Driving: Through the Eyes of Teens

A Research Report of The Children's Hospital of Philadelphia and State Farm®

The Center *for* Injury Research *and* Prevention *at* The Children's Hospital *of* Philadelphia®

STATE FARM Auto Life Fire INSURANCE®

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TABLE OF CONTENTS

Introduction	2
Who Is Driving?	4
Teens on the Road	6
Teens and the Cars They Drive	8
What Teens See in Cars	10
A Look at Our Population	18
Study Methods	19
Sources	20
Acknowledgments	21

Introduction

Motor vehicle crashes are the No. 1 cause of death among teens in the U.S. Awareness of the importance of seat belt use and of the dangers of drinking and driving has grown, yet motor vehicle-related injuries and fatalities among young people in the U.S. continue unabated. The fatality rate for drivers age 16 to 19 years, based on miles driven, is four times that of drivers age 25 to 69 years. In 2005, nearly 7,500 15- to 20-year-old drivers were involved in fatal crashes.[1] Clearly, more work needs to be done in this area of research and outreach to reduce these teen crash rates and their resulting deaths and disabilities.

The Children's Hospital of Philadelphia and State Farm Insurance Companies®, the same academic/industry alliance that created and sustains the world's largest study of children in crashes, Partners for Child Passenger Safety, have joined together to address the urgent need to advance science to reduce death and injury from young driver-related crashes.

The activities to date for The Children's Hospital of Philadelphia and State Farm include the formation of a multidisciplinary Young Driver Research Initiative (YDRI) Expert Panel and publication of "The Science of Safe Driving Among Adolescents," a special supplement issue of the journal *Injury Prevention* in June 2006. The supplement features 11 articles that provide a broad understanding of driving, adolescent development and adolescent driving.[2] During this same period, the alliance also conducted quantitative and qualitative research that included scientifically rigorous survey, focus group and interview methods to gain knowledge about teen driving from teens and parents.

In early 2006, the alliance conducted the first National Young Driver Survey to learn about students' perceptions and experiences surrounding teen driving. This comprehensive survey was administered to 68 randomly selected schools across the country that agreed to participate. Within each school, one ninth grade, two 10th grade and one 11th grade classrooms were randomly chosen for a total sample of 5,665 students. The weighted data are representative of all 10.6 million public high school students in the U.S. It is the most comprehensive current description of youth perceptions of teen driving.

In this report, we describe what the participants shared with us — their experiences and perceptions through their eyes and in their words. By design, we asked what teens see in their community as well as what they do in order to get an accurate picture of their world and the role driving plays in it.

Our YDRI Expert Panel, as well as a 2006 panel on teen driving sponsored by the National Academies/Institute of Medicine/Transportation Research Board, have emphasized the importance of developing and evaluating effective interventions directed toward teens, their parents and their communities. Most experts advocate for comprehensive approaches because the complexity of the "teen driver problem" requires a multifaceted, multidisciplinary approach that addresses not only concerns about driving, but also the parent-teen relationship and issues around adolescent cognitive, emotional and social development.

The National Young Driver Survey results reinforce the importance of parents and community in influencing teen perceptions on driving. Key results:

■ The Role of Parents – While many parents recognize their role in teaching teens to drive (56 percent of teens say their parents have helped teach them to drive), parental influence could extend beyond the role of teacher to that of monitor and enforcer of consequences. Nearly two-thirds of teens said that their parents' opinions about cell phone use mattered to them. Only one-fourth of driving teens say that their parents require they take on any financial responsibility for vehicle repairs or maintenance.

■ Risky Distractions – Nearly all (93 percent) report seeing other teens in the car of a young driver at least sometimes, while the same proportion (94 percent) report seeing these passengers distracting the driver in some way. Frequently observed distractions involving teen drivers or passengers included cell phones, loud music and heightened emotions. In fact, more than half of the respondents reported seeing their peers exhibit road rage while driving.

■ Risky Driving Behaviors – Although only half of teens report seeing drunk driving by teen drivers at least sometimes, three-fourths of respondents report seeing fatigued driving by teens. Half of teen driver respondents report driving 10 miles per hour over the speed limit at least sometimes.

