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Julianne Baker
Johns Hopkins University

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What Is "Safe Sex"? Understanding the Need for Sex Education Reform

Abstract

Currently, the United States has no standardized requirement for sex education. This has precipitated a large gap in knowledge about safe sex and a lack of consensus in current social and educational policy. Debates about abstinence-only and comprehensive sex education have reached a standstill. In an effort to advance the discussion, this paper reveals that the neuroscience behind adolescent sexual risk taking provides underutilized evidence for comprehensive sex education programs. Research shows that adolescents have biological differences in their brain structure that result in a decision-making process different from that of adults, one that can preference rash decisions and potentially unsafe behavior. Therefore, current approaches to social and education policy for teens should change, to reflect this research and in-school curricula should evolve to more effectively reduce rates of unsafe sexual behaviors. Funding for such programs would more than pay for themselves with the resulting decrease in teen pregnancy and sexually transmitted diseases.

Keywords

Education Policy, Sex Education, United States

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Abstract: Currently, the United States has no standardized requirement for sex education. This has precipitated a large gap in knowledge about safe sex and a lack of consensus in current social and educational policy. Debates about abstinence-only and comprehensive sex education have reached a standstill. In an effort to advance the discussion, this paper reveals that the neuroscience behind adolescent sexual risk taking provides underutilized evidence for comprehensive sex education programs. Research shows that adolescents have biological differences in their brain structure that result in a decision-making process different from that of adults, one that can preference rash decisions and potentially unsafe behavior. Therefore, current approaches to social and education policy for teens should change to reflect this research and in-school curricula should evolve to reduce rates of unsafe sexual behaviors more effectively. Funding for such programs would more than pay for themselves with the resulting decrease in teen pregnancy and sexually transmitted diseases.

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Introduction

Currently, the United States has no standardized requirement for sex education. This precipitates a large gap in knowledge about safe sex where “adolescents, aged 15-24, represent 25% of the sexually active population” but represent “nearly 50% of the 18.9 million newly diagnosed sexually transmitted infection cases each year” (Suleiman and Brindis 2014). This disparity results in a national gradient, with abstinence-only and comprehensive sex education on opposing sides. On one hand, lawmakers, activists, and students push school boards and courts to pass legislation that supports both local and national standards for comprehensive sex education. In tandem, socially conservative advocacy groups and many parents take major issue with these proposed reforms (Richardson 2018). However, both sides fail to incorporate the strong quantitative data that already exists when discussing the merits of their program. Specifically, scientists have researched the topic of the adolescent brain in decision-making for decades. The lack of scientific evidence utilized currently represents a disconnect between sex education research and the average American understanding of this data. Sex education is currently determined on a state or district basis, allowing parents greater influence. This not only begs the question of parental rights in this environment, but also represents a major flaw in the ongoing debate. The overrepresentation of parental influence, in turn, obscures the deficiency of scientific evidence in the conversation. For many parents, the topic of the sex education of their children is emotional. This allows other issues that are unrelated to risk to enter the

conversation. It is necessary to examine some of these other arguments to understand how they are currently undermining the scientific data. Ultimately, to effectively educate and protect adolescents, we must consider the scientific data over the influence of parental pressure. Current neuroscience research reveals that “the interaction between developmental factors [...] in sexual decision-making points to a need to better integrate these components into sex education” (Suleiman and Brindis 2014). Thus, sex education programs that understand and utilize this information will most effectively minimize this risk for teens.

Current State of Affairs

The most prevalent sex education approach in current schools is abstinence. These kinds of programs are largely backed by parents who claim that “sex education [...] has become graphic, hedonistic and ideological” (Richardson 2018). In an effort to combat this, parents are taking matters into their own hands. *The Washington Times* reports a “sex ed sit out” where parents pulled their kids out of school on April 23, 2018 to protest progressive sex education. Not only is this a national initiative, but activists claim that the sit out functioned on a global scale. The parents were specifically upset about Planned Parenthood’s “Get Real” program that addresses topics, “such as female and male anatomy, puberty and sexually transmitted diseases, but also offers lessons on ‘sexual identity’ and ‘gender, sex and shared responsibility’” (Richardson 2018). However, with the pressure from progressive sex education groups, abstinence-only

supporters are taking increased measures to ensure the survival of their programs. Activist and mother Elizabeth Johnston says, “most parents do not know this is taking place in schools” and “bureaucrats are using deceptive means of not informing them what is being taught” (Richardson 2018). Therefore, many parents, like Johnston, feel the urgency to ensure the continuation of traditional abstinence-only sex education. Through protests, sit outs, and community activism, supporters of abstinence-only sex education are curbing the growth of more inclusive sex education programs.

