



Misconceptions about Sex Education Effectiveness

I. Misperceptions About the Research on Sex Education are Common

Adolescents in the United States continue to experience high rates of teen pregnancy and sexually transmitted diseases (STDs). One in four adolescent females currently has an STD infection.¹ In order to improve the effectiveness of prevention efforts, federally funded sex education programs are now required to show evidence of effectiveness. Some policymakers have proposed eliminating abstinence education (which does not advocate condom use) in favor of “comprehensive sex education” (which purports to advocate both abstinence and condom use, a dual message) based on two common, but inaccurate, assumptions about the evidence for sex education effectiveness:

- 1. Policy-makers assume that research proves abstinence education has failed and comprehensive sex education (CSE) has been successful.**
- 2. They assume research shows that abstinence education (AE) reduces condom use by sexually active teens, thus putting them at greater risk for STDs and pregnancy.**

II. Erroneous Assumptions are Often Due to Misunderstandings of the Evidence

- A. Neither of the above assumptions is supported by the research evidence on sex education. However, these misperceptions persist because:
- 1) Media reports on the research about sex education have often been skewed.**
 - 2) Lower measures of success have often been used in studies of CSE than in studies of AE.**
 - 3) Comparisons often mix “apples & oranges,” i.e., clinic/community-based versus school-based programs.²**
- B. What does the evidence of effectiveness look like when:
- 1) Research results are reported evenly for AE and CSE?**
 - 2) Equivalent and reasonable criteria of effectiveness³ are used?**
 - Programs improve the behaviors that are most protective for teens.
 - The results occur for the intended target population (not just for a subgroup).
 - The positive effects are long-term, i.e., last at least one year after the program.
 - 3) Reviews compare “apples to apples?” That is, they compare AE to CSE in *school settings*, the place most youth receive sex education, and what most people think of as “sex education.”**

III. There is Limited Evidence of Success for CSE in School Settings

Applying the above criteria to four national reviews of outcome research on sex education demonstrates a lack of evidence of success for CSE programs delivered in school classrooms to school-based populations of teens.

- A. *Emerging Answers 2007*,⁴ a review of 115 studies covering 20 years of sex education research, provided little evidence of CSE effectiveness in school settings. Of the 32 school-based CSE studies:
- No school-based CSE program demonstrated a decrease in teen pregnancy or STDs for any time period.⁵
 - No school-based CSE programs were shown to increase the number of teens who used condoms *consistently* (i.e., every time) for even 6 months after the program ended. Note: *Consistent condom use* is necessary to achieve the partial protection from STDs that condoms can provide.⁶
 - Only 3 of these programs increased frequency of teen condom use (not consistent condom use) for at least one year for the target population.⁷
 - One of the programs delayed sexual initiation for at least one year for the teen population (in 4 studies).⁸

- No school-based CSE program demonstrated that it had increased *both* abstinence and condom use (by the sexually active) for the intended teen population for any time period.⁹

B. A CDC meta-analysis of sex education studies found a lack of effects by CSE programs in schools.

- A member of the meta-analysis study team reported in the *Washington Post* on November 7, 2009, that: “The analysis actually shows that *comprehensive sexual education programs in schools do not significantly increase teen condom use, or reduce teen pregnancy or STDs...* This is an important finding because the school classroom is where most teens receive sex education... Furthermore, the data indicated that many types of [comprehensive] programs do not work, even in non-school settings.”¹⁰
- CSE programs in school settings produced a modest reduction in teen sexual activity. However, without also showing a significant increase in teen condom use, the purported dual benefit of CSE was not demonstrated.¹¹

C. What Works 2010: Curriculum-based Programs That Help Prevent Teen Pregnancy¹² also showed little evidence of school-based CSE effectiveness.

The National Campaign to Prevent Teen and Unplanned Pregnancy published this list of 30 programs it designated as “effective.” Of the 9 programs that were school-based CSE:

- None of the 9 school-based CSE programs demonstrated a reduction in teen pregnancy or STDs.
- None of these 9 programs showed an increase in *consistent* condom use by teens for even 6 months.¹³
- Two of these programs increased frequency of condom use for the target population for at least one year.¹⁴
- Two of these programs showed a delay in sexual initiation (i.e., increased teen abstinence) for the target population for at least one year.^{8,15}
- None of the school-based CSE programs increased both teen abstinence and condom use (by the sexually active) for the target population.