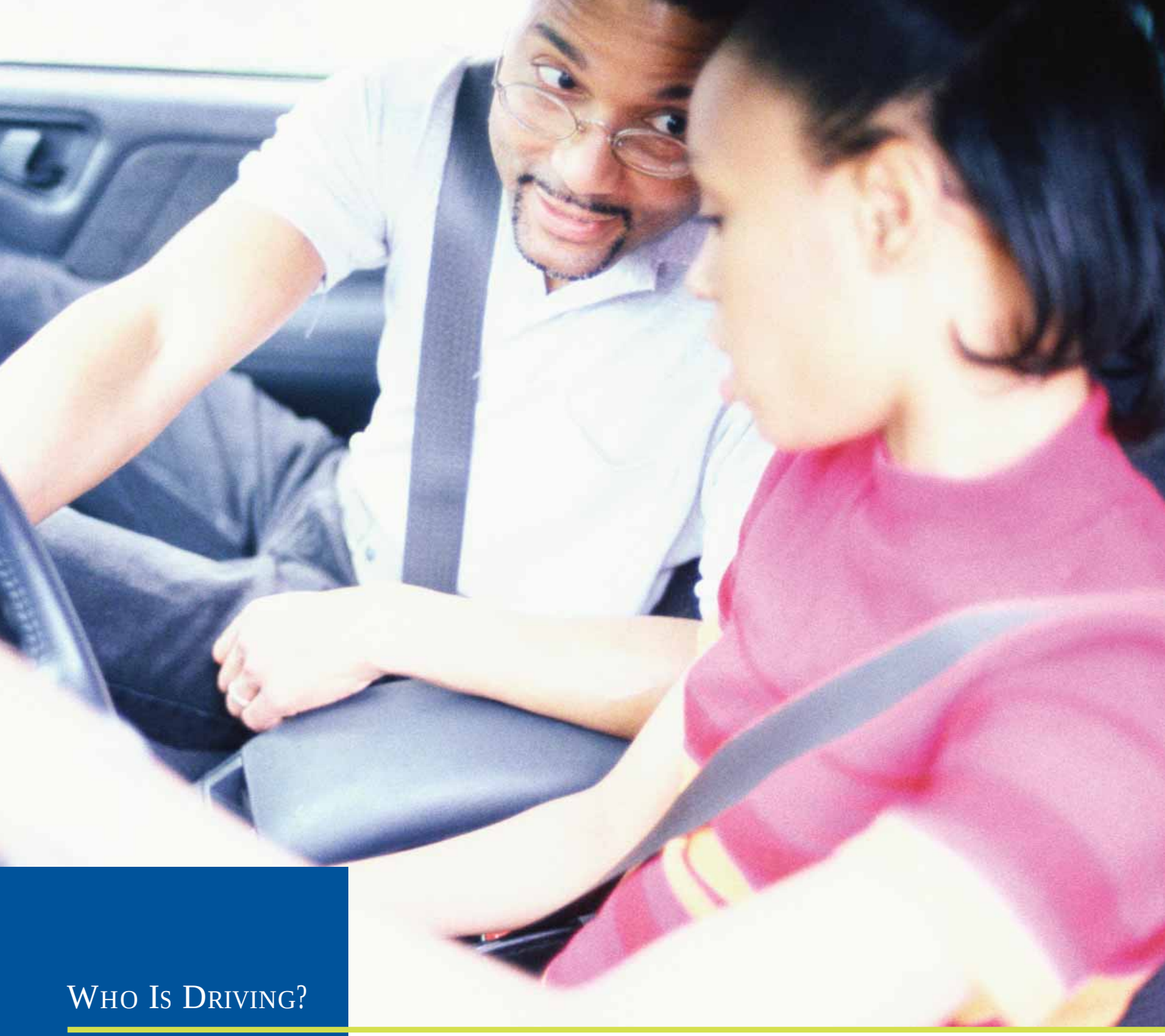
The report also details the driving status of teen respondents, their crash experiences, vehicle types, seat belt use and the number of hours they spend driving and for what purpose. The data indicate that teens understand the messages about the dangers of drinking and driving, but do not comprehend as clearly the risks involved with other driver distractions and fatigued driving. This valuable information sheds light on appropriate paths of intervention that could be tailored for the teen audience.

Providing communities and parents with proven teen-centered tools for teaching, monitoring and enforcing safe driving could provide the right environment for teen drivers to become safe drivers. Arming teen drivers with the tools to manage peer-to-peer interactions concerning driving could raise awareness on the nature of passenger risks and increase the acceptability of measures to address them among teens, parents and the broader community.

The Children's Hospital of Philadelphia and State Farm are committed to continuing research and outreach that can ultimately reduce the risk of crash and injury for teen drivers and those who share the road with them. As with our internationally recognized research and outreach concerning child passenger safety (Partners for Child Passenger Safety, www.chop.edu/carseat), we will share this body of work as it unfolds with those best positioned to implement positive change for teen drivers — policy makers, driver's education instructors, parents, teens and others.

Safety advocates, practitioners and researchers have been hard at work on this issue for years. As an alliance of the nation's largest insurer of automobiles and the No. 1-ranked children's hospital, State Farm and The Children's Hospital of Philadelphia hope to enhance this current knowledge and noticeably advance this good work through collaborative relationships aimed at disseminating effective interventions to reduce tragedy.

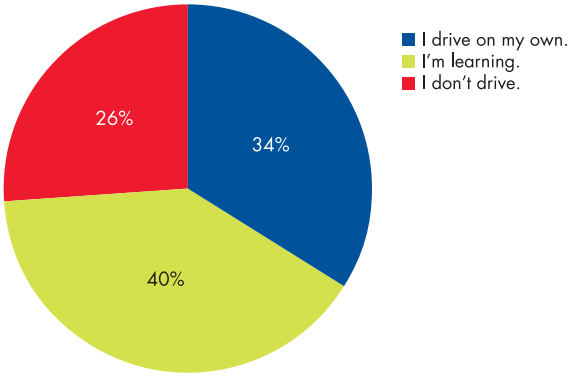
This report is intended for use by the media, educators, advocates, researchers, parents and anyone in the position to help keep our teens safe on the road. Please contact the Center for Injury Research and Prevention at The Children's Hospital of Philadelphia for further information on study design or data interpretation (www.chop.edu/injury).



Who Is Driving?

