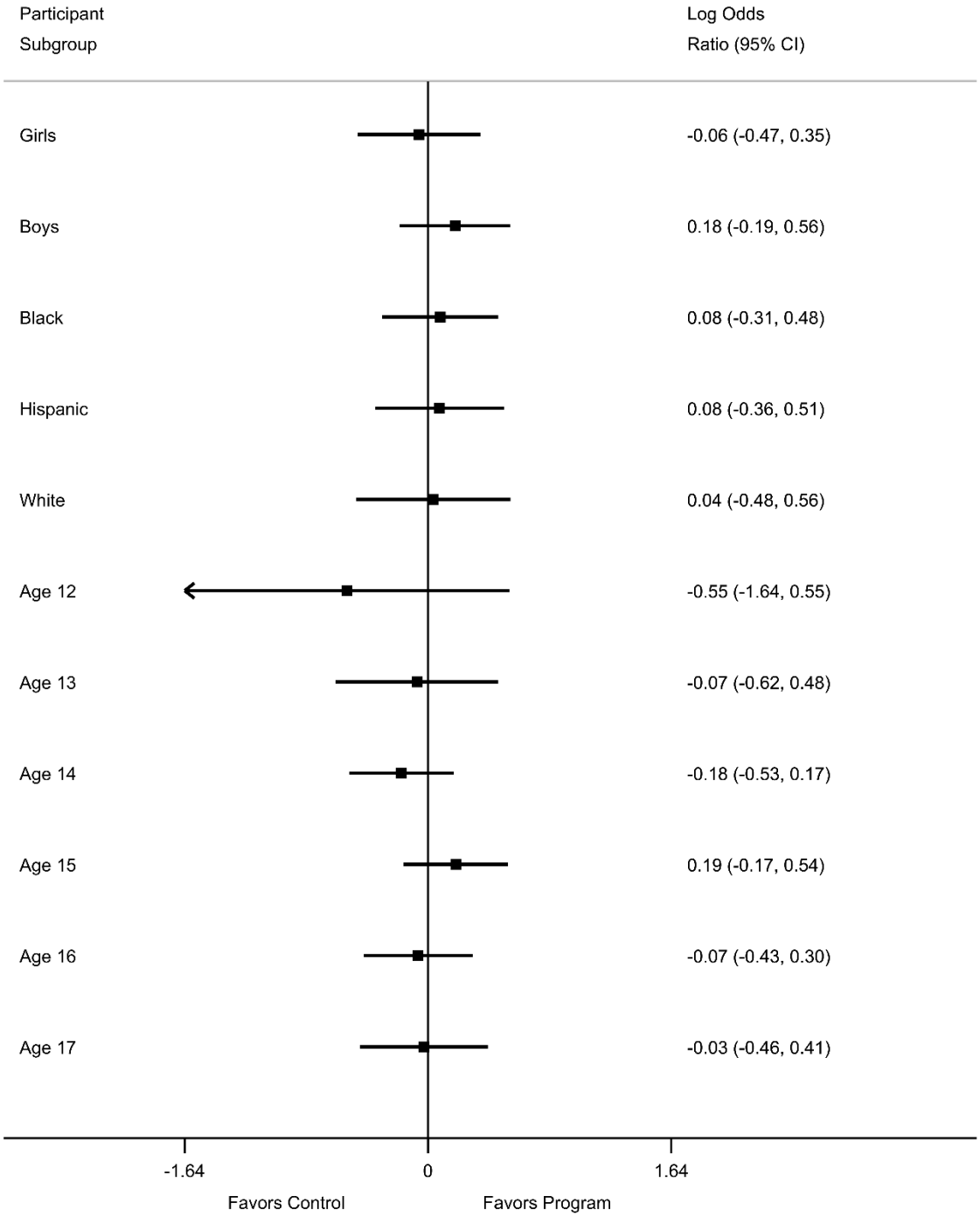
Notes. Results from 14 studies including 15,585 individual participants. Log odds ratios and 95 percent confidence intervals shown for each subgroup. Given that many studies reported multiple effect sizes, this figure displays the average (synthetic) mean effect size for each subgroup. All effect sizes coded such that log odds ratios greater than zero indicate a beneficial effect of the program (i.e., never had sex).

FIGURE 3.2.2: *RECENT SEXUAL ACTIVITY*: PROGRAM EFFECTS FOR PARTICIPANT SUBGROUPS



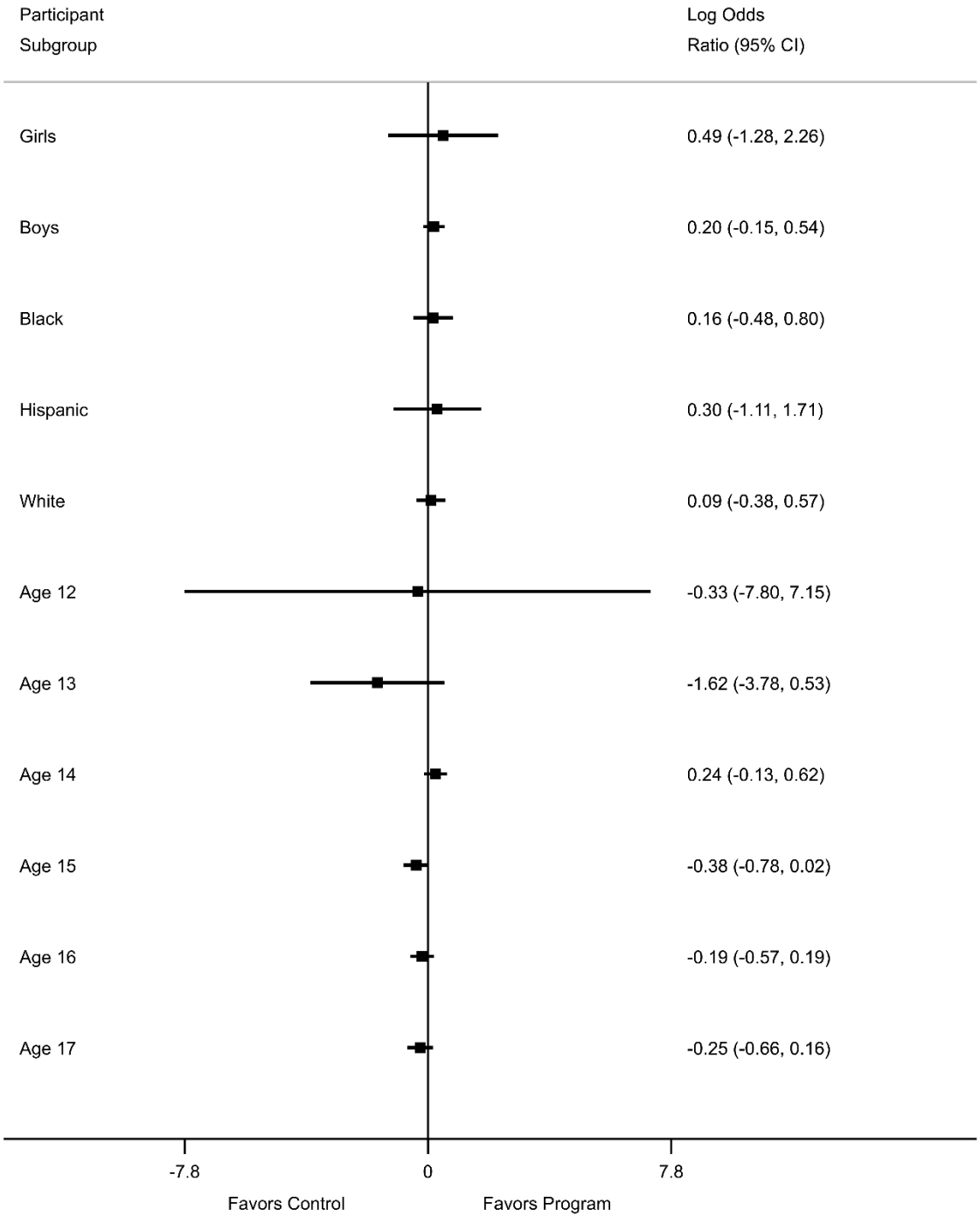
Notes. Results from 13 studies including 11,627 individual participants. Log odds ratios and 95 percent confidence intervals shown for each subgroup. Given that many studies reported multiple effect sizes, this figure displays the average (synthetic) mean effect size for each subgroup. All effect sizes coded such that log odds ratios greater than zero indicate a beneficial effect of the program (i.e., no recent sex).

FIGURE 3.2.3: *RECENT UNPROTECTED SEXUAL ACTIVITY*: PROGRAM EFFECTS FOR PARTICIPANT SUBGROUPS



Notes. Results from 21 studies including 19,175 individual participants. Log odds ratios and 95 percent confidence intervals shown for each subgroup. Given that many studies reported multiple effect sizes, this figure displays the average (synthetic) mean effect size for each subgroup. All effect sizes coded such that log odds ratios greater than zero indicate a beneficial effect of the program (i.e., no recent unprotected sex).

FIGURE 3.2.4: *EVER PREGNANT*: PROGRAM EFFECTS FOR PARTICIPANT SUBGROUPS



Notes. Results from 3 studies including 10,111 individual participants. Log odds ratios and 95 percent confidence intervals shown for each subgroup. Given that many studies reported multiple effect sizes, this figure displays the average (synthetic) mean effect size for each subgroup. All effect sizes coded such that log odds ratios greater than zero indicate a beneficial effect of the program (i.e., any pregnancy or parenting).

3.3. Subgroup Effects from IPD Meta-Analysis

This section presents subgroup findings from each study contributing IPD for each of the study's four IPD outcomes (*ever had sex, recent sexual activity, recent unprotected sexual activity, ever pregnant*). Table 3.3.1 presents subgroup effects by participant gender, Table 3.3.2 presents subgroup effects by ethnicity, and Table 3.3.3 presents subgroup effects by race. These tables present subgroup effects for all available outcomes for each study. Confirmatory outcomes are indicated using **bold** text.

TABLE 3.3.1: SUBGROUP EFFECTS BY PARTICIPANT GENDER

Study	Condition	Gender	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Abe et al. (2016)														
	Comparison	Girls	286	8.74%	91.26%	286	4.55%	95.45%	**286**	**2.80%**	**97.20%**	286	0.35%	99.65%
	Comparison	Boys	244	13.11%	86.89%	247	6.48%	93.52%	**247**	**2.43%**	**97.57%**	247	0.81%	99.19%
	Intervention	Girls	497	8.65%	91.35%	498	5.22%	94.78%	**499**	**2.00%**	**98.00%**	499	1.40%	98.60%
	Intervention	Boys	461	10.20%	89.80%	465	6.02%	93.98%	**465**	**1.51%**	**98.49%**	464	2.37%	97.63%
Abt Associates (2016a) [AZ]														
	Comparison	Girls	163	9.82%	90.18%	**163**	**6.13%**	**93.87%**	**163**	**4.91%**	**95.09%**	162	0.62%	99.38%
	Comparison	Boys	185	10.81%	89.19%	**185**	**5.95%**	**94.05%**	**185**	**3.24%**	**96.76%**	184	0.00%	100.00%
	Intervention	Girls	265	10.57%	89.43%	**265**	**6.42%**	**93.58%**	**265**	**4.15%**	**95.85%**	265	0.38%	99.62%
	Intervention	Boys	225	17.33%	82.67%	**225**	**8.44%**	**91.56%**	**225**	**7.56%**	**92.44%**	225	0.44%	99.56%
Abt Associates (2016a) [CA]														
	Comparison	Girls	122	32.79%	67.21%	**122**	**22.13%**	**77.87%**	**122**	**16.39%**	**83.61%**	122	1.64%	98.36%
	Comparison	Boys	80	46.25%	53.75%	**80**	**27.50%**	**72.50%**	**80**	**21.25%**	**78.75%**	80	2.50%	97.50%
	Intervention	Girls	175	40.57%	59.43%	**175**	**26.29%**	**73.71%**	**175**	**21.71%**	**78.29%**	175	4.00%	96.00%
	Intervention	Boys	109	46.79%	53.21%	**109**	**34.86%**	**65.14%**	**109**	**30.28%**	**69.72%**	109	1.83%	98.17%
Abt Associates (2016a) [MA]														
	Comparison	Girls	139	36.69%	63.31%	**139**	**22.30%**	**77.70%**	**139**	**17.27%**	**82.73%**	139	2.88%	97.12%
	Comparison	Boys	113	51.33%	48.67%	**113**	**37.17%**	**62.83%**	**113**	**30.97%**	**69.03%**	113	7.08%	92.92%
	Intervention	Girls	250	46.40%	53.60%	**250**	**34.40%**	**65.60%**	**250**	**28.80%**	**71.20%**	250	6.40%	93.60%
	Intervention	Boys	186	47.31%	52.69%	**185**	**28.11%**	**71.89%**	**186**	**20.97%**	**79.03%**	186	3.76%	96.24%
Abt Associates (2016b) [CA]														
	Comparison	Girls	197	18.27%	81.73%	**196**	**11.22%**	**88.78%**	**197**	**9.14%**	**90.86%**	197	0.51%	99.49%
	Comparison	Boys	186	22.58%	77.42%	**186**	**13.44%**	**86.56%**	**186**	**11.29%**	**88.71%**	185	2.70%	97.30%
	Intervention	Girls	269	20.07%	79.93%	**269**	**12.27%**	**87.73%**	**269**	**10.78%**	**89.22%**	269	0.74%	99.26%
	Intervention	Boys	234	29.49%	70.51%	**233**	**16.74%**	**83.26%**	**233**	**12.45%**	**87.55%**	233	0.43%	99.57%

Study	Condition	Gender	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Abt Associates (2016b) [IL & MO]														
	Comparison	Girls	174	43.68%	56.32%	**173**	**30.64%**	**69.36%**	**173**	**21.39%**	**78.61%**	174	10.34%	89.66%
	Comparison	Boys	193	68.39%	31.61%	**192**	**51.04%**	**48.96%**	**193**	**37.82%**	**62.18%**	193	14.51%	85.49%
	Intervention	Girls	272	50.74%	49.26%	**272**	**31.99%**	**68.01%**	**272**	**21.32%**	**78.68%**	271	7.75%	92.25%
	Intervention	Boys	297	62.63%	37.37%	**296**	**42.91%**	**57.09%**	**296**	**26.01%**	**73.99%**	295	8.14%	91.86%
Abt Associates (2016b) [TX]														
	Comparison	Girls	197	41.62%	58.38%	**197**	**29.44%**	**70.56%**	**197**	**27.41%**	**72.59%**	197	7.11%	92.89%
	Comparison	Boys	211	54.50%	45.50%	**211**	**32.70%**	**67.30%**	**211**	**30.33%**	**69.67%**	211	5.21%	94.79%
	Intervention	Girls	215	48.37%	51.63%	**215**	**34.42%**	**65.58%**	**215**	**29.77%**	**70.23%**	215	5.12%	94.88%
	Intervention	Boys	225	57.33%	42.67%	**225**	**37.33%**	**62.67%**	**225**	**30.22%**	**69.78%**	225	6.67%	93.33%
Abt Associates (2016c) [FL]														
	Comparison	Girls	146	85.62%	14.38%	**146**	**72.60%**	**27.40%**	**146**	**61.64%**	**38.36%**	146	15.75%	84.25%
	Comparison	Boys	0			**0**			**0**			0		
	Intervention	Girls	280	89.64%	10.36%	**280**	**72.86%**	**27.14%**	**280**	**62.86%**	**37.14%**	280	25.36%	74.64%
	Intervention	Boys	0			**0**			**0**			0		
Abt Associates (2016c) [MN]														
	Comparison	Girls	656	91.77%	8.23%	**656**	**78.66%**	**21.34%**	**656**	**71.65%**	**28.35%**	652	20.86%	79.14%
	Comparison	Boys	0			**0**			**0**			0		
	Intervention	Girls	1274	90.27%	9.73%	**1270**	**76.06%**	**23.94%**	**1272**	**66.67%**	**33.33%**	1272	22.48%	77.52%
	Intervention	Boys	0			**0**			**0**			0		
Abt Associates (2016c) [TN]														
	Comparison	Girls	137	89.78%	10.22%	**137**	**68.61%**	**31.39%**	**137**	**62.77%**	**37.23%**	137	21.90%	78.10%
	Comparison	Boys	0			**0**			**0**			0		
	Intervention	Girls	275	89.09%	10.91%	**275**	**72.73%**	**27.27%**	**275**	**61.45%**	**38.55%**	275	22.91%	77.09%
	Intervention	Boys	0			**0**			**0**			0		

