

Re-Examining the Evidence for Comprehensive Sex Education in Schools

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Part Two: International Research Findings

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**THE INSTITUTE FOR
RESEARCH & EVALUATION**



Re-Examining the Evidence for Comprehensive Sex Education in Schools:

Part Two: International Research Findings (Outside the United States)

The Institute for Research & Evaluation
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The Institute for Research and Evaluation (IRE) is a nonprofit research organization noted for its work evaluating sex education programs over the past 25 years. IRE has conducted program evaluations for federal Title V, CBAE, and Title XX projects in 30 states, and has evaluated sex education in three foreign countries, in total collecting data from more than 900,000 teens, and conducting over 100 evaluation studies. IRE staff members have published articles in professional journals and presented at professional conferences and workshops. Irene H. Ericksen has served on a national panel of consultants to the CDC-supported Community Preventive Services Task Force meta-analysis on sex education effectiveness and as a secondary author for the published study on the same topic (2012). Dr. Stan E. Weed, Founder and Director of IRE, has served as a national consultant for federal Title XX and CBAE projects, and was a charter member of the National Campaign to Prevent Teen and Unplanned Pregnancy. He has been invited to provide expert testimony about sex education to state legislative bodies, the U.S. Senate, the U.S. House of Representatives, and the White House.

EXECUTIVE SUMMARY

INTRODUCTION

This is the second of a two-part study examining the evidence for school-based comprehensive sex education (CSE) using an approach not often employed by previous reviews, that is, applying standards of effectiveness derived from the field of prevention research to the results of CSE outcome studies. Part One evaluated studies of school-based CSE in the United States contained in databases vetted by three agencies: the *U.S. Department of Health and Human Services*, the *U.S. Centers for Disease Control and Prevention*, and the *United Nations Educational, Scientific, and Cultural Organization* (UNESCO). *That review found little evidence of school-based CSE effectiveness (no long-term effects for the target population on teen pregnancy or STDs and very few on abstinence or condom use) and promising evidence for abstinence education (AE)—several long-term increases in abstinence along with strong evidence that AE does not decrease teen condom use.*¹

The present report (Part Two) examined the results of international school-based CSE studies (outside the U.S.), using the same credible standards of effectiveness as did Part One: improvement on key protective indicators for the intended population (not just sub-groups) sustained at least 12 months after the program, without negative effects on other sexual health outcomes.² The 43 studies of 39 school-based CSE programs reviewed were those on the list cited by UNESCO as evidence for its claims that CSE programs in school classrooms are “effective.”³

KEY FINDINGS

1. Out of the 43 international studies of school-based CSE in UNESCO’s database, only one provided independent evidence of CSE effectiveness: a reduction in teen pregnancy for the intended population at least 12 months after the program, without other negative effects,⁴ in a study by independent evaluators. Two other school-based CSE programs reported sustained positive effects—one increased abstinence, one reduced STDs—but the studies were conducted by the programs’ developers, a less-desirable source of evidence. Counting these, three out of 43 studies found evidence of school-based CSE effectiveness.
2. No programs were effective at increasing consistent condom use or recent use/frequency of use (if consistent use was not measured) 12 months after the program, for the intended population, without negative effects on other outcomes. (Note: Consistent condom use is necessary for meaningful protection from STDs.)
3. None of the 43 international school-based CSE studies showed success at the purported dual benefit of the CSE approach: none found sustained increases in both abstinence and condom use (by sexually active teens).
4. Roughly one in five international studies of school-based CSE (9/43 or 21%) found 12 harmful CSE impacts on the sexual health of adolescents, including: increased sexual activity, number of partners, forced or paid sex, STDs, etc. The rate of harm appeared even higher for school-based CSE in Africa: nearly one in four (7/29 or 24%).

CONCLUSIONS AND RECOMMENDATIONS

When measured by credible standards of effectiveness derived from the field of prevention research, the evidence found in UNESCO’s international database does not support the claim that school-based comprehensive sex education or CSE (sometimes called comprehensive sexual and reproductive health education) is an effective public health strategy. The studies show a lack of sustained effects on important protective outcomes and a concerning number of harmful impacts for school populations. Policy-makers should abandon plans for CSE’s global dissemination in schools and pursue a different approach for preventing the negative consequences of teenage sexual activity. Further studies should be done on the positive results found for abstinence education in the U.S. to inform the development of new paradigms.

