

'Youth-at-Risk' –2009 Smoking & Health-Risk Behaviors

RI Public High School Students



RI Departments of Health and Elementary & Secondary Education

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Introduction: This report examines differences in health-risk behaviors between smoking and non-smoking high school students in Rhode Island (RI). It evaluates 23 risk-measures from RI's Youth Risk Behavior Survey (YRBS).

The RI YRBS: The RI YRBS is part of a system of biennial surveys involving random samples of public high school students in 60+ states and municipalities nationwide. The Centers for Disease Control and Prevention developed the YRBS to monitor risk behaviors related to the major causes of injury, disease, and mortality. In the spring of 2009, 3,213 RI 9th to 12th grade students participated in the YRBS. The findings here are representative of public high school students statewide and may be used to inform policy and programs alike.

'Current Smoking': Students were asked, "During the past 30 days, on how many days did you smoke cigarettes?" Their responses were parsed into two categories, smokers responding 'one or more days,' and non-smokers responding 'zero days.'

Using the data: The relationship between smoking and other health-risk behaviors may be 1) 'correlated' and/or 2) 'significant.' 1) 'Correlation' refers to association, not causation (e.g., binge drinking was four times higher in smokers than non-smokers, but smoking doesn't cause a student to binge drink). The correlation coefficient (r) is used to evaluate the association between smoking and overall risk behaviors. An r -value of '0.00' is no correlation, and '1.00' is perfect correlation (i.e., the two variables change in tandem). 2) 'Significance' refers to how likely it is that there is an actual or 'real' difference in the reported rates between two groups. This is important because sample surveys produce estimates, which may vary from true population values. Lastly, the 23 risk-measures are all negative indicators, so lower values are desired.

2009 Highlights

High school cigarette smoking in RI was highly correlated with other health-risk factors ($r = 0.868$), as 22 of 23 risk measures were significantly higher for this population. However, from 2007-2009, two of the smokers' measures improved significantly (i.e., students who felt 'sad' or 'hopeless' and students that were current alcohol drinkers).

Approximately 6,700 RI public high school students (13%) were current cigarette smokers in 2009 (Chart 1). Smoking rates for males and females were similar, but significantly higher among Whites than Minority students. Older students were more likely to smoke than younger ones, and more students with low grades were smokers. Smoking rates were also higher among non-heterosexual students, and those with a physical or emotional disability.

Violence was much more common to smokers than non-smokers (Chart 2). Not only were smokers over twice as likely to get into physical fights (47%), and to 'cut' school because they felt unsafe (11%), they were two and a half times more likely to be victims of dating violence (20%). The rate of forced intercourse was almost three times higher for this population (14%).

Smokers had higher mental health risks than non-smokers. Feelings of 'sadness' and 'hopelessness' were over twice as high for smokers (22%), as was the rate for attempted suicide (13%).

Alcohol and drug use was much more common among smoking than non-smoking students. The current drinking rate (74%) was almost three times higher, and binge drinking (54%) was over four times greater. Current marijuana use (76%) was over four times higher, and the rates for ever having tried cocaine (20%), inhalants (21%), and painkillers (46%) were higher by multiple factors.

Smokers were more sexually active than non-smokers. The rate of current sexual intercourse was over two times higher for smokers (63%), and they were much more likely to have had unprotected intercourse (51%).

Smokers were at greater risk of injury than non-smokers. Not only were they less likely to wear a bike helmet (95%), they were also much less likely to wear seat belts (25%). Smokers were also two and a half times more likely to have ridden with a driver that had been drinking alcohol (45%).