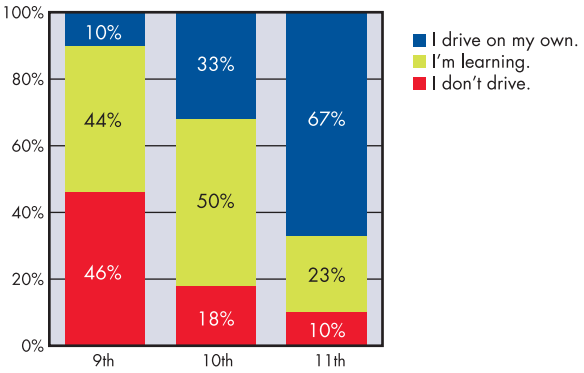
A total of 5,665 students responded to our survey. All data described in this report are weighted, meaning that the sample is representative of all 10.6 million U.S. public school students in the ninth through 11th grades. Our sample includes teens who have never driven, are learning to drive, and drive independently. Please see the Methods section on Page 19 for a more detailed description of the sampling and weighting plan.

Experience with Driving



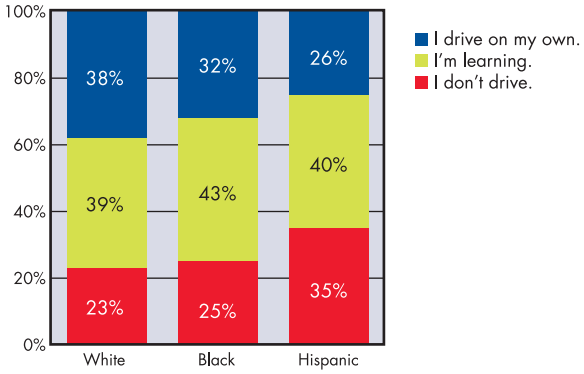
- Fifty-six percent of surveyed teens have learned or are learning to drive with their mom, dad, both parents or stepparents.
- Fifty-six percent of drivers (those learning to drive or who drive on their own) have had at least some type of formal driver education, including classroom-based or behind-the-wheel instruction.
- Thirty-four percent of drivers have had more than one type of instruction.

Driving Status by Grade



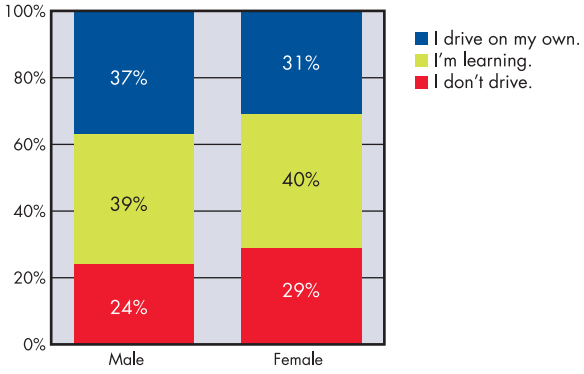
- Nearly three-fourths of ninth through 11th graders are learning to drive or are already driving.
- More than half of ninth graders say they are drivers.
- Two-thirds of 11th graders say they drive on their own, twice the proportion of 10th graders.
- Only 10 percent of 11th graders do not drive.

Driving Status by Race/Ethnicity



- Driving status is similar for whites and blacks.
- Hispanic teens are less likely to be driving than white or black teens.

Driving Status by Gender

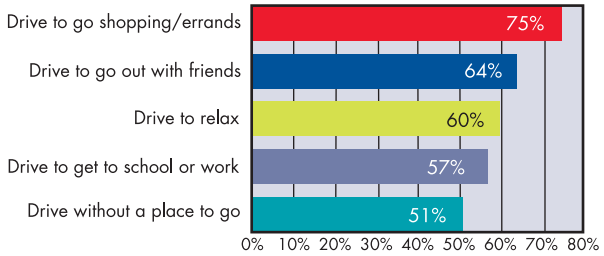


- Boys tend to learn to drive and receive their licenses at an earlier age than girls.

Teens on the Road

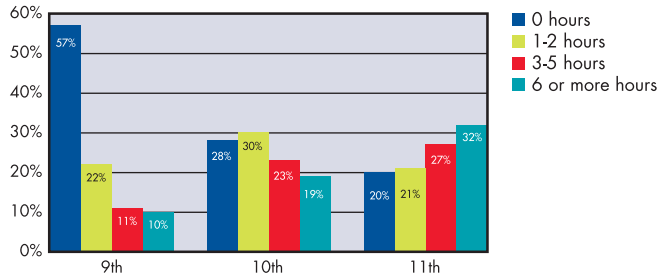
To teens, driving is considered an essential coming-of-age experience, and it has become an established aspect of teens' maturation and socialization processes. More than 60 percent say they frequently drive to relax, while more than half drive to school or a job. Three-fourths of teens use a car for shopping or errands, while more than half often drive without a destination in mind.

Trip Purposes



Percent of surveyed teens who say they make these trips at least sometimes

Hours Teens Estimate They Drive Per Week



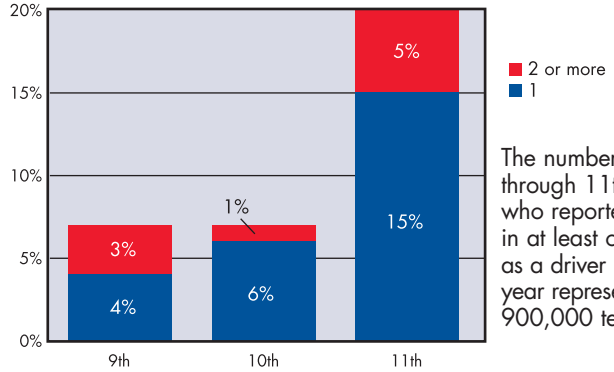
Percent within each grade

- Across all grades, the most frequently stated amount of time spent driving per week is one to two hours.
- Only one out of five 11th graders say they do not drive a car during the week.