FULL REPORT

I. BACKGROUND

The UNESCO *International Technical Guidance on Sexuality Education, 2018* recommends the implementation of comprehensive sexuality education (CSE) programs in school classrooms worldwide, that is, to “bring CSE to children and young people everywhere” and asserts, “Overall, the evidence base for the effectiveness of school-based [CSE] continues to grow and strengthen, with many reviews reporting positive results on a range of outcomes,”⁵ purported to include delayed initiation of sexual intercourse and increased use of condoms or contraception.

The UNESCO report concludes:

1. “Sexuality education—in or out of schools—does not increase sexual activity, sexual risk-taking behaviour or STI/HIV infection rates,” and,
2. “Programmes that combine a focus on delaying sexual activity with content about condom or contraceptive use [i.e., CSE programs] are effective.”⁶

These UNESCO claims are based on its international review of the impact of sex education programs on teenage sexual risk behavior published in 2009 and updated in 2018. The reviewers surveyed outcome studies in the United States, “other developed countries,” and “developing countries,” screened them for research quality, and summarized the results for the studies of adequate rigor. In light of their conclusions, and because the broad dissemination of CSE programs *in schools* figures so prominently in the UNESCO strategy for advancing adolescent sexual health, we undertook a review of the evidence of effectiveness for *school-based CSE programs*. We have previously reported on the evidence for school-based CSE in the United States.⁷ The present review examined the international (non-U.S.) school-based CSE studies that UNESCO vetted for inclusion in its review (see UNESCO’s reference list⁸) and reports on the evidence of program effectiveness provided by those studies. UNESCO cites 43 studies of 39 international school-based CSE programs as the scientific evidence undergirding its recommendation for worldwide implementation of CSE in school settings. All but three of these 39 CSE programs were implemented in low or middle income countries, with 29 of the programs occurring in African countries. Because most CSE programs are designed with the prescribed goal of reducing teen pregnancy and/or STDs, or impacting preventive behavioral antecedents—especially condom use and/or sexual abstinence—we focused our review on the programs that identified and targeted these goals. Specifically, to be included in our review, a

school-based program needed to contain some educational content promoting condom and/or contraceptive use.

II. METHODS

A key feature of our analysis was the use of rigorous criteria for program “effectiveness,” derived from the field of prevention research,⁹ to evaluate the outcomes produced by the 39 school-based CSE programs. Employing these standards produces a different pattern of evidence than the many CSE reviews that have used a more-lenient or lax definition of effectiveness (e.g., one minimal positive outcome, regardless of other contradictory findings). Using more-credible standards produces evidence that is more useful to policymakers. These criteria are: sustained effects (occurring at least 12 months after the program’s end) on key protective indicators (abstinence/delayed sexual initiation, condom use—especially consistent use, pregnancy, or STDs) for the main intended population (not just a sub-group) without also producing negative effects on other indicators of sexual health¹⁰ and taking into account the preponderance of the research evidence. We also report the findings obtained when less-protective measures of effectiveness¹¹ are used, to allow for comparison. Another key feature of our review is that the findings reported here are derived from our close reading of the original research studies, not a reliance on the summaries or conclusions of other reviews, some of which have used dubious interpretations of statistical results to claim positive effects (see Endnote #12 for an illustration). The results of our analysis are described below, summarized in Table 1, and shown study by study in Table 2, which identifies the specific programs and study authors. (Note: In Table 1 and the summary below, studies/programs that found both positive *and* negative effects were not included in the count of studies with positive outcomes.)

III. RESULTS

1. While most CSE programs are designed with the prescribed goal of reducing teen pregnancy and STDs, the majority of school-based studies on the UNESCO list did not measure (or report on) these two key outcomes, thus providing little evidence *about* CSE effectiveness for these goals (see Row 1 in Table 1).
2. For the studies that did measure CSE impact on these two outcomes, only one found a sustained (12 months post-program) reduction for the intended population in teen pregnancy and one found a reduction in STDs, after eliminating the studies that also found other

negative effects (see Row 2).