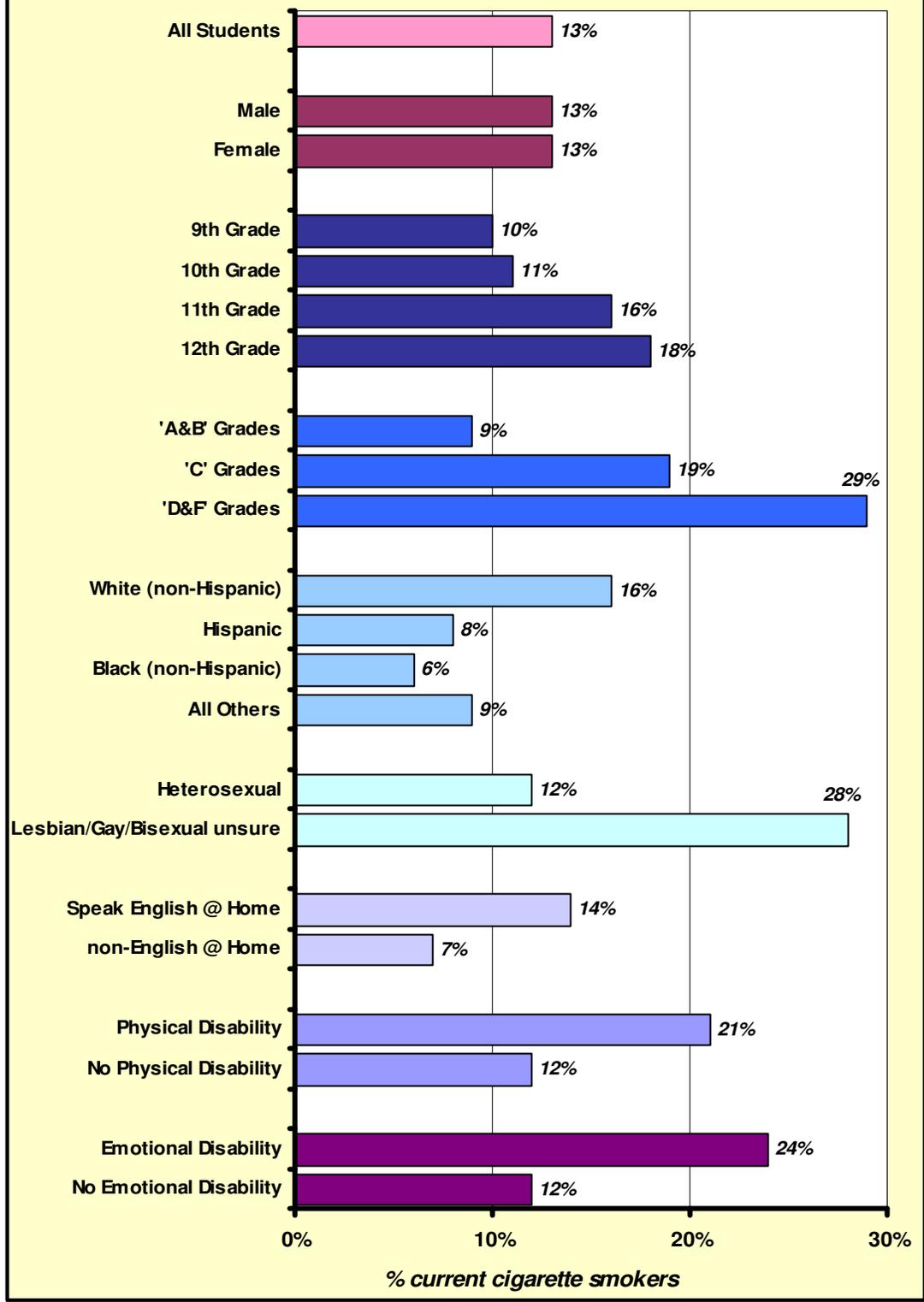
Lastly, smokers' physical activity measures were more unfavorable when compared to non-smokers. Even though obesity rates were not significantly different, more smokers lacked sufficient exercise (66%), and consumed an inadequate amount of fruits and vegetables (84%).

The link between smoking and disease is clearly documented, but many are unaware of the association between smoking and other health-risk behaviors. Preventing cigarette smoking may also be a deterrent to other risk behaviors and identifying current smokers may be a strategy to intervene with students that have other, less visible health-risks.

