Re-Examining the Evidence for Comprehensive Sex Education in Schools

Part Two: Research Findings in Non-U.S. Settings

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2018



THE INSTITUTE FOR Research & Evaluation



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Introduction. This is the second of a two-part study examining the evidence for school-based Comprehensive Sex Education (CSE) using an approach not employed by previous reviews, that is, *applying meaningful 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 that were found in databases endorsed by three authoritative agencies: HHS, CDC, and UNESCO. *That review found little evidence of CSE effectiveness (no sustained effects 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 rigorous evidence that AE does not decrease adolescent condom use.¹ The present report (Part Two) examined the evidence for school-based CSE in countries outside the United States, using the same meaningful standards of effectiveness employed in Part One (improvement on the most-protective indicators for the intended target population sustained at least 12 months after the program, without negative effects on other behavioral or biological outcomes). The database comprised the 43 studies of 39 school-based CSE programs found on the reference list cited by <i>UNESCO's International Technical Guidance on Sexuality Education, 2018* as evidence for its assertion that "Programmes that combine a focus on delaying sexual activity with content about condom or contraceptive use [i.e., CSE] are effective."²

<u>Conclusions and Recommendations</u>. When measured by meaningful and recommended standards, the research evidence for school-based CSE in non-U.S. settings does not support UNESCO's claim that school-based CSE (now sometimes called comprehensive sexual and reproductive health education) is effective. In fact, UNESCO's own evidence indicates that CSE in school settings has shown little success and may be doing more harm than good. Policymakers should examine the discrepancies presented here between the research findings and UNESCO's claims of CSE success, and rethink the global dissemination of CSE in schools.

Key Findings

- Very few school-based CSE studies in non-U.S. countries measured (or reported) teen pregnancy or STDs; for those that did, only one showed effectiveness (an effect for the intended population, sustained 12 months after the program, without other negative effects) at reducing teen pregnancy, and only one was effective at reducing STDs.
- None of the 39 school-based CSE programs in non-U.S. countries increased consistent condom use for any period of time or any subgroup. Consistent condom use is necessary for meaningful protection from STDs.
- Only one of the 39 school-based CSE programs in a non-U.S. setting produced a significant increase in condom use by any measure (e.g., frequency or recent use less protective indicators) 12 months after the program for the intended population, without negative effects on other outcomes.
- Only one of the 39 school-based CSE programs in a non-U.S. setting produced a significant increase in teen abstinence 12 months after the program for the intended population, without negative effects on other outcomes.
- None of the 39 school-based CSE programs showed effectiveness at the dual benefit intended by most CSE programs: a sustained increase in teen abstinence *and* condom use for the intended population within the same CSE program.
- More than one in four school-based CSE programs in non-U.S. settings (10 out of 39 or 26%) had a negative effect on participants' sexual health: either an increase in sexual initiation, STDs, number of partners, recent sex, paid sex, forced intercourse (rape), or a decrease in condom use. Three programs had negative impacts on multiple outcomes.

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."³ The UNESCO report 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,"⁴ purported to include:

- Delayed initiation of sexual intercourse
- Decreased frequency of sexual intercourse
- Decreased number of sexual partners
- Increased use of condoms or contraception

The 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] are effective."⁵

These claims are based on an international review of the impact of sex education programs on teenage sexual risk behavior published by UNESCO 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. 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.⁶ The present review examines the schoolbased CSE studies in non-U.S. countries that qualified for inclusion on the UNESCO reference list.⁷ 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 26 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 their behavioral antecedents – especially condom use and/or sexual abstinence – and because UNESCO identified the reduction of sexual risk behavior as evidence of CSE effectiveness, we focused our review on the programs that identified and targeted these goals. Particularly, to be included in our review, a school-based program needed to contain some educational content about condom and/or contraceptive use.

