"Three Decades of Research:" A New Sex Ed Agenda and the Veneer of Science

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ABSTRACT: The research review, "Three Decades of Research: The Case for Comprehensive Sex Education," by Goldfarb and Lieberman (2021), purports to show "strong support" for the effectiveness of school-based comprehensive sex education (CSE) at producing many benefits beyond its original goals of preventing teen pregnancy and STDs. We reviewed the evidence the study cites in support of these claims, item by item, and found that 1) 80% of the sources cited as supporting evidence for CSE are not studies of CSE programs and 2) of the few cited studies of actual CSE programs, roughly 90% do not meet recommended scientific standards for evidence of program effectiveness. Important to note, contrary to its claims, the study does not show scientific evidence that comprehen-

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sive sex education helps prevent child sex abuse, reduces dating/intimate partner violence or homophobic bullying, or that it should be taught to young children in the early grades. Rather than making "the case for CSE," Goldfarb and Lieberman's review gives the appearance of scientific support to a new CSE agenda that the authors articulate and endorse, which includes early sex education, gender ideology, and social justice theory. However, they do not present scientifically reliable confirmatory evidence for that agenda.

Introduction

For more than 30 years, sex education research has struggled without success to produce compelling evidence that school-based comprehensive sex education (CSE) is an effective strategy for achieving its original purposes: reducing teen pregnancy, STDs, and sexual risk behavior. Yet, despite repeated claims that CSE programs have been "proven effective" at accomplishing such goals,[1] when a credible scientific lens is used to examine studies designed to test the causal impact of CSE programs, the evidence disappears.

For example, a recently published systematic review of the research most often cited by CSE advocates found that only six out of 103 studies of school-based CSE worldwide showed a sustained protective effect (lasting one year post program) on either teen pregnancy, STDs, condom use, or abstinence, for the intended youth population, without also producing other negative effects on sexual risk behavior. Moreover, nearly three times as many studies (16) found harmful CSE effects (increases in teen sexual risk behavior).[2] Two other landmark meta-analyses also found a dearth of positive CSE results.[3] One, sponsored by the U.S. Centers for Disease Control and Prevention (CDC), found that school-based CSE programs did not significantly increase teen condom use or reduce teen pregnancy or STDs, key outcomes for which CSE was originally designed. The other, a meta-analysis of U.S. federally funded sex educa-

[1] See, for example: Advocates for Youth. (2009). Comprehensive Sex Education: Research and Results. *The Facts, September 2009.* Retrieved from https://www.advocatesforyouth.org/wp-content/uploads/storage//advfy/documents/fscse.pdf

[2] Ericksen IH and Weed SE. (2019). Re-Examining the Evidence for School-based Comprehensive Sex Education: A Global Research Review. *Issues in Law and Medicine, 34(2):161-182.* See: https://www.institute-research.com/published-cse.php

[3] Weed SE. Sex Education Programs for Schools Still in Question: A Commentary on Meta-Analysis. *Am J Prev Med.* 2012;42(3):313-315, doi: 10.1016/j.amepre.2011.11.004; Juras R, Tanner-Smith E, Kelsey M, Lipsey M, Layzer J. Adolescent Pregnancy Prevention: Meta-Analysis of Federally Funded Program Evaluations, *American Journal of Public Health.* 2019;*09*(4), e1-e8.

tion programs (most were CSE), found no statistically significant results for any outcomes.

Perhaps being aware of CSE's poor record at achieving these original goals, Goldfarb and Lieberman, the authors of a 2021 review of this body of research, looked for CSE success with other types of outcomes. The researchers conducted what they termed a "review of [the past] three decades of research on school-based programs to find evidence for the effectiveness of comprehensive sex education ... [at producing outcomes] beyond pregnancy and sexually transmitted disease prevention," including outcomes related to gender norms, gender identity, sexual orientation, and social justice. They detailed their findings in their published report, "Three Decades of Research: The Case for Comprehensive Sex Education."[4]

Goldfarb and Lieberman state that their study found, "school-based CSE can lower homophobia and homophobic-related bullying, can increase understanding of gender and gender norms, can improve knowledge and skills that support healthy relationships, can build child sex abuse prevention skills, and can reduce dating and intimate partner violence."[5] They further assert that they have found "substantial evidence that sexuality education is most effective when begun early."[6] The authors give approximately 88 citations of purported evidence to support these claims for CSE effectiveness. Yet there are two major problems with the study that undermine its claims and call into question the overall usefulness of the analysis. However, before discussing these two problems, it is important to understand what is typically meant by the term "comprehensive sex education."

What Is Comprehensive Sex Education?

Goldfarb and Lieberman make wide-ranging claims about "comprehensive sex education" (a.k.a., comprehensive sexuality education), without being very clear about what it is and what it is not. Of course, this is not a term that these authors coined nor that can be re-defined as they see fit. This term has been in use for over 30 years, and a common meaning has developed over that time, aided by definitional statements from organizations in this field. One of them is the (so-called) *National Sexuality Education Standards* (a set of *recommendations* that have not been endorsed by any federal agency but rather were self-labeled as "national standards" by their authors).[7] These "Standards" are quoted by the study authors as stipulating that the "*essential, minimum,*

[4] Goldfarb E and Lieberman L. Three Decades of Research: The Case for Comprehensive Sex Education. *J Adolesc Health*. 2021;68(1):13-27. doi: 10.1016/j.jadohealth.2020.07.036

[5] Ibid.

[6] Ibid.

[7] Future of Sex Education Initiative. National sex education standards: Core content and skills, K-12. 2nd ed. Washington, DC: American School Health Association; 2020.

core content ... for sex education" should include instruction on "Anatomy and Physiology, Puberty & Adolescent Sexual Development ... [and] Sexual Health" (italics added).[8] In addition, the United Nations has defined CSE as "a curriculum-based process of teaching and learning about ... sexual and reproductive anatomy and physiology; puberty and menstruation; reproduction, modern contraception, pregnancy and childbirth; and STIs, including HIV and AIDS."[9]

Combining these two definitions, a CSE intervention will have at least two features; it will: a) be an articulated curriculum that can be taught to students, and b) contain content on sexual and reproductive health issues, including instruction on contraception and STI/HIV/AIDS prevention. These characteristics are consistent with the common usage of the term "comprehensive sex education" over the 30-year time period covered in the present study. Programs manifesting these characteristics are typically referred to as CSE while those that do not, are not. However, the Goldfarb and Lieberman study appears to consider any school-based activity addressing issues of student well-being as fitting into the same category as CSE programs. This is not scientifically appropriate; it is inaccurate and misleading to equate child sex abuse prevention or anti-bullying programs with CSE or to ascribe positive impacts from any type of prevention program in schools to CSE if the program does not exhibit the core elements of CSE (i.e., instruction on human sexuality, contraception, and STI/HIV/AIDS prevention).