3. When less-rigorous criteria are used (counting effects of less than 12 months duration, or subgroup effects), it only increases by one the number of CSE program impacts on pregnancy or STD reduction (see Row 3).
4. For the important outcome of delayed sexual initiation (i.e., abstinence, which avoids all sexual risk and its consequences), only one of 43 school-based CSE studies found a significant effect 12 months after the program for the intended population without also causing other negative effects. (The study was by the program developer.) Seven programs produced short-term or subgroup effects on delayed sexual initiation.
5. While few studies (9/43) measured consistent condom use (consistent and correct condom use is necessary for meaningful protection from STDs), no school-based CSE programs in this database showed a significant increase on this measure for the intended population for any period of time.
6. When looking at less-protective measures of condom use (e.g., frequency, or recent use), only one of 43 studies showed a significant increase 12 months after the program for the intended population, with no negative effects on other outcomes. However, the same study also measured consistent condom use—the more-protective outcome—without finding an effect, so for this reason the effect on the less-protective measure is reported here but is not considered to be evidence of program effectiveness.
7. With regard to less-protective indicators, two studies found positive effects 12 months after the program for the intended population with no negative effects on other important outcomes: one decreased recent sex and one decreased unprotected sex but had no effect on condom use or abstinence.
8. None of the 39 programs (in 43 studies) showed effectiveness at achieving the dual benefit intended by most CSE programs, i.e., increased rates of abstinence *and* condom use within the same program and population: none showed this dual effect on the target population 12 months after the program.
9. Of the 43 studies of school-based CSE in non-U.S. settings, 28 measured effects at least 12 months after the program, and only three showed evidence of effectiveness on one of the key protective outcomes, without other negative effects, for a success rate of 11 % (3/28) or an 89% failure rate.

10. The research showed 12 instances of negative impact on teen sexual risk behavior by school-based CSE outside the U.S., as found in nine out of 43 studies (or 21%). This was more than one in five (9/39 or 23%) of the school-based CSE programs that found negative effects, which is substantially more than the 11% success rate and far more than would occur by chance. Four CSE programs increased sexual initiation, one increased STDs, one decreased condom use, and six programs increased other risk behaviors (including number of partners, recent sex, paid sex, and forced or coerced intercourse) for the target population or a major subgroup. Three of the programs produced two negative effects each on teen sexual health.¹³ School-based CSE in Africa appeared to have even higher rates of harmful impact: 24% of studies or 27% of programs showed negative effects.

IV. SUMMARY

The 43 studies of international school-based CSE contained in UNESCO's database showed very little evidence of program effectiveness (i.e., protective effects for the intended population 12 months after the program, without other negative impacts) on key sexual health outcomes (pregnancy, STDs, condom use, or delayed sexual initiation). Evidence of effectiveness for CSE's purported dual benefit of increasing both abstinence and condom use (by the sexually active) within the same adolescent population was virtually non-existent. And the rate of harmful effects by international school-based CSE programs appears to be nearly twice the rate of program effectiveness (21% versus 11%). Thus, the very studies cited by UNESCO do not support its claim that "the evidence base for the effectiveness of school-based [CSE] continues to grow and strengthen" nor the assertion that CSE "does not increase sexual activity, sexual risk-taking behaviour or STI/HIV infection rates."¹⁴ Rather, UNESCO's own database demonstrates that CSE in non-U.S. schools has not been an effective public health strategy, and some programs may be doing more harm than good.