Study	Condition	Gender	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Advanced Empirical Solutions (2015)														
	Comparison	Girls	**307**	**0.33%**	**99.67%**	*						**307**	**0.00%**	**100.00%**
	Comparison	Boys	**0**			*						**0**		
	Intervention	Girls	**294**	**0.00%**	**100.00%**	*						**294**	**0.00%**	**100.00%**
	Intervention	Boys	**0**			*			*			**0**		
Calise et al. (2015)														
	Comparison	Girls	**294**	**10.20%**	**89.80%**	290	5.86%	94.14%	289	3.46%	96.54%	289	0.35%	99.65%
	Comparison	Boys	**302**	**14.57%**	**85.43%**	292	6.51%	93.49%	290	3.79%	96.21%	290	1.38%	98.62%
	Intervention	Girls	**213**	**5.16%**	**94.84%**	210	2.86%	97.14%	210	1.90%	98.10%	211	0.00%	100.00%
	Intervention	Boys	**251**	**12.75%**	**87.25%**	244	6.56%	93.44%	244	4.10%	95.90%	243	1.65%	98.35%
Carter et al. (2015)														
	Comparison	Girls	**155**	**1.94%**	**98.06%**	*			*			*		
	Comparison	Boys	**115**	**1.74%**	**98.26%**	*			*			*		
	Intervention	Girls	**113**	**1.77%**	**98.23%**	*			*			*		
	Intervention	Boys	**96**	**3.13%**	**96.88%**	*			*			*		
Coyle et al. (2015)														
	Comparison	Girls	**643**	**16.95%**	**83.05%**	*			*			646	2.01%	97.99%
	Comparison	Boys	**605**	**26.45%**	**73.55%**	*			*			607	1.81%	98.19%
	Intervention	Girls	**806**	**14.89%**	**85.11%**	*			*			807	1.36%	98.64%
	Intervention	Boys	**665**	**24.96%**	**75.04%**	*			*			666	1.80%	98.20%
Coyle et al. (2016)														
	Comparison	Girls	**458**	**12.88%**	**87.12%**	*			*			*		
	Comparison	Boys	**443**	**30.70%**	**69.30%**	*			*			*		
	Intervention	Girls	**487**	**9.24%**	**90.76%**	*			*			*		
	Intervention	Boys	**452**	**25.22%**	**74.78%**	*			*			*		

Study	Condition	Gender	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Crean et al. (2016)														
	Comparison	Girls	**146**	**9.59%**	**90.41%**	189	4.23%	95.77%	188	2.13%	97.87%	189	0.53%	99.47%
	Comparison	Boys	**158**	**27.85%**	**72.15%**	220	11.36%	88.64%	219	6.39%	93.61%	227	0.88%	99.12%
	Intervention	Girls	**238**	**8.82%**	**91.18%**	301	2.66%	97.34%	300	2.33%	97.67%	301	0.66%	99.34%
	Intervention	Boys	**189**	**21.16%**	**78.84%**	260	8.46%	91.54%	257	1.56%	98.44%	264	0.76%	99.24%
Cunningham et al. (2016) [LN]														
	Comparison	Girls	410	36.10%	63.90%	410	23.90%	76.10%	**410**	**17.07%**	**82.93%**	410	2.44%	97.56%
	Comparison	Boys	244	36.07%	63.93%	244	25.41%	74.59%	**246**	**16.26%**	**83.74%**	244	3.28%	96.72%
	Intervention	Girls	476	31.09%	68.91%	476	18.07%	81.93%	**476**	**15.55%**	**84.45%**	476	0.84%	99.16%
	Intervention	Boys	238	39.50%	60.50%	238	26.05%	73.95%	**240**	**16.67%**	**83.33%**	240	4.17%	95.83%
Cunningham et al. (2016) [RtR]														
	Comparison	Girls	410	36.10%	63.90%	410	23.90%	76.10%	410	17.07%	82.93%	410	2.44%	97.56%
	Comparison	Boys	244	36.07%	63.93%	244	25.41%	74.59%	246	16.26%	83.74%	244	3.28%	96.72%
	Intervention	Girls	482	23.65%	76.35%	482	15.35%	84.65%	482	11.62%	88.38%	482	0.83%	99.17%
	Intervention	Boys	276	42.03%	57.97%	276	23.91%	76.09%	276	16.67%	83.33%	276	2.17%	97.83%
Daley et al. (2015)														
	Comparison	Girls	**999**	**35.54%**	**64.46%**	975	23.38%	76.62%	873	17.75%	82.25%	**993**	**3.32%**	**96.68%**
	Comparison	Boys	**968**	**39.98%**	**60.02%**	919	22.85%	77.15%	780	13.97%	86.03%	**954**	**2.41%**	**97.59%**
	Intervention	Girls	**812**	**31.90%**	**68.10%**	747	15.93%	84.07%	667	10.04%	89.96%	**779**	**2.82%**	**97.18%**
	Intervention	Boys	**799**	**36.80%**	**63.20%**	744	17.47%	82.53%	632	12.18%	87.82%	**802**	**4.36%**	**95.64%**
Dierschke et al. (2015)														
	Comparison	Girls	**200**	**56.50%**	**43.50%**	200	39.00%	61.00%	**200**	**28.00%**	**72.00%**	199	5.03%	94.97%
	Comparison	Boys	**199**	**59.30%**	**40.70%**	199	37.19%	62.81%	**199**	**24.62%**	**75.38%**	198	7.58%	92.42%
	Intervention	Girls	**214**	**58.41%**	**41.59%**	214	40.19%	59.81%	**214**	**33.18%**	**66.82%**	214	5.61%	94.39%
	Intervention	Boys	**190**	**59.47%**	**40.53%**	190	34.74%	65.26%	**190**	**22.63%**	**77.37%**	190	4.21%	95.79%

Study	Condition	Gender	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Eichner et al. (2015)														
	Comparison	Girls	*			**343**	**79.59%**	**20.41%**	**343**	**63.56%**	**36.44%**	*		
	Comparison	Boys	*			**0**			**0**			*		
	Intervention	Girls	*			**342**	**80.12%**	**19.88%**	**342**	**61.70%**	**38.30%**	*		
	Intervention	Boys	*			**0**			**0**			*		
Francis et al. (2015)														
	Comparison	Girls	254	19.69%	80.31%	**253**	**15.02%**	**84.98%**	253	9.49%	90.51%	*		
	Comparison	Boys	202	18.81%	81.19%	**202**	**11.39%**	**88.61%**	202	6.44%	93.56%	*		
	Intervention	Girls	408	22.30%	77.70%	**406**	**15.76%**	**84.24%**	405	9.14%	90.86%	*		
	Intervention	Boys	335	25.67%	74.33%	**334**	**14.67%**	**85.33%**	334	7.49%	92.51%	*		
Herrling (2016)														
	Comparison	Girls	**67**	**16.42%**	**83.58%**	67	10.45%	89.55%	**63**	**4.76%**	**95.24%**	67	2.99%	97.01%
	Comparison	Boys	**66**	**39.39%**	**60.61%**	66	22.73%	77.27%	**55**	**18.18%**	**81.82%**	65	0.00%	100.00%
	Intervention	Girls	**77**	**18.18%**	**81.82%**	76	13.16%	86.84%	**73**	**12.33%**	**87.67%**	77	3.90%	96.10%
	Intervention	Boys	**57**	**43.86%**	**56.14%**	57	28.07%	71.93%	**48**	**10.42%**	**89.58%**	56	5.36%	94.64%
Kissinger et al. (2015)														
	Comparison	Girls	*			268	58.21%	41.79%	**131**	**51.91%**	**48.09%**	*		
	Comparison	Boys	*			0			**0**			*		
	Intervention	Girls	*			263	56.27%	43.73%	**124**	**48.39%**	**51.61%**	*		
	Intervention	Boys	*			0			**0**			*		
Philliber et al. (2016)														
	Comparison	Girls	1929	31.47%	68.53%	1923	22.36%	77.64%	1756	15.21%	84.79%	**1930**	**5.75%**	**94.25%**
	Comparison	Boys	1415	30.95%	69.05%	1409	21.36%	78.64%	1287	11.42%	88.58%	**1416**	**3.32%**	**96.68%**
	Intervention	Girls	2053	34.34%	65.66%	2046	25.66%	74.34%	1872	17.31%	82.69%	**2053**	**8.96%**	**91.04%**
	Intervention	Boys	1500	31.53%	68.47%	1495	21.27%	78.73%	1346	11.52%	88.48%	**1501**	**2.80%**	**97.20%**

Study	Condition	Gender	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Philliber & Philliber (2016)														
	Comparison	Girls	**228**	**20.61%**	**79.39%**	228	8.77%	91.23%	**201**	**4.98%**	**95.02%**	225	3.56%	96.44%
	Comparison	Boys	**180**	**36.67%**	**63.33%**	180	24.44%	75.56%	**158**	**13.92%**	**86.08%**	175	2.86%	97.14%
	Intervention	Girls	**304**	**20.39%**	**79.61%**	304	11.84%	88.16%	**278**	**6.12%**	**93.88%**	301	2.99%	97.01%
	Intervention	Boys	**221**	**35.29%**	**64.71%**	221	20.36%	79.64%	**188**	**11.70%**	**88.30%**	214	2.80%	97.20%
Piotrowski et al. (2015)														
	Comparison	Girls	**347**	**4.03%**	**95.97%**	347	2.02%	97.98%	346	1.16%	98.84%	346	0.29%	99.71%
	Comparison	Boys	**324**	**9.88%**	**90.12%**	324	7.10%	92.90%	322	3.11%	96.89%	323	0.31%	99.69%
	Intervention	Girls	**408**	**1.96%**	**98.04%**	408	0.25%	99.75%	407	0.25%	99.75%	408	0.00%	100.00%
	Intervention	Boys	**376**	**4.26%**	**95.74%**	376	3.19%	96.81%	376	2.39%	97.61%	375	1.07%	98.93%
Robinson et al. (2016)														
	Comparison	Girls	642	28.04%	71.96%	639	18.00%	82.00%	**646**	**10.06%**	**89.94%**	636	5.35%	94.65%
	Comparison	Boys	403	40.69%	59.31%	407	24.57%	75.43%	**408**	**12.01%**	**87.99%**	396	3.54%	96.46%
	Intervention	Girls	583	29.33%	70.67%	574	16.90%	83.10%	**582**	**10.65%**	**89.35%**	574	4.88%	95.12%
	Intervention	Boys	389	43.44%	56.56%	387	25.84%	74.16%	**398**	**9.05%**	**90.95%**	378	3.17%	96.83%
Rotz et al. (2016)														
	Comparison	Girls	305	39.02%	60.98%	**303**	**35.64%**	**64.36%**	**303**	**36.96%**	**63.04%**	301	5.32%	94.68%
	Comparison	Boys	230	49.13%	50.87%	**227**	**44.05%**	**55.95%**	**227**	**45.37%**	**54.63%**	220	5.45%	94.55%
	Intervention	Girls	531	37.10%	62.90%	**529**	**33.65%**	**66.35%**	**529**	**34.22%**	**65.78%**	524	2.48%	97.52%
	Intervention	Boys	419	42.00%	58.00%	**402**	**36.57%**	**63.43%**	**402**	**34.83%**	**65.17%**	397	0.25%	99.75%
Slater et al. (2015)														
	Comparison	Girls	229	82.53%	17.47%	224	64.29%	35.71%	**230**	**53.04%**	**46.96%**	227	25.11%	74.89%
	Comparison	Boys	247	82.19%	17.81%	241	68.88%	31.12%	**248**	**53.63%**	**46.37%**	244	18.85%	81.15%
	Intervention	Girls	235	83.83%	16.17%	230	67.83%	32.17%	**236**	**55.08%**	**44.92%**	232	28.45%	71.55%
	Intervention	Boys	242	90.50%	9.50%	236	70.34%	29.66%	**243**	**50.62%**	**49.38%**	236	17.37%	82.63%

Study	Condition	Gender	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Smith et al. (2015)														
	Comparison	Girls	*			244	86.48%	13.52%	244	90.98%	9.02%	268	97.39%	2.61%
	Comparison	Boys	*			0			0			0		
	Intervention	Girls	*			249	83.53%	16.47%	249	93.98%	6.02%	271	97.79%	2.21%
	Intervention	Boys	*			0			0			0		
Smith et al. (2016)														
	Comparison	Girls	**153**	**30.72%**	**69.28%**	**141**	**17.73%**	**82.27%**	**131**	**13.74%**	**86.26%**	153	5.23%	94.77%
	Comparison	Boys	**165**	**36.97%**	**63.03%**	**153**	**22.22%**	**77.78%**	**138**	**10.14%**	**89.86%**	164	3.05%	96.95%
	Intervention	Girls	**217**	**29.49%**	**70.51%**	**205**	**19.02%**	**80.98%**	**192**	**9.90%**	**90.10%**	216	6.02%	93.98%
	Intervention	Boys	**210**	**38.57%**	**61.43%**	**195**	**23.08%**	**76.92%**	**175**	**9.71%**	**90.29%**	209	3.35%	96.65%
The Policy & Research Group (2015)														
	Comparison	Girls	176	25.00%	75.00%	174	17.24%	82.76%	168	13.10%	86.90%	174	2.30%	97.70%
	Comparison	Boys	169	49.11%	50.89%	156	30.13%	69.87%	146	14.38%	85.62%	164	3.05%	96.95%
	Intervention	Girls	172	29.65%	70.35%	170	18.82%	81.18%	160	10.63%	89.38%	172	3.49%	96.51%
	Intervention	Boys	171	49.71%	50.29%	163	25.77%	74.23%	149	8.05%	91.95%	166	4.82%	95.18%
Vyas et al. (2015)														
	Comparison	Girls	**210**	**23.81%**	**76.19%**	210	14.76%	85.24%	**210**	**10.48%**	**89.52%**	212	2.36%	97.64%
	Comparison	Boys	**138**	**50.72%**	**49.28%**	138	30.43%	69.57%	**136**	**11.03%**	**88.97%**	136	4.41%	95.59%
	Intervention	Girls	**247**	**26.72%**	**73.28%**	246	17.48%	82.52%	**246**	**11.79%**	**88.21%**	249	4.02%	95.98%
	Intervention	Boys	**191**	**48.69%**	**51.31%**	189	22.75%	77.25%	**189**	**9.52%**	**90.48%**	191	1.57%	98.43%
Walker et al. (2016)														
	Comparison	Girls	**172**	**1.16%**	**98.84%**	170	0.00%	100.00%	170	0.00%	100.00%	172	0.00%	100.00%
	Comparison	Boys	**148**	**4.05%**	**95.95%**	142	0.00%	100.00%	142	0.00%	100.00%	146	0.00%	100.00%
	Intervention	Girls	**206**	**0.49%**	**99.51%**	206	0.00%	100.00%	206	0.00%	100.00%	206	0.00%	100.00%
	Intervention	Boys	**178**	**3.37%**	**96.63%**	177	2.26%	97.74%	176	1.70%	98.30%	178	2.25%	97.75%

AZ = Arizona, CA = California, FL = Florida, IL = Illinois, LN = *Love Notes*, MA = Massachusetts, MN = Minnesota, MO = Missouri, RTR = *Reducing the Risk,* TN = Tennessee TX = Texas.

Notes. The presence of an asterisk (*) indicates that this outcome was not reported at the first post-test. **Bold** text indicates that the outcome was selected as confirmatory.