Methods. Unlike many CSE evidence reviews, our analysis of this data used standards derived from the field of prevention research as the criteria for the definition of "effectiveness," that is, to evaluate the outcomes measured by the 43 studies. These criteria are: long-term effects (sustained at least 12 months after the program's end), on the most-protective indicators, for the main intended population (not just a sub-group), and without also producing negative effects on other important outcomes. (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).⁸ We also report the findings obtained when less-protective measures or standards of effectiveness are used, so that the reader can note the differences. A key feature of our review is that the facts and conclusions reported here are derived from our close reading of the original research studies themselves, 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.⁹ The results of our analysis are summarized in Table 1 and shown study by study in Table 2, in a detailed spreadsheet format. (Note: In Table 1 and the summary below, studies/programs that found both positive *and* negative effects are not included in the count of studies with positive outcomes, as explained above.)

<u>Results</u>. The findings in Table 1 (condensed from Table 2) show that:

- 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) these two basic outcomes, thus showing little evidence *about* effectiveness for these goals (see Row 1 in Table 1).
- 2. Of those that did report these two critical outcomes, a sparse few found a sustained (12 months postprogram) reduction for the intended population (see Row 2). Only one study found such a reduction in pregnancy and one in STDs, after eliminating studies showing negative effects on other outcomes.
- 3. It was far more common to see a *non-significant* (or null) result for pregnancy (7 studies), when measured, and *null results* (5 studies) or a *negative result, i.e., an increase* (1 study) for STDs (see Rows 5 & 6).
- 4. Using less-rigorous criteria for program effectiveness (counting effects of less than 12 months duration, and including subgroup effects), does not increase the number of positive program effects for pregnancy reduction and adds none for STDs (see Rows 3 & 4).
- 5. 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. (One other program reported this effect but also produced negative effects on other risk behaviors). Only six out of 27 studies (22%) found positive effects by any measure, which is only two more than the number of studies finding *negative* effects on this outcome.
- 6. While few studies measured consistent condom use (consistent and correct condom use is necessary for meaningful protection from STDs), no school-based CSE programs showed an increase on this measure for any period of time or any subgroup.
- 7. 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. Seven others had positive effects for shorter durations or for subgroups of the population (net of programs with other negative effects).
- 8. For other risk behaviors, two studies found a significant decrease 12 months after the program for the intended population (a decrease in unprotected sex and a decrease in recent sex) with no negative effects on other outcomes, while four other programs showed significant net effects by lesser standards. Worth noting is that four studies found negative effects on these other measures of sexual risk behavior.
- 9. 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 and *one produced a negative effect on both outcomes 12 months after the program*. If measured by lower standards, only three programs achieved this dual benefit.
- 10. Perhaps of greatest concern is the high number of studies finding that school-based CSE had negative effects on adolescent sexual health: 10 out of 43 studies, or 23% (see Row 6). This is almost one in four studies and more than one in four programs (10 out of 39 or 26%). Specifically, four CSE programs increased sexual initiation (two of these also increased other risk behaviors), one program increased STDs, one decreased condom use, and four programs increased other sexual risk behaviors including number of partners, recent sex, paid sex among adolescents, and forced intercourse (rape).

Summary. It is far more likely to see evidence of failure than success in international school-based CSE programs. There is very little evidence of real effectiveness (sustained effects for the intended population) on any sexual health outcome (pregnancy, STDs, condom use, etc.), and the evidence of success at CSE's purported dual benefit of increasing both abstinence (i.e., delayed sexual initiation) and condom use in adolescent populations is virtually non-existent. This overall pattern of findings is similar to the one found for CSE in U.S. schools.¹⁰ The studies cited by UNESCO – both in U.S. and non-U.S. settings – do not support its claim that "the evidence base for the effectiveness of school-based [CSE] continues to grow and strengthen" nor does the research support UNESCO's assertion that CSE "does not increase sexual activity, sexual risk-taking behaviour or STI/HIV infection rates."¹¹ The UNESCO database demonstrates that CSE in schools has not been an effective public health strategy and in non-U.S. settings it may be doing more harm than good.