Crash Experience as a Driver

Graduated Driver Licensing (GDL) helps new drivers gain experience in lower-risk situations before gradually phasing in full driving privileges. Effective GDL laws do not allow teens to drive before age 16, set a minimum learning period and include restrictions on passengers and night driving when a teen is first licensed.[3]

Past Year – Reported Crashes as a Driver



Percent within each grade

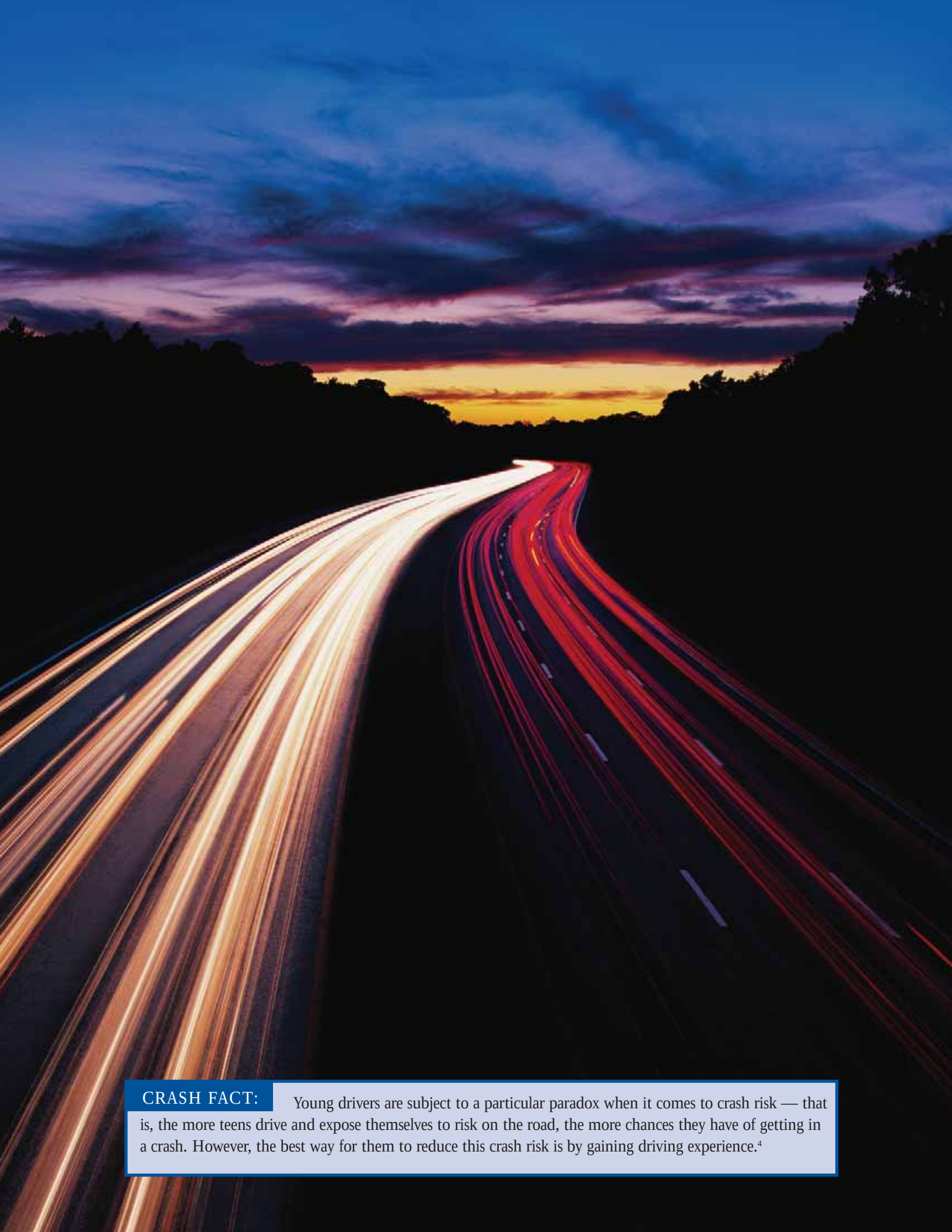
The number of ninth through 11th graders who reported being in at least one crash as a driver in the past year represents nearly 900,000 teens.

Crashes

- One in five ninth through 11th graders has been involved in at least one crash **as a passenger** in the past year.

Injuries

- Eight percent of teens in our survey have been the driver in at least one crash where someone needed medical attention.
- One-fourth of all ninth through 11th graders have been in a crash of this type **as a passenger** in their lifetimes.



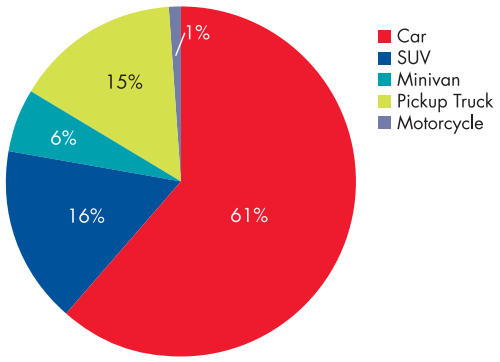
CRASH FACT: Young drivers are subject to a particular paradox when it comes to crash risk — that is, the more teens drive and expose themselves to risk on the road, the more chances they have of getting in a crash. However, the best way for them to reduce this crash risk is by gaining driving experience.[4]

Teens and the Cars They Drive

CRASH FACT: MONEY MATTERS TO TEENS

Research shows that awareness of the existence of monetary fines for traffic offenses can be a strong incentive for improving driving safety.[5]

