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In Support of Abstinence-Plus Education: Evaluating the Shortcomings of Peer-to-Peer Education and Abstinence-Only Programs in the Context of Attitudes, Intentions, and Behaviors

Imagine you're a high school student in the U.S. with questions about sexual wellness. "How do I talk to my partner about sex?", "How do I talk abxout expectations and what I'm comfortable with?", "How do I know what kind of birth control to use?" are some questions you might be curious about. But, when you try to find someone to answer these questions at your school, you're met with a tenuous sexual education curriculum and few in-school sexual wellness resources. For many students, this scenario isn't hypothetical: as of 2020, only thirty states require sexual education in schools; among those, twenty-two require that this information is medically accurate ("State Policies on Sex Education"). Though rates of sexual activity have gradually decreased among youth aged 15-17 in recent years (Abma and Martinez 4), teens who are sexually active are at risk of transmitting or developing an STD/STI or having an unintended pregnancy (Szucs et al. 12).

Sexual education programs serve a pivotal role in delaying sexual activity - which reduces the number of sexual partners and decreases the risk of both STDs and unintended pregnancy ("Comprehensive Sexuality Education" 1) - and empowering youth to actively care for their sexual wellbeing. But, not all sexual education programs are created equal. Though

there are numerous works that debate the morality of certain sexual education programs, I have deliberately chosen to evaluate each *type* of program based on whether it inspires statistically significant changes in the *attitudes, intentions,* and *behaviors* of participants. Successful sexual education programs influence not only attitudes but also intentions and behaviors (Leung et. al 3; Akers et al. 2; Shepherd, Sly, and Girard 2), and they must fundamentally consider the totality of the environment in which they're implemented (Coyle et. al 84). Further, these programs are especially effective when they convey information that is inclusive of all participants - especially those from highly stigmatized groups, such as the LGBTQ+ community, and those who are already sexually active (Realini 316).

Abstinence-only programs have been widely adopted across the United States with the central goal of promoting abstinence as the only option for youth (Santelli et. al, 2006, pg. 73). These programs virtually uniformly emphasize the supposed value of abstaining from sex outside of marriage (Stanger-Hall and Hall 1), commonly stress reported psychological and physical detriments of engaging in sex outside of marriage (Santelli et. al, 2017, pg. 4), and argue that monogamous relationships are the norm of sexual activity among humans (Santelli et. al, 2017, pg. 4). In these programs, mention of condom-use and contraceptives is rare (Kay 14). If discussed, condoms and contraceptives are largely framed as the sum of their failures (Kay 14). Proponents of abstinence-only education argue that this curriculum is the most age-appropriate form of sexual education for youth. Further, they contend that it effectively delays sexual initiation and reduces the frequency of sexual partners ("The Truth About Abstinence-Only Programs").

In advocates' attempt to postpone sexual activity, they commonly convey abstinence-based curricula in the context of marriage (Kay VIII). Opponents of these programs

argue that this elemental part of all abstinence-only curriculum excludes LGBTQ+ students, who were unable to marry until 2015 in the U.S. and still face the repercussions of anti-LGBTQ+-related stigma ("Anti-Gay Curriculum Laws"). Further, these abstinence-only programs fail to recognize the fact that some students may simply not want to get married (Kay VIII). Considering high rates of divorce in the U.S., paired with a growing number of youth choosing not to get married (Cohn 1), teaching sexual wellness in the context of marriage is increasingly unrealistic. Abstinence-only education is also unrealistic as it has fallen out of popularity in recent years, with roughly 82% of U.S. adults in as early as 2006 favoring comprehensive (abstinence-plus) education (Bleakley, Hennessy, and Fishbein 1154).

Most importantly, however, abstinence-only education is unsupported by empirical studies (Kay 11; Brückner and Bearman 275; Stanger-Hall and Hall 8). As noted, proponents of abstinence-only education argue that it delays sexual activity and reduces the frequency of sexual partners. But, only three abstinence-only programs reviewed by researchers were included in Emerging Answers, the most up-to-date list of all effective sexual education programs in the United States (Sawhill 112). Among these three programs, none of them demonstrated a *positive trend in sexual behavior* and they did not impact sexual *initiation or unintended pregnancy rates* (Sawhill 16). In their evaluation of abstinence-only education programs, Realini et. al explained why so few abstinence-only programs are deemed efficacious by public health researchers:

> Several systematic reviews have assessed the effect of abstinence-only programs on risk behaviors (CDC, 2009c; Kirby, 2007; Underhill, Operario, & Montgomery, 2007). None of these reviews has found strong evidence that any abstinence-only program reduced the incidence of unprotected vaginal sex, number of partners, or sexual initiation compared with control programs (Realini et. al, 314).