D. The 2010 federal Teen Pregnancy Prevention (TPP) initiative found little CSE success in schools.¹⁶

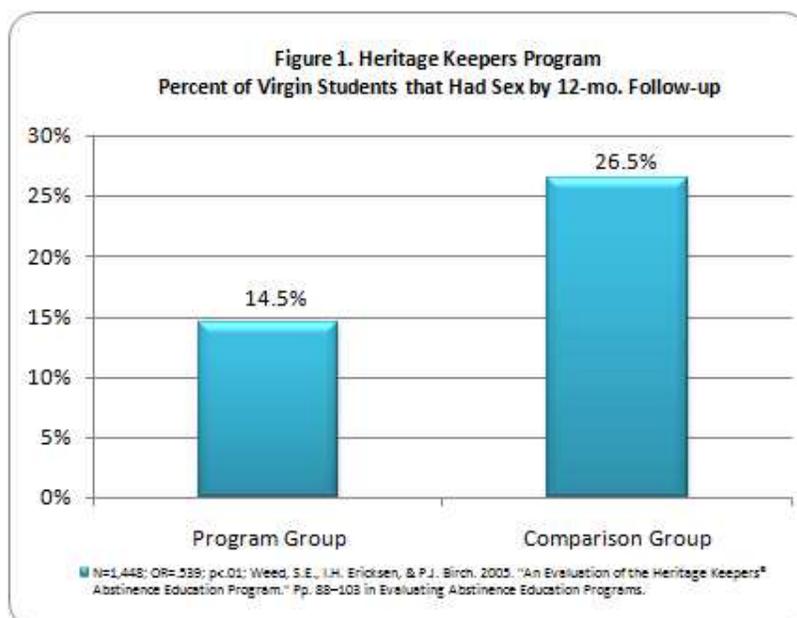
Federal TPP funding was approved for 28 sex education programs “proven” to be effective; but only 3 of these were school-based CSE programs that showed long-term effects on the target population:

- Only 2 school-based CSE programs showed a significant long-term (one year) increase for the intended population (not a subgroup) in rates of teen abstinence,^{8,15} and only one in frequency of teen condom use.¹⁷

IV. Research Shows Evidence that School-based AE Can Reduce Teen Sexual Activity

A. Peer-reviewed Published Studies of 4 AE Programs Show Reduced Teen Sex for 1 to 2 Years:

- The *Heritage Keepers* AE curriculum reduced teen sexual initiation by about one-half (odds ratio=.54), one year after the program.¹⁸ The impact of *Heritage Keepers* is illustrated in Figure 1.



2. A rigorous experimental study by Jemmott, et al. (2010), found that an AE program reduced teen sexual initiation by 33% after 24 months; the CSE program in the study did not increase abstinence or condom use.¹⁹
3. The *Sex Can Wait* middle school program delayed teen sexual initiation for 18 months after the program.²⁰
4. *Reasons of the Heart* also showed long-term results: it reduced teen sex by about one-half, after one year.²¹
5. The CDC meta-analysis of sex education research showed a significant, though modest, reduction in teen sex by AE, but did not draw conclusions about AE effectiveness.¹¹
6. To date, few studies of school-based AE (approximately five) have measured program impact on pregnancy, STDs, or consistent condom use, and as with school-based CSE, none have found significant positive effects.

B. Research shows that AE does not reduce teen condom use:

1. To date, no studies have shown that an AE program reduced teen condom use.²²
2. Three published studies have shown that AE does not reduce condom use by sexually active teens.²²
3. One published study of an abstinence program found that it *increased* the frequency of teen condom use (although not a measure of consistent use) one year after the program.¹⁷
4. The CDC meta-analysis of sex education studies showed no reduction of teen condom use by AE programs.¹¹

V. There is Little Evidence CSE Increases Both Abstinence & Condom Use (No Dual Effect)

- A. Comprehensive sex education purports to promote both teen abstinence and condom use (by the sexually active), yet none of the four reviews of sex education summarized above showed evidence that school-based CSE programs have produced long-term improvement on both of these outcomes *within the same program*. A few appear to have achieved either one outcome or the other but *not both*.
- B. Without this “dual effect” there is not evidence that school-based CSE offers an added benefit over AE.