Vehicles Teens Drive



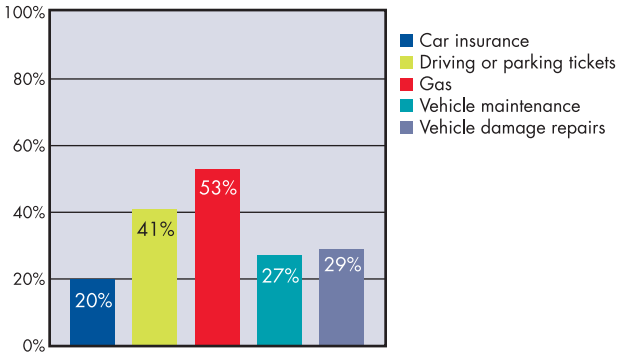
Percent of teens who say they drive these vehicles most often

- Thirty-nine percent of respondents said they are the primary driver of the vehicle that they drive most often.
- Although only 16 percent of respondents say they drive pickup trucks or motorcycles most often, these were the vehicle types of which students were most likely to be the primary driver.
- Teens in grades nine through 11 reported being least likely to be the primary drivers of minivans and SUVs.

Financial Responsibility

Sixty-one percent of ninth through 11th graders share the vehicle they drive most often with someone else. They report that their parents hold them responsible for few financial obligations regarding these vehicles.

Teens Responsible for Paying at Least Some:



- Thirty-nine percent of surveyed teen drivers said they were not responsible for *any* of these expenses.
- More than half of respondents said they were responsible for paying at least some fuel costs, more than any other expense category.
- Only one-fourth were responsible for paying at least some of the costs of vehicle maintenance or damage repairs.

What Teens See in Cars

Making Teens Safer
- Always wear seat belts
- Minimize distractions for the driver
- Limit number of teen passengers

We wanted to hear from the teens themselves about what they were seeing when teens drive. Many of the topics discussed in this section were developed by teens in focus groups across the country. The items that *they* ranked as most important were included in our survey in the language used by the teens. ■ All teens who took our survey — both drivers and nondrivers — were asked to think about how often they saw these things in their community. The results are summarized in the following seven pages. Comments from teens demonstrate both positive attitudes as well as challenges that interventions will need to address.

Good News

"I tell (teen drivers) either you're going to pay attention and have me and enjoy me being in the vehicle with you, or you're going to just drop me off here and I'll walk home."

— *Las Vegas, N.M., focus group, Oct. 2005*

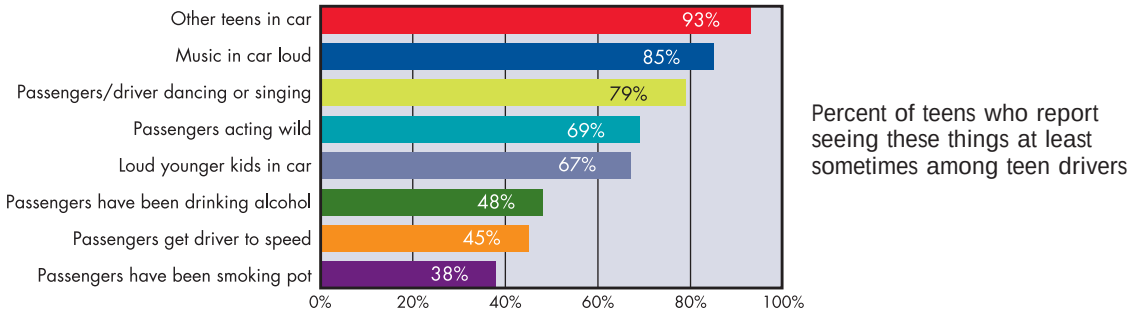
Challenge

"If you have your friends in the car they might want you to drive a different way than what you usually drive by yourself."

— *Holdrege, Neb., focus group, Oct. 2005*

Distractions by Teen Passengers

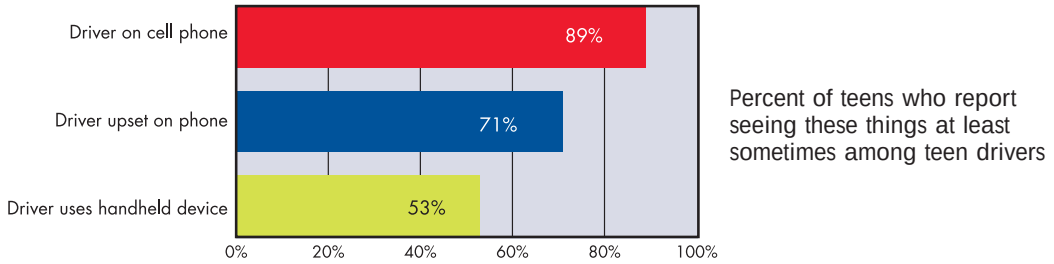
Research has shown that teen drivers carrying one teenage passenger have twice the risk of a fatal crash as teens driving alone; the risk of a fatal crash is five times as high for teens carrying two or more teenage passengers.[6] Yet, 15 states have no legal provisions for restricting passengers of teen drivers.[3] The graph below shows the percentage of teen respondents who said they see these things regarding the passengers of teen drivers at least sometimes (compared to "rarely/never" and "unsure").