References & Endnotes

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- 7. 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.
- Programs that do not meet these standards may have potential, but have not qualified for the label of "effective." 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. Retrieved from <u>http://www.preventionresearch.org/wp-content/uploads/2011/12/Standards-of-Evidence_2015.pdf</u>. See also Weed & Ericksen, 2018, for a more detailed explanation of these criteria for program effectiveness.
- 9. For example, one of the purported strengths of the UNESCO 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 there are two common problems with using this statistical method for determining sex education 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 Oringanje, et al., 2009, listed by UNESCO, 2018 as evidence of CSE effectiveness, illustrates both of these problems. In this metaanalysis, 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 one study had no measurable effect, two had very minimal effects that were not statistically significant, one produced a good size effect (50%) that was not significant, and only one study produced a statistically significant and sizable effect (80% reduction). This means that the large effect of this latter study accounted for most of the statistically significant average effect produced by the meta-analysis and cited as evidence that CSE programs reduce teen pregnancy. The problem with this claim is that this latter program (*TeenSTAR*, see Cabezon, 2005), unlike the other four CSE programs, was an abstinence-only intervention that did not teach or promote contraceptive use. Thus, data cited as evidence of CSE success was largely the result of an abstinence-only program.
- Weed, S., Ericksen, I. (2018). Re-examining the Evidence for Comprehensive Sex Education in Schools: Part One Research Findings in the United States. Salt Lake City: *The Institute for Research & Evaluation*. Retrieved at http://www.instituteresearch.com/CSEReport/Reexamining_the_Evidence-CSE_in_USA_5-29-18FINAL.pdf.
- 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.

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.

						F
Total studies=43	Keduce	Keduce	Delay Sexual	Consistent	Any Condom	Keduce
(40 in Low or Middle Income	Pregnancy	STDs	Initiation	Condom Use	Use	Other Risk
Countries)			(Total Risk	(Risk	(Some Risk	Behaviors ^b
(Avoidance)	Reduction)	Reduction)	
1. Number of studies that	0 0 17 13	8 of 12	77 of 13	0 0 1 13	21 of 12	70 of 12
measured the outcome	7 UI 4.7	0 UI 40	C+ 10 /7	7 UI 4.7	04 01 40	27 UI 47
2. Significant Main Effect ^e	1e	1 e	1e	C	16	c
At least 12+ months PP ^d	1	_	Γ	0	T	1
3. Significant Main Effect	Ū	U	ſ	Ū	ζ	ĸ
Less than 12 months PP ^d	0	D	7	0	C	4
4. Significant Subgroup Effect	Ū	U	ζ	Ū	V	0
Any duration PP ^d	0	D	C	0	4	D
5. Non-Significant Effect	7	5	16	6	24	19
6. Significant Negative						
Program Effects	0		4	0	1	4
Including Subgroups						
= "Net" means that studies finding both p	ositive and negativ	e program effe	ects are not shown in 1	the count of studies v	vith positive outcome	es.
= This category includes any of these out	comes: Frequency	of Sex, Numbe	er of Partners, Recent	Sex, Paid Sex, and H	forced Sex.	

Table 1 Net^a Outcomes for School-Based CSF studies in non-11 S Countries

c = "Significant Main Effect" means an effect for the intended target population of 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 negative effects on other outcomes, so was not

counted here as showing evidence of effectiveness.