VI. Summary of Research Evidence

1. Four AE programs (in 4 studies) have produced long-term reductions in teen sexual initiation for the intended population in a school setting, compared to 2 CSE programs (in 5 studies).
2. Neither school-based CSE nor AE programs have demonstrated effectiveness at decreasing *teen pregnancy* or *STDs*, or increasing *consistent condom use* by teens. (One AE and 3 CSE school-based programs have increased the *frequency* of teen condom use for one year after the program.)
3. There is not evidence that school-based CSE offers an advantage over effective AE programs: CSE programs have not shown effectiveness at increasing teen condom use, nor abstinence *and* condom use within the same program. And more school-based AE programs have produced a long-term reduction in teen sex than CSE programs.
4. There appears to be no evidence that AE reduces teen condom use.

VII. Conclusions

1. ***Research evidence does not support a policy of replacing AE in schools with a CSE strategy that has thus far produced little evidence of success in school populations.***
2. ***Research does not argue for the CSE approach of combining abstinence and condom instruction/promotion in the same school-based program.***
3. ***Credible research evidence indicates AE can be a viable prevention strategy by producing significant long-term reductions in teenage sexual activity.***

Notes & References

1. Centers for Disease Control and Prevention. (2008). *Nationally Representative CDC Study Finds 1 in 4 Teenage Girls Has a Sexually Transmitted Disease*. Available at www.cdc.gov/stdconference/2008/media/release-11march2008.htm.
2. “School-based” programs serve a school population, are held at a school in a classroom-type setting, including after school or Saturdays, use a sex ed curriculum, & can be used at most schools. Clinic or community-based programs often serve unique populations & use methods not workable in schools.
3. It is not known what amount of increase in sexual abstinence or condom use is necessary to actually reduce teen STD or pregnancy rates. However, the criteria for program effectiveness proposed here are common in the broader field of prevention research and seem reasonable: 1) a long-term effect (sustained at least one year after the program, i.e., from school year to school year), 2) that occurs for the intended population (not just a subgroup), and 3) improves the most protective behaviors. Programs that have not produced this level of evidence may be promising, but we suggest they have not shown

sufficient evidence of effectiveness. See Flay B, et al.(2005). Standards of Evidence: Criteria for Efficacy, Effectiveness and Dissemination. *Prevention Science*, 6(3):151-175; and the "Blueprints Programs" at <http://www.colorado.edu/cspv/blueprints/criteria.html>.