- Passengers can create many distractions for a new driver, teens reported, and they are a common presence; nearly all (93 percent) report seeing other teens in the car of a young driver at least sometimes.
- Substance use (including alcohol or marijuana) by passengers of teen drivers was reported being seen at least sometimes by 53 percent of our sample.
- Ninety-four percent of teens report seeing behaviors by passengers that would distract the driver at least sometimes.
- Nearly half of teens report seeing passengers encouraging drivers to speed at least sometimes.

Cell Phone Use

While not much data exist to document the extent of cell phone use and its risks among teen drivers, the use of a cell phone while driving is a pervasive behavior among this age group, as reported by our teens.



- While nine out of 10 teens in our survey reported it was common to see teens driving while talking on a cell phone, seven out of 10 reported at least sometimes seeing a teen driving while emotionally upset on a cell phone.
- Use of handheld devices might include a personal listening device, an electronic game or text messaging on a cell phone.

What teens say they do

- Forty-eight percent of teen respondents say they talk on a cell phone, at least sometimes, while driving.
- Three out of four teens in our survey say they have a cell phone, and more than 80 percent of those who are drivers say they own one.

CRASH FACTS: ■ Six out of 10 teen passenger deaths in 2004 occurred in crashes in which another teenager was driving.[7] ■ One in five passenger deaths among people of all ages in 2001 occurred when a teen was driving.[7]

Good News

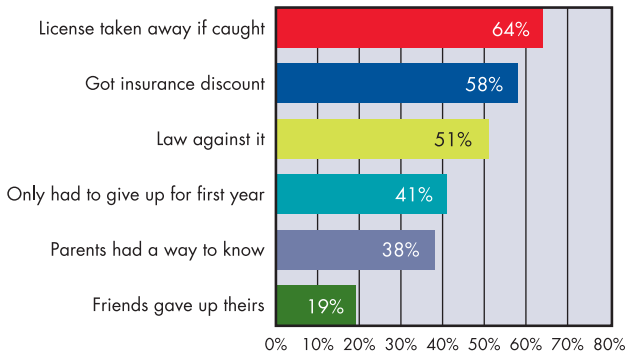
"If I am on my phone, I'll probably slow down. Just because I'm not that talented."
— Salina, Kan., focus group, May 2006

"I don't like using my cell phone on the highway … It depends on how fast I'm driving if I answer it."
— Salina, Kan., focus group, May 2006

Challenge

"You can be getting mad on the phone and you just forget about everything."
— Thomasville, Ga., focus group, Nov. 2005

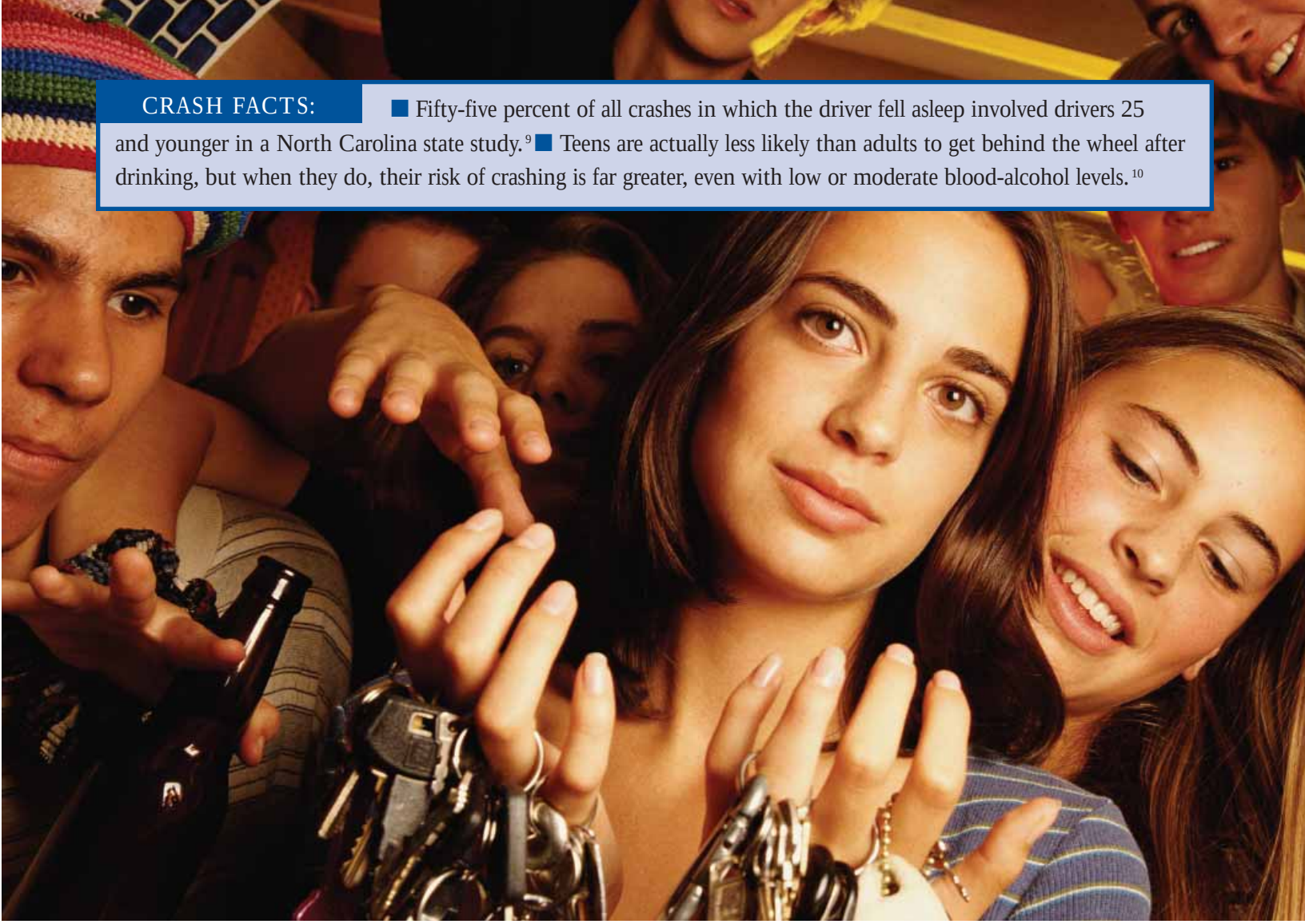
What could influence teens to give up cell phone use while driving?