Two Major Methodological Problems

We find two major methodological problems with this study that negate its claims about CSE's benefits.

1. Most of the Evidence Attributed to CSE is Not from CSE Studies

The first methodological problem arises when the consensus definition of CSE described above is applied to this review. Of the roughly 88 documents cited by the authors as the sources of their "evidence" for CSE, 72 of them, or four out of five (i.e., 80%, as stated earlier), *are not studies of CSE programs at all*. So, in a study subtitled "The Case for Comprehensive Sex Education," only 16 of 88 evidentiary citations (fewer than one in five) are CSE studies. These 16 CSE studies are listed in Table 1. Throughout the report of study findings, strong assertions are made about the impact of CSE on many positive outcomes, but the "evidence" cited as proof of that impact is primarily *not* research about

[8] Goldfarb E and Lieberman L, 2021.

[9] United Nations Educational, Scientific and Cultural Organization. (2018). International Technical Guidance on Sexuality Education: An Evidence-Informed Approach, Revised Edition; 2018 (p.16, Section 2.1). Available at: http://www.unaids.org/sites/default/files/media_asset/ITGSE_en.pdf

TABLE 1. 16 Studies of Comprehensive Sex Education (CSE) - Cited in Goldfarb & Lieberman, (2021), "Three Decades of Research: The Case for Comprehensive Sex Education"

PROGRAM & STUDY DESCRIPTION									PROGRAM OUTCOMES			
										Post-Program Effects		
Reference Number*	1st Author & Year	Program Name	Country	Program Type	Study Design	Follow-Up Time	Sample	Age	Negative Effects	Knowledge	Attitudes	Behavior
27	Brown, 1991	*AIDS Education in Rhode Island*	USA	School-Based CSE	Experimental	Pre-Post Only	2,709	7-12 grade	No	Increased	Improved-Slightly (No Follow-up)	No Effect Reported - Not Measured?
29	Baams, 2017	*Health Education On Risky Behavior*	The Netherlands	School-Based CSE	Correlational: Longitudinal+ Cross-Sectional	baseline & 8mo	601	10-12 grade	No	NotMeasured	SubGroup Effect (Males Only)	SubGroup Effect:MoreSex EdReducedName Calling(Females Only)
30	Proulx, 2019	N/A	USA	Impact Of Sch-Bsd Sex Ed Content	Correlational: YRBS&State-SexEdContent	N/A	N/A	HighSchool	No	NotMeasured	Not Measured	LGBTQ-Content-->lessSuicidality, Bullying,Depression
31	Blake, 2001	N/A	Massachusetts	Impact Of Sch-Bsd Sex Ed Content	Correlational: TchrSl-fRpt&LGBT studOut-comes	N/A	3647stu	HighSchool	No	NotMeasured	??	LGBTQ SxEd=less# Prt,RecSex, DrugUse+Sex; NotSuicideAttmpt
40	Smylie, 2008	*Multi-Dimensional School-Bsd Sex Ed*	Canada	School-Based CSE	Quasi-Experimental	1 mo. Fup	240	9th grade	No	Increased	Improved	Not Measured?
41	Constantine, 2015	*Sexuality Education Initiative (SEI)*	LosAngeles,CA	Rights-Based CSE in Schools	Experimental	Pre-Post Only	1750	9th grade	No	Increased	Mixed results	Incr CommunW Parents ReSex (No Follow-up)
42	Rohrbach, 2015**	*Sexuality Education Initiative (SEI)*	LosAngeles,CA	Rights-Based CSE in Schools	Experimental	1-year F-up	1447	10th grade	No	Increased	Improved	IncrPrtCom-CrryCndm&UseSx-HlthServ;NoRed-SexRskBev
46	Haberland, 2015	N/A	USA+Internl	Gender & Power CSE Programs	Systematic Review-Expr/ Quasi-Expr	???	N/A	Adol≤19YO	Increased Multiple Risk Behaviors	N/A	NoMeasure: Attit Re.Gndr Equity, Rghts,SocJst	Only2 School-Bsd-Progs-Found MultipleNegEffects-ForBoth

TABLE 1. (*Continued*)

PROGRAM & STUDY DESCRIPTION									PROGRAM OUTCOMES			
										Post-Program Effects		
Reference Number*	1st Author & Year	Program Name	Country	Program Type	Study Design	Follow-Up Time	Sample	Age	Negative Effects	Knowledge	Attitudes	Behavior
53	Wolfe, 2012	*The Fourth R*	Canada	HlthyRelationshp-AbusePrev&CSE	Observational Subjective Rating	Post-test only	196	9thGr girls	No	NotMeasured	Not Measured	Not scientifically valid
54	Peskin, 2014	*It's Your Game (IYG)*	Texas	School-BasedCSE+Hlthy Relationshp	Experimental	1-year F-up	760	9th grade	IncrSxRsk Bev(2other-Studies)	N/A	N/A	Males&Females: DecrPhys& EmotAbuse
71	Wolfe, 2009	*The Fourth R*	Canada	HlthyRelationshp-AbusePrev &CSE	Experimental	Pre & 2.5YR Fup	1722	9th grade	Lower Condom Use for Girls***	NotMeasured	Not Measured	ReducPhysDat Viol(MalesOnly); incrCondom Use(MalesO)
72	Mathews, 2016	*PREPARE*	South Africa	School-Based CSE/HIV& IPVPreventn	Experimental	6-mo. F-up	3451	8th grade	No	Increased	Not Measured	At6-mo.F-up:Lower-Viol; NOT-IncrCondomUse
76	Pick, 2007	*I Want to, I Can...prevent HIV/AIDS*	Mexico	Commun/ HIVprev;30hr; 15-20wk	Experimental	Pre&≤6mo-Fup	1581	9-12YO, 4thGr	No	NotMeasured	Improved	Increased Commun w/Adult on DifficultSubjects
78	Lamb, 2016	*SexualEthics ForACaring Society (SECS-C)*	USA	SexualEthics; 8-1hour lessons	Non-Experimental, unpaired	Pre-Post Only	79	9th grade	LowerIntent-ToIntervene	NotMeasured	Improved	Not scientifically valid
79	Scull, 2014	*Media Aware Sexual Health(MASH)*	USA	CSE & Media Awareness	Non-Experimental, unpaired	Pre-Post Only	56	8th grade	No	No Effect	Mixed results	Not Measured
108	Gaskins, 2002	*[HIV/AIDS Awareness EducationPro-gram]*	USA	School-BasedHIV/ AIDS Awarenss Prog	Non-Experimental	Pre-Post Only	??	K-5thGr	No	Increased	Improved	Not Measured