ENDNOTES

1. Weed, S., Ericksen, I. (2019). Re-examining the Evidence for Comprehensive Sex Education in Schools: Part One – Research Findings in the United States, Updated and Revised. Salt Lake City: *The Institute for Research & Evaluation*. Retrieved from bit.ly/IREUSReport
2. Programs that do not meet these standards may have potential, but have not qualified for the label of “effective.” For a more detailed explanation of these criteria for program effectiveness see: Weed, S., Ericksen, I. (2019). Re-examining the Evidence for Comprehensive Sex Education in Schools: Part One – Research Findings in the United States, Updated and Revised. Salt Lake City: *The Institute for Research & Evaluation*. Retrieved from https://www.institute-research.com/CSEReport/Reexamining_the_Evidence-Pt1-CSE_in_USA_3-20-19FINAL.pdf; also see: Gottfredson, D. C., Cook, T. D., Gardner, F. E. M., Gorman-Smith, D., Howe, G. W., et al. (2015). Standards of Evidence for Efficacy, Effectiveness, and Scale-up Research in Prevention Science: Next Generation. *Prevention Science*, 16(7), 893–926.
3. United Nations Educational, Scientific and Cultural Organization. (2018). *International Technical Guidance on Sexuality Education: An Evidence-Informed Approach*. Retrieved from http://www.unaids.org/sites/default/files/media_asset/ITGSE_en.pdf, pp.28–29, 129.
4. According to the *Society for Prevention Research*, the presence of negative effects on important outcomes, even in a program with some positive outcomes, negates a prevention program’s claim to effectiveness. See Gottfredson, et al., 2015, p. 910.
5. United Nations Educational, Scientific and Cultural Organization. (2018). *International Technical Guidance on Sexuality Education: An Evidence-Informed Approach*. Retrieved from http://www.unaids.org/sites/default/files/media_asset/ITGSE_en.pdf, p.12, 28.
6. Ibid, pp.28–29.
7. Weed, S., Ericksen, I. (2019). Re-examining the Evidence for Comprehensive Sex Education in Schools: Part One – Research Findings in the United States, Updated and Revised. Salt Lake City: *The Institute for Research & Evaluation*. Retrieved from bit.ly/IREUSReport
8. United Nations Educational, Scientific and Cultural Organization. 2018. *International Technical Guidance on Sexuality Education: An Evidence-Informed Approach*. Retrieved from http://www.unaids.org/sites/default/files/media_asset/ITGSE_en.pdf, p.129.
9. The development of standards for scientific evidence of program effectiveness has been undertaken by national entities like *The Society for Prevention Research (SPR)* and *Blueprints for Healthy Youth Development*. A consensus has been set forth by SPR’s Standards of Evidence Committee in their publication, “Standards of Evidence: Criteria for Efficacy, Effectiveness, and Dissemination” (Flay, B. R., Biglan, A., Boruch, R. F., Castro, F. G., Gottfredson, D. (2005). Standards of Evidence: Criteria for Efficacy, Effectiveness and Dissemination. *Prevention Science*, 6(3), 151–175), and recently updated (Gottfredson, D. C., Cook, T. D., Gardner, F. E. M., Gorman-Smith, D., Howe, G. W., et al. (2015). Standards of Evidence for Efficacy, Effectiveness, and Scale-up Research in Prevention Science: Next Generation. *Prevention Science*, 16 (7), 893–926. doi: 10.1007/s11121-015-0555-x. Retrieved from http://www.preventionresearch.org/wp-content/uploads/2011/12/Standards-of-Evidence_2015.pdf). These standards include a requirement of long-term sustained effects as well as a concern about main effects vs. subgroup effects, the importance of taking into account the preponderance of evidence—including multiple studies and studies by independent third party evaluators, and the disqualifying impact caused by negative program effects on salient outcomes.
10. The negative effects reported here were found in the data or tables showing a study’s results, but were not always mentioned in the study narrative. Thus, they could be missed by a cursory review of the study article. See also: Endnote 4 above, and Gottfredson, et al., 2015, p. 910.
11. One commonly used measurement of CSE program impact is to ask teens if they have had “unprotected sex,” where answering “no” means the respondent has used either a condom or other contraceptive method *or* has been abstinent. A disadvantage of this measure is that the actual behavior impacted by the program is not clearly identified. Did the program increase abstinence – providing 100% protection, or did it reduce frequency of sex or increase frequency of condom use – providing partial STD protection? Combining such different behaviors into one measure makes it difficult to determine what the program’s protective effect really is. For this reason, we did not count a reduction in unprotected sex as evidence of program effectiveness if the outcomes of abstinence and condom use were also measured separately by the CSE program/study. Another common outcome measure is “recent sex” usually defined as having sex in the past 3 months. However, a 3-month period is not long enough to establish a pattern of abstinent behavior and was not counted here as a measure of abstinence. Finally, a reduction in the “number of sex partners” has been shown to *reduce risk* of STD infection, but unless that reduction results in monogamy, teens are still at substantial and unknown risk, which is a function of the number of partners with whom their partners have sexual contact.
12. For example, one of the purported strengths of UNESCO’s research evidence is its reliance on a sizable set of systematic reviews, or statistical meta-analyses. The meta-analysis methodology can be beneficial when it is used to study a treatment that is known to be uniform or homogeneous, such as a new type of antibiotic medication. But two classic meta-analysis problems are common in the studies cited by UNESCO as demonstrating CSE effectiveness: 1) variability in the type of programs or treatments being combined together, and 2) variability among the individual statistical effects in the set of combined studies. The meta-analysis study by Oranganje, et al., 2009, listed by UNESCO, 2018 as evidence of CSE effectiveness, illustrates both of these problems. In this meta-analysis, the statistical effects of five studies of sex education programs were combined to produce a statistically significant positive effect on teen pregnancy, a 50% reduction. Based upon this result, the authors of the study report that “Results showed that multiple interventions [which combine] educational and contraceptive [information] lowered the rate of unintended pregnancy among adolescents” (p. 3). However, an examination of the details on these five studies (pp. 65,72) reveals that only one study produced a statistically significant and sizable effect (80% reduction) and the large effect of this latter study appears to account for most of the statistically significant average effect produced by the meta-analysis and cited as evidence that CSE programs reduce teen pregnancy. Unfortunately, the program evaluated by this one study (*TeenSTAR*, see Cabezon, 2005) *was an abstinence-only intervention that did not teach or promote contraceptive use. Thus, the evidence cited as proof of CSE success appears to be largely the result of an abstinence-only program.*
13. These were: *Accompanying the Future, Relative Risk Information Campaign*, and *Peer-led HIV/AIDS Prevention*—see Table 2.
14. United Nations Educational, Scientific and Cultural Organization. (2018). *International Technical Guidance on Sexuality Education: An Evidence-Informed Approach*, pp.28–29.