	TUDY & PROGRAM		0.0.00			0	đ	OGRAM OUTC	OMES				
		į	Negative	Impact on Mc	ost-Protective Indicators fo	or Intended Popu	lation		Less-Protecti	ive Indicators		Dual Benefit: Abstine	nce & Condom Use
study 1st Author, Year	Program Name	Country	Effects	Sex ual Initiation	Consistent Condom Use	Pr egnancy	STDs	Any Condom Use	Recent Sex	Unprotected Sex	# Sex Partners	12moAbst&Condom s	Any Duration or Effect
1. Ajuwon & Brieger, 2007	Reproductive Health Education	Nigeria, Africa	RecentSex	MN	MN	MN	WN	End Of Program	Main Effect	MN	MN	MN	NS
2. Aderibigbe & Araoye, 2008	HealthEducationOnRiskyBehavior	Nigeria, Africa		MN	MN	ΜN	MN	3 months	NS	MN	3 months	MN	3 months
3.Agha, 2004	Peer-led HIV/AID SPrevention	Zambia, Africa		MN	WN	MN	WN	NS	6 months	MN	6 months	MN	NS
4.Borgia, 2005	Peer-led HIV/AID SPrevention	Rome, Italy		MN	WN	ΜN	MN	NS	MN	MN	NS	MN	NS
5.Cartagena, 2006	Peer-led HIV/AID SPrevention	Mongolia		MN	NS	ΝN	Ň	MN	MN	MN	MN	MN	WN
6.Daboer, 2008	HIV/AIDS Health Education	Nigeria, Africa		6 months	MN	MN	ž	MN	N	MN	MN	MN	NS
7.Dente, 2005	HIV Education&Counseling	Uganda, Africa		NS	NS	δN	ž	M	MN	WN	NS	NS	NS
8.Diaz, 2005 (1)	EDUCARTE	RioDeJaneiro,Brazil		MN	WN	MN	MN	NS	NS	MN	MN	MN	NS
9.Diaz, 2005 (2)	Educan Exercise in Otizenship	Salvador, Brazil		MN	WN	MN	Σ	NS	NS	MN	MN	ΝN	NS
10.Diaz, 2005 (3)	Sexuality&AffectivityEducation	Belo Horizonte, Braz il	RecentSex	MN	MN	MN	MN	NS	Main Effect	MN	MN	MN	NS
11. Diop, 2004	Accompanying The Future	Sen egal	SI& Use Of Prote ction	Subgroup(F)	MN	MN	ž	MN	NS	Main Effect	NS	Subgroup& Main Effect	MN
12.Doyle, 2010	MEMA kwa Vijana	Tanzania, Africa		NS	MN	NS	NS	NS	NS	MN	NS	NS	NS
13.Duflo, 2006	Critical Thinking	Kenya, Africa		NS	MN	MN	M	6 mo Subgroup(M)	MN	WN	NS	MN	NS
14.Duflo, 2015	Critical Thinking	Kenya, Africa		MN	MN	NS	NS	ΣZ	MN	MN	MN	ΜN	MM
15.Dupas, 2011	Relative Risk Info Campaign	Kenya, Africa	SI & #Partners	Main Effect	MN	1 year	MN	NS	MN	MN	Subgroup(M)	NS	NS
16.Fawole, 1999	SchBsdHIV/AIDS EducationProg	Nigeria, Africa		MN	NS	MN	NS	NS	6 months	MN	6 months	MN	NS
17. Fitgerald, 1999	My Future is My Choice(MFMC)	Namibia, Africa	Condom Use	NS	WN	MN	MN	Subgroup(M)	NS	MN	NS	MN	NS
18.Harvey, 2000	DramAide	South Africa		NS	WN	MN	NS	6 months	MN	MN	NS	MN	NS
19.Henderson, 2007	SHARE	Scotland, UK		MN	WN	NS	M	ΣN	MN	MN	MN	MN	MN
20.James, 2006	HIV LifeSkills Prog	KZN, SoAfrica		NS	MN	MN	MN	NS	NS	MN	MN	MN	NS
21. Jemmott, 2015	Let Us Protect Our Future	South Africa		NS	NS	MN	NS	NS	NS	12 months	NS	NS	NS
22.Jewkes, 2008	SteppingStones	South Africa	Paid Sex	WN	WN :	NS	12 months	NS	Subgroup(F)	MN	NS	. NS	NS
23.Karnell, 2006	Our Time sOur Choices (RTR adapted)	South Africa		NS	NS	MN	MN	NS	MN	MN	MN	MN	NS
24.Li, 2008	FocusOnKids adapted	Nanjing,China		NS	MN	Σ	M	NS	MN	MN	MN	MN	NS
25.Magnini, 2005	HIV LifeSkills Program	South Africa		NS	NS	Σ	M	2yr Post-Baseline	NS	WN	NS	NS	NS
26. Martinez-Donate, 2004	CSE + Condom Distribution	Tijuana, Mexico		6 months	MN	ΝN	MN	SN	NS	NS	MN	MN	NS
27. Maticka-Tyndale , 2010	PSABH	Kenya, Africa		30mo Subgroup(F)	WN	MN	M	30mo Subgroup(F)	30 months	MN	MN	NS	30mo Subgroup(F)
28. Matthews, 2010 - Site 1	SATZ HIV Prevention Program	Cape Town, SoAfrica		NS	MN	ΜN	WN	NS	MN	MN	WN	NS	WN