*These are the item numbers on the Goldfarb & Lieberman Reference List--please see that list for full citations
**This study met recommended scientific standards for evidence of program effectiveness
***The study reported "condom use by partners was less for girls in the intervention group" (OR=.76), but it was not clear if this was statistically significant (no p-value was given)

TABLE 2. 72 Studies of Non-CSE Programs - Cited in Goldfarb & Lieberman (2021), "Three Decades of Research: The Case for Comprehensive Sex Education"

PROGRAM & STUDY DESCRIPTION

Reference Number*	Study 1st Author & Year	Program Name	Country	Program Type	Study Design	Follow-Up	Sample	Age
17	Schall, 2003	[Gay Literature Program]	USA	ClassDiscuss-LiteratureWGay/LesbianCharacters	Qualitative-Class Discussion	N/A	29	4th&5thGr
18	Eick, 2016	N/A	Israel	Personal Story method	Non-Experimental, Paired	Pre-Post	272	9th-11thGr
19	Richard, 2015	N/A	Canada	Testimonial workshops	Non-Exper, Paired;Qualitative	Pre-Post, 3mo.	277	9th-12thGr
20	Athanases, 1996	N/A	USA	Class Discussion method	Qualitative-ClassDiscuss&Interact	N/A	21	10thGr
21	Van de Ven, 1995	Anti-Homophobia Unit	Australia	Class Discussion method	Non-Experimental	Pre-Post+ 3moFup	130	9th Gr
22	Helmer, 2015	N/A	USA	Gay & Lesbian Literature Course	Qualitative-StudentQs&IVs	N/A	24	11th&12thGr
23	Helmer, 2016	N/A	USA	Gay & Lesbian Literature Course	Qualitative-Student&TchrIVs	N/A	24	11th&12thGr
24	Alan & Miriam, 2011	*Out For Equity (OFE)*	USA	School-based LGBTQ support program	NonExperQualAnalysis&Reflections	N/A	1613	MiddleSchool
25	Bentley & Souto-Manning, 2015	N/A	USA	Influencing 4-YearOlds With Gay Fairytales	Qualitative-Class Discussion	N/A		1 PreSchClss
26	Lucassen and Burford, 2015	N/A	New Zealand	60-min. Sexual Diversity Workshop	Non-Experimental, Paired	Pre-Post	229	9th&10thGr
28	Snapp, 2015	N/A	USA	StudentPerception:LGBTQ-inclusive-Curr&SchlClimate	CorrelationOfInternal-SurveyData	N/A	1232	Mid&HghSch
32	Hill and Kearl, 2011	*Crossing The Line*	USA	AAUWReportOnSexualHarrassmentAtSchool	QualitativeSurvey	SliceInTime	1965	7th-12thGr
33	Ramirez-Valles, 2014	*Just As We Are*	USA	Film-based Intervention	Non-Experimental, Paired	Pre-Post	44	9th-12thGr
34	Ryan, 2013	*Princss Boys & Pregnant Men*	USA	TeacherInfusedLBGTcontentInClassroomCurriculum	Qualitative-ClassDiscussion	N/A	1 class	3rdGr
35	Rice, 2002	N/A	USA	Influencing 3rd Graders Through Literature	Qualitative-ClassDiscussion	N/A	24	3rdGr

TABLE 2. (*Continued*)

PROGRAM & STUDY DESCRIPTION

Reference Number*	Study 1st Author & Year	Program Name	Country	Program Type	Study Design	Follow-Up	Sample	Age
36	Dutro, 2002	*But That's A Girl's Book*	USA	Influencing 5th Graders Through Literature	Qualitative-ClassDiscussion	N/A	24	5thGr
37	Hermann-Wilmarth, 2017	CriticalLiterature&TransgenderTopics	USA	Influencing 4th Graders Through Literature	Qualitative-ClassDiscussion	N/A	15	4th&5thGr
38	Knotts and Gregorio, 2011	*Gay Mens Chorus of LA*	USA	Music Performance & Biographic Storytelling	NonExper,Paired,ClassDiscussion	Pre-Post	101	9th-12thGr
39	Matthews, 1998	*Identify, Remedy Gender Inequities*	USA	Case Studies & CD-ROM	Qualitative-ClassDiscussion	N/A	22	5thGr
43	Barker, 2010	[Literature Review]	USA	WideVariety:IndivCnslg,MediaCampaign,etc.	Systematic Review-58 Studies	NoLng-TrmFup	Men&/orBoys	N/A
44	Baiocchi, 2017	[Dating Violence Prevention]	Kenya	Dating Violence Prevention	Experimental--NonMatched	Pre & 9mo.Fup	6356	10-16YOgirls
45	Miller, 2012	*Coaching Boys Into Men*	USA	DatViolPrev-Coach-Delivered-ToHSchAthletes	Experimental	Pre & 3-mo Fup	1798	9th-12thGr-Boys
47	Ting, 2009**	Meta-Analysis:DatingViolencePreventionProg	US & CAN	Dating Violence Prevention	Meta-Analysis:Knowledge/Attitude	Not Specified	13MSch&HSch	Mid&HghSch
48	Foshee, 2004**	Safe Dates	USA	Dating Violence Prevention	Experimental	Pre-Post; 4Yr-Fup	460	8thGr
49	Foshee, 1998	Safe Dates	USA	Dating Violence Prevention	Experimental	Pre-Post	1886	8th to 9thGr
50	Crooks, 2015	The Fourth R, adapted	CAN	Healthy Relationships & Violence Prevention	Experimental	Pre & 1mo.Fup	1,012	7th&8thGr
51	Foshee, 2000	Safe Dates	USA	Dating Violence Prevention	Experimental	Pre-Post; 1Yr-Fup	1886	8th to 9thGr
52	Kervin and Obinna, 2010	Youth Action Strategies	USA	Youth-led Dating Violence Prevention	Non-Experimental (no stat.anal.)	Pre-Post	29	HSch students
55	Rice, 2017	[Relationship Education Programs]	USA	Relationship Education (not ViolencePrevention)	NonExper,Repeated-Measures	???	3658	9th-12thGr
56	Taylor, 2010	[Dating Violence Prevention]	USA	Peer&DatingViolencePrevention(-2DiffVersions)	Experimental	Pre-Post;5-6moFup	1639	6th to 7thGr
57	Pacifici, 2001	[Dating Violence Prevention]	USA	Coercive Dating Behavior Prevention	Experimental	Pre&10dayPost	457	9th-12thGr