Table 1. Number of Net^a Positive Outcomes for School-Based CSE Studies in non-U.S. Countries

Total studies=43 (40 occurred in Low or Middle Income Countries)	Pregnancy	STDs	Sexual Initiation (Total Risk Avoidance)	Consistent Condom Use (Risk Reduction)	Frequency of Condom Use (Some Risk Reduction)	Other Risk Behaviors^b (Some Risk Reduction)
1. Number of studies that measured the outcome at all	9	8	27	9	34	29
2. Positive Main Effect^c At least 12 months PP^d	1 ^e	1 ^e	1 ^e	0	1 ^e	2
3. Positive Main Effect: - Less than 12 months PP or - Subgroup Effect (for duration PP)	0	1	6	1	8	9 ^f
4. Negative/Harmful Program Effects^g (Including Subgroups)^h	0	1	4	0	1	6
5. African Studies (a sub-set) Positive 12-month Main Effect Negative Program Effect ⁱ	0 0	1 ^e 1	1 ^e 3	0 0	1 ^e 1	2 5

a = Studies that found both positive and negative program effects are not shown in the count of studies with positive outcomes.

b = This category includes any of these outcomes: Frequency of Sex, Number of Partners, Recent Sex, Paid Sex, Unprotected Sex, and Forced Sex.

c = "Positive Main Effect" means improvement for the full population targeted by the program, not just a subgroup, statistically significant at $p < .05$.

d = "PP" means a post-program measurement, i.e., taken after the end of the intervention.

e = In each of these categories one additional study found a positive 12-month main effect but it also found harmful effects on other sexual health outcomes, so was not counted here as showing a net positive effect. In addition, the one 12-month effect shown in the table for frequency of condom use was in a study that also measured consistent condom use—the more protective outcome—without finding an effect, so the effect on the less-protective measure is reported here but not considered as evidence of program effectiveness.

f = Three studies had two positive effects, for a net of 6 studies represented here.

g = Three studies found two negative effects each for the CSE programs they evaluated, meaning a net of 9 programs/studies had negative impact.

h = We consider negative effects that occur on important subgroups, e.g., males only or females only, to be sufficient evidence of harm to negate a prevention program's claim to effectiveness (see Endnote 4, above), whereas *positive* effects that occur only on subgroups, not the main intended population, constitute insufficient evidence of program effectiveness.

i = Three African studies found two negative effects each for the CSE programs they evaluated, meaning a net of 7 programs had negative impact.