Percent of surveyed teens who agreed or strongly agreed

- Legal prohibitions against and various limitations on cell phone use were among the top four motivations that teens said could keep them from using a cell phone while driving.
- Insurance discounts were the second most popular potential motivator.
- When asked to choose the people who would be able to influence their use of a cell phone while driving, 66 percent of teens said their parents would.
- Forty-seven percent said their peers would have the same influence.

Making Teens Safer
- Always wear seat belts
- Minimize distractions for the driver
- Limit number of teen passengers
- No cell phone use while driving

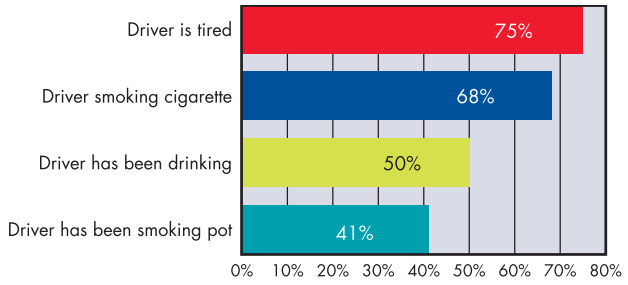


CRASH FACTS: ■ Fifty-five percent of all crashes in which the driver fell asleep involved drivers 25 and younger in a North Carolina state study.[9] ■ Teens are actually less likely than adults to get behind the wheel after drinking, but when they do, their risk of crashing is far greater, even with low or moderate blood-alcohol levels.[10]

Impaired Driving

Through the work of Mothers Against Drunk Driving, Students Against Destructive Decisions and other advocacy organizations, teens have come to recognize the hazards involved in drinking after driving, and few claim to drive while under the influence of alcohol or other drugs.

Taking the wheel without having enough sleep is not often considered to be as much of a risk as driving after drinking. However, the consequences are certainly as great for teens, who are often challenged by academic pressures, multiple extracurricular activities and early school start times. The majority of drowsy driving-related crashes are caused by drivers who are younger than 25 years.[9]



Percent of teens who report seeing these things at least sometimes among teen drivers

- Three-fourths of respondents say they see teens driving tired at least some of the time.
- Cigarette smoking was the most commonly reported substance use observed among teen drivers.

What teens say they do

- Ninety percent of respondents said they rarely or never drink alcohol or use other drugs and then drive.

Good News

"Some people know when they're drunk or high and they'll say 'take me home,' or 'take the keys.'"
— *St. Matthews, S.C., focus group, May 2006*

Challenges

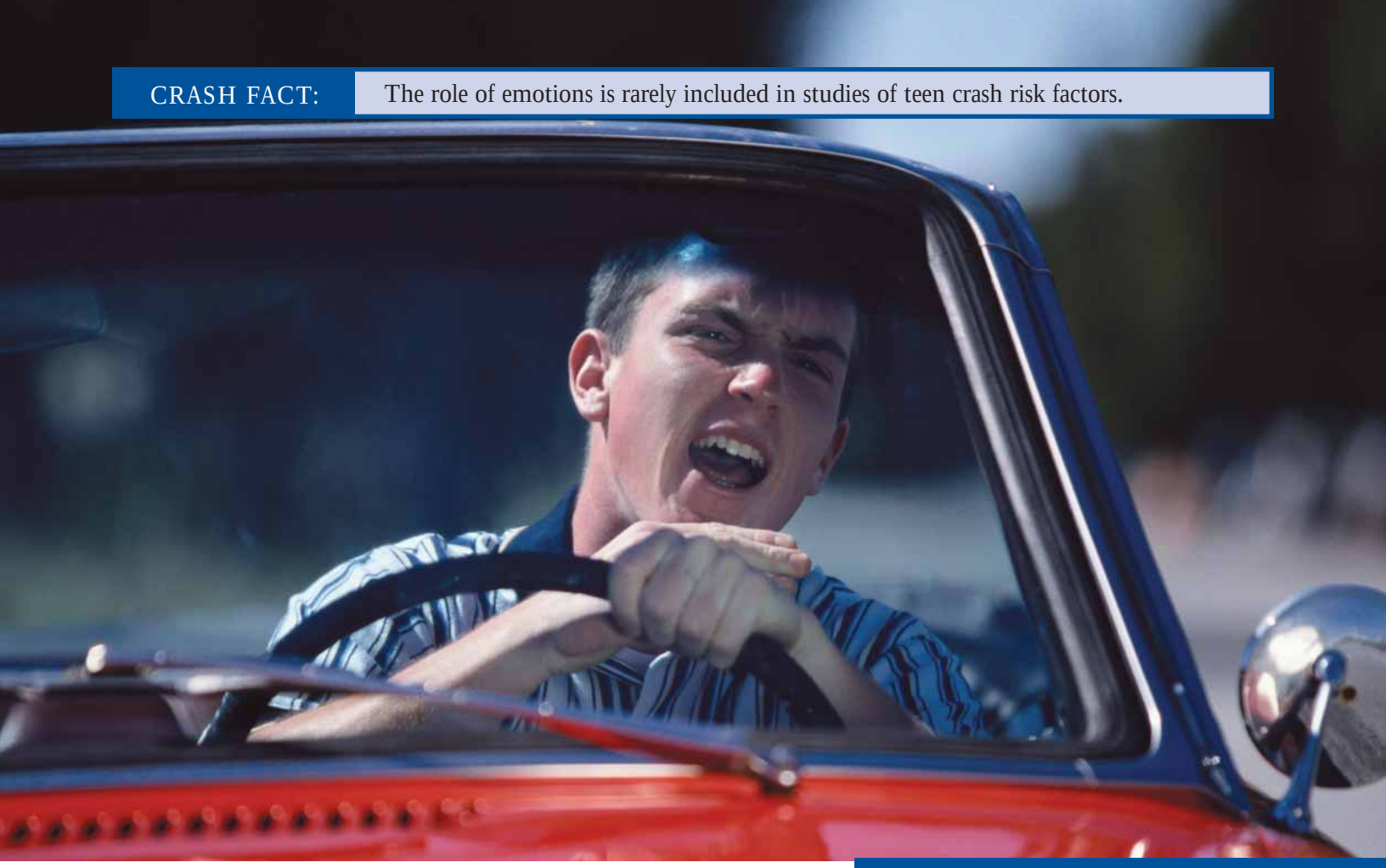
"Definitely if there's alcohol or drugs involved, by even anybody in the car … they're gonna be all hyper or really weird."
— *Arlington, Wash., focus group, May 2006*