TABLE 2. (*Continued*)

PROGRAM & STUDY DESCRIPTION

Reference Number*	Study 1st Author & Year	Program Name	Country	Program Type	Study Design	Follow-Up	Sample	Age
58	De La Rue, 2014	[Systematic Literature Review]	USA	Dating Violence Prevention	SystReview-Exper or Quasi-Eper	Not Specified	23 progs	4th-12thGr
59	Smith and Welchans, 2000	[Rape Prevention]	USA	Peer Education-Emphasis On Male Responsibility	Non-Experimental, Unpaired	Pre-Post	253	10th-12thGr
60	Sosa-Rubi, 2017	[Dating Violence Prevention]	Mexico	Dating Violence Prevention	Quasi-Exper, Matched Pairs	Pre-Post	885	9th-12thGr
61	Baker, 2014	*Respect*	Hawaii	CultGrdDatingViolencePreven-tion(TrainTheTrainer)	Quasi-Experimental, Unpaired	Pre-Post&1mo. Fup	63(I)/73(C)136	9th-12thGr
62	Macgowan, 1997	[Dating Violence Prevention]	USA	Dating Violence Prevention	Experimental	Pre-Post	440	6th to 8thGr
63	Meyer and Stein, 2004	[Dating Violence Prevention]	USA	Literature Review--5 DatingViolen-cePrevProgs	N/A	N/A		6th to 12thGr
64	Weisz and Black, 2001	[Dating Violence Prevention]	USA	Sexual Assault & Dating Violence Prevention	Quasi-Experimental, Unpaired	Pre-Post&6mo. Fup	46(I)/20(C)66	7thGr
65	McLeod, 2015	*RELATE--Adapted-Latino & Afri-can American*	USA	SchBsdPeerLedHealthyRelProgr-fo-rAt-RskAdol	Non-Experimental, Unpaired	Pre-Post	291	9thGr
66	Adler-Baeder, 2007	*LoveU2-IncrYrRelSmrts*	USA	Relationship & Marriage Education	Quasi-Exper, Matched Pairs	Pre-Post	340	9th-12thGr
67	Jaycox, 2006	*Ending Violence (Latino Ado-lescence)*	USA	DatingViolencePrevention-focusOn-LegalIssues	Experimental	Pre-Post&6mo. Fup	2540	9thGr
68	de Lijster, 2016	*Benzies & Batchies*	Netherlands	Sexual Harrassment Prevention	Experimental	Pre-Post&6mo. Fup	815	12-16YearsOld
69	Roscoe, 1994	[Sexual Harrassment Preven-tion]	USA	Sexual Harrassment Prevention	Non-Experimental	Pre-Post	815	7th&8thGr
70	Kernsmith, 2011	[Sexual Assault Prevention]	USA	SexualAssaultPrevent.--Gen-der-Sens, PeerLed	Non-Experimental, Unpaired	Pre-Post&3mo Fup	815	9th-12thGr
73	Bates, 2006	[Sexual Harrassment Preven-tion]	USA	Sexual Harrassment Prevention	Non-Exper (NotCredi-bleStudy)	Pre, During, Post	815	7thGr
74	Kettry, 2017/2019	[BystanderInterventionProgs-Ef-fectOnSexAssltPrev]	USA	Meta-Analysis--27 Studies	SystReview-Exper or Quasi-Eper	RptsFupUpTo-12mo	815	7th-12thGr&Coll
75	Miller, 2013**	*Coaching Boys Into Men*	USA	DatingViolencePrev-CoachDelivd-ToHSchAthletes	Experimental	Pre & 12-mo Fup??	815	9th-12thGr-Boys

TABLE 2. (*Continued*)

PROGRAM & STUDY DESCRIPTION

Reference Number*	Study 1st Author & Year	Program Name	Country	Program Type	Study Design	Follow-Up	Sample	Age
77	Buote and Berglund, 2010	*Respectful Relationships*	CAN	DevmtOfSocialCompetenciesRelatedToSocialJustice	Non-Experimental, Unpaired	Pre-Post	815	7th-10thGr
80	Davis and Gidycz, 2000**	[Child Sex Abuse Prevention]	USA	Meta-Analysis--27 Studies	SystReview-Exper or Quasi-Eper	???	815	ages 3-13YO
81	Kenny, 2008**	[Child Sex Abuse Prevention]	US & CAN	SystematicLiteratureRev--21 Studies of 5 Progs	SystRev-PblshdInSciJrnlOrBook	NotSpecified	815	ages 3-12YO
82	Macintyre and Carr, 1999	*Stay Safe*	Ireland	Child Sex Abuse Prevention	Experimental	Pre, Post, 3-moFup	815	2nd & 5thGr
83	Walsh et al. 2018**	[Child Sex Abuse Prevention]	Internat'l	SystematicLitRev-24 Studies, across 7 countries	SystReview-Exper or Quasi-Eper	6mo	815	K-5thGr
84	Topping and Barron, 2009**	[Child Sex Abuse Prevention]	Internat'l	SystLitRev--22 Studies inUS,CAN,UK, Holland	Systematic Review	SomeMsr-EffDuratn		K-6thGr
85	Pulido, 2015	Safe Touches	SA	Child Sex Abuse Prevention	Experimental	Pre-Post	492	2nd & 3rdGr
86	Baker, 2012	My Body, My Boundaries	Hawaii	Child Sex Abuse Prevention	Quasi-Experimental	Pre-Post	80	3rd&4thGr
87	Hazzard, 1991**	Feeling Yes, Feeling No	USA	Child Sex Abuse Prevention	Experimental	1YrFup	399	3rd&4thGr
88	Brown, 2016	Safer, Smarter Kids	USA	Child Sex Abuse Prevention--Latino Population	Non-Experimental, Unpaired	Pre-Post	1169	Kstudents
89	Kenny, 2012	Kids Learning About Safety	USA	Child Sex Abuse Prevention--Latino Population	Quasi-Experimental, Unpaired	Pre-Post&3mo Fup	123	PreK, 3-5YO
90	Jin, 2017	Body Safe Training	China	Child Sex Abuse Prevention	Experimental	Pre-Post&3mo Fup	484	1st-5thGr
91	Kim and Kang, 2017	C-SAPE	South Korea	Child Sex Abuse Prevention	Quasi-Experimental	Pre-Post	39(I)/50(C)89	5thGr
92	Kater, 2002	Healthy Body Image	USA	Body Image Program	Quasi-Experimental	Pre-Post	415	4th-6thGr
93	Halliwell, 2016	*Body Image in the Primary School*	*UK*	Body Image Program (tested 6 of 49 lessons)	Quasi-Exper (a pilot study)	Pre-Post&3mo Fup	144	9-10YearsOld
94	Dunstan, 2017	*Happy Being Me*	*Australia*	Body Image Program	Quasi-Experimental	Pre-Post&6mo Fup	200	7thGr-Girls