TABLE 3.3.2: SUBGROUP EFFECTS BY ETHNICITY

Study	Condition	Ethnicity	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Abt Associates (2016a) [AZ]														
	Comparison	Hispanic	254	9.84%	90.16%	**254**	**7.09%**	**92.91%**	**254**	**5.12%**	**94.88%**	253	0.00%	100.00%
	Comparison	Non-Hispanic	83	13.25%	86.75%	**83**	**3.61%**	**96.39%**	**83**	**1.20%**	**98.80%**	82	1.22%	98.78%
	Intervention	Hispanic	363	11.29%	88.71%	**363**	**6.06%**	**93.94%**	**363**	**4.96%**	**95.04%**	363	0.28%	99.72%
	Intervention	Non-Hispanic	114	19.30%	80.70%	**114**	**10.53%**	**89.47%**	**114**	**7.89%**	**92.11%**	114	0.88%	99.12%
Abt Associates (2016a) [CA]														
	Comparison	Hispanic	105	33.33%	66.67%	**105**	**23.81%**	**76.19%**	**105**	**20.95%**	**79.05%**	105	3.81%	96.19%
	Comparison	Non-Hispanic	97	43.30%	56.70%	**97**	**24.74%**	**75.26%**	**97**	**15.46%**	**84.54%**	97	0.00%	100.00%
	Intervention	Hispanic	147	41.50%	58.50%	**147**	**26.53%**	**73.47%**	**147**	**21.77%**	**78.23%**	147	2.04%	97.96%
	Intervention	Non-Hispanic	135	44.44%	55.56%	**135**	**33.33%**	**66.67%**	**135**	**28.89%**	**71.11%**	135	4.44%	95.56%
Abt Associates (2016a) [MA]														
	Comparison	Hispanic	199	41.71%	58.29%	**199**	**29.15%**	**70.85%**	**199**	**22.61%**	**77.39%**	199	4.52%	95.48%
	Comparison	Non-Hispanic	53	49.06%	50.94%	**53**	**28.30%**	**71.70%**	**53**	**26.42%**	**73.58%**	53	5.66%	94.34%
	Intervention	Hispanic	353	46.74%	53.26%	**352**	**33.24%**	**66.76%**	**353**	**26.63%**	**73.37%**	353	5.67%	94.33%
	Intervention	Non-Hispanic	83	46.99%	53.01%	**83**	**25.30%**	**74.70%**	**83**	**20.48%**	**79.52%**	83	3.61%	96.39%
Abt Associates (2016b) [CA]														
	Comparison	Hispanic	267	20.22%	79.78%	**266**	**13.16%**	**86.84%**	**267**	**10.49%**	**89.51%**	266	1.88%	98.12%
	Comparison	Non-Hispanic	107	18.69%	81.31%	**107**	**8.41%**	**91.59%**	**107**	**8.41%**	**91.59%**	107	0.00%	100.00%
	Intervention	Hispanic	331	22.96%	77.04%	**331**	**12.99%**	**87.01%**	**331**	**9.67%**	**90.33%**	330	0.61%	99.39%
	Intervention	Non-Hispanic	165	27.27%	72.73%	**164**	**16.46%**	**83.54%**	**164**	**14.63%**	**85.37%**	165	0.61%	99.39%

Study	Condition	Ethnicity	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Abt Associates (2016b) [IL & MO]														
	Comparison	Hispanic	10	50.00%	50.00%	**10**	**50.00%**	**50.00%**	**10**	**50.00%**	**50.00%**	10	10.00%	90.00%
	Comparison	Non-Hispanic	352	57.10%	42.90%	**350**	**41.14%**	**58.86%**	**351**	**29.91%**	**70.09%**	352	12.78%	87.22%
	Intervention	Hispanic	14	35.71%	64.29%	**14**	**21.43%**	**78.57%**	**14**	**14.29%**	**85.71%**	14	7.14%	92.86%
	Intervention	Non-Hispanic	550	57.45%	42.55%	**549**	**37.89%**	**62.11%**	**549**	**23.86%**	**76.14%**	547	8.04%	91.96%
Abt Associates (2016b) [TX]														
	Comparison	Hispanic	265	49.06%	50.94%	**265**	**32.08%**	**67.92%**	**265**	**28.68%**	**71.32%**	265	8.30%	91.70%
	Comparison	Non-Hispanic	142	47.18%	52.82%	**142**	**29.58%**	**70.42%**	**142**	**29.58%**	**70.42%**	142	2.11%	97.89%
	Intervention	Hispanic	273	52.75%	47.25%	**273**	**38.10%**	**61.90%**	**273**	**30.77%**	**69.23%**	273	6.96%	93.04%
	Intervention	Non-Hispanic	166	53.01%	46.99%	**166**	**31.93%**	**68.07%**	**166**	**28.31%**	**71.69%**	166	4.22%	95.78%
Abt Associates (2016c) [FL]														
	Comparison	Hispanic	42	95.24%	4.76%	**42**	**76.19%**	**23.81%**	**42**	**66.67%**	**33.33%**	42	26.19%	73.81%
	Comparison	Non-Hispanic	104	81.73%	18.27%	**104**	**71.15%**	**28.85%**	**104**	**59.62%**	**40.38%**	104	11.54%	88.46%
	Intervention	Hispanic	75	92.00%	8.00%	**75**	**72.00%**	**28.00%**	**75**	**57.33%**	**42.67%**	75	26.67%	73.33%
	Intervention	Non-Hispanic	205	88.78%	11.22%	**205**	**73.17%**	**26.83%**	**205**	**64.88%**	**35.12%**	205	24.88%	75.12%
Abt Associates (2016c) [MN]														
	Comparison	Hispanic	140	90.00%	10.00%	**140**	**71.43%**	**28.57%**	**140**	**65.71%**	**34.29%**	138	24.64%	75.36%
	Comparison	Non-Hispanic	516	92.25%	7.75%	**516**	**80.62%**	**19.38%**	**516**	**73.26%**	**26.74%**	514	19.84%	80.16%
	Intervention	Hispanic	200	86.00%	14.00%	**200**	**66.00%**	**34.00%**	**200**	**57.00%**	**43.00%**	200	19.00%	81.00%
	Intervention	Non-Hispanic	1074	91.06%	8.94%	**1070**	**77.94%**	**22.06%**	**1072**	**68.47%**	**31.53%**	1072	23.13%	76.87%

Study	Condition	Ethnicity	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Abt Associates (2016c) [TN]														
	Comparison	Hispanic	10	80.00%	20.00%	**10**	**60.00%**	**40.00%**	**10**	**60.00%**	**40.00%**	10	20.00%	80.00%
	Comparison	Non-Hispanic	127	90.55%	9.45%	**127**	**69.29%**	**30.71%**	**127**	**62.99%**	**37.01%**	127	22.05%	77.95%
	Intervention	Hispanic	23	91.30%	8.70%	**23**	**73.91%**	**26.09%**	**23**	**65.22%**	**34.78%**	23	39.13%	60.87%
	Intervention	Non-Hispanic	252	88.89%	11.11%	**252**	**72.62%**	**27.38%**	**252**	**61.11%**	**38.89%**	252	21.43%	78.57%
Advanced Empirical Solutions (2015)														
	Comparison	Hispanic	**207**	**0.48%**	**99.52%**	*			*			**207**	**0.00%**	**100.00%**
	Comparison	Non-Hispanic	**45**	**0.00%**	**100.00%**	*			*			**45**	**0.00%**	**100.00%**
	Intervention	Hispanic	**184**	**0.00%**	**100.00%**	*			*			**184**	**0.00%**	**100.00%**
	Intervention	Non-Hispanic	**57**	**0.00%**	**100.00%**	*			*			**57**	**0.00%**	**100.00%**
Calise et al. (2015)														
	Comparison	Hispanic	**237**	**19.41%**	**80.59%**	227	9.69%	90.31%	224	5.80%	94.20%	226	1.77%	98.23%
	Comparison	Non-Hispanic	**359**	**7.80%**	**92.20%**	355	3.94%	96.06%	355	2.25%	97.75%	353	0.28%	99.72%
	Intervention	Hispanic	**186**	**9.68%**	**90.32%**	183	7.10%	92.90%	183	5.46%	94.54%	183	2.19%	97.81%
	Intervention	Non-Hispanic	**278**	**8.99%**	**91.01%**	271	3.32%	96.68%	271	1.48%	98.52%	271	0.00%	100.00%
Carter et al. (2015)														
	Comparison	Hispanic	**45**	**0.00%**	**100.00%**	*			*			*		
	Comparison	Non-Hispanic	**225**	**2.22%**	**97.78%**	*			*			*		
	Intervention	Hispanic	**31**	**6.45%**	**93.55%**	*			*			*		
	Intervention	Non-Hispanic	**178**	**1.69%**	**98.31%**	*			*			*		

Study	Condition	Ethnicity	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Coyle et al. (2015)														
	Comparison	Hispanic	**134**	**22.39%**	**77.61%**	*			*			134	2.24%	97.76%
	Comparison	Non-Hispanic	**1114**	**21.45%**	**78.55%**	*			*			1119	1.88%	98.12%
	Intervention	Hispanic	**161**	**23.60%**	**76.40%**	*			*			163	1.23%	98.77%
	Intervention	Non-Hispanic	**1310**	**18.93%**	**81.07%**	*			*			1310	1.60%	98.40%
Coyle et al. (2016)														
	Comparison	Hispanic	**563**	**16.70%**	**83.30%**	*			*			*		
	Comparison	Non-Hispanic	**338**	**29.88%**	**70.12%**	*			*			*		
	Intervention	Hispanic	**566**	**15.02%**	**84.98%**	*			*			*		
	Intervention	Non-Hispanic	**373**	**19.84%**	**80.16%**	*			*			*		
Crean et al. (2016)														
	Comparison	Hispanic	**73**	**13.70%**	**86.30%**	92	6.52%	93.48%	92	4.35%	95.65%	92	1.09%	98.91%
	Comparison	Non-Hispanic	**231**	**20.78%**	**79.22%**	317	8.52%	91.48%	315	4.44%	95.56%	324	0.62%	99.38%
	Intervention	Hispanic	**154**	**12.99%**	**87.01%**	186	4.30%	95.70%	183	1.64%	98.36%	187	0.53%	99.47%
	Intervention	Non-Hispanic	**273**	**15.02%**	**84.98%**	375	5.87%	94.13%	374	2.14%	97.86%	378	0.79%	99.21%
Cunningham et al. (2016) [LN]														
	Comparison	Hispanic	14	71.43%	28.57%	14	57.14%	42.86%	**14**	**42.86%**	**57.14%**	14	14.29%	85.71%
	Comparison	Non-Hispanic	620	35.48%	64.52%	620	23.87%	76.13%	**622**	**16.72%**	**83.28%**	620	2.26%	97.74%
	Intervention	Hispanic	36	38.89%	61.11%	36	22.22%	77.78%	**36**	**11.11%**	**88.89%**	36	0.00%	100.00%
	Intervention	Non-Hispanic	670	33.73%	66.27%	670	20.60%	79.40%	**672**	**16.37%**	**83.63%**	672	2.08%	97.92%

Study	Condition	Ethnicity	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Cunningham et al. (2016) [RtR]														
	Comparison	Hispanic	14	71.43%	28.57%	14	57.14%	42.86%	14	42.86%	57.14%	14	14.29%	85.71%
	Comparison	Non-Hispanic	620	35.48%	64.52%	620	23.87%	76.13%	622	16.72%	83.28%	620	2.26%	97.74%
	Intervention	Hispanic	22	36.36%	63.64%	22	18.18%	81.82%	22	9.09%	90.91%	22	0.00%	100.00%
	Intervention	Non-Hispanic	716	29.89%	70.11%	716	18.16%	81.84%	716	13.97%	86.03%	716	1.40%	98.60%
Daley et al. (2015)														
	Comparison	Hispanic	**367**	**37.06%**	**62.94%**	347	19.88%	80.12%	300	16.33%	83.67%	**372**	**3.49%**	**96.51%**
	Comparison	Non-Hispanic	**1628**	**38.51%**	**61.49%**	1576	24.37%	75.63%	1374	16.59%	83.41%	**1605**	**3.18%**	**96.82%**
	Intervention	Hispanic	**334**	**35.03%**	**64.97%**	316	16.14%	83.86%	265	11.70%	88.30%	**334**	**4.49%**	**95.51%**
	Intervention	Non-Hispanic	**1302**	**34.18%**	**65.82%**	1199	16.93%	83.07%	1055	11.18%	88.82%	**1275**	**3.61%**	**96.39%**
Dierschke et al. (2015)														
	Comparison	Hispanic	**221**	**57.47%**	**42.53%**	221	41.18%	58.82%	**221**	**31.22%**	**68.78%**	220	7.73%	92.27%
	Comparison	Non-Hispanic	**178**	**58.43%**	**41.57%**	178	34.27%	65.73%	**178**	**20.22%**	**79.78%**	177	4.52%	95.48%
	Intervention	Hispanic	**218**	**61.93%**	**38.07%**	218	41.28%	58.72%	**218**	**32.57%**	**67.43%**	218	6.42%	93.58%
	Intervention	Non-Hispanic	**186**	**55.38%**	**44.62%**	186	33.33%	66.67%	**186**	**23.12%**	**76.88%**	186	3.23%	96.77%
Eichner et al. (2015)														
	Comparison	Hispanic	*			**19**	**57.89%**	**42.11%**	**19**	**47.37%**	**52.63%**	*		
	Comparison	Non-Hispanic	*			**320**	**81.56%**	**18.44%**	**320**	**65.31%**	**34.69%**	*		
	Intervention	Hispanic	*			**17**	**76.47%**	**23.53%**	**17**	**58.82%**	**41.18%**	*		
	Intervention	Non-Hispanic	*			**324**	**80.25%**	**19.75%**	**324**	**62.04%**	**37.96%**	*		

Study	Condition	Ethnicity	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Francis et al. (2015)														
	Comparison	Hispanic	91	25.27%	74.73%	**90**	**14.44%**	**85.56%**	90	5.56%	94.44%	*		
	Comparison	Non-Hispanic	358	18.16%	81.84%	**358**	**13.41%**	**86.59%**	358	8.66%	91.34%	*		
	Intervention	Hispanic	117	29.06%	70.94%	**117**	**17.09%**	**82.91%**	117	10.26%	89.74%	*		
	Intervention	Non-Hispanic	620	22.74%	77.26%	**617**	**14.91%**	**85.09%**	617	8.10%	91.90%	*		
Herrling (2016)														
	Comparison	Hispanic	**5**	**60.00%**	**40.00%**	5	40.00%	60.00%	**4**	**25.00%**	**75.00%**	5	20.00%	80.00%
	Comparison	Non-Hispanic	**128**	**26.56%**	**73.44%**	128	15.63%	84.38%	**114**	**10.53%**	**89.47%**	127	0.79%	99.21%
	Intervention	Hispanic	**7**	**42.86%**	**57.14%**	7	42.86%	57.14%	**7**	**14.29%**	**85.71%**	7	0.00%	100.00%
	Intervention	Non-Hispanic	**127**	**28.35%**	**71.65%**	126	18.25%	81.75%	**114**	**11.40%**	**88.60%**	126	4.76%	95.24%
Kissinger et al. (2015)														
	Comparison	Hispanic	*			2	50.00%	50.00%	**1**	**100.00%**	**0.00%**	*		
	Comparison	Non-Hispanic	*			266	58.27%	41.73%	**130**	**51.54%**	**48.46%**	*		
	Intervention	Hispanic	*			5	40.00%	60.00%	**2**	**50.00%**	**50.00%**	*		
	Intervention	Non-Hispanic	*			259	56.37%	43.63%	**122**	**48.36%**	**51.64%**	*		
Philliber et al. (2016)														
	Comparison	Hispanic	1191	30.98%	69.02%	1186	21.50%	78.50%	1085	13.00%	87.00%	**1192**	**5.54%**	**94.46%**
	Comparison	Non-Hispanic	2158	31.42%	68.58%	2151	22.13%	77.87%	1961	13.92%	86.08%	**2159**	**4.26%**	**95.74%**
	Intervention	Hispanic	1297	34.93%	65.07%	1290	25.27%	74.73%	1170	16.75%	83.25%	**1297**	**7.71%**	**92.29%**
	Intervention	Non-Hispanic	2258	32.15%	67.85%	2252	22.96%	77.04%	2049	13.81%	86.19%	**2259**	**5.62%**	**94.38%**