4. Kirby D. (2007). *Emerging Answers 2007*. Washington DC: National Campaign to Prevent Teen and Unplanned Pregnancy. For details on the specific studies reviewed, listed by author, see Laris BA & Kirby D. (2007). *One Page Summaries of the Evaluations Referenced in Emerging Answers 2007*. Washington DC: National Campaign to Prevent Teen and Unplanned Pregnancy.
5. Seven non-school classroom-based prevention programs in *Emerging Answers 2007* reported reduction in pregnancy rates for the full program group at least 9 months after the program. One was an abstinence program (Doniger et al., 2001), two were service learning programs (Allen et al., 1997 & Philliber et al., 1992), one was the Seattle Social Development program (SSD)for elementary school children and their parents that included no sex education (Lonczak et al., 2002), one was a multi-component youth development program, including clinic services (Philliber et al., 2002), one was an in-home parent training program (Stanton et al., 2004) and the last was a clinic-based program (Winter et al., 1991). Only 3 prevention programs in *Emerging Answers 2007* reported reducing STD rates for more than 6 months after the program. Two were clinic-based programs for high-risk teens (DiClemente et al., 2004 & Jemmott et al., 2005, both 12-month effects) and the third was a time-intensive parent training program that had a 24-month effect on reducing teen STDs (Prado et al., 2007). A later study showed the SSD program also reduced STD rates (Hawkins, et al., 2008).
6. Only 10 CSE studies in *Emerging Answers 2007* measured this outcome and only 3 programs reported significant program impact on consistent condom use that lasted more than 3 months; all were 12-month effects. One was a community-based parent training program for fathers of teen boys (Dilorio et al., 2007), one was a clinic-based program for high-risk girls (DiClemente et al., 2004), and the third was a school-based program that did not increase consistent condom use for the participants, but reported a significant effect because the control group declined somewhat more substantially on this outcome than the treatment group. However, this difference existed at baseline and was not controlled for in the outcome analysis (Villarruel et al., 2006). Two school-based programs increased consistent condom use for 3 months (Jemmott et al, 1998 & Walter & Vaughn, 1993). **Consistent condom use, i.e., with every act of intercourse**, is necessary because STD transmission can occur in one sexual contact and some studies have found that non-consistent use provided inadequate STD protection or resulted in higher rates of STDs. According to the CDC, "inconsistent use, e.g., failure to use condoms with every act of intercourse, can lead to STD transmission because transmission can occur with a single act of intercourse" (CDC, 2003). A study in the journal *AIDS* (N=17,264) found, "Irregular condom use was not protective against HIV or STD and was associated with increased gonorrhea/Chlamydia risk." (p.2171 in Ahmed S, Lutalo T, Wawer M, et al., 2001. HIV incidence and sexually transmitted disease prevalence associated with condom use: a population study in Rakai, Uganda. *AIDS*; 15(16):2171-9.) A Denver study (N=26,291) reported that "Among the total population, rates of STD were higher among inconsistent users than nonusers. . .However, STD rates were significantly lower among consistent than inconsistent users." (p.528 in Shlay JC, McCung MW, Patnaik JL et al., 2004. Comparison of sexually transmitted disease prevalence by reported level of condom use among patients attending an urban sexually transmitted disease clinic. *Sex Transm Dis*; 31(3):154-60.)
7. See Coyle et al., 2004, Fisher et al., 2002, and Jemmott et al., 1998, in *Emerging Answers 2007*. Six other school-based programs are reported in that review which increased condom use (but not consistent use) for 3 or 6 months or for a subgroup of program participants.
8. Four different evaluations of *Reducing the Risk* (Hubbard et al., 1998, Kirby et al., 1991, Zimmerman et al., in press, and Zimmerman et al., in press) found reductions in teen sexual initiation after at least one year, as reported in *Emerging Answers 2007*. The Hubbard study also reported increased condom use, but only for the subgroup of students not sexually experienced at the pretest. Another school-based CSE program showed a delay in teen sex (*Postponing Sexual Involvement*, see Howard M. & McCabe JB. (1990). Helping teenagers postpone sexual involvement. *Family Planning Perspectives*, 22: 21-26)). However, several subsequent variations of this program showed no effect. Four studies of non-school-based sex education programs in *Emerging Answers 2007* reported reduced rates of sexual initiation for the full program group for at least 12 months: a clinic-based CSE program, a CSE program at a drug treatment center (St. Lawrence, 1995 & 2002, respectively), a community-based CSE program within public housing (Sikkema et al., 2005), and a social skills program in schools that did not teach sex education (Lonczak et al., 2002).
9. This dual effect is the benefit CSE claims over AE. Two school-based CSE programs showed an increase in both abstinence and condom use but in each case one of the effects was for a subgroup of the target population. An evaluation of *Reducing the Risk* showed a delay in sexual initiation for the full target population and an increase at the same time point (18-month follow-up) in teen condom use for the subgroup that was not sexually initiated at the pretest; a study of *Safer Choices* found an increase in condom use by the target population and a delay in sexual initiation for a Hispanic subgroup (comprising 25% of the population) 18 months after the program. (See Hubbard et al., 1998 and See Coyle et al., 2001/2004, in *Emerging Answers 2007*.)