TABLE 2. (*Continued*)

PROGRAM & STUDY DESCRIPTION

Reference Number*	Study 1st Author & Year	Program Name	Country	Program Type	Study Design	Follow-Up	Sample	Age
95	McCabe, 2010	[BodyImageProg]	Australia	Body Image Program-For Boys	Quasi-Experimental	Pre,Post,3/6/12mo Fup	421	7th-9thGr-Boys
96	Berman and White, 2013	[Body Image & Media Literacy Program]	Australia	Body Image Program Plus Media Literacy	Non-Exper (NotCredibleStudy)	Pre-Post	48	8thGr
109	Mueller, 2008	[Correlation:ReceiptOf-SexEd&RiskBehavior]	USA	NSFG200 data-Type of Sex Ed not specified	Correlational Analysis	N/A	2019	15-19YearsOld
110	Reading, 2009	[Position Paper On Childrens Rights]	N/A	PositionPaperReChldRghts&Maltrt-mt-basedonUNCRC	N/A	N/A	N/A	N/A
120	Flowers, 2008	[A position paper]	N/A	Contributions of Black women sex educators	N/A	N/A	N/A	N/A
121	Berglas, 2014	[A position paper]	N/A	Rights-based approach to sexuality education	N/A	N/A	N/A	N/A
122	Schalet, 2014	[A position paper]	N/A	Recommends sex ed research on LBGTQ issues	N/A	N/A	N/A	N/A
123	Garcia, 2017	[A position paper]	N/A	Recommends sex ed focus on pleasure & desire	N/A	N/A	N/A	N/A
124	Flores, 2017	[A position paper]	N/A	Teacher's subjective experience teaching LGBTQ literature	N/A	N/A	N/A	N/A

*These are the item numbers on the Goldfarb & Lieberman Reference List--please see that list for full citations
**This study met recommended scientific standards for evidence of program effectiveness

comprehensive sex education, or any type of sex education.[10] (See note 10 for more details.) The fact that this study attributes many positive findings from the 72 non-CSE sources (see Table 2) to the impact of CSE programs is a serious misrepresentation of the research on CSE and impugns the paper's credibility.

2. Most of the Evidence Cited Does Not Meet Adequate Scientific Standards for Evidence of Effectiveness

The second fundamental problem with this study is that of those same 88 sources cited as the evidence upon which its claims of CSE effectiveness are based, the large majority (roughly 9 out of 10) do not meet recommended scientific standards for credible evidence of program effectiveness. That is, they do not produce reliable evidence of causal impact by a program on purported outcomes.

The scientific field of program effectiveness has recommended standards for evidence of effectiveness—scientific criteria that should be met to legitimate the assertion that a program is effective at producing claimed outcomes.[11] First, the *study* of the program must be of adequate scientific quality. Recommended standards include: it must be designed to test cause and effect (i.e., an experimental or quasi-experimental study), have an adequate sample size, and measure long-term impacts (whether program effects endure beyond the program's end). Second, in order to provide evidence of effectiveness, the program should produce *results* that have adequate effectual power. We evaluated program results according to criteria derived from the field of prevention research: positive effects should occur for the target population (not just a subgroup), they should endure well beyond the end of the program (for school-based programs, effects lasting from one school year to the next, or 12 months post program), and there should not be any countervailing negative program effects. Of the 88 sources

[10] Although the Goldfarb and Lieberman paper states there are 80 studies cited as supporting evidence, we counted 88 sources that were actually cited as evidence to support the claims made in the text. The 72 citations that are not CSE studies include reports on literature-based reading programs, films, musical performances, and personal narratives; subjective teacher observations and opinions; and studies of healthy relationship/communication programs, body image/acceptance programs, child sex abuse prevention programs, and dating violence prevention programs. Many of these interventions are not an articulated curriculum and none of them include content on sexuality or reproductive health, so they should not be called "sex education." At least five of the citations – represented as being from the research literature – are actually ideological opinion pieces (see References 120-124 in Table 2).

[11] See, for example: Flay BR, Biglan A, Boruch RF, Castro FG, Gottfredson D. Standards of Evidence: Criteria for Efficacy, Effectiveness and Dissemination. *Prev Sci*. 2005; 6(3):151–175; Gottredson DC, Cook TD, Gardner FEM, Gorman-Smith D, Howe GW, Sandler IN, Zafft KM. Standards of Evidence for Efficacy, Effectiveness, and Scale-up Research in Prevention Science: Next Generation. *Prev Sci*. 2015; 16(7):893-926. doi: 10.1007/s11121-015-0555-x; Blueprints for Healthy Youth Development: Blueprints Standards. Available at: https://www.blueprintsprograms.org/blueprints-standards/

cited as evidence by Goldfarb and Lieberman, only nine, or roughly one in 10,[12] meet these scientific standards for evidence of effectiveness.[13]

The authors justify their lack of scientifically adequate studies by a claim that the "substantial number" of studies with inadequate research designs or inadequate sample sizes or qualitative (i.e., subjective) approaches "when taken together lead to strong evidence of outcomes" (see p. 4). This is a startling misrepresentation of scientific reality. In fact, the more error that is infused into a pool of evidence—by *adding together* studies of poor quality—*the more, not less* error will be found in the resulting evidence.

Combining these two fundamental problems—the inclusion of few actual CSE studies and the reliance on evidence of inadequate scientific quality—reveals the miniscule, shaky foundation upon which this paper and its sweeping claims stand: of the 16 citations that are studies of actual CSE programs, only three met scientific standards for *studies* of program effectiveness,[14] and of these three, only one produced *outcomes* that met recommended standards for evidence of program effectiveness. This means that in a paper subtitled "The Case for Comprehensive Sex Education," only one study provided reliable, credible evidence *about* CSE effectiveness (appropriate study design and sample size, with measurement of sustained effects) *and* produced outcomes that met recommended standards *for* evidence of effectiveness (positive effects for the target population, sustained at least 12 months, without other negative effects). Specifically, a program called *Sexuality Education Initiative* reported improvements in self-efficacy and attitudes about relationship rights. It also increased communication with partners, and the number of students using sexual health services and carrying a condom, 12 months after the program. However, it did not reduce teen sexual activity or number of sex partners, or increase condom or contraceptive use—major goals of the program and of CSE

[12] See References 42, 47, 48, 75, 80, 81, 83, 84, and 87 in Goldfarb and Lieberman, 2021 (Note 4).