Study	Condition	Ethnicity	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Philliber & Philliber (2016)														
	Comparison	Hispanic	**109**	**15.60%**	**84.40%**	109	8.26%	91.74%	**101**	**2.97%**	**97.03%**	109	3.67%	96.33%
	Comparison	Non-Hispanic	**299**	**32.11%**	**67.89%**	299	18.39%	81.61%	**258**	**11.24%**	**88.76%**	291	3.09%	96.91%
	Intervention	Hispanic	**140**	**21.43%**	**78.57%**	140	11.43%	88.57%	**126**	**7.14%**	**92.86%**	138	5.07%	94.93%
	Intervention	Non-Hispanic	**386**	**28.50%**	**71.50%**	386	16.84%	83.16%	**341**	**8.80%**	**91.20%**	378	2.12%	97.88%
Piotrowski et al. (2015)														
	Comparison	Hispanic	**93**	**2.15%**	**97.85%**	93	2.15%	97.85%	93	0.00%	100.00%	93	0.00%	100.00%
	Comparison	Non-Hispanic	**578**	**7.61%**	**92.39%**	578	4.84%	95.16%	575	2.43%	97.57%	576	0.35%	99.65%
	Intervention	Hispanic	**108**	**4.63%**	**95.37%**	108	0.93%	99.07%	107	0.93%	99.07%	108	0.00%	100.00%
	Intervention	Non-Hispanic	**676**	**2.81%**	**97.19%**	676	1.78%	98.22%	676	1.33%	98.67%	675	0.59%	99.41%
Robinson et al. (2016)														
	Comparison	Hispanic	22	22.73%	77.27%	22	18.18%	81.82%	**22**	**4.55%**	**95.45%**	22	0.00%	100.00%
	Comparison	Non-Hispanic	926	32.40%	67.60%	926	20.52%	79.48%	**934**	**10.39%**	**89.61%**	915	4.70%	95.30%
	Intervention	Hispanic	19	26.32%	73.68%	19	15.79%	84.21%	**19**	**10.53%**	**89.47%**	19	0.00%	100.00%
	Intervention	Non-Hispanic	873	34.71%	65.29%	863	19.70%	80.30%	**880**	**9.77%**	**90.23%**	855	4.44%	95.56%
Rotz et al. (2016)														
	Comparison	Hispanic	125	34.40%	65.60%	**124**	**29.03%**	**70.97%**	**124**	**33.06%**	**66.94%**	122	6.56%	93.44%
	Comparison	Non-Hispanic	400	45.75%	54.25%	**396**	**41.92%**	**58.08%**	**396**	**42.42%**	**57.58%**	390	4.87%	95.13%
	Intervention	Hispanic	252	34.52%	65.48%	**245**	**28.98%**	**71.02%**	**245**	**28.98%**	**71.02%**	242	2.89%	97.11%
	Intervention	Non-Hispanic	694	40.49%	59.51%	**683**	**36.60%**	**63.40%**	**683**	**36.02%**	**63.98%**	676	1.04%	98.96%

Study	Condition	Ethnicity	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Slater et al. (2015)														
	Comparison	Hispanic	253	81.03%	18.97%	246	63.82%	36.18%	**254**	**51.18%**	**48.82%**	250	24.80%	75.20%
	Comparison	Non-Hispanic	223	83.86%	16.14%	219	69.86%	30.14%	**224**	**55.80%**	**44.20%**	221	18.55%	81.45%
	Intervention	Hispanic	241	85.48%	14.52%	235	67.66%	32.34%	**242**	**49.59%**	**50.41%**	235	22.55%	77.45%
	Intervention	Non-Hispanic	236	88.98%	11.02%	231	70.56%	29.44%	**237**	**56.12%**	**43.88%**	233	23.18%	76.82%
Smith et al. (2015)														
	Comparison	Hispanic	*			15	86.67%	13.33%	15	100.00%	0.00%	18	94.44%	5.56%
	Comparison	Non-Hispanic	*			226	86.73%	13.27%	226	90.27%	9.73%	246	97.56%	2.44%
	Intervention	Hispanic	*			17	82.35%	17.65%	17	100.00%	0.00%	17	100.00%	0.00%
	Intervention	Non-Hispanic	*			228	83.33%	16.67%	228	93.42%	6.58%	250	97.60%	2.40%
Smith et al. (2016)														
	Comparison	Hispanic	**111**	**38.74%**	**61.26%**	**102**	**21.57%**	**78.43%**	**90**	**16.67%**	**83.33%**	111	5.41%	94.59%
	Comparison	Non-Hispanic	**202**	**31.68%**	**68.32%**	**188**	**19.68%**	**80.32%**	**175**	**9.71%**	**90.29%**	201	3.48%	96.52%
	Intervention	Hispanic	**161**	**29.19%**	**70.81%**	**154**	**21.43%**	**78.57%**	**147**	**10.88%**	**89.12%**	160	4.38%	95.63%
	Intervention	Non-Hispanic	**263**	**36.88%**	**63.12%**	**243**	**21.40%**	**78.60%**	**219**	**9.13%**	**90.87%**	262	4.96%	95.04%
The Policy & Research Group (2015)														
	Comparison	Hispanic	7	28.57%	71.43%	6	16.67%	83.33%	6	16.67%	83.33%	6	0.00%	100.00%
	Comparison	Non-Hispanic	331	37.16%	62.84%	317	23.34%	76.66%	301	13.62%	86.38%	325	2.77%	97.23%
	Intervention	Hispanic	11	45.45%	54.55%	11	27.27%	72.73%	9	11.11%	88.89%	11	9.09%	90.91%
	Intervention	Non-Hispanic	321	38.94%	61.06%	313	22.36%	77.64%	293	9.22%	90.78%	317	4.10%	95.90%

Study	Condition	Ethnicity	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Walker et al. (2016)														
	Comparison	Hispanic	**191**	**2.62%**	**97.38%**	186	0.00%	100.00%	186	0.00%	100.00%	190	0.00%	100.00%
	Comparison	Non-Hispanic	**123**	**1.63%**	**98.37%**	121	0.00%	100.00%	121	0.00%	100.00%	122	0.00%	100.00%
	Intervention	Hispanic	**248**	**1.61%**	**98.39%**	247	0.81%	99.19%	246	0.41%	99.59%	248	0.81%	99.19%
	Intervention	Non-Hispanic	**123**	**2.44%**	**97.56%**	123	1.63%	98.37%	123	1.63%	98.37%	123	1.63%	98.37%

AZ = Arizona, CA = California, FL = Florida, IL = Illinois, LN = *Love Notes*, MA = Massachusetts, MN = Minnesota, MO = Missouri, RTR = *Reducing the Risk,* TN = Tennessee TX = Texas.

Notes. The presence of an asterisk (*) indicates that this outcome was not reported at the first post-test. **Bold** text indicates that the outcome was selected as confirmatory.

TABLE 3.3.3: SUBGROUP EFFECTS BY RACE

Study	Condition	Race	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Abe et al. (2016)														
	Comparison	Black	6	33.33%	66.67%	6	33.33%	66.67%	**6**	**16.67%**	**83.33%**	6	0.00%	100.00%
	Comparison	White	31	0.00%	100.00%	31	0.00%	100.00%	**31**	**0.00%**	**100.00%**	31	0.00%	100.00%
	Comparison	Other	459	11.55%	88.45%	460	5.65%	94.35%	**460**	**2.83%**	**97.17%**	460	0.65%	99.35%
	Intervention	Black	18	5.56%	94.44%	18	5.56%	94.44%	**18**	**0.00%**	**100.00%**	18	0.00%	100.00%
	Intervention	White	69	14.49%	85.51%	69	10.14%	89.86%	**69**	**5.80%**	**94.20%**	69	4.35%	95.65%
	Intervention	Other	775	8.52%	91.48%	780	4.74%	95.26%	**781**	**1.41%**	**98.59%**	780	1.41%	98.59%
Abt Associates (2016a) [AZ]														
	Comparison	Black	27	14.81%	85.19%	**27**	**0.00%**	**100.00%**	**27**	**0.00%**	**100.00%**	27	0.00%	100.00%
	Comparison	White	69	8.70%	91.30%	**69**	**7.25%**	**92.75%**	**69**	**5.80%**	**94.20%**	68	1.47%	98.53%
	Comparison	Other	243	10.70%	89.30%	**243**	**6.58%**	**93.42%**	**243**	**4.12%**	**95.88%**	242	0.00%	100.00%
	Intervention	Black	25	28.00%	72.00%	**25**	**12.00%**	**88.00%**	**25**	**8.00%**	**92.00%**	25	0.00%	100.00%
	Intervention	White	97	15.46%	84.54%	**97**	**8.25%**	**91.75%**	**97**	**6.19%**	**93.81%**	97	0.00%	100.00%
	Intervention	Other	357	11.76%	88.24%	**357**	**6.44%**	**93.56%**	**357**	**5.32%**	**94.68%**	357	0.56%	99.44%
Abt Associates (2016a) [CA]														
	Comparison	Black	4	50.00%	50.00%	**4**	**25.00%**	**75.00%**	**4**	**0.00%**	**100.00%**	4	0.00%	100.00%
	Comparison	White	97	45.36%	54.64%	**97**	**27.84%**	**72.16%**	**97**	**20.62%**	**79.38%**	97	2.06%	97.94%
	Comparison	Other	101	30.69%	69.31%	**101**	**20.79%**	**79.21%**	**101**	**16.83%**	**83.17%**	101	1.98%	98.02%
	Intervention	Black	2	50.00%	50.00%	**2**	**50.00%**	**50.00%**	**2**	**50.00%**	**50.00%**	2	0.00%	100.00%
	Intervention	White	126	41.27%	58.73%	**126**	**30.95%**	**69.05%**	**126**	**27.78%**	**72.22%**	126	4.76%	95.24%
	Intervention	Other	154	44.16%	55.84%	**154**	**28.57%**	**71.43%**	**154**	**22.73%**	**77.27%**	154	1.95%	98.05%
Abt Associates (2016a) [MA]														
	Comparison	Black	22	45.45%	54.55%	**22**	**40.91%**	**59.09%**	**22**	**31.82%**	**68.18%**	22	9.09%	90.91%
	Comparison	White	60	45.00%	55.00%	**60**	**28.33%**	**71.67%**	**60**	**25.00%**	**75.00%**	60	6.67%	93.33%
	Comparison	Other	170	42.35%	57.65%	**170**	**27.65%**	**72.35%**	**170**	**21.76%**	**78.24%**	170	3.53%	96.47%
	Intervention	Black	34	38.24%	61.76%	**34**	**17.65%**	**82.35%**	**34**	**8.82%**	**91.18%**	34	2.94%	97.06%
	Intervention	White	79	55.70%	44.30%	**79**	**34.18%**	**65.82%**	**79**	**27.85%**	**72.15%**	79	6.33%	93.67%
	Intervention	Other	323	45.51%	54.49%	**322**	**32.61%**	**67.39%**	**323**	**26.63%**	**73.37%**	323	5.26%	94.74%

Study	Condition	Race	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Abt Associates (2016b) [CA]														
	Comparison	Black	16	6.25%	93.75%	**16**	**0.00%**	**100.00%**	**16**	**0.00%**	**100.00%**	16	0.00%	100.00%
	Comparison	White	52	19.23%	80.77%	**52**	**11.54%**	**88.46%**	**52**	**11.54%**	**88.46%**	52	1.92%	98.08%
	Comparison	Other	306	20.59%	79.41%	**305**	**12.46%**	**87.54%**	**306**	**10.13%**	**89.87%**	305	1.31%	98.69%
	Intervention	Black	36	33.33%	66.67%	**36**	**22.22%**	**77.78%**	**36**	**19.44%**	**80.56%**	36	0.00%	100.00%
	Intervention	White	84	26.19%	73.81%	**83**	**16.87%**	**83.13%**	**83**	**15.66%**	**84.34%**	84	1.19%	98.81%
	Intervention	Other	377	23.08%	76.92%	**377**	**12.73%**	**87.27%**	**377**	**9.55%**	**90.45%**	376	0.53%	99.47%
Abt Associates (2016b) [IL & MO]														
	Comparison	Black	335	56.72%	43.28%	**333**	**40.54%**	**59.46%**	**334**	**29.34%**	**70.66%**	335	12.24%	87.76%
	Comparison	White	3	33.33%	66.67%	**3**	**33.33%**	**66.67%**	**3**	**33.33%**	**66.67%**	3	33.33%	66.67%
	Comparison	Other	24	62.50%	37.50%	**24**	**54.17%**	**45.83%**	**24**	**45.83%**	**54.17%**	24	16.67%	83.33%
	Intervention	Black	508	57.28%	42.72%	**507**	**38.07%**	**61.93%**	**507**	**24.06%**	**75.94%**	506	8.10%	91.90%
	Intervention	White	6	50.00%	50.00%	**6**	**16.67%**	**83.33%**	**6**	**16.67%**	**83.33%**	6	0.00%	100.00%
	Intervention	Other	51	52.94%	47.06%	**51**	**33.33%**	**66.67%**	**51**	**19.61%**	**80.39%**	50	8.00%	92.00%
Abt Associates (2016b) [TX]														
	Comparison	Black	40	37.50%	62.50%	**40**	**20.00%**	**80.00%**	**40**	**20.00%**	**80.00%**	40	5.00%	95.00%
	Comparison	White	138	48.55%	51.45%	**138**	**29.71%**	**70.29%**	**138**	**29.71%**	**70.29%**	138	3.62%	96.38%
	Comparison	Other	228	50.00%	50.00%	**228**	**33.77%**	**66.23%**	**228**	**29.82%**	**70.18%**	228	7.89%	92.11%
	Intervention	Black	44	52.27%	47.73%	**44**	**27.27%**	**72.73%**	**44**	**18.18%**	**81.82%**	44	6.82%	93.18%
	Intervention	White	148	54.73%	45.27%	**148**	**37.84%**	**62.16%**	**148**	**34.46%**	**65.54%**	148	3.38%	96.62%
	Intervention	Other	247	51.82%	48.18%	**247**	**36.03%**	**63.97%**	**247**	**29.15%**	**70.85%**	247	7.29%	92.71%
Abt Associates (2016c) [FL]														
	Comparison	Black	71	77.46%	22.54%	**71**	**63.38%**	**36.62%**	**71**	**50.70%**	**49.30%**	71	14.08%	85.92%
	Comparison	White	51	96.08%	3.92%	**51**	**86.27%**	**13.73%**	**51**	**78.43%**	**21.57%**	51	11.76%	88.24%
	Comparison	Other	24	87.50%	12.50%	**24**	**70.83%**	**29.17%**	**24**	**58.33%**	**41.67%**	24	29.17%	70.83%
	Intervention	Black	134	86.57%	13.43%	**134**	**68.66%**	**31.34%**	**134**	**60.45%**	**39.55%**	134	31.34%	68.66%
	Intervention	White	105	92.38%	7.62%	**105**	**79.05%**	**20.95%**	**105**	**69.52%**	**30.48%**	105	20.00%	80.00%
	Intervention	Other	41	92.68%	7.32%	**41**	**70.73%**	**29.27%**	**41**	**53.66%**	**46.34%**	41	19.51%	80.49%

Study	Condition	Race	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Abt Associates (2016c) [MN]														
	Comparison	Black	230	86.96%	13.04%	**230**	**71.30%**	**28.70%**	**230**	**63.48%**	**36.52%**	228	30.70%	69.30%
	Comparison	White	198	96.97%	3.03%	**198**	**86.87%**	**13.13%**	**198**	**82.83%**	**17.17%**	198	12.12%	87.88%
	Comparison	Other	228	92.11%	7.89%	**228**	**78.95%**	**21.05%**	**228**	**70.18%**	**29.82%**	226	18.58%	81.42%
	Intervention	Black	476	85.29%	14.71%	**474**	**70.04%**	**29.96%**	**474**	**56.12%**	**43.88%**	474	26.16%	73.84%
	Intervention	White	356	98.88%	1.12%	**356**	**89.89%**	**10.11%**	**356**	**85.39%**	**14.61%**	356	15.17%	84.83%
	Intervention	Other	442	88.69%	11.31%	**440**	**71.36%**	**28.64%**	**442**	**62.90%**	**37.10%**	442	24.43%	75.57%
Abt Associates (2016c) [TN]														
	Comparison	Black	35	77.14%	22.86%	**35**	**48.57%**	**51.43%**	**35**	**42.86%**	**57.14%**	35	17.14%	82.86%
	Comparison	White	89	95.51%	4.49%	**89**	**77.53%**	**22.47%**	**89**	**71.91%**	**28.09%**	89	23.60%	76.40%
	Comparison	Other	13	84.62%	15.38%	**13**	**61.54%**	**38.46%**	**13**	**53.85%**	**46.15%**	13	23.08%	76.92%
	Intervention	Black	68	76.47%	23.53%	**68**	**57.35%**	**42.65%**	**68**	**44.12%**	**55.88%**	68	16.18%	83.82%
	Intervention	White	180	93.89%	6.11%	**180**	**79.44%**	**20.56%**	**180**	**67.78%**	**32.22%**	180	23.89%	76.11%
	Intervention	Other	27	88.89%	11.11%	**27**	**66.67%**	**33.33%**	**27**	**62.96%**	**37.04%**	27	33.33%	66.67%
Advanced Empirical Solutions (2015)														
	Comparison	Black	**16**	**0.00%**	**100.00%**	*			*			**16**	**0.00%**	**100.00%**
	Comparison	White	**7**	**0.00%**	**100.00%**	*			*			**7**	**0.00%**	**100.00%**
	Comparison	Other	**22**	**0.00%**	**100.00%**	*			*			**22**	**0.00%**	**100.00%**
	Intervention	Black	**15**	**0.00%**	**100.00%**	*			*			**15**	**0.00%**	**100.00%**
	Intervention	White	**9**	**0.00%**	**100.00%**	*			*			**9**	**0.00%**	**100.00%**
	Intervention	Other	**33**	**0.00%**	**100.00%**	*			*			**33**	**0.00%**	**100.00%**
Calise et al. (2015)														
	Comparison	Black	**45**	**20.00%**	**80.00%**	44	9.09%	90.91%	44	6.82%	93.18%	43	2.33%	97.67%
	Comparison	White	**180**	**8.89%**	**91.11%**	175	4.57%	95.43%	175	2.86%	97.14%	176	0.57%	99.43%
	Comparison	Other	**323**	**12.38%**	**87.62%**	316	6.65%	93.35%	313	3.51%	96.49%	313	0.64%	99.36%
	Intervention	Black	**33**	**15.15%**	**84.85%**	31	6.45%	93.55%	31	3.23%	96.77%	32	0.00%	100.00%
	Intervention	White	**179**	**8.38%**	**91.62%**	176	3.41%	96.59%	176	2.27%	97.73%	174	0.00%	100.00%
	Intervention	Other	**226**	**9.73%**	**90.27%**	221	6.33%	93.67%	221	4.07%	95.93%	222	1.80%	98.20%