Realini et. al, along with other public health researchers, have consistently shown that though abstinence-only programs may have marginal influence on attitudes toward sexual

activity, they fail to markedly influence *behaviors* and *intentions* related to sexual wellness (Sawhill 16; Realini et. al, 315).

Peer-to-peer education programs seek to mitigate the aforementioned issues that make abstinence-only programs less effective by exploiting existing social dynamics in schools (Layzer, Rosapep, and Barr 515). Peer-to-peer education programs are programs that empower peers to educate other students, and rely on peer-to-peer networks to convey sexual wellness information (Layzer, Rosapep, and Barr 516). Proponents of peer-to-peer sexual education programs argue that schools provide an environment through which youth can actively and effectively broaden their knowledge of sexual wellness (Maxwell 268).

The Teen Prevention Education Program (Teen PEP) is a peer-to-peer education program where 11th and 12-grade students in North Carolina engage in a rigorous sexual education training program prior to conducting interactive sexual wellness workshops with 9th graders (Layzer, Rosapep, and Barr 516-518). In North Carolina, the Youth Risk Behavior Surveillance System (YRBSS) found that in 2011 alone, roughly 36% of 9th graders reported that they engaged in sexual intercourse along with 64% of 12th graders ("Youth online: High school YRBS."). Following the passage of the Healthy Youth Act (HYA) in 2009 in North Carolina (North Carolina General Assembly, Session Law 2009-213), which mandates that schools implement more comprehensive sexual education, school districts had the opportunity to evaluate the success of different programs like Teen PEP (Layzer, Rosapep, and Barr 514). Teen PEP, along with other peer-to-peer education programs, strives to harness the robustness of in-school dynamics while empowering students to adopt valuable lessons on leadership (Layzer,

Rosapep, and Barr 514). Teen PEP is based in social learning theory,[1] the health belief model,[2] and the principles of positive youth development (Layzer, Rosapep, and Barr 514).[3] Supported by this complex of psychological approaches, Teen PEP purportedly develops a cohort of both staff and students that facilitates a positive shift in the school environment toward increased knowledge of and proactive adherence to sexual health strategies (Layzer, Rosapep, and Barr 514).

Teen PEP, like many other peer-to-peer education programs, relies largely on social dynamics within schools to make its program more effective. But, this key tenet of the success of some peer-to-peer programs has been the pitfall of others. Peer education programs implemented in notably at-risk communities, such as young Black men who also have sex with men, have similarly relied heavily on pre-existing community dynamics to amplify the success of these programs (Fields, Hussen, and Malebranche 4). But, certain community dynamics may present challenges that complicate the success of these peer-to-peer education programs (Fields, Hussen, and Malebranche 4). For example, among young Black men who have sex with men (YBMSM), national surveys have found that members of this demographic are wary of sharing information with peers as they fear judgment and potential disclosure of their sexual behaviors to their families (Peterson and Jones, 976). Concerns surrounding the viability of peer-to-peer education among members of vulnerable groups like YBMSM is amplified by consistent reports of low

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[1] *Social learning theory*, originally put forward by Albert Bandura, postulates that social learning occurs through observations and largely within a social context (Bandura, 1977). Ultimately, this theory has frequently served as the basis for many peer-to-peer sexual education programs, as knowledge development is believed to emerge when students in the programs observe interactions between the peer educators.

[2] *The health belief model* has consistently been applied to understand incentives, information behavior, and likelihood of engagement in health-related activities (Strecher and Rosenstock, 1997). This model, proposed in 1997 by Victor Strecher and Irwin Rosenstock, is frequently employed in the creation of peer-to-peer models to assess the degree to which a program's structure would effectively modulate health behaviors based on triggers.

[3] *The principles of positive youth development*, defined by the National Research Council in 2002, approaches youth development holistically using four overarching themes: physical development, intellectual development, psychological and emotional development, and social development (National Research Council, 2002). Peer-to-peer programs most often apply these four themes to assess how they can reflect them in curricula or supplementary, interactive activities.

levels of perceived risk of acquiring sexually transmitted infections like HIV among this group ("Unrecognized HIV infection"). The confluence of pre-existing concerns around peer-to-peer information sharing - coupled with low levels of perceived repercussions to unprotected sexual behavior ("Unrecognized HIV infection") - make peer-to-peer educational programs less viable among groups that, arguably, need comprehensive sexual health information the most.