[13] Only one-half (44) of the 88 studies employed experimental or quasi-experimental design (able to measure cause and effect) and most of these only measured immediate or short-term effects. Only 16 measured whether effects were sustained for more than 6 months and only 9 of those (see Note 12) found a positive impact after 12 months, for the targeted youth population, without other negative effects, thus providing reliable evidence of program effectiveness (see Note 11). We should mention that for some of the systematic reviews, the follow-up times were unclear and where this was the case we gave the benefit of the doubt and assumed they included studies with long-term follow-up measures.

[14] Peskin MF, Markham CM, Shegog R, et al. Effects of the It's Your Game...Keep It real program on dating violence in ethnic-minority middle school youths: A group randomized trial. *Am J Public Health*. 2014;104:1471e7; Rohrbach LA, Berglas NF, Jerman P, et al. A rights-based sexuality education curriculum for adolescents: 1-year outcomes from a cluster randomized trial. *J Adolesc Health*. 2015;57:399e406; Wolfe DA, Crooks C, Jaffe P, et al. A school-based program to prevent adolescent dating violence: A cluster randomized trial. *Arch Pediatr Adolesc Med*. 2009;163:692e9

generally. Such a failure would disqualify it as an effective CSE program.[15,16,17] (See notes 16 and 17 for details on the other two CSE studies.)

It should be noted that three of the 16 CSE studies cited in this paper are *cross-sectional* or *correlational* studies that produced conflicting findings on the association between LGBTQ-sensitive sex education and various outcomes (see Section 4, below).[18,19,20] It is well known that correlational analyses cannot test causal impact nor thereby provide reliable evidence about program effectiveness. As authors of two of the studies put it, "The data we collected were ... not designed to demonstrate causal relationships between independent and dependent variables,"[21] and, "...we should interpret these correlational findings with some caution—causal mechanisms cannot be inferred..."[22] The findings of these studies may raise questions meriting further *experimental* research, but they cannot be considered conclusive evidence of CSE impact.

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[15] Rohrbach LA, Berglas NF, Jerman P, et al. A rights-based sexuality education curriculum for adolescents: 1-year outcomes from a cluster randomized trial. *J Adolesc Health*. 2015;57:399e406.

[16] One of the two remaining studies, an evaluation of *It's Your Game* (IYG) by the program's authors (Peskin MF, Markham CM, Shegog R, et al. Effects of the It's Your Game...Keep It real program on dating violence in ethnic-minority middle school youths: A group randomized trial. *Am J Public Health*. 2014;104:1471e7) found that it did reduce dating violence. But two other studies of IYG have found that it produced multiple increases in sexual risk behavior for the teenage participants. These harmful impacts negate IYG's designation as an effective prevention program for any purposes. (See Markham CM, Peskin MF, Shegog R, Baumler ER, Addy RC, Thiel M, Escobar-Chaves SL, Robin L, & Tortolero SR. Behavioral and psychosocial effects of two middle school sexual health education programs at tenth-grade follow-up. *Journal of Adolescent Health*. 2014; *54*(2), 151–159; Potter S, Coyle K, Glassman J, Kershner S, & Prince M. It's Your Game ... Keep It Real in South Carolina: A Group Randomized Trial Evaluating the Replication of an Evidence-Based Adolescent Pregnancy and Sexually Transmitted Infection Prevention Program. *American Journal of Public Health*. 2016; *106*(S1), S60–S69).

[17] The third of the three strong CSE studies (Wolfe DA, Crooks C, Jaffe P, et al. A school-based program to prevent adolescent dating violence: A cluster randomized trial. *Arch Pediatr Adolesc Med*. 2009;163:692e9) found significantly differing results for males and females (i.e., subgroup effects). The program reduced physical dating violence for boys but not girls (OR=2.63, vs. 1.03, respectively), increased condom use for boys (OR=1.70), and was reported to lower condom use for girls (OR=.76, although this effect may not have been statistically significant). These inconsistent results across the target population do not provide evidence of program effectiveness.

[18] Baams L, Dubas J, van Aken M. Comprehensive sexuality education as a longitudinal predictor of LGBTQ name-calling and perceived willingness to intervene in school. *J Youth Adolesc*. 2017; 46:931e42.

[19] Blake SM, Ledsky R, Lehman T, et al. Preventing sexual risk behaviors among gay, lesbian, and bisexual adolescents: The benefits of gay sensitive HIV instruction in schools. *Am J Public Health*. 2001;91:940e6 (p.944).

[20] Proulx CN, Coulter RW, Egan JE, et al. Associations of lesbian, gay, bisexual, transgender, and questioning-inclusive sex education with mental health outcomes and school-based victimization in U.S. high school students. *J Adolesc Health*. 2019;64:608e14.

[21] Blake, et al., 2001.

[22] Baams, et al., 2017.

Thus, only one CSE study in this review produced reliable evidence of positive CSE impact, but it improved only minor outcomes and failed to achieve the major goal—to reduce teen sexual risk behavior. Such results clearly do not make "the case for comprehensive sex education."

Even allowing for a broader category of interventions that includes storybook reading programs for 3rd graders, musical performances, personal testimonials, etc., would add to the evidence base only eight studies meeting standards for evidence of effectiveness: five studies finding evidence of effectiveness for child sex abuse prevention programs and three for dating violence prevention programs. It would still leave eight of the ten outcomes claimed as benefits of this so-called "CSE" without credible supporting evidence.

Below we describe the actual evidence, or lack thereof, for some of the major claims in this paper.

Unsupported Claims

1. No Evidence that Sex Education Should Begin in Early Elementary School

The study claims, "This review offers substantial evidence that sexuality education is most effective when begun early" (p.10),[23] meaning, "beginning in the earliest grades" (see "University News" article at: https://www.montclair.edu/newscenter/2020/12/14/experts-sex-education-should-begin-in-kindergarten/). However, of the nine studies cited as evidence for this claim,[24] only one was a study of sex education in the early grades (kindergarten through 3rd grade) and this study did not meet recommended standards of scientific quality for studies of effectiveness—it was a non-experimental design and did not measure effects beyond the program's end.[25] Two of the other nine studies were of child sex abuse prevention programs in the early grades that did meet scientific standards of evidence, and they did find positive program effects beyond the programs' end.[26] However, child sex abuse prevention is not sexuality education, and evidence that these programs have been beneficial for young children is not evidence that CSE *or any sex education* program will be. In other words, the authors produced no credible evidence supporting their claim that "substantial evidence" shows "sex education is most effective when begun early."