In opposition, comprehensive sex education advocates for the revision of abstinence-only sex education. Although what “comprehensive” means has not been clearly established, most proponents agree that sex education should be medically accurate and evidence-based (“Abstinence Education” 2018). Many institutions are looking for a more progressive and inclusive option to abstinence-only sex education. Colorado is one state that increasingly pushes these boundaries. The main goal of new legislation would be to ban abstinence-only education. Many students testified in support of this bill, describing how “representatives warned students that simply holding hands or hugging would lead to sex, diseases and failed relationships” (Levin 2019). Supporters of the bill reference studies showing that abstinence-only education ultimately negatively impacts adolescents compared to comprehensive sex education (Levin 2019). Scientific evidence such as this inspires proponents to speak out and push for better programs. In a society where “almost 17% of the newly diagnosed HIV/AIDS cases [...] were among youth between

the ages of 13-24 years old,” current programs are not doing enough to effectively educate adolescents (Suleiman and Brindis 2014). Supporters of comprehensive programs hope that by giving adolescents more information and communicating in more productive ways, they will be able to prevent some of these unsafe sexual behaviors.

Many studies have “shown that abstinence-only education increases rates of teenage pregnancy and sexually transmitted diseases, while comprehensive sex education lowers such risks” (Levin 2019). However, the debate about sex education reform remains ongoing. Both abstinence-only and comprehensive sex education supporters strongly believe in the benefits of their programs. Abstinence-only supporters fight against the increasingly graphic and over-sexualized nature of comprehensive sex education programs. In contrast, comprehensive sex education supporters claim that abstinence-only sex education is not medically accurate and, as a result, unsafe. Represented by the lack of consensus in current public policy, neither side seems to be enacting change. Therefore, we first turn to look at the readily available scientific evidence. It has long been known that adolescents engage in riskier behaviors and that these behaviors are grounded in underlying biological mechanisms. Evidence suggests that this translates specifically to sexual decision-making. This paper will examine the merits of this data and how it applies to the topic of sex education. Once we understand how the different factors are relevant to the conversation, then we can begin

to create programs that focus on the most significant aspects in designing effective curricula.

The Science of Decision-Making

Many neurological studies have connected the adolescent brain to increased risk-taking behavior. This is characterized by increased neural plasticity, “a process through which thinking and learning transform the brain’s physical structure and functional organization” (Suleiman and Brindis 2014). This allows the brain to become extremely susceptible to reward-seeking behavior, including in sexual situations. Concurrently, it also makes adolescence the primary time to learn how to confront these situations. Scientist Ahna Suleiman and Doctor Claire Brindis’s 2014 article in *Sexuality Research and Social Policy: Journal of NSRC* describes the biological foundations behind adolescent behavior. The differences are found in the “maturation of the lateral prefrontal cortex and the parietal cortex, both integral to managing impulse control” (Suleiman and Brindis 2014). As compared to adults, adolescents have reduced impulse control which is just one factor that contributes to their sexual risk-taking. Dr. Linda Patia Spear, a Doctor of Psychology at Binghamton University, published a scientific review article, *Adolescent Neurodevelopment*, in the “Journal of Adolescent Health” in 2013 that came to many of these same research conclusions. Spear (2013) along with Suleiman and Brindis (2014) also identified how different aspects of the limbic system contribute to the emotional development of adolescents. Spear (2013) discusses the delayed development of

the prefrontal cortex and a desensitized ventral striatum, both of which contribute to the gap between adolescent and adult behavior. This physical deviation of brain development from that of adults is the foundation for the thought process underlying most adolescent risk-taking behaviors.

This difference most clearly manifests itself when growing adolescent brains are involved in turbulent situations. Like Suleiman and Brindis (2014), Spear (2013) agrees that rational decision making “can be reduced under stressful, emotionally charged, and arousing circumstances [...] a phenomenon called hot cognitions.” Adolescents use a “slower decision-making process” when they find themselves in new sexual situations (Suleiman and Brindis 2014). However, many of these situations require quick and immediate responses, preventing adolescents from a more deliberative thought process. Situations that promote these “hot cognitions” often lead “an adolescent [to] weight short-term immediate outcomes more significantly than longer-term outcomes, resulting in increased risk taking” (Suleiman and Brindis 2014). A lack of knowledge about trust and intimacy, reinforced by poor sex education programs, proliferates these potentially unsafe behaviors. Therefore, programs that can use this information to “[increase] experience making sexual decisions, including setting boundaries, refusing sex, and refusing to have sex without protection” will most efficiently prepare teenagers to make less risky decisions (Suleiman and Brindis 2014). This kind of comprehensive education will manifest itself most clearly as these adolescents grow into adults and engage in more sexual experiences. Effective education programs

will contain components that target this thought process and prepare adolescents.

