

RESEARCH



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Substance Use and Sexual Risk Taking in Adolescence

by Karen Schantz

Sexual exploration is a normal and typically healthy part of adolescent development. However, certain behaviors increase the likelihood of unwanted outcomes such as pregnancy or sexually transmitted disease (STD). Researchers have long been interested in describing the relationship between substance use, also fairly common in adolescence, and sexual risk taking -- a relationship that appears to be complex and not always as we might expect. This article outlines what research has to say about connections between substance use and sexual risk taking among adolescents (primarily middle and high school aged youth), and describes how adults can promote healthier environments for growing up.



Risk taking in adolescence

Adolescence: A time for taking chances

Risk taking is common and expected in adolescence. Across the lifespan, adolescence is the time of greatest risk taking (Chick & Reyna, 2012). While understanding or even over-estimating the likelihood that an action will result in harm, adolescents may place higher value on the benefits that might come from taking a particular risk. Adolescents are more responsive to the rewards of risk (such as peer approval), may be less sensitive to feeling the ill effects of substance use (such as hangovers), and are still developing the capacities for judgment and self-control (Institute of Medicine [IOM] & National Research Council [NRC], 2011).

Context matters in decision making. A teen who drives recklessly with a group of joyriding friends may decide to be more careful when with friends who disapprove of unsafe driving, in part because youth are highly sensitive to their image among peers. Our sense of danger is also dependent on contextual cues, and can vary based on associations and memories that are triggered by a given situation. If the context does not prompt us to think of our principles and values, for example, we will not necessarily apply them to decisions (IOM & NRC, 2011).



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Risk plays a role in development

Taking risks does not always lead to adverse outcomes (Brookmeyer & Henrich, 2009; Willoughby et al., 2007). Some level of risk taking benefits us developmentally. As B. Bradford Brown has pointed out, certain tasks of adolescence -- exploring and establishing identity, social standing, and romantic relationships -- *require* young people to take risks (IOM & NRC, 2011). In this sense, risk taking can lead to real benefits, such as a secure sense of self, true friendships, and love. Risk may also help adolescents become more resilient: by facing challenges, youth learn to call on their own strengths and mobilize the resources available to them (Fergus & Zimmerman, 2005).

Negative consequences affect some youth more than others

While risk taking can be seen as a necessary driver of adolescent development, its hazards are plain. Morbidity and mortality in youth are related primarily to risk behaviors rather than to disease (IOM & NRC, 2011). Some youth may be especially vulnerable to the negative consequences of certain risks; for example, a genetic predisposition increases the likelihood that experimentation with drugs will result in addiction. Youth are more likely to engage in multiple risk behaviors when they experience multiple risk factors (conditions that may lead to negative outcomes) without compensating resources, or protective factors (DuRant, Smith, Kreiter, & Krowchuck, 1999; Fergus & Zimmerman, 2005). For example, a young person who lives in a violent neighborhood and attends a school that fails to engage him will be more likely to become involved in certain dangerous behaviors -- unless he has the resources, such as supportive parents and opportunities for learning and engagement outside of school, that protect against the risks he faces.

What constitutes “risky sexual behavior”?

While sexual behavior in adolescence can be risky, it is also a natural part of human development. In the U.S., young people usually initiate sex in their late teens: about 70% have had sexual intercourse by age 19; the average age of sexual debut is 17 (Guttmacher Institute, 2012). Certain sexual behaviors expose individuals to higher risk of pregnancy and/or STDs. For the purposes of this article, “risky sexual behavior” indicates one or more of the following:

- **Early initiation of sexual intercourse:** Sexual debut at a very young age increases the likelihood of involvement in other sexual risk behaviors (IOM & NRC, 2011). According to the 2011 Youth Risk Behavior Survey (YRBS), 6% of high school students in the U.S. reported having had sexual intercourse prior to age 13 (Centers for Disease Control and Prevention [CDC], 2012).
- **Vaginal, anal, or oral sex without a condom, or when a condom is used incorrectly:** Condoms are highly effective when used correctly, but many youth lack the knowledge and experience needed for effective use. Among respondents to the 2011 YRBS, 34% of students were currently sexually active, and 40% of these sexually active students did not use a condom at last intercourse (CDC, 2012).
- **Multiple sexual partners:** Together with inconsistent condom use, having multiple partners increases the likelihood of exposure to STDs and HIV (Floyd & Latimer, 2010). Having multiple sexual partners is also associated with other risky sexual behaviors and increased use of substances (Morrison-



Beedy, Carey, Crean, & Jones, 2011). According to the 2011 YRBS, 15% of students reported having had sex with four or more partners in their lifetime (CDC, 2012).