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[23] Goldfarb E and Lieberman L, 2021.

[24] See References 76,80,82,83,92,93,108-110 in Goldfarb and Lieberman, 2021 (Note 4).

[25] Gaskins SW, Beard SR, Wang MQ. An HIV/AIDS education program for children in grades K-5. *J HIV/AIDS Prev Educ Adolesc Child*. 2002;5:31e43.

[26] See References 80 and 83 in Goldfarb and Lieberman, 2021 (Note 4).

2. No Evidence that CSE Can Help Prevent Child Sex Abuse

The authors claim their review found that "school-based CSE...can build child sex abuse prevention skills." However, none of the 12 studies cited as evidence for this claim were studies of CSE.[27] All 12 were studies of child sex abuse prevention programs for young children, not sex education. At least five of these met scientific standards for studies of effectiveness and these found positive effects sustained beyond the program's end.[28] However, child sex abuse prevention programs do not contain the sex education content that defines CSE, and attributing their positive results to CSE program impact is a misrepresentation of the research on CSE and on child sex abuse. Preventing child sex abuse is a worthy goal for classroom-based interventions, but giving CSE credit for building child sex abuse prevention skills, when there is no evidence for it, is factually erroneous and misleading.

3. Inadequate Evidence that CSE Reduces Dating/Intimate Partner Violence

The authors claim their review found that "school-based CSE...can reduce dating and intimate partner violence." Yet out of the 32 studies[29] cited to support this claim, only four were studies of CSE or any type of sexuality education program.[30] Of the four CSE studies, only two met scientific standards for *studies* of effectiveness, but these programs' *outcomes* did not show evidence of effectiveness. One was a study of *It's Your Game* (IYG) by the program's authors, which found it reduced dating violence after one year. However, multiple other studies have found IYG has also *increased* teen sexual risk behavior.[31] These negative effects rule out IYG's designation as an effective violence prevention program. The other CSE study found significantly differing results for males and females (i.e., subgroup effects). The program reduced violence for boys but not girls and increased condom use for boys while girls were reported to have reduced condom use (OR=.76), although it did not appear to be significant at the $p<.05$ level.[32] (A third study found short-term impact but did not measure effects beyond six months, as recommended for studies testing effectiveness.[33]) These results do not provide adequate evidence that school-based CSE is an effective strategy for reducing dating violence.

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[27] See References 80 - 91 in Goldfarb and Lieberman, 2021 (Note 4).

[28] See References 80, 81, 83, 84, and 87 in Goldfarb and Lieberman, 2021 (Note 4).

[29] See References 44 – 75 in Goldfarb and Lieberman, 2021 (Note 4).

[30] See References 53, 54, 71, and 72 in Goldfarb and Lieberman, 2021 (Note 4).

[31] See note 16.

[32] Wolfe DA, Crooks C, Jaffe P, et al. A school-based program to prevent adolescent dating violence: A cluster randomized trial. *Arch Pediatr Adolesc Med*. 2009;163:692e9.

[33] Mathews C, Eggers SM, Townsend L, et al. Effects of PREPARE, a multicomponent, school-based HIV and intimate partner violence (IPV) prevention programme on adolescent sexual risk behaviour and IPV: Cluster randomised controlled trial. *AIDS Behav*. 2016;20:1821e40.

Six of the non-CSE studies were dating violence prevention programs that met scientific standards for studies of effectiveness,[34] and two found reductions in dating violence for the target population after one year—evidence of program effectiveness.[35] However, to attribute the positive impact of these dating violence programs to CSE, when their goals and content are very different from that of CSE, is erroneous and misleading.

4. Inadequate Evidence that CSE Reduces Homophobic Bullying

Three of the five studies cited as evidence for this claim were CSE studies, but none met scientific standards for *studies* of effectiveness, that is, all three were correlational designs, rather than an experimental design that could test CSE's causal impact. Moreover, the findings across the three studies were inconsistent. A study by Baams, et al., conducted in high schools in the Netherlands, found that neither teaching about "STI prevention" or "sexual orientation and gender" (common topics in current CSE programs) was associated with a reduction in LGBTQ+ name-calling in schools. Goldfarb and Lieberman actually misrepresent this study's "lack of findings for the topic of sexual orientation and gender" (as stated in Baams, et al., 2017, pp. 937, 938; for males, $p<.539$, for females, $p<.332$,),[36] and assert that its inclusion in curriculum reduced homophobic name-calling (see Goldfarb and Lieberman, p. 4), a claim that contradicts the data and conclusions reported in the study. Unfortunately, Baams, et al., actually misrepresent their own reported findings in the study Abstract. To be clear, the only factor they found to be associated with homophobic name-calling was the *amount* of sexuality education received (without respect to the specific content of the program), *but this was a subgroup effect, that is, observed by females only.*

Blake, et al., 2001, did not find that LGBTQ+ youth in schools with LBGTQ+ sensitive sex ed curriculum (identified by teachers' subjective ratings) were less likely to be suicidal or feel unsafe at school than those in schools without it.[37] But Proulx, et al., 2019, reported that LGBTQ+ sex ed content (again, not objectively measured but subjectively reported by school personnel) was associated with lower levels of bullying, depression, and suicidality.[38]

The non-experimental study design and conflicting pattern of results across these three CSE studies does not substantiate the claim that CSE reduces homophobic bullying.

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[34] See References 47, 48, 51, 58, 74, and 75 in Goldfarb and Lieberman, 2021 (Note 4).

[35] Foshee VA, Bauman KE, Ennett ST, et al. Assessing the long-term effects of the safe dates program and a booster in preventing and reducing adolescent dating violence victimization and perpetration. *Am J Public Health*. 2004; 94:619e24; Miller E, Tancredi DJ, McCauley HL, et al. One-year follow-up of a coach delivered dating violence prevention program: A cluster randomized controlled trial. *Am J Prev Med*. 2013;45:108e12.

[36] See note 18.

[37] See note 19.

[38] See note 20.

5. A Pervasive Lack of Scientific Evidence for Any Claimed CSE Benefits

A similar lack of scientific evidence can be seen for all of the other positive outcomes that Goldfarb and Lieberman report to be the result of school-based CSE. To cite another example, for the claim that CSE produces "expanded understanding of gender/gender norms," none of the nine supporting citations were studies of CSE.[39]

A New Sex Education Agenda

We wonder about finding these erroneous representations of research evidence published in a scholarly paper in a mainline academic journal. Having examined it thoroughly, we can only conclude that, rather than providing scientific evidence about a set of potential CSE benefits, the Goldfarb and Lieberman paper seems to provide the appearance or veneer of scientific support to a new sex education agenda, an agenda the authors articulate and endorse.