Study	Condition	Race	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Carter et al. (2015)														
	Comparison	Black	**6**	**0.00%**	**100.00%**	*			*			*		
	Comparison	White	**12**	**0.00%**	**100.00%**	*			*			*		
	Comparison	Other	**237**	**2.11%**	**97.89%**	*			*			*		
	Intervention	Black	**5**	**0.00%**	**100.00%**	*			*			*		
	Intervention	White	**8**	**0.00%**	**100.00%**	*			*			*		
	Intervention	Other	**186**	**2.15%**	**97.85%**	*			*			*		
Coyle et al. (2015)														
	Comparison	Black	**524**	**29.20%**	**70.80%**	*			*			526	2.28%	97.72%
	Comparison	White	**517**	**12.96%**	**87.04%**	*			*			520	1.15%	98.85%
	Comparison	Other	**143**	**25.17%**	**74.83%**	*			*			143	3.50%	96.50%
	Intervention	Black	**574**	**26.48%**	**73.52%**	*			*			574	1.74%	98.26%
	Intervention	White	**624**	**12.34%**	**87.66%**	*			*			623	1.44%	98.56%
	Intervention	Other	**196**	**21.43%**	**78.57%**	*			*			197	1.52%	98.48%
Coyle et al. (2016)														
	Comparison	Black	**251**	**34.66%**	**65.34%**	*			*			*		
	Comparison	White	**111**	**9.01%**	**90.99%**	*			*			*		
	Comparison	Other	**139**	**18.71%**	**81.29%**	*			*			*		
	Intervention	Black	**275**	**21.45%**	**78.55%**	*			*			*		
	Intervention	White	**95**	**18.95%**	**81.05%**	*			*			*		
	Intervention	Other	**152**	**16.45%**	**83.55%**	*			*			*		
Crean et al. (2016)														
	Comparison	Black	**209**	**22.01%**	**77.99%**	286	10.14%	89.86%	285	5.96%	94.04%	292	1.03%	98.97%
	Comparison	White	**39**	**5.13%**	**94.87%**	46	0.00%	100.00%	46	0.00%	100.00%	46	0.00%	100.00%
	Comparison	Other	**56**	**17.86%**	**82.14%**	77	5.19%	94.81%	76	1.32%	98.68%	78	0.00%	100.00%
	Intervention	Black	**263**	**16.35%**	**83.65%**	360	6.11%	93.89%	358	2.23%	97.77%	362	0.55%	99.45%
	Intervention	White	**71**	**5.63%**	**94.37%**	86	3.49%	96.51%	86	1.16%	98.84%	86	1.16%	98.84%
	Intervention	Other	**93**	**15.05%**	**84.95%**	115	4.35%	95.65%	113	1.77%	98.23%	117	0.85%	99.15%

Study	Condition	Race	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Cunningham et al. (2016) [LN]														
	Comparison	Black	606	35.64%	64.36%	606	24.42%	75.58%	**608**	**16.78%**	**83.22%**	606	2.31%	97.69%
	Comparison	White	42	42.86%	57.14%	42	23.81%	76.19%	**42**	**23.81%**	**76.19%**	42	4.76%	95.24%
	Comparison	Other	6	66.67%	33.33%	6	66.67%	33.33%	**6**	**0.00%**	**100.00%**	6	0.00%	100.00%
	Intervention	Black	622	32.80%	67.20%	622	20.26%	79.74%	**624**	**15.71%**	**84.29%**	624	1.92%	98.08%
	Intervention	White	58	48.28%	51.72%	58	24.14%	75.86%	**58**	**17.24%**	**82.76%**	58	0.00%	100.00%
	Intervention	Other	10	40.00%	60.00%	10	40.00%	60.00%	**10**	**20.00%**	**80.00%**	10	20.00%	80.00%
Cunningham et al. (2016) [RTR]														
	Comparison	Black	606	35.64%	64.36%	606	24.42%	75.58%	608	16.78%	83.22%	606	2.31%	97.69%
	Comparison	White	42	42.86%	57.14%	42	23.81%	76.19%	42	23.81%	76.19%	42	4.76%	95.24%
	Comparison	Other	6	66.67%	33.33%	6	66.67%	33.33%	6	0.00%	100.00%	6	0.00%	100.00%
	Intervention	Black	688	30.81%	69.19%	688	19.19%	80.81%	688	13.95%	86.05%	688	1.16%	98.84%
	Intervention	White	50	28.00%	72.00%	50	12.00%	88.00%	50	4.00%	96.00%	50	4.00%	96.00%
	Intervention	Other	8	25.00%	75.00%	8	0.00%	100.00%	8	25.00%	75.00%	8	0.00%	100.00%
Daley et al. (2015)														
	Comparison	Black	**182**	**48.90%**	**51.10%**	173	20.23%	79.77%	127	14.96%	85.04%	**185**	**4.86%**	**95.14%**
	Comparison	White	**1484**	**36.99%**	**63.01%**	1435	24.39%	75.61%	1274	16.64%	83.36%	**1462**	**2.80%**	**97.20%**
	Comparison	Other	**251**	**38.25%**	**61.75%**	243	22.63%	77.37%	210	17.62%	82.38%	**245**	**4.49%**	**95.51%**
	Intervention	Black	**180**	**42.78%**	**57.22%**	165	16.97%	83.03%	129	9.30%	90.70%	**178**	**5.06%**	**94.94%**
	Intervention	White	**1175**	**31.74%**	**68.26%**	1088	16.91%	83.09%	981	11.52%	88.48%	**1149**	**3.13%**	**96.87%**
	Intervention	Other	**195**	**40.51%**	**59.49%**	189	16.93%	83.07%	147	12.24%	87.76%	**198**	**3.54%**	**96.46%**
Dierschke et al. (2015)														
	Comparison	Black	**93**	**60.22%**	**39.78%**	93	35.48%	64.52%	**93**	**21.51%**	**78.49%**	93	6.45%	93.55%
	Comparison	White	**83**	**55.42%**	**44.58%**	83	36.14%	63.86%	**83**	**24.10%**	**75.90%**	83	9.64%	90.36%
	Comparison	Other	**223**	**57.85%**	**42.15%**	223	39.91%	60.09%	**223**	**29.15%**	**70.85%**	221	4.98%	95.02%
	Intervention	Black	**92**	**53.26%**	**46.74%**	92	33.70%	66.30%	**92**	**25.00%**	**75.00%**	92	5.43%	94.57%
	Intervention	White	**83**	**59.04%**	**40.96%**	83	36.14%	63.86%	**83**	**24.10%**	**75.90%**	83	4.82%	95.18%
	Intervention	Other	**229**	**61.14%**	**38.86%**	229	39.74%	60.26%	**229**	**31.00%**	**69.00%**	229	4.80%	95.20%

Study	Condition	Race	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Eichner et al. (2015)														
	Comparison	Black	*			**99**	**68.69%**	**31.31%**	**99**	**54.55%**	**45.45%**	*		
	Comparison	White	*			**196**	**86.22%**	**13.78%**	**196**	**68.88%**	**31.12%**	*		
	Comparison	Other	*			**38**	**81.58%**	**18.42%**	**38**	**65.79%**	**34.21%**	*		
	Intervention	Black	*			**108**	**76.85%**	**23.15%**	**108**	**55.56%**	**44.44%**	*		
	Intervention	White	*			**194**	**82.99%**	**17.01%**	**194**	**66.49%**	**33.51%**	*		
	Intervention	Other	*			**35**	**71.43%**	**28.57%**	**35**	**51.43%**	**48.57%**	*		
Francis et al. (2015)														
	Comparison	Black	127	17.32%	82.68%	**127**	**13.39%**	**86.61%**	127	6.30%	93.70%	*		
	Comparison	White	113	13.27%	86.73%	**113**	**10.62%**	**89.38%**	113	7.08%	92.92%	*		
	Comparison	Other	119	23.53%	76.47%	**119**	**15.97%**	**84.03%**	119	12.61%	87.39%	*		
	Intervention	Black	193	31.61%	68.39%	**193**	**20.73%**	**79.27%**	193	9.33%	90.67%	*		
	Intervention	White	204	16.18%	83.82%	**204**	**11.27%**	**88.73%**	204	7.84%	92.16%	*		
	Intervention	Other	224	20.98%	79.02%	**221**	**13.12%**	**86.88%**	221	7.24%	92.76%	*		
Herrling (2016)														
	Comparison	Black	**119**	**26.05%**	**73.95%**	119	15.97%	84.03%	**107**	**10.28%**	**89.72%**	119	0.84%	99.16%
	Comparison	White	**2**	**100.00%**	**0.00%**	2	50.00%	50.00%	**1**	**0.00%**	**100.00%**	2	0.00%	100.00%
	Comparison	Other	**12**	**33.33%**	**66.67%**	12	16.67%	83.33%	**10**	**20.00%**	**80.00%**	11	9.09%	90.91%
	Intervention	Black	**117**	**29.06%**	**70.94%**	116	18.97%	81.03%	**105**	**10.48%**	**89.52%**	116	4.31%	95.69%
	Intervention	White	**0**			0			**0**			0		
	Intervention	Other	**16**	**25.00%**	**75.00%**	16	18.75%	81.25%	**15**	**13.33%**	**86.67%**	16	6.25%	93.75%
Kissinger et al. (2015)														
	Comparison	Black	*			258	57.75%	42.25%	**125**	**50.40%**	**49.60%**	*		
	Comparison	White	*			0			**0**			*		
	Comparison	Other	*			10	70.00%	30.00%	**6**	**83.33%**	**16.67%**	*		
	Intervention	Black	*			254	55.91%	44.09%	**118**	**47.46%**	**52.54%**	*		
	Intervention	White	*			0			**0**			*		
	Intervention	Other	*			10	60.00%	40.00%	**6**	**66.67%**	**33.33%**	*		

Study	Condition	Race	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Philliber et al. (2016)														
	Comparison	Black	228	30.70%	69.30%	229	20.09%	79.91%	204	10.78%	89.22%	**229**	**5.24%**	**94.76%**
	Comparison	White	1257	35.56%	64.44%	1251	25.10%	74.90%	1128	16.49%	83.51%	**1257**	**4.61%**	**95.39%**
	Comparison	Other	1534	27.25%	72.75%	1528	19.24%	80.76%	1416	11.79%	88.21%	**1535**	**4.23%**	**95.77%**
	Intervention	Black	237	33.76%	66.24%	236	21.19%	78.81%	207	11.11%	88.89%	**237**	**5.06%**	**94.94%**
	Intervention	White	1283	33.59%	66.41%	1280	25.47%	74.53%	1176	15.65%	84.35%	**1283**	**6.39%**	**93.61%**
	Intervention	Other	1669	32.00%	68.00%	1660	22.29%	77.71%	1507	14.66%	85.34%	**1670**	**6.59%**	**93.41%**
Philliber & Philliber (2016)														
	Comparison	Black	**216**	**33.33%**	**66.67%**	216	20.83%	79.17%	**189**	**11.64%**	**88.36%**	209	3.83%	96.17%
	Comparison	White	**30**	**36.67%**	**63.33%**	30	16.67%	83.33%	**24**	**8.33%**	**91.67%**	29	3.45%	96.55%
	Comparison	Other	**162**	**18.52%**	**81.48%**	162	8.64%	91.36%	**146**	**5.48%**	**94.52%**	162	2.47%	97.53%
	Intervention	Black	**293**	**27.65%**	**72.35%**	293	16.38%	83.62%	**260**	**9.23%**	**90.77%**	287	2.44%	97.56%
	Intervention	White	**21**	**33.33%**	**66.67%**	21	19.05%	80.95%	**18**	**5.56%**	**94.44%**	21	0.00%	100.00%
	Intervention	Other	**212**	**24.53%**	**75.47%**	212	13.68%	86.32%	**189**	**7.41%**	**92.59%**	208	3.85%	96.15%
Piotrowski et al. (2015)														
	Comparison	Black	**9**	**11.11%**	**88.89%**	9	11.11%	88.89%	9	11.11%	88.89%	9	0.00%	100.00%
	Comparison	White	**654**	**6.88%**	**93.12%**	654	4.43%	95.57%	651	2.00%	98.00%	652	0.31%	99.69%
	Comparison	Other	**8**	**0.00%**	**100.00%**	8	0.00%	100.00%	8	0.00%	100.00%	8	0.00%	100.00%
	Intervention	Black	**24**	**8.33%**	**91.67%**	24	4.17%	95.83%	24	4.17%	95.83%	23	0.00%	100.00%
	Intervention	White	**755**	**2.91%**	**97.09%**	755	1.59%	98.41%	754	1.19%	98.81%	755	0.53%	99.47%
	Intervention	Other	**5**	**0.00%**	**100.00%**	5	0.00%	100.00%	5	0.00%	100.00%	5	0.00%	100.00%
Robinson et al. (2016)														
	Comparison	Black	955	32.98%	67.02%	955	20.21%	79.79%	**964**	**11.10%**	**88.90%**	941	4.46%	95.54%
	Comparison	White	34	32.35%	67.65%	34	29.41%	70.59%	**34**	**5.88%**	**94.12%**	33	3.03%	96.97%
	Comparison	Other	68	33.82%	66.18%	67	20.90%	79.10%	**68**	**8.82%**	**91.18%**	68	7.35%	92.65%
	Intervention	Black	877	35.69%	64.31%	865	21.04%	78.96%	**884**	**9.95%**	**90.05%**	856	4.56%	95.44%
	Intervention	White	29	34.48%	65.52%	29	27.59%	72.41%	**29**	**17.24%**	**82.76%**	29	0.00%	100.00%
	Intervention	Other	73	27.40%	72.60%	73	10.96%	89.04%	**73**	**8.22%**	**91.78%**	73	2.74%	97.26%