Although it is a contextual factor that cannot necessarily be changed, it is also worth noting that sexual involvement in **social networks with higher rates of STD/HIV infection** is a potent risk factor (Mustanski, Newcomb, Du Bois, Garcia, & Grov, 2011). When condoms are used inconsistently, incorrectly, or not at all, higher rates of infection within a network of potential partners will increase the likelihood of STD/HIV transmission.

Substance use and sexual risk taking: What's the connection?

While there are undoubtedly associations between substance use and sexual risk taking, research to date roughs out a picture that is complex and sometimes surprising. Our first thought might be that substance use *causes* sexual risk taking through intoxication: by impairing judgment, suppressing inhibition, reducing perception of risk, and/or heightening desire (Elkington, Bauermeister, & Zimmerman, 2010). Demonstrating causation is a difficult undertaking, however, and most studies are designed to look only for association between behaviors.

Mapping these associations is complicated by inconsistency among studies. Researchers define "risky sexual behavior" in different ways. Substances are treated differently as well: some researchers make broad statements about drug use based on studies of only one or two substances, while others describe considerable variation among risk behaviors and the type of drug used.

Our ability to see the complete picture is further hampered by the fact that many large scale studies are school-based, missing high-risk youth who have left school or attend sporadically; many studies are also limited by their focus on heterosexual behaviors. The research is suggestive; however, a full accounting of the relationship between sexual and substance risk behaviors cannot be discerned from the current literature.

Are adolescents combining sex and drugs?

The majority of sexually active students do not appear to be using substances when they have sex, but significant numbers of youth are combining sex and drugs. Among the 34% of high school students who are sexually active, 22% reported drinking or using drugs the last time they had sexual intercourse. White males combined sex and drugs/drinking at the highest rates (CDC, 2012). A large study of high school students in the Atlantic provinces of Canada found that among sexually active students nearly 38% had had unplanned anal or vaginal intercourse while using substances in the year before the survey (Poulin & Graham, 2001).

Is substance use linked with early sexual initiation?

Many studies have found that early age at first sex is associated with (though again, not necessarily causing or caused by) drug and/or alcohol use. Substances linked with early sexual initiation include alcohol, marijuana, and cocaine (Floyd & Latimer, 2010; Santelli et al., 2004; van Gelder, Reefhuis, Herron, Williams, & Roeleveld, 2011), methamphetamine (Springer, Peters, Shegog, White, & Kelder, 2007), and addictive substances generally, including cigarettes (Nkansah-Amankra, Diedhiou, Agbanu, Harrod, & Dhawan, 2011).



Studies showing this association have involved a range of young people, including middle school students (Floyd & Latimer, 2010; Santelli et al., 2004), high school students (Floyd & Latimer, 2010; Springer et al., 2007), and out-of-school youth (Turner, Latkin, Sonenstein, & Tandon, 2011). These studies appear to be fairly consistent; however, one study involving African American and Latino students found a link between early drinking and sexual initiation for girls but not for boys (Stueve & O'Donnell, 2005).

Is substance use linked with unprotected sex?

While it is easy to imagine that adolescents would be less likely to use condoms when under the influence of alcohol or marijuana, this has not been empirically demonstrated; studies are mixed (Hensel, Stupiansky, Orr, & Fortenberry, 2011). Although one study reviewed for this article showed a positive correlation between early drinking and unprotected sex (Stueve & O'Donnell, 2005), other research has failed to establish a link between unprotected sex and substance use (Floyd & Latimer, 2010; Hair, Park, Ling, & Moore, 2009; Hensel et al., 2011). Some researchers have demonstrated a link among certain populations but not others (Springer et al., 2007; van Gelder et al., 2011). In two studies, the substance itself made the difference (Howard & Wang, 2004; van Gelder et al., 2011). For example, van Gelder and colleagues found that among young males, using cocaine was associated with unprotected sex, but this effect was not shown among males using marijuana and injected drugs, or among females using any of the drugs studied.