Table 2. School-Based CSE for Adolescents in non-U.S. Countries: 43 Studies of 39 Prevention Programs

STUDY & PROGRAM			PROGRAM OUTCOMES										
Study 1st Author, Year	Program Name	Country	Negative Effects	Impact on Most-Protective Indicators for Intended Population	Sexual Initiation	Consistent Condom Use	Pregnancy	STDs	Any Condom Use	Recent Sex	Unprotected Sex	# Sex Partners	Dual Benefit: Abstinence & Condom Use
1. Ajuwon & Brieger, 2007	Reproductive Health Education	Nigeria, Africa		NM	NM	NM	NM	NM	End Of Program 3 months	NS	NM	NM	Any Duration or Effect
2. Aderibigbe & Alaoye, 2008	Health Education on Risky Behavior	Nigeria, Africa		NM	NM	NM	NM	NM	NS	6 months	NM	3 months	NS
3. Agba, 2004	Peer-led HIV/AIDS Prevention	Zambia, Africa		NM	NM	NM	NM	NM	NS	NS	NM	6 months	NM
4. Borgia, 2005	Peer-led HIV/AIDS Prevention	Rome, Italy		NM	NM	NM	NM	NM	NS	NM	NM	NS	NS
5. Cartagena, 2006	Peer-led HIV/AIDS Prevention	Mongolia		NM	NM	3-yr Post-Baseline Subgroup	NM	NM	NM	NM	NM	NM	NS
6. Dabore, 2008	HIV/AIDS Health Education	Nigeria, Africa		6 months	NM	NM	NM	NM	NM	NS	NM	NM	NM
7. Dente, 2005	HIV Education & Counseling	Uganda, Africa		NS	NM	NS	NM	NM	NM	NM	NM	NS	NS
8. Diaz, 2005 (1)	EDUCATE	Rio de Janeiro, Brazil		NM	NM	NM	NM	NM	NS	NS	NM	NM	NS
9. Diaz, 2005 (2)	Education Exercise in Classroom	Salvador, Brazil		NM	NM	NM	NM	NM	NS	NS	NM	NM	NS
10. Diaz, 2005 (3)	Sexuality & Life Skills Education	Sao Paulo, Brazil	Recent Sex SI & Correct Sex	NM	NM	NM	NM	NM	NS	Main Effect	NM	NM	NM
11. Diop, 2004	Accompanying The Future	Senegal, Africa		Subgroup(F)	NS	NM	NM	NM	NS	NS	15 mo Post-Baseline	NS	NS
12. Doyle, 2010	MEMA kwa Vijana	Tanzania, Africa		NS	NM	NM	NM	NS	NS	NS	NM	NS	NS
13. DuBois, 2006	Critical Thinking	Kenya, Africa		NS	NM	NM	NM	NS	Emo Subgroup(M)	NM	NM	NS	NS
14. DuBois, 2015	Critical Thinking	Kenya, Africa		NS	NM	NM	NS	NS	NM	NM	NM	NS	NM
15. Dupas, 2011	Relative Risk Info Campaign	Kenya, Africa	SI & # Partners	Main Effect	NM	NM	1 year	NS	NS	6 months	NM	Subgroup(M) 6 months	NS
16. Fawole, 1999	Suburban HIV/AIDS Education Prog	Nigeria, Africa		NM	NM	NS	NM	NS	NS	NS	NM	NS	NS
17. Fitzgerald, 1999	My Future is My Choice(MFC)	Namibia, Africa	Condom Use	NS	NM	NM	NM	NS	Subgroup(M)	NS	NM	NS	NM
18. Harvey, 2000	Dramatic	South Africa		NS	NM	NM	NM	NS	6 months	NM	NM	NS	NS
19. Henderson, 2007	SHARE	Scotland, UK		NM	NM	NM	NS	NM	NM	NM	NM	NM	NM
20. James, 2006	HIV Lifestyl-Program	Kenya, Africa		Emo Subgroup	NS	NM	NM	NM	End Of Program-Subgroup	End Of Program-Subgroup	NM	NM	Short-term/Subgroup
21. Jermott, 2015	Let Us Protect Our Future	South Africa		NS	NM	NS	NM	42 mo Subgroup	NS	NS	12 months	12 months	NS
22. Jewkes, 2008	Steppingstones	South Africa	Paid Sex	NS	NM	NM	NS	12 months	NS	Paid Sex (Subgroup-F)	NM	NS	NS
23. Kamei, 2006	Our Times Our Choices(RTR adapted)	South Africa		NS	NS	NM	NM	NM	NS	NM	NM	NS	NS
24. Li, 2008	Focus On Kids adapted	Nanjing, China		NS	NS	NM	NM	NM	2yr Post-Baseline	NS	NM	NS	NS
25. Magnin, 2005	HIV Lifestyl-Program	South Africa		NS	NS	NS	NM	NM	NS	NS	NS	NS	NS