Study	Condition	Race	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
Rotz et al. (2016)														
	Comparison	Black	217	49.77%	50.23%	**214**	**44.86%**	**55.14%**	**214**	**44.86%**	**55.14%**	208	6.73%	93.27%
	Comparison	White	187	40.64%	59.36%	**186**	**37.63%**	**62.37%**	**186**	**39.25%**	**60.75%**	186	3.76%	96.24%
	Comparison	Other	57	47.37%	52.63%	**57**	**42.11%**	**57.89%**	**57**	**43.86%**	**56.14%**	56	10.71%	89.29%
	Intervention	Black	285	43.86%	56.14%	**280**	**37.86%**	**62.14%**	**280**	**38.57%**	**61.43%**	277	1.44%	98.56%
	Intervention	White	343	38.78%	61.22%	**338**	**35.80%**	**64.20%**	**338**	**34.62%**	**65.38%**	335	1.19%	98.81%
	Intervention	Other	174	35.63%	64.37%	**170**	**33.53%**	**66.47%**	**170**	**31.76%**	**68.24%**	168	0.60%	99.40%
Slater et al. (2015)														
	Comparison	Black	0			0			**0**			0		
	Comparison	White	90	84.44%	15.56%	88	71.59%	28.41%	**90**	**58.89%**	**41.11%**	88	15.91%	84.09%
	Comparison	Other	70	77.14%	22.86%	68	64.71%	35.29%	**71**	**57.75%**	**42.25%**	68	22.06%	77.94%
	Intervention	Black	0			0			**0**			0		
	Intervention	White	81	92.59%	7.41%	77	80.52%	19.48%	**81**	**61.73%**	**38.27%**	81	33.33%	66.67%
	Intervention	Other	60	81.67%	18.33%	59	72.88%	27.12%	**60**	**50.00%**	**50.00%**	60	13.33%	86.67%
Smith et al. (2015)														
	Comparison	Black	*			91	83.52%	16.48%	91	96.70%	3.30%	101	95.05%	4.95%
	Comparison	White	*			120	89.17%	10.83%	120	89.17%	10.83%	128	99.22%	0.78%
	Comparison	Other	*			22	86.36%	13.64%	22	72.73%	27.27%	25	100.00%	0.00%
	Intervention	Black	*			95	84.21%	15.79%	95	97.89%	2.11%	100	98.00%	2.00%
	Intervention	White	*			111	85.59%	14.41%	111	90.09%	9.91%	126	96.83%	3.17%
	Intervention	Other	*			29	72.41%	27.59%	29	93.10%	6.90%	31	100.00%	0.00%
Smith et al. (2016)														
	Comparison	Black	**193**	**33.68%**	**66.32%**	**176**	**19.89%**	**80.11%**	**163**	**9.82%**	**90.18%**	193	3.11%	96.89%
	Comparison	White	**54**	**29.63%**	**70.37%**	**50**	**18.00%**	**82.00%**	**47**	**12.77%**	**87.23%**	53	9.43%	90.57%
	Comparison	Other	**29**	**31.03%**	**68.97%**	**29**	**17.24%**	**82.76%**	**25**	**12.00%**	**88.00%**	29	3.45%	96.55%
	Intervention	Black	**251**	**37.45%**	**62.55%**	**234**	**22.22%**	**77.78%**	**210**	**8.57%**	**91.43%**	251	4.78%	95.22%
	Intervention	White	**54**	**29.63%**	**70.37%**	**48**	**18.75%**	**81.25%**	**47**	**10.64%**	**89.36%**	54	1.85%	98.15%
	Intervention	Other	**37**	**29.73%**	**70.27%**	**35**	**20.00%**	**80.00%**	**33**	**12.12%**	**87.88%**	36	2.78%	97.22%

Study	Condition	Race	Ever Had Sex			Recent Sexual Activity			Recent Unprotected Sexual Activity			Ever Pregnant		
			N	Yes	No	N	Yes	No	N	Yes	No	N	Yes	No
The Policy & Research Group (2015)														
	Comparison	Black	320	36.88%	63.13%	305	22.62%	77.38%	290	13.10%	86.90%	314	2.55%	97.45%
	Comparison	White	0			0			0			0		
	Comparison	Other	23	34.78%	65.22%	23	30.43%	69.57%	22	22.73%	77.27%	22	4.55%	95.45%
	Intervention	Black	317	39.43%	60.57%	308	22.73%	77.27%	288	9.72%	90.28%	311	3.22%	96.78%
	Intervention	White	0			0			0			0		
	Intervention	Other	30	46.67%	53.33%	29	20.69%	79.31%	24	8.33%	91.67%	29	13.79%	86.21%
Walker et al. (2016)														
	Comparison	Black	**81**	**1.23%**	**98.77%**	80	0.00%	100.00%	80	0.00%	100.00%	81	0.00%	100.00%
	Comparison	White	**57**	**1.75%**	**98.25%**	56	0.00%	100.00%	56	0.00%	100.00%	57	0.00%	100.00%
	Comparison	Other	**20**	**5.00%**	**95.00%**	19	0.00%	100.00%	19	0.00%	100.00%	19	0.00%	100.00%
	Intervention	Black	**94**	**1.06%**	**98.94%**	94	1.06%	98.94%	94	1.06%	98.94%	94	1.06%	98.94%
	Intervention	White	**60**	**3.33%**	**96.67%**	60	1.67%	98.33%	60	1.67%	98.33%	60	1.67%	98.33%
	Intervention	Other	**29**	**0.00%**	**100.00%**	29	0.00%	100.00%	29	0.00%	100.00%	29	0.00%	100.00%

AZ = Arizona, CA = California, FL = Florida, IL = Illinois, LN = *Love Notes*, MA = Massachusetts, MN = Minnesota, MO = Missouri, RTR = *Reducing the Risk,* TN = Tennessee TX = Texas.

Notes. The presence of an asterisk (*) indicates that this outcome was not reported at the first post-test. **Bold** text indicates that the outcome was selected as confirmatory.

3.4. Sensitivity Analyses Examining Robustness of Mean Effect Size Estimates

The robust variance estimation (RVE) approach used in our analysis requires an assumed average correlation between effect size estimates within studies (ρ), which we conservatively assumed to be .80. This section presents sensitivity analyses using different assumed values of this parameter, ranging from .10 to .90. Findings presented in Table 3.4.1 below (for the analysis of confirmatory outcomes) show that results were robust across assumed values of ρ. Results were also robust to other analysis assumptions: excluding Cox-transformed effect sizes, Winsorizing outliers, and restricting the AD analysis to the 34 studies providing IPD.

TABLE 3.4.1: SENSITIVITY ANALYSES EXAMINING ROBUSTNESS OF MEAN EFFECT SIZE ESTIMATES FOR BINARY OUTCOMES

Mean LOR [95% CI]	Ever Had Sex	Recent Sexual Activity	Recent Unprotected Sexual Activity	Ever Pregnant	Recent Pregnancy
Primary Analysis					
	0.07 [−0.01, 0.14]	−0.05 [−0.18, 0.08]	0.05 [−0.04, 0.14]	0.19 [−0.68, 1.06]	0.26 [0.00, 0.52]
Sensitivity Analyses					
Excluding Cox−transformed effect sizes	0.07 [−0.00, 0.16]	−0.05 [−0.18, 0.08]	0.05 [−0.04, 0.14]	0.19 [−0.68, 1.06]	0.26 [0.00, 0.52]
Winsorizing outliers	0.07 [−0.01, 0.14]	−0.05 [−0.18, 0.08]	0.05 [−0.04, 0.14]	0.19 [−0.68, 1.06]	0.26 [0.00, 0.52]
Assuming ρ = .10	0.07 [−0.01, 0.14]	−0.05 [−0.18, 0.08]	0.05 [−0.04, 0.14]	0.19 [−0.68, 1.06]	0.26 [0.00, 0.52]
Assuming ρ = .20	0.07 [−0.01, 0.14]	−0.05 [−0.18, 0.08]	0.05 [−0.04, 0.14]	0.19 [−0.68, 1.06]	0.26 [0.00, 0.52]
Assuming ρ = .30	0.07 [−0.01, 0.14]	−0.05 [−0.18, 0.08]	0.05 [−0.04, 0.14]	0.19 [−0.68, 1.06]	0.26 [0.00, 0.52]
Assuming ρ = .40	0.07 [−0.01, 0.14]	−0.05 [−0.18, 0.08]	0.05 [−0.04, 0.14]	0.19 [−0.68, 1.06]	0.26 [0.00, 0.52]
Assuming ρ = .50	0.07 [−0.01, 0.14]	−0.05 [−0.18, 0.08]	0.05 [−0.04, 0.14]	0.19 [−0.68, 1.06]	0.26 [0.00, 0.52]
Assuming ρ = .60	0.07 [−0.01, 0.14]	−0.05 [−0.18, 0.08]	0.05 [−0.04, 0.14]	0.19 [−0.68, 1.06]	0.26 [0.00, 0.52]
Assuming ρ = .70	0.07 [−0.01, 0.14]	−0.05 [−0.18, 0.08]	0.05 [−0.04, 0.14]	0.19 [−0.68, 1.06]	0.26 [0.00, 0.52]
Assuming ρ = .90	0.07 [−0.01, 0.14]	−0.05 [−0.18, 0.08]	0.05 [−0.04, 0.14]	0.19 [−0.68, 1.06]	0.26 [0.00, 0.52]
Restricting to studies providing IPD	0.06 [−0.03, 0.15]	−0.07 [−0.23, 0.09]	0.03 [−0.05, 0.11]	0.13 [−1.93, 2.18]	0.25 [−0.11, 0.61]
Assuming ICC = .08	0.04 [−0.05, 0.13]	−0.06 [−0.20, 0.08]	0.07 [−0.00, 0.14]	−0.13 [−1.37, 1.11]	0.31 [0.03, 0.58]

ρ = assumed average correlation between effect sizes, CI = confidence interval, ICC = intra-class correlation, IPD = individual participant data, LOR = log odds ratio.

3.5. Bivariate Correlations between Moderators

Even after pooling across outcomes, our sample sizes were limited for estimating multivariable meta-regression models. Therefore, all meta-regression analyses were estimated such that each type of effect size moderator was examined individually. Although this approach limited our ability to control for potential confounding between moderators, examination of the bivariate correlations between moderators—presented in this section—suggests that few of the moderators were highly correlated.

TABLE 3.5.1: BIVARIATE CORRELATIONS BETWEEN MODERATORS

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Focus: Sexual health	1.00															
2	Focus: Youth development	−0.65	1.00														
3	Condom demonstration	0.10	−0.38	1.00													
4	Service learning	−0.36	0.56	−0.24	1.00												
5	Role plays	0.18	−0.45	0.43	−0.23	1.00											
6	Games	−0.40	−0.04	0.20	0.11	0.32	1.00										
7	Reflective exercises	0.20	−0.08	0.20	−0.05	0.17	−0.30	1.00									
8	Direct provision of health services	−0.14	0.21	−0.27	−0.07	−0.44	−0.16	0.08	1.00								
9	Parent activities	0.09	−0.12	−0.35	−0.10	0.11	−0.13	0.05	0.06	1.00							
10	Positive role model	−0.41	0.64	−0.27	0.74	−0.31	0.06	−0.15	−0.08	−0.12	1.00						
11	Size: Individualized	0.19	−0.12	0.34	−0.10	0.16	−0.23	0.67	−0.03	−0.17	−0.12	1.00					
12	Size: Small groups (<10)	−0.22	−0.20	0.20	−0.11	0.23	0.38	−0.24	−0.13	0.00	−0.13	−0.19	1.00				
13	Size: Large groups	0.03	0.17	−0.32	0.20	−0.13	−0.11	−0.22	0.16	0.09	0.23	−0.52	−0.56	1.00			
14	At least weekly contact	−0.16	0.23	−0.28	0.15	−0.16	0.01	−0.42	−0.03	−0.15	0.18	−0.62	−0.07	0.56	1.00		
15	Contact hours	−0.25	0.42	−0.24	0.05	−0.36	−0.12	−0.02	0.73	−0.08	−0.01	−0.11	−0.10	0.18	0.16	1.00	
16	Same-gender group composition	0.19	−0.25	0.44	−0.16	0.19	−0.12	0.33	−0.12	−0.18	−0.19	0.58	−0.15	−0.32	−0.34	−0.17	1.00
17	Setting: Classroom	−0.16	0.14	−0.16	0.04	0.12	0.02	−0.13	−0.03	0.14	0.16	−0.41	−0.09	0.42	0.40	−0.05	−0.16
18	Setting: Community	0.05	0.05	−0.08	0.05	−0.26	0.05	−0.27	0.17	0.02	0.01	−0.21	−0.01	0.20	0.23	0.22	−0.29
19	Personnel: Health educators	−0.27	−0.02	0.32	0.12	0.31	0.36	0.25	−0.14	−0.07	0.11	0.40	0.20	−0.30	−0.29	−0.17	0.24
20	Personnel: Classroom teachers	0.08	0.03	−0.05	0.05	0.13	0.04	0.20	−0.09	0.21	0.03	−0.13	−0.13	0.24	−0.01	−0.06	−0.20
21	Implementation fidelity	−0.09	−0.03	−0.17	0.00	−0.12	0.12	−0.46	0.04	0.15	0.06	−0.50	0.05	0.42	0.43	−0.14	−0.19
22	Mean attendance	0.04	−0.30	0.39	−0.26	0.36	0.20	0.08	−0.22	0.11	−0.28	0.02	0.16	0.05	−0.11	−0.19	0.07
23	Mean retention	0.08	−0.33	0.37	−0.28	0.35	0.21	0.06	−0.22	0.12	−0.27	0.00	0.13	0.05	−0.07	−0.22	0.11
34	Percentage boys	−0.15	0.11	−0.27	0.08	−0.05	0.16	−0.47	0.03	0.08	0.07	−0.76	0.10	0.53	0.53	0.11	−0.47
25	Percentage Black	0.15	0.13	−0.13	−0.01	−0.42	−0.39	−0.10	0.30	−0.17	0.07	−0.04	−0.25	0.23	0.23	0.29	0.04
26	Percentage Hispanic	−0.28	0.05	−0.02	−0.12	0.16	0.41	−0.18	−0.18	0.09	−0.09	−0.23	0.24	−0.14	0.02	−0.09	−0.23
27	Average age	0.22	−0.25	0.39	−0.25	−0.03	−0.28	0.34	−0.20	−0.35	−0.21	0.58	0.10	−0.52	−0.37	−0.33	0.39
28	Unprotected sex at baseline	0.20	−0.13	0.20	−0.10	−0.19	−0.32	0.41	0.08	−0.21	−0.14	0.61	−0.08	−0.57	−0.56	−0.17	0.62
29	Control group post−test sex rate	0.21	−0.16	0.38	−0.13	0.03	−0.32	0.45	0.04	−0.20	−0.12	0.73	−0.07	−0.52	−0.55	−0.13	0.52
30	Randomized controlled trial	−0.03	−0.09	0.30	−0.04	0.12	0.18	−0.04	−0.35	−0.35	0.09	0.13	−0.01	−0.13	0.06	−0.46	0.21
31	Overall attrition	0.00	0.26	−0.35	0.24	−0.07	−0.09	−0.04	0.03	0.45	0.19	−0.20	0.02	−0.07	−0.04	0.15	−0.23
32	Differential attrition	0.07	0.11	−0.32	−0.04	−0.21	−0.09	−0.05	0.36	0.39	−0.10	−0.17	0.06	−0.01	−0.04	0.21	−0.32
33	Active control group	−0.08	0.07	−0.29	−0.02	−0.33	0.02	−0.33	0.07	0.05	−0.07	−0.29	−0.08	0.06	0.24	0.20	−0.01

continued

TABLE 3.5.1: BIVARIATE CORRELATIONS BETWEEN MODERATORS (CONTINUED)

		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
17	Unprotected sex at baseline	1.00															
18	Control group post−test sex rate	−0.51	1.00														
19	Personnel: Health educators	−0.27	0.01	1.00													
20	Personnel: Classroom teachers	0.30	−0.15	−0.28	1.00												
21	Implementation fidelity	0.41	−0.01	−0.17	−0.13	1.00											
22	Mean attendance	−0.02	0.05	0.13	0.08	0.29	1.00										
23	Mean retention	0.00	0.04	0.11	0.10	0.33	0.99	1.00									
24	Percentage boys	0.43	0.16	−0.26	0.13	0.41	0.09	0.07	1.00								
25	Percentage Black	−0.39	0.50	−0.24	−0.23	0.08	−0.21	−0.15	−0.02	1.00							
26	Percentage Hispanic	0.29	−0.25	0.00	0.12	0.01	0.05	0.05	0.15	−0.72	1.00						
27	Average age	−0.49	−0.01	0.25	−0.27	−0.20	0.20	0.23	−0.55	0.12	−0.28	1.00					
28	Unprotected sex at baseline	−0.51	−0.12	0.04	−0.19	−0.30	0.06	0.11	−0.79	0.13	−0.41	0.78	1.00				
29	Control group post-test sex rate	−0.46	−0.07	0.30	−0.29	−0.27	0.03	0.07	−0.66	0.19	−0.39	0.85	0.83	1.00			
30	Randomized controlled trial	−0.03	−0.12	−0.10	0.09	0.07	−0.01	0.02	−0.12	−0.03	0.11	0.19	0.14	0.01	1.00		
31	Overall attrition	0.05	0.07	−0.28	0.16	−0.08	−0.21	−0.21	0.04	−0.23	0.19	−0.37	−0.01	−0.23	−0.19	1.00	
32	Differential attrition	−0.10	0.33	−0.17	0.11	−0.36	−0.21	−0.22	0.07	0.05	0.07	−0.25	−0.19	−0.16	−0.57	0.42	1.00
33	Active control group	−0.17	0.25	−0.24	−0.21	0.07	−0.23	−0.22	0.02	0.35	0.04	−0.30	−0.02	−0.33	0.10	0.12	0.11

3.6. Additional Meta-Regression Model Specifications for Associations between Moderators and Effect Sizes

This section presents sensitivity analyses, for the analysis of confirmatory outcomes, showing results from models examining one moderator variable at a time (without adjusting for other variables within a moderator block) and examining all moderators within a block simultaneously in a single multivariable meta-regression model.