This agenda comes into focus around the claim that research shows sex education should be delivered to children as young as kindergarten age. The authors acknowledge the lack of research data on this topic: "there are only limited examples of sexuality-related content in the K-5 curriculum" (p. 10). Then they claim that this (nonexistent) "data strongly indicate that such topics are developmentally appropriate and produce positive outcomes, … that not only are younger children able to discuss sexuality-related issues but that the early grades may, in fact, be the best time to introduce topics related to sexual orientation, gender identity and expression, gender equality, and social justice related to the LGBTQ community before hetero- and cis-normative values and assumptions become more deeply ingrained and less mutable" (p.10). The authors provide no research studies that show scientific evidence for these claims, despite their efforts to give the appearance that they have done so. A couple of classrooms in which LBGTQ+ storybooks are read to 4-year-old preschoolers or 3rd graders, with positive reports by their teachers, do not constitute scientific evidence.

What the authors *have* done, however, is to articulate an ideological rationale for this new agenda, as follows: "Children learn gender role attitudes at an early age from observing the people in their families … it is important to introduce concepts that would disrupt stereotypical and harmful biases related to gender and sexual orientation, during this formative time" (pp. 10 & 11). Revealing Goldfarb and Lieberman's lack of evidence for this agenda is timely because today, many proponents of this new approach want it to begin with children in kindergarten or younger, and are looking to studies like this one for evidence that supports such early inculcation of a debatable ideology.

[39] See References 19, 25, 32-37, and 97 in Goldfarb and Lieberman, 2021 (Note 4).

We want to be clear. The Goldfarb and Lieberman paper does not contain any scientifically reliable evidence justifying sex education for young children, nor for teaching gender ideology or social justice theory in school classrooms.

Conflicting Interests

Finally, one thing that was not made clear in their paper is the extent to which Goldfarb and Lieberman may have a vested interest in their own findings. Their final conclusion is that these "findings strengthen justification for the widespread adoption of the National Sex Education Standards." Not disclosed is that both Goldfarb and Lieberman are "contributors and reviewers" on these same National Sex Education Standards.[40] Further, they conclude that their study "provides strong support for comprehensive sex education." Not disclosed is that Goldfarb is the author of one CSE curriculum, *Our Whole Lives*,[41] and co-author of another, *The 3Rs*.[42] Thus, there is potential financial benefit in finding "strong support" for CSE programs.

Perhaps more important, The *3Rs* curriculum appears to reflect the sex education agenda that Goldfarb and Lieberman endorse in their research report. Included in the content of The *3Rs*: in kindergarten a graphic lesson on identifying the genitals that "most boys have" or "most girls have;" for 6-year-olds, a lesson on gender non-conformity based on the book, "My Princess Boy;" for 7-year-olds a graphic lesson identifying male and female genitals and their functions; a lesson for 10-year-olds on homosexuality; lessons for 11-year-olds on gender roles and identity, on "gender-neutral" language (e.g., to say "someone with a vulva" instead of "girl" or "female"), a lesson that includes gay and transgender romantic relationships in which sexual activity is discussed, as well as a lesson directing 11-year-olds to a website called "sexetc.org" with stories on the homepage about masturbation and transgender men getting pregnant; for 12-year-olds, a lesson that describes "bathing together" and "mutual masturbation" with a boyfriend/girlfriend as "important because they can help … build connection between people without any risk of STDs [or pregnancy]," four lessons about transgenderism and homosexuality, and a lesson on how to decide "whether [you] want to be in a sexual relationship."[43]

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[40] See note 7.

[41] Goldfarb, E. Our Whole Lives: Sexuality Education for Grades 10-12. Available at: https://www.amazon.com/Our-Whole-Lives-Sexuality-Education/dp/1558963960/ref=sr_1_3?gclid=Cj0KCQjwuaiXBhCCARIsAKZLt3nVPBM1FY38anDzETZhezOx-EcMwUJYrw9BNeTrX2qXO6ABKWgTSwv8aAmA_EALw_wcB&hvadid=241633995505&hvdev=c&hvlocint=9029757&hvlocphy=1001773&hvnetw=g&hvqmt=e&hvrand=7699977268988357045&hvtargid=kwd-61145398597&keywords=our+whole+lives+sexuality+education&qid=1659562386&sr=8-3

[42] https://www.3rs.org/about-3rs/authors-and-reviewers/

[43] The 3Rs curriculum. Available at: https://www.dropbox.com/s/xeyxkjlwa6ojlyf/3Rs_ALL_Lesson_Plans.pdf?dl=0

Thus, it appears legitimate to ask whether Goldfarb and Lieberman may have overlooked the weakness of their evidence in order to support an agenda in which they appear to have multiple vested interests.

Conclusion

The Goldfarb and Lieberman research review does not provide "strong support" that CSE is an effective strategy for producing the benefits it claims; it provides almost no support at all. Less than one in five of the studies cited as evidence are actually studies of CSE, and only one of those provides scientifically credible evidence of CSE's effectiveness for any positive outcomes. Even there, the evidence is weak: there was no reduction in teen sexual risk behavior. Two of the 9 CSE studies that were designed to measure cause and effect show short-term positive impacts and one shows effects on a demographic subgroup. But these few minor indicators of program *potential* are not evidence of CSE *effectiveness*. Instead of "strong support" for CSE, this review gives the *appearance* of scientific backing to a new and arguable CSE agenda, for readers who do not examine the purported evidence closely.

Recommendations

The title of Goldfarb and Lieberman's paper declares that three decades of research have made "the case for CSE." Yet, when the lack of evidence in their review is combined with the poor results of school-based CSE at achieving its original purposes (reducing teen pregnancy and STDs),[44] *the case for CSE falls apart*. If three decades of research have made any "case," it is that it's time to rethink CSE as the go-to strategy for sex education in school classrooms worldwide. A strategy with such a consistently poor track record for 30 years does not merit the expenditure of public funds nor the trust of parents and school districts who look to it to protect young people from harm. Rather than being expanded to encompass new, unproven, and debatable purposes, CSE should be retired and the search for more effective strategies should be intensified. Newer evidence supporting sexual risk avoidance paradigms should be a part of that search.[45]

[44] See notes 2 and 3.
[45] See note 2.