26. Martinez-Donate, 2004	CSE + Condom Distribution	Tijuana, Mexico		6 months	NM	NM	NM	NM	NS	NS	NM	NM	NS
27. Matlack-Tyndale, 2010	PSABH	Kenya, Africa		18mo Subgroup(F)	NM	NM	NM	NM	30mo Subgroup(F)	18 months	NM	NM	18mo Subgroup(F)
28. Matthews, 2010 - Site 1	SAITZ HIV Prevention Program	Cape Town, South Africa		NS	NS	NM	NM	NM	NS	NM	NM	NM	NS
29. Matthews, 2010 - Site 2	SAITZ HIV Prevention Program	Mankweng, South Africa		NS	NS	NM	NM	NM	NS	NM	NM	NM	NS
30. Matthews, 2010 - Site 2	SAITZ HIV Prevention Program	Bar es Salamin, Tanzania		12mo Subgroup(M)	NM	NM	NM	NM	NS	NM	NM	NM	NM
31. Merakou, 2006	Peer-led HIV/AIDS Prevention	Athens, Greece	Sexual Inhibition	Main Effect	NM	NM	NM	1yr Post-Baseline	6mo Post-Baseline	NM	NM	NM	NS
32. Okonofua, 2003	Women's Health Action Resource Gr	Nigeria, Africa		NS	NM	NM	NS	1yr Post-Baseline	3yr Post-Baseline	NM	NM	3yr Post-Baseline(Subgroup-M)	NS
33. Ross, 2007	MEMA kwa Vijana	Tanzania, Africa	STDs	NS	NM	NM	NS	Subgroup(F)	NS	NS	NM	NS	NS
34. Smith, 2008	Health Wise South Africa	South Africa	Sexual Inhibition	Subgroup(F)	NS	NS	NM	NM	NM	NS	NM	NM	NS
35. Stanton, 1998	My Future is My Choice(MFC)	Namibia, Africa		12mo Subgroup(F)	NM	NM	NM	NM	6mo Subgroup	NS	NM	NS	6mo Subgroup
36. Shuey, 1999	School Health Education	Uganda, Africa		2yr Post-Baseline	NM	NM	NM	NM	NM	NS	NS	NS	NS
37. Stephenson, 2008	RIIPLE	England, UK		NS	NS	NM	54 months	NS	NS	NM	NS	NS	NS
38. Taylor, 2014	Teen Pregnancy Prevention Prog	Kenya, Africa		NS	NS	NS	NS	NM	5 months	NM	NM	NM	NS
39. Thiao, 2008	Before You Know It, You're a Parent	Kenya, Africa		NM	NM	NS	NM	NM	NM	6 months	NM	NM	NS
40. Visser, 2007	Peer-led HIV/AIDS Prevention	South Africa		NS	NS	NS	NM	NM	NM	18mo Post-Baseline	NM	Main Effect	NS
41. Walker, 2006	HIV Free-Emergency Contraceptin	Mexico	Free-Sub-# Partners	18mo Post-Baseline	NM	NM	NM	NM	NS	NM	NM	NM	NM
42. Wright, 2002	SHARE-Interim Evaluation	Scotland, UK		NS	NM	NM	NS	NM	NS	NM	NS	NM	NS
43. Ye, 2009	HIV Education	China		NM	NM	NM	NM	NM	NS	NM	NM	NM	NM

KEY:
 NM = Did not measure this outcome; NS = Not a statistically significant effect at p < .05; F = Females; M = Males; SI = Sexual Initiation
 Green = Evidence of Success: A significant effect at least 12 months after the program's end, for the intended target population (a "main effect") not just a subgroup.
 Blue = Evidence of Potential: A significant main effect <12 months post-program, or a subgroup effect of any duration.
 Brown = Evidence of Program Failure: The program measured the outcome but failed to find a significant effect.
 Red = Evidence of Harm: A significant increase in risk behaviors or biological outcomes for the main population or a substantial subgroup, of any duration.
 Note: Follow-up time periods shown in the cells indicate duration of effect after the program's end unless it says "Post-Baseline" which means effects immediately following the end of a long-term program.
 Source: United Nations Educational, Scientific and Cultural Organization (UNESCO), 2018. International Technical Guidance on Sexuality Education: An Evidence-Informed Approach, p. 129.