The compelling scientific data accounts for much of adolescent sexual risk-taking. However, abstinence-only education does not currently correlate with the need to prepare adolescents for encountering these risky sexual situations. Therefore, it seems that sex education needs to change. Perhaps a total revision to comprehensive sex education seems ambitious; however, the traditional metaphors and warnings of premarital sex prove ultimately more harmful than productive. Not giving adolescents all the available knowledge and resources does not prevent them from being in these situations. Rather, when they are in these new sexual situations, they find themselves ignorant and therefore feel pressured to take greater risks. By understanding how adolescents make decisions, states can begin to create sex education programs that will minimize risk as much as possible. Suleiman and Brindis (2014) effectively claim that “the current theoretical foundation of many [sex education] curricula asserts that sexual decision making is primarily a rational, deliberative process.” We now understand that this assumption deviates from current scientific evidence about the adolescent brain. The least safe sexual behaviors stem from unpredictable and stressful situations. Moreover, most sex education programs do not understand that adolescents “need better supports to make decisions when they find themselves making decisions in highly affectively charged, peer influenced sexual situations” (Suleiman and Brindis 2014). With these kinds of supports, adolescents will become

more adept at improving their reactions when facing situations that exacerbate their “hot cognitions.” Programs that can address what to do in these kinds of situations will be the most productive. Creating an atmosphere of free communication instead of embarrassment and silence will allow adolescents to feel more comfortable discussing these experiences and this will ultimately facilitate the safest sexual behaviors going forward.

Undermining the Science

The Adolescent Voice

Even though the scientific evidence remains convincing, the issue of the sexual education of adolescents is an emotionally charged one for most parents, perpetuating the sex education debate. Many fear the exploitation of their children’s youth and innocence. However, one thing that most of these parents do not consider is how their children feel about their own sex education. Adolescents know best what kinds of sexual situations they will face and, therefore, what kind of guidance they may need. A 2019 CNN article describes the story of Abigail McElroy, a Pennsylvania teenager, who successfully ended abstinence-only sex education in her high school. Abigail describes the common feeling of misrepresentation in current sex education, where organizations are “resort[ing] to scare tactics” (McElroy 2018). Instead of learning about the adolescent body and safe sex situations, she learned that “sex would ruin us for our future spouses [...] because, didn’t you hear, hand-holding and kissing are

simply stepping-stones to sex” (McElroy 2018). But Abigail is not alone in this struggle. She represents a large portion of American adolescents concerned about the inadequacy of current programs. A series of national surveys by The Kaiser Foundation found that “approximately half of students in grades 7-12 report needing more information” about different sexual situations outside of abstinence (Dailard 2016). Many high school students appeared and testified in support of Colorado’s new comprehensive sex education legislation to “mandate teachings about safe sex, consent and sexual orientation” (Levin 2019). For Abigail, the superintendent eventually made the necessary changes to her high school’s sex education program that “would ensure that teenagers know that healthy relationships are built on communication and consent, choice and confidence” (McElroy 2018). This highlights the importance of the adolescent voice in this debate. From Pennsylvania to Colorado, teenagers feel uninformed. Considering this conversation directly affects their wellbeing going forward, the perspective of all adolescents should be critical in this debate.

LGBTQ Community

One specific group of adolescents largely excluded from this current conversation and by abstinence programs is the LGBTQ community. Currently, “just 5 percent of LGBTQ students [report] having health classes that [include] positive representations of LGBTQ-related topics” (Sager 2017). Unfortunately, this is not surprising given the prevalence of abstinence-only programs which

are largely exclusive. Not only do most current sex education programs leave out LGBTQ topics, but “seven states [actually] prohibit teachers - under penalty of law - from acknowledging the existence of LGBTQ people other than in the context of HIV or to condemn homosexuality” (Barrica 2019). This not only reinforces dangerous sexual behavior due to ignorance, but also creates confusion about sexual identity and promotes an atmosphere of hostility. When adolescents are uneducated about how to safely interact with sexual experiences, they begin to have false beliefs about their identity and desires. For LGBTQ students facing such stressors, this can result in “increased risk for depression, substance use, and sexual behaviors that place them at risk for HIV and other sexually transmitted disease[s]” (Sager 2017). When current programs put students at risk for mental health and other healthcare complications, they are not safeguarding adolescents. Comprehensive sex education programs contribute to more inclusive environments that result in increased acceptance and less bullying behavior. If the goal of sex education programs is to reduce harm, it should include all adolescents. This will most feasibly occur through a national effort to expand comprehensive sex education.