Though some peer-to-peer education programs have found success in certain school environments, administrators of these programs have yet to devise means of effectively negating deep-seeded social barriers that pervade some community dynamics (Layzer, Rosapep, and Barr, 521). Additionally, more successful programs like Teen PEP have only minimally influenced subsequent behaviors among participants toward condom use and overall frequency of unprotected sex (Layzer, Rosapep, and Barr, 521). Though Teen PEP peer educators and participants both largely found that the program empowered them to seek more information, the program did not strengthen communication channels between participants and their teachers or parents when it came to sexual wellness (Layzer, Rosapep, and Barr, 519). Overall, both peer educators and participants *did* report a change in emphasis in the workshops away from the previous theme of simply abstaining from sexual activity (Layzer, Rosapep, and Barr, 519). But, a curriculum that encompasses comprehensive, interactive sexual health information is reproducible in a classroom environment and was not *necessarily* rendered more effective because of the medium through which it was conveyed.

In contrast with peer-education programs, abstinence-plus initiatives not only implement comprehensive sexual health curricula among select members of the student body - they integrate an enhanced curriculum with the *entire school environment*. Though they share a similar name, abstinence-plus education stands in stark contrast to abstinence-only education.

Abstinence-only programs advance the idea that abstinence is the only practical option for youth (Kay 14). While these programs may also include information on condoms and contraception, they typically focus on the detriments of these options by centralizing the discussion on failure rates (Kay 14). Abstinence-plus programs, conversely, do objectively present condom use and contraceptives in a medically accurate manner (Underhill, Operario, and Montgomery). They also encourage contraceptive and condom use among teens who are sexually active (Realini et. al, 314). But, they still promote the idea that abstinence is the preferred option for youth (Realini et. al, 314).

Studies on abstinence-plus programs have consistently demonstrated that these initiatives do not make sexual activity more likely or spur earlier engagement in sexual activity (Realini et. al, 315). Some programs have effectively deferred sexual activity and reduced the number of sexual partners (Realini et. al, 315). The program *Big Decisions*, which encourages abstinence in conjunction with condom and contraceptive use, was introduced to four Southwestern inner-city high schools to evaluate its effectiveness as influencing behaviors and attitudes toward sex (Realini et. al, 317). *Big Decisions* includes 10 sessions that collectively emphasize abstinence as the ideal option for teens (Realini et. al, 316). The emphasis on abstinence is paired with medically-accurate information about condom and contraceptive use (Realini et. al, 315). The program sought to prevent teen pregnancy and STDs through consistent promotion of abstinence *complemented* with accurate information on condoms and contraceptives (Kohler, Manhart, and Lafferty 345). The program sessions are interactive and inexpensive, and the information can be purveyed by trained peer educators or teachers (Realini et. al, 316). *Big Decisions* also offers a program for parents which includes guided lessons on how to communicate effectively with children about STDs and pregnancy (Realini et. al, 316).

The creators of the *Big Decisions* program espouse the idea that a respectful, culturally-sensitive environment is essential to the success of any sexual education program (Realini et. al, 316). Pursuant to this belief, the curricula demonstrates sexual decision making through thoughtful examples of loving, mutually-respectful relationships (Realini et. al, 316). The *Big Decisions* program also displays loving relationships across cultures as well as in the context of participants' personal aspirations in life (Realini et. al, 316). The program acknowledges "the presence of a sexually saturated environment, partner influence, and peer pressure", making it more realistic and applicable to participants' daily lives (Realini et. al, 316). It encourages participants to clarify their personal limits and understand how the risks of STDs and teen pregnancy can impede personal goals established at the start of the program (Realini et. al, 316). Further, the sessions focus on teaching youth how to confidently refuse pressures to have sex from external of interpersonal influences (Realini et. al, 316). Most importantly, the curriculum does not belittle or demonize teens who are already sexually active or teens who are in the LGBTQ+ community (Realini et. al, 316).

This program put faith in participants to learn as a collective; based on the Theory of Reasoned Action[4] and the Theory of Planned Behavior,[5] the program was grounded in the belief that humans are fundamentally reasonable and will systematically employ the constellation of information they have access to when making decisions (Realini et. al, 317). Among the 788 9th-grade participants in the program, the majority of which were Hispanic and low-income, attitudes and understanding of sexual wellness determinants (like knowledge of abstinence,

[4] *The Theory of Reasoned Action*, advanced by Fishbein and Azjen in 1975, is comprised of two sets of variables. The first collection of variables includes the attitudes with either positive or negative connotations based on how they relate to the achievement of a goal (Madden, Ellen, and Ajzen, 1992). The second set includes *subjective norms*, which are abstract portrayals of how an individual perceives the likelihood of reaching these stated goals (Madden, Ellen, and Ajzen, 1992).

[5] The Theory of Planned Behavior builds upon The Theory of Reasoned Action. As put forward by Icek Ajzen in 1991, an individual's intentions to perform a behavior can be accurately predicted using subjective norms and their attitudes toward the behavior in question (Ajzen, 179).

condom use, and refusal of sex) significantly improved (Realini et. al, 319-321). Notably, significantly more participants reported higher degrees of self-efficacy in relation to clear communication with sexual partners about condom use and contraceptives (Realini et. al, 319).