Is substance use linked with multiple partners?

Although not all studies reviewed here found a correlation between substance use and multiple partners (Poulin & Graham, 2001), most did suggest an association. Drinking has been associated with multiple partners (Howard & Wang, 2004; Morrison-Beedy et al., 2011; Nkansah-Amankra et al., 2011; Stueve & O'Donnell, 2005), though not consistently (Floyd & Latimer, 2010). Other substances associated with multiple partners include marijuana (Floyd & Latimer, 2010; Howard & Wang, 2004; Morrison-Beedy et al., 2011; van Gelder et al., 2011), cocaine (van Gelder et al., 2011), and methamphetamine (Springer et al., 2007). Among out-of-school youth, those using substances tended to have a higher number of sexual partners than those who abstained from drugs and alcohol (Turner et al., 2011).

Why are substance use and sexual risk taking linked?

Researchers have suggested a range of reasons for the association between substance use and certain sexual risk behaviors. When drug use and sexual risk taking occur together, it may be that drug use suppresses inhibitions (Santelli et al., 2004). Some youth may believe that drugs (i.e., methamphetamine) increase sexual pleasure (Springer et al., 2007). Serious drug use may lead to poor cognition and judgment as well as distorted perception of risk (Nkhansah-Amankra et al., 2011).

By focusing entirely on an individual's decision to take drugs and/or to have sex, however, we miss essentials. Youth are more likely to become involved in many different risk behaviors when they experience a preponderance of risk factors without the counteracting forces of positive opportunities, relationships, and resources. While risk and protective factors may have differential effects on each sexual risk behavior (Hipwell, Stepp, Chung, Durand, & Keenan, 2012), and certain underlying factors may act more strongly on substance use than sexual risk (Jackson, Henderson, Frank, &



Haw, 2012; Peterson, Buser, & Westburg., 2010), some generalization is supported and useful:

- Supportive, connected families are associated with decreased sexual risk taking and the development of healthy relationships. Conversely, parental/family neglect, conflict, and substance use are associated with greater sexual risk as well as substance abuse (for study examples, see Elkington Bauermeister, & Zimmerman, 2011).
- Peers are highly influential. Sex and drug use may take place in similar settings and with peers who are inclined to risky behaviors. Peers can also be protective: when an adolescent's peers support protective behaviors, she or he is more likely to engage in these behaviors as well (Elkington et al., 2011; Ellickson, McCaffrey, & Klein, 2009; IOM & NRC, 2011). Research has not determined whether peers or parents have the greater influence regarding adolescent sexual behavior. Clearly, both are important.
- Poverty is associated with many risk behaviors (IOM & NRC, 2011).
- Neighborhood may play a role. Researchers have called for further study of the role of neighborhood factors in protecting against or increasing risk behaviors among adolescents (Elkington et al., 2011; Warner, Giordano, Manning, & Longmore, 2011).
- Substance use can be considered a risk factor for risky sexual behavior. Protective factors that prevent substance use (such as family attachment and involvement in school/community activities) may lead to lower levels of sexual risk behavior (Peterson et al., 2010).

Supporting health

Researchers suggest a range of approaches, from narrowly focused to broad, multi-level interventions.

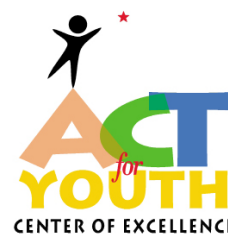
Programmatic approaches

To address sexual risk behaviors, a number of researchers take aim first at substance use (Hipwell, Stepp, Keenan, Chung, & Loeber, 2011; Santelli et al., 2004; Stueve & O'Donnell, 2005). Brookmeyer and Henrich (2009) suggest that alcohol use could be "a pivotal risk factor" that explains other behaviors: by preventing or addressing alcohol use we could see a range of positive effects. Adolescents also need greater access to drug and alcohol treatment that is designed with them in mind. Drug treatment should include HIV intervention (van Gelder et al., 2011).