Academic Responsibilities

These discrepancies in sex education cause some parents to argue that sex education is not an academic responsibility, but a domestic one. Opponents to comprehensive sex education legislation allege “that sex education should be taught at home, and [claim] that

children removed from the lessons would be bullied” (Levin 2019). In theory, this could work if parents are well-versed on topics such as anatomy, sexually transmitted diseases, and consent and are comfortable discussing such topics. In reality, “most parents can’t or don’t provide such guidance” (Barrica 2019). Not only that, but many adolescents feel uncomfortable discussing such topics with their parents. This perpetuates a cycle where “because our parents weren’t able to talk with us about it, we’re unable to talk with our kids” (Barrica 2019). While a little over 40% of adolescents have had sex before graduating high school, most do not receive necessary instruction on contraception, diseases, or intimacy (Youth Risk 2016). The combination of inadequate domestic and academic sex education has serious repercussions. This most likely explains “why one in four American women will become pregnant by the time they turn 20” (Barrica 2019). Even more concerning, “only 41 percent of American women [describe] their first sexual experience as wanted” (Barrica 2019). With the trend of sexual misconduct so prevalent in current society, it seems that at-home sex education, as well as in-school sex education, falls behind in effectively educating adolescents. By not informing today’s adolescents, society “allows predators to set the narrative. They count on the culture of silence and the sense of shame” (Barrica 2019). Colorado state representative, Susan Lontine says, “the sooner we talk to kids about what consent looks like, the sooner I hope a tide will turn so we’re no longer hearing stories of people being harmed” (Levin 2019). This affirms the need for a baseline criteria for sex education and, more specifically, one that educates

adolescents on these topics with respect to their peers. Realistically, a national comprehensive sex education curriculum could accomplish this most efficiently. Instead of portraying sex as scandalous, the importance of sex education programs lies in promoting a candid and accepting atmosphere.

Religious Rights to Opt Out

One of the most extensive communities where this open atmosphere is replaced with abstinence-only education is those who believe in a right to opt out due to religious beliefs. Many abstinence-only supporters see comprehensive programs as promoting the use of contraception in opposition to abstinence. However, a study done by the Drexel University College of Medicine in 2009 *Reproductive Health* found that “conservative religious beliefs predict[ed] teen birth rates highly and significantly” (Strayhorn and Strayhorn 2009). Most significantly, the author proposes that this trend results “by discouraging contraception without successfully discouraging sexual intercourse” (Strayhorn and Strayhorn 2009). Even though some teenagers do support an abstinence-approach, data show that many of them are having sex anyways. Across the political and religious spectrum, teen pregnancy is seen as detrimental. From underachieving academically to “worse physical health” and “almost three times more likely to be incarcerated during adolescence,” teen mothers fare far worse than the average adolescent (Strayhorn and Strayhorn and Strayhorn 2009). While many studies have shown that abstinence-only programs are unsuccessful at reducing teen

pregnancies, limiting knowledge and access to contraception makes this situation even more dangerous. Research shows “that teaching about contraception is generally not associated with increased risk of adolescent sexual activity or sexually transmitted diseases” (Stanger-Hall 2011). Therefore, education about contraception use is necessary for every adolescent facing sexual situations. Keeping adolescents ignorant about protection and safe sex “isn’t ideological; it’s negligent” (Barrica 2019). Without such programs, there are very real consequences that are yielding high teen pregnancy rates. Ultimately, this affects all of society, not just the individual.