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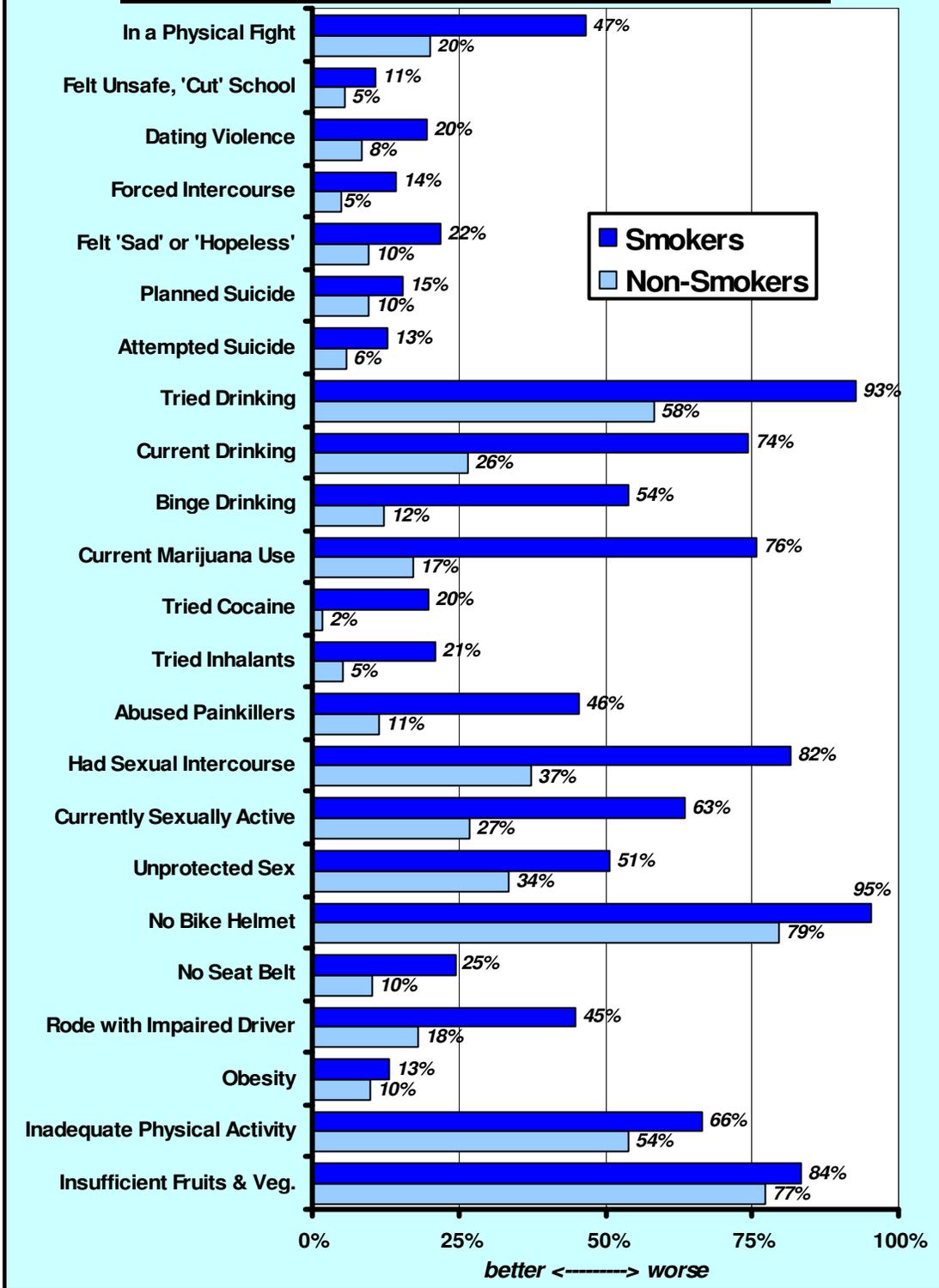
'Youth-at-Risk' topical report series

Chart 1: 2009 Prevalence of Smoking Students
~by demographic group~



Source: 2009 RI high school YRBS (n=3,213)

Chart 2: 2009 H.S. Health-Risks -for smokers vs. non-smokers
~every difference (except Obesity) was statistically significant~