TABLE 3.6.1: PROGRAM DESIGN MODERATORS OF EFFECTS: UNSTANDARDIZED COEFFICIENTS AND 95% CONFIDENCE INTERVALS FROM META-REGRESSION MODELS

	Individual Models		Full Model	
	b	95% CI	*b*	95% CI
Program Type				
Tier I	−0.10	[−0.24, 0.03]	−0.12	[−0.32, 0.09]
Program Focus				
Sexual health	−0.08	[−0.25, 0.10]	Ref.	
Youth development	0.01	[−0.17, 0.19]	0.14	[−0.09, 0.37]
Other	0.24	[−0.42, 0.89]	0.02	[−0.42, 0.45]
Program Components				
Condom demonstration	0.06	[−0.07, 0.19]	0.10	[−0.08, 0.29]
Service learning	0.01	[−0.36, 0.37]	0.19	[−0.30, 0.67]
Role plays	−0.01	[−0.15, 0.14]	−0.05	[−0.26, 0.17]
Games	0.04	[−0.15, 0.24]	0.04	[−0.22, 0.31]
Reflective exercises	0.13	[−0.09, 0.34]	0.07	[−0.17, 0.30]
Direct provision of health services	0.44	[−0.60, 1.48]	0.44	[−0.30, 1.18]
Parent activities	−0.03	[−0.21, 0.14]	0.02	[−0.18, 0.23]
Positive role model	−0.08	[−0.30, 0.15]	−0.17	[−0.55, 0.22]
Group Size				
Individualized	0.26	[−0.01, 0.52]	0.07	[−0.31, 0.45]
Small groups (<10)	−0.04	[−0.21, 0.12]	−0.03	[−0.28, 0.22]
Large groups	−0.09	[−0.23, 0.05]	Ref.	
Other	−0.06	[−0.22, 0.10]	−0.07	
Program Length				
At least weekly contact	−0.15	[−0.34, 0.04]	−0.04	[−0.25, 0.17]
Contact hours	0.00	[0.00, 0.00]	0.00	[0.00, 0.00]
Group Composition				
Same gender	0.08	[−0.09, 0.25]	−0.04	[−0.34, 0.27]
Gender Targeting				
Girls only	0.16	[−0.05, 0.37]	0.04	[−0.34, 0.43]
Full model intercept	na		0.09	[−0.21, 0.39]

b = unstandardized meta-regression coefficients, CI = confidence interval, na = not applicable, Ref. = reference category.

Notes. All meta-regression models estimated using robust variance estimation to handle statistically dependent effect sizes.

TABLE 3.6.2: PROGRAM IMPLEMENTATION MODERATORS OF EFFECTS: UNSTANDARDIZED COEFFICIENTS AND 95% CONFIDENCE INTERVALS FROM META-REGRESSION MODELS

	Individual Models		Full Model	
	b	95% CI	*b*	95% CI
Program Setting				
Classroom	−0.15*	[−0.27, −0.03]	Ref.	
Community	0.05	[−0.11, 0.22]	0.09	[−0.12, 0.31]
Other	0.15	[0.00, 0.30]	0.25	[−0.08, 0.57]
Provider				
Health educators	−0.02	[−0.02, 0.12]	−0.13	[−0.42, 0.15]
Classroom teachers	−0.03	[−0.21, 0.14]	Ref.	
Other	0.04	[−0.11, 0.19]	−0.02	[−0.31, 0.26]
Implementation				
Implementation fidelity	0.05	[−1.65, 1.76]	0.34	[−1.79, 2.46]
Mean attendance	0.56*	[0.02, 1.10]	1.81	[−2.34, 5.96]
Mean retention	0.40	[−0.06, 0.85]	−1.01	[−3.84, 1.81]
Full model intercept	**na**		**−0.97**	**[−3.20, 1.25]**

b = unstandardized meta-regression coefficients, CI = confidence interval, na = not applicable, Ref. = reference category.

Notes. All meta-regression models estimated using robust variance estimation to handle statistically dependent effect sizes.

* $p < .05$

TABLE 3.6.3: A PARTICIPANT CHARACTERISTIC MODERATORS OF EFFECTS: UNSTANDARDIZED COEFFICIENTS AND 95% CONFIDENCE INTERVALS FROM META-REGRESSION MODELS

	Individual Models		Full Model	
	b	95% CI	*b*	95% CI
Participant Characteristics				
Percentage boys	−0.26	[−0.60, −0.08]	−0.28	[−0.84, 0.28]
Percentage Black	0.00	[−0.21, 0.22]	−0.01	[−0.44, 0.42]
Percentage Hispanic	−0.07	[−0.34, 0.20]	−0.02	[−0.43, 0.39]
Average age	0.02	[−0.02, 0.06]	−0.03	[−0.14, 0.09]
Risk (control event rate)	0.18	[−0.10, 0.46]	0.24	[−0.50, 0.98]
Full model intercept	**na**		**0.48**	**[−0.86, 1.81]**

b = unstandardized meta-regression coefficients, CI = confidence interval, na = not applicable, Ref. = reference category.

Notes. All meta-regression models estimated using robust variance estimation to handle statistically dependent effect sizes.

* $p < .05$

TABLE 3.6.4: STUDY METHOD MODERATORS OF EFFECTS: UNSTANDARDIZED COEFFICIENTS AND 95% CONFIDENCE INTERVALS FROM META-REGRESSION MODELS

	Individual Models		Full Model	
	b	95% CI	*b*	95% CI
Study Characteristics				
Randomized controlled trial	0.11	[−0.06, 0.28]	0.12	[−0.29, 0.52]
Overall attrition	0.10	[−0.27, 0.48]	0.16	[−0.26, 0.58]
Differential attrition	−0.35	[−3.40, 2.70]	−0.06	[−3.04, 2.92]
Active comparison condition	−0.02	[−0.18, 0.14]	−0.04	[−0.21, 0.13]
Full model intercept	**na**		**−0.05**	**[−0.54, 0.43]**

b = unstandardized meta-regression coefficients, CI = confidence interval, na = not applicable, Ref. = reference category.

Notes. All meta-regression models estimated using robust variance estimation to handle statistically dependent effect sizes.

TABLE 3.6.5: REGRESSION MODELS EXAMINING MODERATORS OF PARTICIPANT ATTENDANCE RATES

	Individual Models		Full Model	
	b	95% CI	*b*	95% CI
Program Type – Tier I	−0.06	[−0.15, 0.03]	−0.04	[−0.22, 0.14]
Program Focus				
Sexual health	0.03	[−0.07, 0.12]	Ref.	
Youth development	−0.09	[−0.19, 0.01]	0.29	[−0.26, 0.85]
Other	0.14	[−0.01, 0.29]	0.26	[−0.26, 0.78]
Program Components				
Condom demonstration	0.13*	[0.04, 0.22]	0.10	[−0.11, 0.31]
Service learning	−0.15*	[−0.28, −0.01]	0.03	[−0.28, 0.35]
Role plays	0.13*	[0.05, 0.22]	0.25	[−0.31, 0.80]
Games	0.03	[−0.08, 0.15]	−0.10	[−0.41, 0.22]
Reflective exercises	0.10	[−0.01, 0.20]	0.20	[−0.16, 0.57]
Direct provision of health services	−0.05	[−0.20, 0.10]	−0.24	[−0.93, 0.46]
Parent activities	0.11*	[0.00, 0.21]	0.10	[−0.21, 0.42]
Positive role model	−0.13*	[−0.26, −0.01]	0.04	[−0.51, 0.59]
Group Size				
Individualized	0.05	[−0.09, 0.19]	Ref.	
Small groups (<10)	0.04	[−0.08, 0.16]	−0.22	[−1.04, 0.60]
Large groups	0.01	[−0.09, 0.10]	−0.13	[−1.00, 0.75]
Other (combined individual/group)	−0.18*	[−0.34, −0.02]	Ref.	
Program Length				
At least weekly contact	−0.11*	[−0.22, −0.01]	−0.08	[−0.30, 0.14]
Contact hours	−0.00	[−0.00, 0.00]	0.00	[−0.00, 0.01]
Group Composition				
Gender composition – same gender	0.02	[−0.08, 0.13]	−0.01	[−0.21, 0.20]

	Individual Models		Full Model	
	b	95% CI	*b*	95% CI
Program Setting				
Classroom	0.04	[−0.05, 0.13]	Ref.	
Community	−0.07	[−0.17, 0.04]	0.14	[−0.31, 0.60]
Other	0.00	[−0.10, 0.11]	−0.01	[−0.28, 0.25]
Program Delivery Personnel				
Health educators	0.00	[−0.09, 0.09]	−0.08	[−0.31, 0.15]
Classroom teachers	0.08	[−0.06, 0.22]	Ref.	
Other	−0.03	[−0.12, 0.06]	0.06	[−0.21, 0.34]
Implementation fidelity	0.64	[−0.14, 1.42]	2.03*	[0.03, 4.04]
Participant Characteristics				
Percentage boys	0.07	[−0.14, 0.28]	0.23	[−0.44, 0.90]
Percentage Black	−0.20*	[−0.33, −0.06]	0.09	[−0.36, 0.55]
Percentage Hispanic	0.04	[−0.11, 0.19]	0.10	[−0.32, 0.51]
Average age	0.01	[−0.02, 0.03]	0.09	[−0.08, 0.25]
Risk (control event rate)	0.03	[−0.13, 0.20]	−0.38	[−1.20, 0.45]
Full model intercept	na		−2.59	[−7.04, 1.85]

b = unstandardized meta-regression coefficients, CI = confidence interval, na = not applicable, Ref. = reference category.

Notes. All meta-regression models estimated using robust variance estimation to handle statistically dependent effect sizes.

* $p < .05$

TABLE 3.6.6: REGRESSION MODELS EXAMINING MODERATORS OF PROGRAM RETENTION RATES

	Individual Models		Full Model	
	b	95% CI	*b*	95% CI
Program Type – Tier I	-0.09	[-0.20, 0.03]	-0.05	[-0.31, 0.21]
Program Focus				
Sexual health	0.05	[-0.06, 0.17]	Ref.	
Youth development	-0.13*	[-0.26, -0.01]	0.39	[-0.41, 1.19]
Other	0.16	[-0.03, 0.34]	0.30	[-0.44, 1.05]
Program Components				
Condom demonstration	0.15*	[0.04, 0.27]	0.14	[-0.16, 0.44]
Service learning	-0.23*	[-0.39, -0.06]	0.04	[-0.41, 0.49]
Role plays	0.17*	[0.07, 0.28]	0.32	[-0.48, 1.12]
Games	0.04	[-0.11, 0.18]	-0.09	[-0.55, 0.37]
Reflective exercises	0.11	[-0.03, 0.24]	0.27	[-0.25, 0.79]
Direct provision of health services	-0.08	[-0.27, 0.11]	-0.25	[-1.24, 0.75]
Parent activities	0.14*	[0.00, 0.27]	0.15	[-0.30, 0.61]
Positive role model	-0.18*	[-0.34, -0.02]	0.04	[-0.76, 0.84]

	Individual Models		Full Model	
	b	95% CI	*b*	95% CI
Group Size				
Individualized	0.07	[-0.11, 0.25]	Ref.	
Small groups (<10)	0.02	[-0.13, 0.17]	-0.35	[-1.53, 0.83]
Large groups	-0.00	[-0.12, 0.12]	-0.24	[-1.49, 1.02]
Other (combined individual/group)	-0.17	[-0.41, 0.06]	Ref.	
Program Length				
At least weekly contact	-0.13	[-0.26, 0.00]	-0.11	[-0.42, 0.21]
Contact hours	-0.00	[-0.00, 0.00]	0.00	[-0.01, 0.01]
Group Composition				
Gender composition – same gender	0.06	[-0.07, 0.19]	-0.01	[-0.30, 0.28]
Program Setting				
Classroom	0.05	[-0.07, 0.16]	Ref.	
Community	-0.07	[-0.21, 0.06]	0.16	[-0.49, 0.81]
Other	0.01	[-0.12, 0.14]	-0.06	[-0.44, 0.32]
Program Delivery Personnel				
Health educators	-0.00	[-0.12, 0.11]	-0.10	[-0.43, 0.23]
Classroom teachers	0.11	[-0.06, 0.28]	Ref.	
Other	-0.04	[-0.16, 0.07]	0.07	[-0.32, 0.47]
Implementation fidelity	0.98	[-0.00, 1.95]	2.74	[-0.15, 5.63]
Participant Characteristics				
Percentage boys	0.04	[-0.24, 0.31]	0.39	[-0.58, 1.35]
Percentage Black	-0.21*	[-0.39, -0.03]	0.18	[-0.47, 0.84]
Percentage Hispanic	0.04	[-0.16, 0.24]	0.17	[-0.43, 0.77]
Average age	0.02	[-0.01, 0.05]	0.12	[-0.12, 0.36]
Risk (control event rate)	0.13	[-0.10, 0.35]	-0.52	[-1.71, 0.67]
Full model intercept	na		-3.81	[-10.21, 2.60]

Notes. *b* = unstandardized meta-regression coefficients, CI = confidence interval, Ref. = reference category. All meta-regression models estimated using robust variance estimation to handle statistically dependent effect sizes.

* $p < .05$

3.7. Meta-Analysis Using All Effect Sizes

The meta-regression analysis results reported in Chapter 6 of the final report use the 119 effect sizes for confirmatory outcomes from the 52 eligible studies that reported such outcomes. In this section, we report results from identical analyses using all 385 effect sizes from the 53 eligible studies. Exhibits 3.7.1 through 3.7.3 correspond to Exhibits 6-1 through 6-3 in the final report.

TABLE 3.7.1: RELATIONSHIPS BETWEEN PROGRAM DESIGN FEATURES AND AVERAGE EFFECT SIZES

	b	95% CI
Level of Prior Evidence (Program Tier)		
Tier 2 program	Ref.	
Tier 1 program	–0.09	[–0.20, 0.02]
Intercept	0.09*	[0.01, 0.17]
	F =2.57, p = .12	
Program Focus		
Sexual health	Ref.	
Youth development	0.05	[–0.09, 0.19]
Other	0.20	[–0.21, 0.62]
Intercept	0.02	[–0.04, 0.08]
	F = 1.00, p = .41	
Program Components		
Condom demonstrations	0.08	[–0.06, 0.21]
Service learning	0.08	[–0.36, 0.53]
Role plays	–0.07	[–0.25, 0.11]
Games	0.15	[–0.05, 0.36]
Reflective exercises	0.07	[–0.08, 0.22]
Direct provision of health services	0.18	[–0.20, 0.56]
Parent activities	–0.05	[–0.20, 0.11]
Positive role model	–0.08	[–0.45, 0.27]
Intercept	–0.04	[–0.08, 0.16]
	F = 0.62, p = .74	
Group Size		
Individualized	Ref.	
Small groups (<10)	–0.15	[–0.35, 0.06]
Large groups	–0.12	[–0.31, 0.07]
Other (mixed individual/group)	–0.10	[–0.35, 0.15]
Intercept	0.16	[–0.03, 0.34]
	F = 0.73, p = .57	
Group Composition		
Mixed-gender delivery	Ref.	
Same-gender delivery	0.04	[–0.09, 0.17]
Intercept	0.04	[–0.03, 0.11]
	F = 0.43, p = .52	

	b	95% CI
Single-Gender Targeting		
Girls only	0.11	[–0.04, 0.26]
Intercept	0.03	[–0.03, 0.09]
	F = 2.71, p = .13	
Program Length (Valid *k* = 52, *n* = 384)		
At least weekly contact	–0.03	[–0.18, 0.11]
Contact hours	0.00	[–0.00, 0.00]
Intercept	0.08	[–0.06, 0.21]
	F = 0.10, p = .91	

b = unstandardized meta-regression coefficients, CI = confidence interval, *F* = omnibus *F*-statistic for meta-regression model, Ref. = reference category.