TABLE 3. Comparison of Pre- and Posttest Results, by Gender

	Female (n = 364)				Male (n = 405)				Female vs. Male (n = 769)	
	M				M					
Constructs	Pretest	Posttest	SD	Pretest–Posttest M Differences	Pretest	Posttest	SD	Pretest–Posttest M Differences	Pretest M Difference	Posttest M Difference
Attitudes										
Teen abstinence	3.32	3.56	0.73	.24**	2.80	3.17	0.89	.37**	.52**	.38**
STD impact	1.38	1.26	0.96	−.12**	1.47	1.34	1.10	−.13*	−.09	−.08
STD testing	3.63	3.71	0.66	.08*	3.40	3.62	0.86	.22**	.23**	.08*
Sexual pressure	1.32	1.20	0.78	−.12**	1.61	1.46	0.82	−.15**	−.29**	−.26**
Condom effectiveness	2.62	2.78	1.16	.16**	2.82	2.79	1.03	−.03	−.19**	−.03
Dual use	3.60	3.68	0.74	.08*	3.47	3.57	0.82	.10*	.14**	.12**
Contraceptive effectiveness	3.00	3.12	0.90	.12*	3.01	3.13	0.95	.12**	−.01	−.01
Behavioral intentions										
Pregnancy avoidance	3.72	3.78	0.74	.06	3.42	3.55	0.99	.13**	.30**	.24**
STDs avoidance	3.54	3.55	0.89	.01	3.09	3.22	1.07	.13*	.45**	.33**
Abstinence	3.27	3.38	0.81	.11**	2.68	2.87	0.88	.19**	.60**	.51**
Self-efficacy										
Refusal of sex	3.56	3.64	0.78	.08*	2.97	3.19	0.90	.22**	.59**	.45**
Condom use	3.69	3.79	0.64	.10**	3.53	3.65	0.82	.12**	.16**	.13**

Note. "STD impact" and "sexual pressure" were scored inversely (i.e., lower scores reflect disagreement with the statements and are the desired response).
*$p \leq .05$. **$p \leq .01$ (two tailed).

Figure 1. Displays the 12 items - grouped within the categories *attitudes, behavioral intentions, and self-efficacy* - evaluated during the pre and post-program tests. (Realini et. al, 321)

Despite generally positive observed differences in pre and post-program attitudes, there were notable differences when the gender of participants was considered (Realini et. al, 319-320). Across post-test scores, males improved significantly for 11 of the 12 items considered, as shown in **Figure 1** (Realini et. al, 322). But, overall recognition of condom effectiveness marginally decreased following the program among this group (Realini et. al, 322. Among female participants, there was significant improvement for 10 of the 12 items shown in **Figure 1** (Realini et. al, 322). However, intentions to avoid pregnancy and STDs were unchanged following engagement in the program (Realini et. al, 322). Overall, *Big Decisions* induced positive change in attitudes toward abstinence, condoms, contraception, sexual pressure,

and STDs as well as intentions toward abstinence, pregnancy, and STDs. The statistically insignificant effects on condom effectiveness among male participants, however, is worrisome and warrants further emphasis and re-evaluation in future programs.

Ultimately, abstinence-plus programs attenuate the social and environmental variables that presented complications in both peer-to-peer and abstinence-only programs. Abstinence-plus programs effectively worked within existing school dynamics. But, unlike peer-to-peer education programs, abstinence-plus initiatives like *Big Decisions* did not rely on these social networks to increase the efficacy of the program. Further, the curricula expanded beyond the confines of the classroom and directly engaged any guardians in a child's life (Realini et. al, 316). In contrast with abstinence-only programs, abstinence-plus curricula aim to empower youth by encouraging them to consider sexual wellness in the contexts of their own lives. In doing so, it provided a well-rounded curricula that showcased healthy relationships, the merits of abstinence, condom-use, and contraceptives, and the core components of clear communication with sexual partners.

Sexual education demonstrably has a significant influence on young students' future sexual health and behavior. From abstinence-only programs, to peer-education programs, to comprehensive abstinence-plus programs, schools have many options to choose from when implementing sexual education initiatives. Among the options discussed, comprehensive abstinence-plus programs proved most effective at delaying the onset of sexual activity and raising awareness about the value of communication in healthy relationships, condom use, and strategies to prevent STDs and pregnancy. Most importantly, however, participants in these programs felt empowered to clarify their own sexual boundaries and intentions with sexual

partners. This shift toward heightened self-efficacy following the program is a strong indicator of sexual confidence and wellness in future relationships and sexual activity.

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