Source: 2009 RI high school YRBS (n=3,213); raw data and definitions are in Table 1 (p4)

Table 1: H.S. Health-Risks Data by Current Smoking Status

		RI 2009 DATA ¹						RI 2007 DATA ¹		
Measure	Description	Smokers	Non-Smokers	Smokers'		Non-Smokers'		Smokers	Smokers'	
				95% CIs ²		95% CIs ²			95% CIs ²	
VIOLENCE	In a Physical Fight	46.6%	20.1%	40.9%	52.4%	18.4%	21.8%	50.2%	44.1%	56.3%
	Felt Unsafe, 'Cut' School	10.9%	5.5%	7.6%	14.2%	4.6%	6.4%	6.6%	3.8%	9.5%
	Dating Violence	19.7%	8.4%	15.2%	24.1%	7.2%	9.5%	23.3%	18.0%	28.5%
	Forced Intercourse	14.3%	4.9%	10.6%	18.1%	4.0%	5.8%	22.1%	17.0%	27.3%
MENTAL HEALTH	Felt 'Sad' or 'Hopeless'	21.8%	9.6%	17.2%	26.4%	8.4%	10.8%	35.4%	29.7%	41.2%
	Planned Suicide	15.4%	9.7%	11.3%	19.5%	8.5%	10.9%	22.5%	17.5%	27.4%
	Attempted Suicide	12.9%	5.7%	8.9%	16.8%	4.7%	6.7%	19.4%	14.5%	24.3%
ALCOHOL	Tried Drinking	92.8%	58.3%	90.0%	95.7%	56.2%	60.4%	97.2%	95.3%	99.1%
	Current Drinking	74.2%	26.4%	69.1%	79.4%	24.5%	28.3%	86.3%	82.1%	90.5%
	Binge Drinking	53.9%	12.2%	48.2%	59.7%	10.8%	13.6%	61.5%	55.6%	67.5%
DRUGS	Current Marijuana Use	75.8%	17.2%	70.9%	80.7%	15.6%	18.8%	71.8%	66.2%	77.4%
	Tried Cocaine	20.0%	1.6%	15.2%	24.7%	1.1%	2.2%	23.8%	18.7%	28.9%
	Tried Inhalants	20.9%	5.2%	16.4%	25.4%	4.3%	6.2%	27.8%	22.4%	33.2%
	Abused Painkillers	45.6%	11.3%	39.9%	51.2%	10.0%	12.7%	49.2%	43.1%	55.3%
SEX	Had Sexual Intercourse	81.6%	37.3%	77.2%	85.9%	35.2%	39.4%	76.5%	71.2%	81.7%
	Currently Sexually Active	63.5%	26.8%	57.8%	69.1%	24.9%	28.7%	60.7%	54.6%	66.8%
	Unprotected Sex	50.8%	33.5%	43.1%	58.4%	29.4%	37.6%	55.5%	47.4%	63.6%
INJURY	No Bike Helmet	95.3%	79.5%	92.7%	98.0%	77.3%	81.6%	94.5%	91.1%	98.0%
	No Seat Belt	24.5%	10.2%	19.6%	29.4%	9.0%	11.5%	29.2%	23.7%	34.7%
	Rode with Impaired Driver	44.8%	18.0%	39.2%	50.5%	16.4%	19.6%	51.7%	45.6%	57.7%
PHYSICAL ACTIVITY	Obesity	13.0%	10.0%	9.2%	16.8%	8.7%	11.2%	11.6%	7.6%	15.5%
	Inadequate Physical Activity	66.4%	54.0%	60.9%	71.9%	51.8%	56.1%	64.0%	58.2%	69.9%
	Insufficient Fruits & Veg.	83.5%	77.2%	79.5%	87.6%	75.4%	79.0%	83.9%	79.3%	88.4%

¹ Source: 2009 & 2007 RI high school YRBS (n=3,213 in 2009 and 2,210 in 2007)

² 95% Confidence Intervals (CIs) are used to determine statistical significance (e.g., if the CIs of two values overlap, one may not conclude there is a 'real' difference between the two values as the difference may be due to sampling error)