10. Emphasis added, see <http://www.washingtonpost.com/wp-dyn/content/article/2009/11/06/AR2009110601208.html?hpid=topnews>. The full report on this study, including the data supporting these conclusions is not yet published. However, the data have been shown in public meetings and the findings cited in the Washington Post refer to data shown by the researchers in these public presentations.
11. See a summary of findings at <http://www.thecommunityguide.org/hiv/index.html> and a critique of those findings at instituteresearch.com.
12. See Suellentrop K. (2010). *What Works 2010: Curriculum-Based Programs That Help Prevent Teen Pregnancy*, National Campaign to Prevent Teen and Unplanned Pregnancy: Washington DC., and Ericksen IE, Weed SW, Osario A. (2010), "Demonstrating Credible Evidence of Effectiveness for Abstinence Education," a poster presentation at the 2010 Annual Conference of *The Center for Research & Evaluation of Abstinence Education*, sponsored by the Family & Youth Services Bureau of the U.S. Department of Health & Human Services, April 19-20, 2010, Arlington, VA.
13. See notes on Villarruel, et al., (2006) and **consistent condom use** in Reference #6 above.
14. See Coyle et al., and Jemmott et al., 1998, in Suellentrop (2010) above (Reference #12).
15. Torolero, et al., (2010) in Suellentrop (2010) above (Reference #12).
16. See *Teenage Pregnancy Prevention: Programs for Replication—Intervention Implementation Reports*. Office of Public Health and Science, U.S. Department of Health and Human Services. Available at: <http://www.hhs.gov/ophs/oah/prevention/research/programs/index.html>.
17. Jemmott III JB, Jemmott LS, Fong GT. (1998). Abstinence and safer sex HIV risk reduction interventions for African American adolescents. *Journal of American Medical Association*, 279(19): p1529-1536.
18. Weed SE, Ericksen IH, Birch PJ. (2005). An evaluation of the *Heritage Keepers Abstinence Education* program. In Golden A (ed.) *Evaluating Abstinence Education Programs: Improving Implementation and Assessing Impact*. Washington DC: Office of Population Affairs and the Administration for Children and Families, Department of Health & Human Services 2005:88-103.
19. Jemmott III JB, Jemmott LS, Fong GT. (2010). Efficacy of an abstinence-only intervention over 24 months: a randomized controlled trial with young adolescents. *Arch Pediatr Adolesc Med*. 2010;164(2):152-159.
20. Denny G & Young M. (2006). An evaluation of an abstinence-only sex education curriculum: An 18-month follow-up. *Jrnl of Sch Hlth*,76(8): 414-22.
21. Weed SE, Ericksen IE, et al. (2008). An Abstinence Program's Impact on Cognitive Mediators and Sexual Initiation. *Am J Hlth Behav*; 32:60-73.
22. Three studies show AE teens are not less likely to use a condom if they become sexually active: Steven C. Martino, Ph.D., Marc N. Elliott, Ph.D., Rebecca L. Collins, Ph.D., David E. Kanouse, Ph.D., and Sandra H. Berry, M.A. (2008). *Virginity Pledges Among the Willing: Delays in First Intercourse and Consistency of Condom Use*. *Journal of Adolescent Health*, 43:341-348; Jemmott III JB, Jemmott LS, Fong GT. (2010). Efficacy of an abstinence-only intervention over 24 months: a randomized controlled trial with young adolescents. *Arch Pediatr Adolesc Med*. 2010;164(2):152-159; and Trenholm C, Devaney B, Fortson K, Quay L, Wheeler J, Clark M. (2007). *Impacts of Four Title V, Section 510 Abstinence Education Programs*. Princeton, NJ: Mathematica Policy Research, Inc. April 2007. One study reported that teens who made a virginity pledge were less likely to use condoms the first time they had intercourse. However, it was not known whether these teens had received an abstinence education program, and they were not less likely to use condoms at last intercourse or over a 12-month period than non-pledging teens. (Bruckner H & Bearman P. (2005). After the promise: The STD consequences of adolescent virginity pledges. *The Journal of Adolescent Health*, 36(4):271-278.).

The Institute for Research and Evaluation (IRE) is a nonprofit research organization that has gained national recognition over the past 20 years for its work evaluating sex education programs, including abstinence education interventions. IRE has conducted program evaluations for federal Title V, CBAE, and Title XX projects in 30 states, and has evaluated sex education program in three foreign countries. The Institute has collected data from more than 500,000 teens, and conducted over one hundred evaluation studies of abstinence education. In addition, IRE has evaluated comprehensive sex education programs in two states, has recently completed a nationwide evaluation of marriage enrichment (divorce prevention) programs, and has developed and/or evaluated character education curricula for elementary school children. IRE staff members have published articles in professional journals and frequently speak at professional conferences and workshops. Dr. Stan 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 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 (April, 2008), and the White House (June, 2009).

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