29. Matthews, 2010 - Site 2	SATZ HIV Prevention Program	Man kweng, SoAfrica		NS	WN	MN	M	NS	MN	WN	WN	NS	WN
30. Matthews, 2010 - Site 2	SATZ HIV Prevention Program	Dar es Salaam, Tanzania		12 mo Subgroup(M)	WN	MN	WN	NS	MN	WN	WN	NS	WW
31. Merakou, 2006	Peer-led HIV/AIDS Prevention	Athens, Greece	Sexual Initiation	Main Effect	WN	ΜN	9 WN	months Post-Bsline	MN	MN	MN	MN	NS
32.Okonofua, 2003	Women Hith&ActionRe sourceCtr	Nigeria, Africa		MN	WN	MN	1yrPostBsline	1yrPostBsI/Subgroup	MN	MN	WN	MN	NS
33.Ross, 2007	MEMA kwa Vijana	Tanzania, Africa	STDs	NS	WN	NS	Subgroup(F)	3yr Post-Baseline	MN	WN	3yrPostBsI/Subgrp(M)	NS	3yrPost-Bsl/Subgroup(M)
34.Smith, 2008	Health Wise SoAfrica	South Africa	Sexual Initiation	Subgroup(F)	NS	ΜN	M	WN	NS	MN	MN	MN	NS
35.Stanton, 1998	My Future is My Choice(MFMC)	Namibia, Africa		12mo Subgroup(F)	MN	δN	M	6mo Subgroup	NS	WN	NS	NS	6mo Subgroup
36.Shuey, 1999	School Health Education	Uganda, Africa		2yr Post-Baseline	MN	MN	ΣZ	MN	NS	NS	NS	NS	NS
37.Stephenson, 2008	RIPPLE	England, UK		NS	MN	54 months	MN	NS	MN	NS	MN	NS	NS
38.Taylor, 2014	Tee nPreg nancy Prevention Progr	KZN, SoAfrica		NS	NS	NS	M	5 months	MN	MN	MN	MN	NS
39.Thato, 2008	Before YouKnow/SmartLove	Thailand		MN	NS	MN	M	MN	6 months	WN	WN	MN	NS
40.Visser, 2007	Peer-led HIV/AIDS Prevention	South Africa	ForcedSex&#Partners</td><td>18mo Post-Baseline</td><td>WN</td><td>WN</td><td>M</td><td>NS</td><td>18 mo Post-Baseline</td><td>WN</td><td>Main Effect</td><td>NS</td><td>NS</td></tr><tr><td>41. Walker, 2006</td><td>HIV Prev+EmergencyContracptn</td><td>Mexico</td><td></td><td>MN</td><td>WN</td><td>MN</td><td>WN</td><td>NS</td><td>MN</td><td>WN</td><td>MN</td><td>MN</td><td>MN</td></tr><tr><td>42. Wight, 2002</td><td>SHARE-Interim Evaluation</td><td>Scotland, UK</td><td></td><td>NS</td><td>WN</td><td>NS</td><td>ΜZ</td><td>NS</td><td>WN</td><td>NS</td><td>M</td><td>MN</td><td>NS</td></tr><tr><td>43.Ye, 2009</td><td>HIV Education</td><td>China</td><td></td><td>WN</td><td>MN</td><td>WN</td><td>MN</td><td>NS</td><td>MN</td><td>WN</td><td>WN</td><td>MN</td><td>MN</td></tr></tbody></table>										

KEY: NM = Ddi notmesure the outcome; NS = Not a statistically significant effect at pc.05; F = Females; M = Males; Si = Sexual Inhibition Greene = Evidence of Success: A significant effect at least 12 months post-program, on the interd draget population (a "main effect") not just a subgroup. Blue = Evidence of Potemisti A significant main effect 12 months post-program, on the interd of any duration. Brown = Evidence of Potemisti a failues: The program measured the outcome but failed to find a significant effect. Brown = Evidence of Potemisti a failues: The program measured the outcome but failed to find a significant effect. Note: Folow, we time frame: a significant frictes and are post-program measured for the main population of a substantial subgroup, of any duration. Note: Folow, we time frames are shown in the cells and are post-program measure dures of the failed. Sources: United Notions Educational 5 cientific and Cultured Organization (UNESCO). 2018. International Technical Guidance on Sexuality Education: An Evidence-Informed Approach, p.129.