Notes. All meta-regression models estimated using robust variance estimation to handle statistically dependent effect sizes. The analytic sample size was *n* = 53 studies and 385 effect sizes unless noted otherwise.

* *p* < .05

TABLE 3.7.2: RELATIONSHIPS BETWEEN PROGRAM IMPLEMENTATION FEATURES AND AVERAGE EFFECT SIZES

	b	95% CI
Program Setting		
Classroom	Ref.	
Community	0.10	[–0.07, 0.27]
Other	0.12	[–0.00, 0.24]
Intercept	0.00	[–0.07, 0.08]
	F = 2.17, p = .14	
Program Delivery Personnel		
Classroom teachers	Ref.	
Health educators	–0.04	[–0.20, 0.13]
Other	0.03	[–0.16, 0.23
Intercept	0.06	[–0.11, 0.22]
	F = 0.57, p = .58	
Implementation Characteristics (Valid *k* = 42, *n* = 320)		
Fidelity	–0.04	[–1.59, 1.51]
Mean attendance	0.82	[–2.98, 4.63]
Mean retention	–0.30	[–2.97, 2.37]
Intercept	–0.37	[–2.34, 1.61]
	F = 0.93, p = .46	

b = unstandardized meta-regression coefficients, CI = confidence interval, *F* = omnibus *F*-statistic for meta-regression model, Ref. = reference category.

Notes. All meta-regression models estimated using robust variance estimation to handle statistically dependent effect sizes. The analytic sample size was *n* = 53 studies and 385 effect sizes unless noted otherwise.

* *p* < .05

TABLE 3.7.3: RELATIONSHIPS BETWEEN PARTICIPANT CHARACTERISTICS AND AVERAGE EFFECT SIZES

	b	95% CI
Participant Characteristics		
Percentage boys	−0.18	[−0.60,0.23]
Percentage Black	−0.06	[−0.47,0.35]
Percentage Hispanic	−0.11	[−0.45,0.23]
Average age	0.00	[−0.12,0.11]
Risk (control event rate)	0.04	[−0.68,0.75]
Intercept	0.22	[−1.12,1.56]
	F = 0.37, *p* = .86	

b = unstandardized meta-regression coefficients, CI = confidence interval, *F* = omnibus *F*-statistic for meta-regression model.

Notes. All meta-regression models estimated using robust variance estimation to handle statistically dependent effect sizes. The analytic sample size was *n* = 38 studies and 324 effect sizes.

3.8. Relationships between Study Methods and Analysis Results

This section provides additional detail on the relationships between study methods and effect sizes. Section 3.8.1 presents results from a meta-analysis including only randomized experiments. Section 3.8.2 explores the relationship between post-test assessment timing and effect sizes.

3.8.1 Meta-Analysis of Randomized Experiments

The meta-analysis sample included both randomized experiments ($k = 47$) and high-quality quasi-experiments ($k = 6$). Although the meta-regression analysis found no evidence that effect sizes differed systematically between the two types of study designs in this sample, there is a widespread belief among researchers that randomized experiments are less prone to bias. Table 3.8.1 through Table 3.8.5 present results from a meta-analysis of the confirmatory effects from only the 47 randomized experiments. Results are nearly identical to the results from the full sample.

TABLE 3.8.1: OVERALL EFFECTS OF TPP PROGRAMS ON CONFIRMATORY OUTCOMES

Outcome Construct	# of Studies	# of Effect Sizes Reported	Effect Size Expressed as Log Odds Ratio		
			Log Odds Ratio or Hedges' *g*	*p*-Value	[95% Confidence Interval]
Ever had sex	19	23	0.08†	0.05	[–0.00, 0.16]
Recent sexual activity	15	24	–0.04	0.61	[–0.19, 0.12]
Recent unprotected sexual activity	28	44	0.06	0.23	[–0.04, 0.16]
Number of sexual partners	2	2	0.08	0.57	[–1.27, 1.44]
Proportion of sexual experiences that were unprotected	1	1	–0.29	-	[–0.85, 0.27]
Ever pregnant/parent	4	4	0.19	0.47	[–0.68, 1.06]
Recent pregnancy/parenting	12	12	0.26†	0.05	[–0.00, 0.52]
Average effect for all outcomes	**47**	**110**	**0.08***	**0.03**	**[0.01, 0.16]**

* $p < .05$. † < .10

TABLE 3.8.2: RELATIONSHIPS BETWEEN PROGRAM DESIGN FEATURES AND AVERAGE EFFECT SIZES

	b	95% CI
Level of Prior Evidence (Program Tier)		
Tier 2 program	Ref.	
Tier 1 program	–0.14*	[–0.28, –0.00]
Intercept	0.15*	[0.05, 0.25]
	F =4.28, p = .05	
Program Focus		
Sexual health	Ref.	
Youth development	0.02	[–0.16, 0.21]
Other	0.22	[–0.41, 0.85]
Intercept	0.06	[–0.01, 0.13]
	F = 0.41, p = .68	

	b	95% CI
Program Components		
Condom demonstrations	0.09	[−0.09, 0.28]
Service learning	0.18	[−0.37, 0.73]
Role plays	−0.07	[−0.30, 0.17]
Games	0.09	[−0.15, 0.34]
Reflective exercises	0.11	[−0.13, 0.34]
Direct provision of health services	0.41	[−0.40, 1.22]
Parent activities	0.05	[−0.19, 0.29]
Positive role model	−0.15	[−0.37, 0.06]
Intercept	0.03	[−0.07, 0.12]
	F = 2.28, p = .18	
Group Size		
Individualized	Ref.	
Small groups (<10)	−0.23	[−0.51, 0.06]
Large groups	−0.24	[−0.51, 0.03]
Other (mixed individual/group)	−0.27	[−0.56, 0.02]
Intercept	0.29*	[0.01, 0.57]
	F = 1.55, p = .29	
Group Composition		
Mixed-gender delivery	Ref.	
Same-gender delivery	0.06	[–0.12, 0.24]
Intercept	0.06	[–0.02, 0.15]
	F = 0.54, p = .47	
Single-Gender Targeting		
Girls only	0.14	[–0.06, 0.35]
Intercept	0.05	[–0.03, 0.13]
	F = 2.27, p = .16	
Program Length		
At least weekly contact	−0.19	[−0.39, 0.02]
Contact hours	0.00	[−0.01, 0.01]
Intercept	0.21*	[0.01, 0.41]
	F = 1.46, p = .36	

b = unstandardized meta-regression coefficients, CI = confidence interval, *F* = omnibus *F*-statistic for meta-regression model, Ref. = reference category.

Notes. All meta-regression models estimated using robust variance estimation to handle statistically dependent effect sizes. The analytic sample size was *n* = 47 studies and 110 effect sizes unless otherwise indicated.

* $p < .05$

TABLE 3.8.3: RELFATIONSHIPS BETWEEN PROGRAM IMPLEMENTATION FEATURES AND AVERAGE EFFECT SIZES

	b	95% CI
Program Setting		
Classroom	Ref.	
Community	0.10	[−0.08, 0.28]
Other	0.16	[−0.01, 0.33]
Intercept	0.02	[−0.09, 0.12]
	F = 2, p = .17	
Program Delivery Personnel		
Classroom teachers	Ref.	
Health educators	0.03	[−0.16, 0.23]
Other	0.07	[−0.14, 0.27]
Intercept	0.04	[−0.12, 0.21]
	F = 0.24, p = .79	
Implementation Characteristics (Valid *k* = 38, *n* = 94)		
Fidelity	0.01	[−1.72, 1.74]
Mean attendance	3.56	[−1.42, 8.54]
Mean retention	−2.13	[−5.53, 1.27]
Intercept	−1.23	[−3.46, 1.01]
	F = 1.27, p = .34	

b = unstandardized meta-regression coefficients, CI = confidence interval, *F* = omnibus *F*-statistic for meta-regression model, Ref. = reference category.

Notes. All meta-regression models estimated using robust variance estimation to handle statistically dependent effect sizes. The analytic sample size was n = 47 studies and 110 effect sizes unless otherwise indicated.

* $p < .05$

TABLE 3.8.4: RELATIONSHIPS BETWEEN PARTICIPANT CHARACTERISTICS AND AVERAGE EFFECT SIZES

	b	95% CI
Participant Characteristics		
Percentage boys	−0.22	[−0.78, 0.33]
Percentage Black	−0.01	[−0.43, 0.42]
Percentage Hispanic	0.00	[−0.42, 0.42]
Average age	−0.03	[−0.15, 0.09]
Risk (control event rate)	0.32	[−0.44, 1.08]
Intercept	0.54	[−0.80, 1.88]
	F = 0.73, *p* = .62	

b = unstandardized meta-regression coefficients, CI = confidence interval, *F* = omnibus *F*-statistic for meta-regression model.

Notes. All meta-regression models estimated using robust variance estimation to handle statistically dependent effect sizes. The analytic sample size was *n* = 36 studies and 92 effect sizes.

TABLE 3.8.5: RELATIONSHIPS BETWEEN STUDY METHODS AND AVERAGE EFFECT SIZES

	b	95% CI
Study Method		
Overall attrition	0.33	[−0.10, 0.77]
Differential attrition	1.71	[−1.55, 4.98]
Active control group	−0.08	[−0.26, 0.09]
Study rated inconclusive[a]	−0.25*	[−0.49, −0.01]
Intercept	0.02	[−0.14, 0.18]
	F = 1.62, p = .24	

b = unstandardized meta-regression coefficients, CI = confidence interval, *F* = omnibus *F*-statistic for meta-regression model.

[a] See Farb and Margolis (2016).

Notes. All meta-regression models estimated using robust variance estimation to handle statistically dependent effect sizes. The analytic sample size was *n* = 43 studies and 104 effect sizes.

3.8.2 Post-Test Assessment Timing

To determine whether there was a systematic relationship between effect sizes and post-test assessment timing (e.g., if programs were likely to be more effective in the long-term), we conducted two analyses. First, we coded *post-test assessment timing* as a series of dummy variables corresponding to different timing intervals. Then we conducted a single meta-regression analysis of this moderator block. The results from this analysis, presented in Table 3.8.6, show no evidence of a relationship between post-test assessment timing and effect sizes. However, effect sizes appeared to be somewhat larger for all post-test assessment timing intervals of less than 12 months (with intervals greater than 12 months serving as the reference category). To explore whether there was a difference between intervals greater than and less than 12 months, we coded assessment timing as a binary variable indicating whether the assessment was conducted more than 12 months after the end of the program. The results, shown in Table 3.8.7, again provide no evidence that assessment timing was significantly related to effect sizes.

TABLE 3.8.6: RELATIONSHIP BETWEEN POST-TEST ASSESSMENT TIMING AND AVERAGE EFFECT SIZES (FOR TIMING CODED AS A CATEGORICAL VARIABLE)

	b	95% CI
Post-Test Timing Since Program End		
0 < X ≤ 3 months	0.09	[−0.25, 0.43]
3 < X ≤ 6 months	0.16	[−0.09, 0.40]
6 < X ≤ 9 months	0.02	[−0.16, 0.21]
9 < X ≤ 12 months	0.61	[−0.34, 1.56]
12 < x months	Ref.	
Intercept	0.01	[−0.07, 0.09]
	F = 0.71, *p* = .56	

b = unstandardized meta-regression coefficients, CI = confidence interval, *F* = omnibus *F*-statistic for meta-regression model, Ref. = reference category.

Notes. All meta-regression models estimated using robust variance estimation to handle statistically dependent effect sizes. The analytic sample size was *n* = 52 studies and 119 effect sizes.

* *p* < .05

TABLE 3.8.7: RELATIONSHIP BETWEEN POST-TEST ASSESSMENT TIMING AND AVERAGE EFFECT SIZES (FOR TIMING CODED AS A BINARY VARIABLE)

	b	*p*-Value	95% CI
Post-Test Timing Since Program End			
12+ months	−0.03	0.67	[−0.15, 0.10]
Intercept	0.08	0.09	[−0.01, 0.17]

b = unstandardized meta-regression coefficients, CI = confidence interval.

Notes. Meta-regression model estimated using robust variance estimation to handle statistically dependent effect sizes. The analytic sample size was *n* = 52 studies and 119 effect sizes.

* p < .05

3.9. Overall Effects of Programs That Did and Did Not Report Effect Sizes for Recent Pregnancy

Chapter 5 of the report notes that in the analysis including all effect sizes, there was an average program effect on recent pregnancy but not an overall effect on any of the behavioral outcomes that are thought to be precursors to pregnancy (such as recent sexual activity or unprotected sexual activity). A potential explanation for this apparent paradox lies in that only 19 of the 53 studies reported an effect size in the *recent pregnancy* category, whereas many more studies contributed effect sizes for other behavioral outcomes. In this section, we present overall effects of TPP programs for the sample of 19 studies that reported recent pregnancy effect sizes (Table 3.9.1) and for the sample of 34 programs that did not report effect sizes for recent pregnancy (Table 3.9.2). A third exhibit (Table 3.9.3) shows the relationship between reporting recent pregnancy effect sizes and average effect sizes for other outcomes.

TABLE 3.9.1: OVERALL EFFECTS OF TPP PROGRAMS FOR STUDIES WITH REPORTED *RECENT PREGNANCY* OUTCOME

Outcome Construct	# of Studies	# of Effect Sizes Reported	Effect Size Expressed as Log Odds Ratio		
			Log Odds Ratio or Hedges' g	p-Value	[95% Confidence Interval]
Ever had sex	2	6	0.20	0.19	[–0.57, 0.97]
Recent sexual activity	15	74	0.03	0.54	[–0.07, 0.14]
Recent unprotected sexual activity	19	92	0.10*	0.02	[0.02, 0.18]
Number of sexual partners	4	9	0.04	0.36	[–0.09, 0.16]
Sexually transmitted infections	11	11	0.17	0.47	[–0.35, 0.70]
Ever pregnant/parent	3	7	0.28	0.19	[–0.49, 1.04]
Recent pregnancy/parenting	19	24	0.24*	0.02	[0.04, 0.45]
Average effect for all outcomes	**19**	**243**	0.11*	0.03	**[0.01, 0.21]**

* p < .05. † < .10

TABLE 3.9.2: OVERALL EFFECTS OF TPP PROGRAMS FOR STUDIES WITHOUT REPORTED *RECENT PREGNANCY* OUTCOME

Outcome Construct	# of Studies	# of Effect Sizes Reported	Effect Size Expressed as Log Odds Ratio		
			Log Odds Ratio or Hedges' g	p-Value	[95% Confidence Interval]
Ever had sex	27	50	0.03	0.43	[–0.05, 0.10]
Recent sexual activity	12	18	0.00	0.96	[–0.11, 0.12]
Recent unprotected sexual activity	22	54	0.00	0.93	[–0.11, 0.11]
Number of sexual partners	4	6	0.02	0.57	[–0.11, 0.15]
Ever pregnant/parent	5	9	0.05	0.78	[–0.48, 0.57]
Average effect for all outcomes	**34**	**142**	**0.01**	**0.83**	**[–0.06, 0.08]**

* p < .05. † < .10

TABLE 3.9.3: RELATIONSHIPS BETWEEN REPORT OF *RECENT PREGNANCY* OUTCOME AND AVERAGE EFFECT SIZES

Outcome Construct	*b*	*p*-Value	95% CI
Ever had sex			
Recent pregnancy outcome reported	0.17	0.22	[−0.45, 0.79]
Intercept	0.03	0.47	[−0.05, 0.10]
Recent sexual activity			
Recent pregnancy outcome reported	0.03	0.70	[−0.12, 0.17]
Intercept	0.00	0.93	[−0.11, 0.12]
Recent unprotected sexual activity			
Recent pregnancy outcome reported	0.10	0.13	[−0.03, 0.23]
Intercept	0.00	0.95	[−0.11, 0.11]
Number of sexual partners			
Recent pregnancy outcome reported	0.03	0.56	[−0.09, 0.14]
Intercept	0.02	0.57	[−0.11, 0.15]
Ever pregnant/parent			
Recent pregnancy outcome reported	0.23	0.34	[−0.45, 0.90]
Intercept	0.05	0.78	[−0.48, 0.57]
All outcomes			
Recent pregnancy outcome reported	0.09	0.12	[−0.03, 0.21]
Intercept	0.02	0.55	[−0.05, 0.09]

b = unstandardized meta-regression coefficients, CI = confidence interval.

Notes. Meta-regression model estimated using robust variance estimation to handle statistically dependent effect sizes. The analytic sample size was *n* = 53 studies and 385 effect sizes.

* $p < .05$

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