

Trends in Sexual Risk Behaviors among High School Students—United States, 1991 to 1997 and 1999 to 2003

Each year in the United States, about 800,000 adolescent females become pregnant, 20,000 young people are newly infected with HIV, and nearly four million new STIs occur among 15- to 19-year-old youth. Despite recent declines in teen pregnancy, U.S. teen birth and sexually transmitted infection (STI) rates remain among the highest in the western world.

In 1996, Congress signed into law the Personal Responsibility and Work Opportunities Reconciliation Act, or “welfare reform.” Attached was the provision, later set out in Section 510(b) of Title V of the Social Security Act, appropriating \$250 million dollars over five years for state initiatives promoting sexual abstinence outside of marriage as the only acceptable standard of behavior for young people. From 1998 to 2003, states implemented abstinence-only-until-marriage programs, using almost half a billion dollars in state and federal funds to support the Title V initiative.

The Centers for Disease Control and Prevention (CDC) recently released data showing improvements in sexual behaviors among high school students in the United States from 1991 to 2003. To determine when the majority of these improvements occurred, this paper more closely examines changes in sexual behaviors among high school students during two periods of time: 1991 to 1997 and 1999 to 2003. The former period corresponds with the widespread implementation of comprehensive sex education, including HIV prevention programming. The latter period covers the first five-year cycle of Title V “welfare reform” abstinence-only programs. To assess changes in sexual behaviors during these two time periods, Advocates for Youth contracted with an independent statistician to analyze data from the national Youth Risk Behavior Survey (YRBS).

The YRBS, a component of CDC’s Youth Risk Behavior Surveillance System, measures the prevalence of various health risk behaviors among adolescents through representative national, state, and local surveys conducted every other year since 1991. The surveys obtain data from representative, cross-sectional samples of high school students in grades 9 through 12 in the 50 states and the District of Columbia.

For each of the biennial surveys, students completed a self-administered questionnaire about risk-taking behaviors, including violent behavior, tobacco and alcohol use, and sexual behavior. The wording of each question is identical in each biennial survey. This paper presents the results of the independent analysis regarding trends in four sexual behaviors measured by the YRBS:

- Ever had sexual intercourse;
- Had four or more sexual partners during lifetime;
- Currently sexually active; and
- Condom use during last sexual intercourse.

Results show that sexual behaviors that place teens at risk for pregnancy and infection with HIV and STIs declined significantly from 1991 to 1997. From 1999 to 2003, however, results show little change in these behaviors.

Ever Had Sexual Intercourse

From **1991 to 1997**, sexual experience (the proportion of 9th through 12th graders reporting that they have ever had sexual intercourse) decreased significantly by 11 percent. Logistic regression analysis indicated a significant linear decrease overall as well as among males and white and black students ($p < 0.05$). Sexual experience among female and among Hispanic students did not show a significant decrease.

However from **1999 to 2003**, changes in sexual experience leveled off. In other words, there was no statistically significant decline from 1999 to 2003 in the proportion of 9th through 12th graders reporting that they had ever had sex. Logistic regression analysis indicated no significant change overall or among either gender or any racial/ethnic subgroup.

	1991	1993	1995	1997	1999	2001	2003	Changes, 1991-1997*	Changes, 1999-2003*
Total	54.1 (±3.5)**	53.0 (±2.7)	53.1 (±4.5)	48.4 (±3.1)	49.9 (±3.7)	45.6 (±2.3)	46.7 (±2.6)	statistically significant decrease	no change
Female	50.8 (±4.0)	50.2 (±2.5)	52.1 (±5.0)	47.7 (±3.7)	47.7 (±4.1)	42.9 (±2.8)	45.3 (±2.6)	no change	no change
Male	57.4 (±4.1)	55.6 (±3.5)	54.0 (±4.7)	48.9 (±3.4)	52.2 (±4.0)	48.5 (±2.7)	48.0 (±3.3)	statistically significant decrease	no change
White	50.0 (±3.2)	48.4 (±2.8)	48.9 (±5.0)	43.6 (±4.2)	45.1 (±3.9)	43.2 (±2.5)	41.8 (±2.7)	statistically significant decrease	no change
Black	81.5 (±3.2)	79.7 (±3.2)	73.4 (±4.5)	72.7 (±2.8)	71.2 (±8.1)	60.8 (±6.6)	67.3 (±3.3)	statistically significant decrease	no change
Hispanic	53.1 (±3.5)	56.0 (±4.1)	57.6 (±8.6)	52.2 (±3.6)	54.1 (±4.8)	48.4 (±4.5)	51.4 (±3.2)	no change	no change

Had Four or More Sexual Partners during Lifetime

From **1991 to 1997**, the prevalence of multiple sex partners (the proportion of 9th through 12th graders who reported that they had four or more sexual partners during their lifetime) decreased significantly by 14 percent. Logistic regression analysis indicated a significant linear decrease overall as well as among males and among white and black sub-groups ($p < 0.05$). The prevalence of multiple sex partners reported by females and by Hispanic students showed no significant decrease.

However from **1999 to 2003**, the prevalence of multiple sex partners leveled off. In other words, there was no statistically significant decline from 1999 to 2003 in the proportion of 9th through 12th graders reporting four or more sexual partners. Logistic regression analysis indicated no significant change overall or among either gender or any racial/ethnic subgroup.