Economic Influences

Teen pregnancy becomes a relevant issue for more than just parents and activists when “teen child-bearing...in the U.S. cost taxpayers [...] more than \$9.1 billion in 2004” (Stanger-Hall 2011). A 2005 study in PLoS One Journal by scientists at The University of Georgia about pregnancy rates and their correlation with varying levels of abstinence-only programs found that “the level of abstinence education [...] was positively correlated with both teen pregnancy and teen birth, indicating that abstinence education in the U.S. does not cause abstinence behavior” (Stanger-Hall 2011). The study found that states that stress abstinence had the highest rates of teen pregnancies in “girls aged 14-19” (Stanger-Hall 2011). The lowest rates of teen pregnancy were found in states that included “abstinence for school-aged teens as part of a comprehensive sex or HIV/STD education curriculum” (Stanger-Hall 2011). Both of these results

were statistically significant. Additionally, the authors found correlations between socioeconomic status and ethnic composition and teen pregnancy. However, out of all these factors, the authors concluded that sex education was the most important factor to explain why the “U.S. teen pregnancy rate is substantially higher than seen in other developed countries despite similar cultural and socioeconomic patterns in teen pregnancy rates” (Stanger-Hall 2011). The connection between many other developed countries with comprehensive sex education programs and decreased teen pregnancy rates is a powerful example for how comprehensive sex education legislation could benefit the United States. This could directly translate to better life outcomes for these teenagers. This also reinforces the importance of sex education as a national conversation. Overall, these results imply that comprehensive sex education programs are better at preventing unplanned pregnancy and promoting safer sexual behaviors than current abstinence-only programs.

Comprehensive sex education may reduce rates of teen pregnancy, but the principal issue remaining is whether it would be financially feasible. Current government funding for sex education programs focuses largely on abstinence-only programs. While the Obama administration made strides for more comprehensive sex education, “the Trump administration [...] has reversed course, cutting more than \$200 million in funding” (Barrica 2019). Just this year, government funding for abstinence-only programs reached \$110 million, the highest it’s been in the last decade (“VERMONT - Sיעus.org” n.d.). However, based on previous research studies, there

is not a correlation between abstinence programs and abstinence behaviors. As a result, taxpayers are spending billions of dollars on teen pregnancies each year. Additionally, “the estimated cost to the US health care system from [...] new [adolescent sexually transmitted] infections is \$16 billion annually” (“Sexually Transmitted Diseases” n.d.). If comprehensive sex education programs can effectively reduce the risk of STDs and teen pregnancy, then the overall financial benefits may outweigh the initial funding. Vermont represents one state that exemplifies the financial success of such programs. Starting in 2014, the statewide legislation made moves towards comprehensive sex education programs in all schools (“Sexual Health” n.d.). While the national teen pregnancy rate is declining, Vermont’s rate is still markedly reduced compared to many other states. From 2011 to 2016, with the implementation of such programs, Vermont’s teen birth rate was reduced by 45.79% (“Vermont Data: Power to Decide” n.d.; “Births: Final Data for 2015 - Cdc.gov.” n.d.).

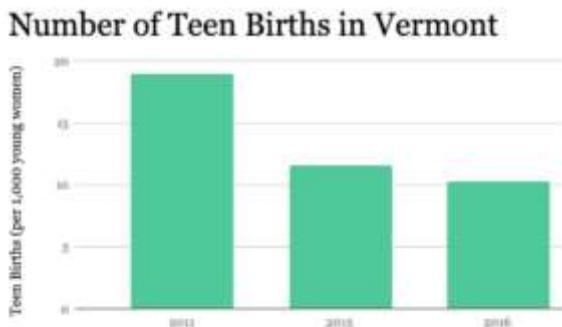


Figure 1: Number of Teen Births in Vermont from 2011 to 2016

With one of the lowest teen pregnancy rates in the country, 92.8% of high school students in Vermont reported using contraception during sex in 2017. Due to the decline in teen birth rate, taxpayers saved an estimated \$7 million dollars by 2015 (“Vermont Data: Power to Decide” n.d.). To enact similar programs on a national scale might contribute a significant financial difference for American taxpayers. If every state similarly reduces their rates of teen pregnancy, this could result in millions of savings. Comprehensive sex education programs financially justify themselves by producing these kinds of results. The financial and educational consequences are so powerful, comprehensive programs should be enacted immediately.

Conclusion

All of this evidence encourages the evolution of current sex education programs. Standardization of such programs will necessarily ensure that the most accurate and recent information is taught. This will inevitably limit parental influence in the education of their children. However, when understood, the scientific evidence establishes the idea that comprehensive sex education and, specifically how it is delivered, reduces adolescent risk-taking. With the cost-effective nature of such comprehensive programs, immediate steps forward are crucial. Once lawmakers, activists, and parents come to understand these notions, it will be easier to agree upon a standardized sex education program. This will rely on a standard of evidence-based and medically accurate information that ensures that

the education of adolescents will reliably transfer to real-world application. By utilizing adolescent sexual research, social policy can evolve to the greatest benefit of adolescents.

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