Several researchers stress that programs should begin in early adolescence, before the onset of alcohol use, mental health symptoms, and sexual intercourse (Elkington et al., 2010; IOM & NRC, 2011; Stueve & O'Donnell, 2005). Additionally, interventions should continue through high school to increase their chance of success (Brookmeyer & Henrich, 2009).

Multi-level interventions

The most successful approach to preventing risk behaviors may be the development of resources across the many settings in which adolescents live, as well as helping youth



build on their own internal strengths. One study of over 7,000 Canadian high school students found that only 6% had completely avoided the nine risk behaviors studied (Willoughby et al., 2007). These youth also had the highest levels of assets measured in the study (positive relationships with parents and friends, attachment to school, opportunities to get involved, and religiosity, among others). Of course, for most youth in the study, assets did not fully protect adolescents from taking risks, but it appears that youth who have few personal and environmental assets are likely to suffer the most severe consequences of risk. Similarly, the Search Institute has demonstrated that youth who experience higher levels of internal and external developmental assets are less likely to become involved in behaviors that compromise their health and well-being. This positive youth development approach suggests that by increasing the number of assets across the contexts in which youth participate (family, neighborhood, school, faith community, etc.) we can promote positive outcomes and reduce risk (Benson, Scales, Hamilton, & Sesma, 2006), though some youth development researchers believe the relationships between risk factors, assets, and behavior are more nuanced and complex (Bowers et al., 2011).

Evidence for a multi-domain approach is offered by Jackson and colleagues' 2012 review of interventions that attempt to influence substance use and/or sexual risk taking. This review identified only three programs that affected both substance use and at least one sexual health indicator: the Seattle Social Development Project (now renamed "Raising Healthy Children"), Focus on Kids with ImPACT, and Aban Aya. The common characteristic among these effective programs is involvement in more than one domain (rather than, for example, reaching youth through a school-based curriculum only). Seattle Social Development Project involves the individual, school, and family; Focus on Kids with ImPACT involves the individual and parents; and Aban Aya involves the individual, school, parents, and community. The authors conclude that promoting resilience by addressing risk and protective factors across multiple domains is the most promising approach to reduce multiple risk behaviors.

Even when communities cannot implement a large, evidence-based program such as Raising Healthy Children, research-based strategies are available to prevent multiple risk behaviors (see, for example, Terzian, Andrews, & Moore, 2011). Given appropriate resources, there are many ways that communities can create the conditions for healthy adolescence:

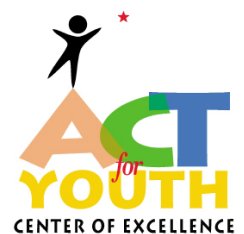
- Parent education programs can help parents and guardians exercise effective monitoring and communicate their values to their children (Elkington et al., 2011; Feinman, Richter, & Foster, 2012; Peterson et al., 2010).
- Youth programs and employers can help adolescents connect with supportive mentors, engage in meaningful activities, set goals, and build the skills they need to achieve those goals (Peterson et al., 2010; Terzian et al., 2011).
- Schools can also provide opportunities for youth to engage and succeed in meaningful activities, and can strengthen positive connections between teachers and students (Peterson et al., 2010; Terzian et al., 2011).
- Faith communities can help young people develop a sense of purpose, values, and belonging (Dowshen et al., 2011; IOM & NRC, 2011).

Resource

Preventing Multiple Risky Behaviors among Adolescents: Seven Strategies

This Child Trends brief distills research into broad strategies for preventing multiple risk behaviors.

www.childtrends.org/Files/Child_Trends-2011_10_01_RB_RiskyBehaviors.pdf



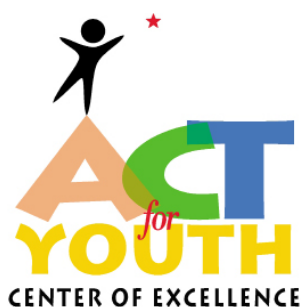
The stresses of adolescence come at a time when most people have not yet developed coping strategies and skills, as Marshal and colleagues (2008) point out. Normal stresses may be compounded for youth facing additional burdens of discrimination or deprivation -- such as sexual and gender minority youth, youth with mental health challenges, and youth coping with poverty and/or racism. In seeking to address substance use and risky sexual behavior, communities do well to create the supports, opportunities, and tailored services that promote health and well-being for all youth.★

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