	1991	1993	1995	1997	1999	2001	2003	Changes, 1991-1997*	Changes, 1999-2003*
Total	18.7 (±2.1)**	18.7 (±2.0)	17.8 (±2.7)	16.0 (±1.4)	16.2 (±2.6)	14.2 (±1.2)	14.4 (±1.6)	statistically significant decrease	no change
Female	13.8 (±1.8)	15.0 (±1.9)	14.4 (±3.5)	14.1 (±2.0)	13.1 (±2.2)	11.4 (±1.5)	11.2 (±1.4)	no change	no change
Male	23.4 (±3.0)	22.3 (±2.7)	20.9 (±2.6)	17.6 (±1.5)	19.3 (±3.6)	17.2 (±1.6)	17.5 (±2.2)	statistically significant decrease	no change
White	14.7 (±1.8)	14.3 (±2.1)	14.2 (±2.4)	11.6 (±1.5)	12.4 (±2.1)	12.0 (±1.4)	10.8 (±1.5)	statistically significant decrease	no change
Black	43.1 (±3.5)	42.7 (±3.9)	35.6 (±4.4)	38.5 (±3.6)	34.4 (±10.3)	26.6 (±3.7)	28.8 (±2.5)	statistically significant decrease	no change
Hispanic	16.8 (±2.6)	18.6 (±3.1)	17.6 (±3.7)	15.5 (±2.4)	16.6 (±3.6)	14.9 (±1.7)	15.7 (±2.2)	no change	no change

Currently Sexually Active

Between 1991 and 1997, current sexual activity (had intercourse during the three months preceding the survey) declined significantly among males and black students. Logistic regression analysis indicated no significant change among females or among white or Hispanic students.

There was no statistically significant change in the proportion of students who reported current sexual activity from 1999 to 2003. Logistic regression analysis indicated no significant change overall or by gender or among any racial/ethnic subgroup.

	1991	1993	1995	1997	1999	2001	2003	Changes, 1991-1997*	Changes, 1999-2003*
Total	37.5 (±3.1)**	37.5 (±2.1)	37.9 (±3.5)	34.8 (±2.2)	36.3 (±3.5)	33.4 (±2.0)	34.3 (±2.1)	no change	no change
Female	38.2 (±3.4)	37.5 (±1.8)	40.4 (±4.2)	36.5 (±2.7)	36.3 (±4.1)	33.4 (±2.5)	34.6 (±2.1)	no change	no change
Male	36.8 (±3.4)	37.5 (±3.0)	35.5 (±3.5)	33.4 (±2.6)	36.2 (±3.9)	33.4 (±2.3)	33.8 (±2.5)	statistically significant decrease	no change
White	33.9 (±2.8)	34.0 (±2.1)	34.8 (±3.9)	32.0 (±3.1)	33.0 (±3.3)	31.3 (±2.2)	30.8 (±2.0)	no change	no change
Black	59.3 (±3.8)	59.1 (±4.4)	54.2 (±4.7)	53.6 (±3.2)	53.0 (±8.9)	45.6 (±5.4)	49.0 (±2.9)	statistically significant decrease	no change
Hispanic	37.0 (±3.6)	39.4 (±3.7)	39.3 (±7.1)	35.4 (±3.9)	36.3 (±4.0)	35.9 (±3.2)	37.1 (±2.8)	no change	no change

Condom Use during Last Sexual Intercourse (Among Currently Sexually Active Students)

From 1991 to 1997, among currently sexually active students, condom use increased significantly by 23 percent. Logistic regression analysis indicated a significant linear increase overall and by gender and in each racial/ethnic subgroup ($p < 0.05$).

From 1999 to 2003, among currently sexually active students, condom use increased significantly by nine percent. Logistic regression analysis indicated a significant linear increase overall and among female and white students only ($p < 0.05$).

	1991	1993	1995	1997	1999	2001	2003	Changes, 1991-1997*	Changes, 1999-2003*
Total	46.2 (±3.3)**	52.8 (±2.7)	54.4 (±3.5)	56.8 (±1.6)	58.0 (±4.2)	57.9 (±2.2)	63.0 (±2.5)	statistically significant increase	statistically significant increase
Female	38.0 (±4.3)	46.0 (±2.8)	48.6 (±5.2)	50.8 (±3.0)	50.7 (±5.8)	51.3 (±3.4)	57.4 (±3.1)	statistically significant increase	statistically significant increase
Male	54.5 (±3.8)	59.2 (±3.8)	60.5 (±4.3)	62.5 (±2.8)	65.5 (±4.3)	65.1 (±2.7)	68.8 (±2.6)	statistically significant increase	no change
White	46.5 (±4.6)	52.3 (±3.9)	52.5 (±4.0)	55.8 (±2.0)	55.0 (±5.1)	56.8 (±3.0)	62.5 (±3.1)	statistically significant increase	statistically significant increase
Black	48.0 (±3.8)	56.5 (±3.8)	66.1 (±4.8)	64.0 (±2.8)	70.0 (±5.4)	67.1 (±3.5)	72.8 (±3.7)	statistically significant increase	no change
Hispanic	37.4 (±6.2)	46.1 (±4.4)	44.4 (±11.1)	48.3 (±5.6)	55.2 (±6.8)	53.5 (±5.1)	57.4 (±5.3)	statistically significant increase	no change

Conclusion

Sexual behaviors significantly improved from 1991 to 1997, but showed little change from 1999 to 2003 after the implementation of federally funded Title V abstinence-only-until-marriage initiatives in 1998. This paper does not prove that a causal relationship exists between the implementation of abstinence-only-until-marriage programs and the end of significant improvement in adolescent sexual risk-taking behaviors after 1999. However, future research should assess the relationship between abstinence-only-until-marriage programs and the leveling off of earlier declines in teens' sexual risk behaviors.

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* Based on linear trend analyses using a logistic regression model controlling for sex, race/ethnicity, and grade. Change over time is statistically significant for $p < 0.05$.

** 95 percent confidence interval.

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September 2004 © Advocates for Youth



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