"[Drowsy driving] is just not thought of as much as, you know, the drinking issue … it's just as dangerous, it's just not, you know, what … people learn and talk about."
— *Weaubleau, Mo., focus group, May 2006*

"A lot of teens don't get enough sleep today, and they're always tired, and I don't know if they really think about it and realize that they're so tired that they could fall asleep at the wheel."
— *Salina, Kan., focus group, May 2006*

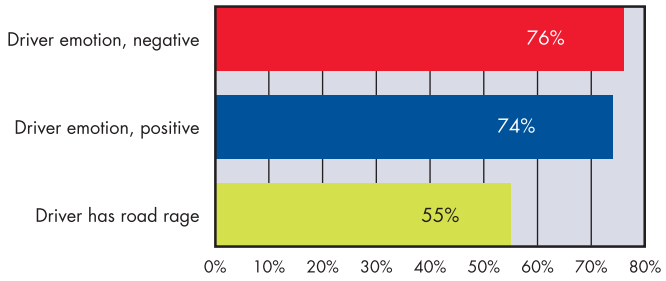
CRASH FACTS: DROWSY DRIVING FACTS ■ According to the National Sleep Foundation, over half of all driving teens reported they had driven while drowsy at least once in the last year, and 15 percent at least once per week.[11] ■ This proportion increases as teens get older: among drivers, 62 percent of 11th graders and 68 percent of 12th graders reported driving while drowsy within the last year.[11]

CRASH FACT: The role of emotions is rarely included in studies of teen crash risk factors.



Emotions

We know that emotions — positive or negative — can have a powerful effect on drivers of all ages. This is particularly true of teens, who are experiencing dramatic changes in relationships, academic pressures and their physical development. We asked teens how often they saw teen drivers "under the influence" of heightened emotional states.



Percent of teens who report seeing these things at least sometimes among teen drivers

- Teen drivers with strong negative (very upset, stressed, angry or sad) or positive (very happy or excited) emotions were observed more frequently than teen drivers angry enough to have road rage.
- Behavior that teens describe as "road rage" is seen by more than half of the respondents.

Good News

"You don't wanna argue in the car, 'cause you just, you know, you gotta pay attention to the road and most of my friends and everything understand that."

— Philadelphia interview, May 2006

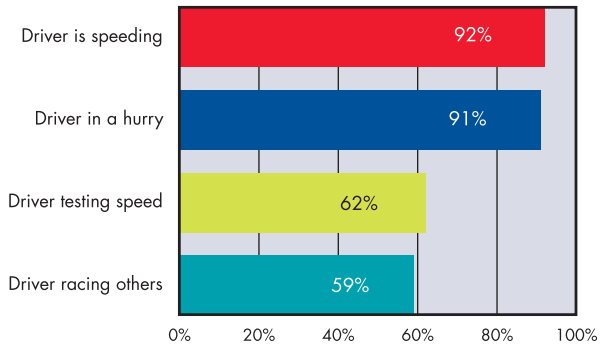
Challenge

"I know if I've had a bad day ... I tend to be a little bit more of a crazy driver ..."

— Holdrege, Neb., focus group, Oct. 2005

Speeding

Speeding, or going too fast for road conditions, is implicated in a greater proportion of fatal teen crashes compared to crashes involving drivers of other age groups. The driver was speeding at the time of the crash in 38 percent of fatal crashes involving male drivers ages 15 to 20 years of age in 2005.[12] We asked teens in our survey how often they saw teen drivers engaging in several speeding behaviors and how often they themselves speed.



Percent of teens who report seeing these things at least sometimes among teen drivers

- Speeding by teen drivers was observed much more frequently than was substance use.
- All types of speeding behaviors by teen drivers were observed at least some of the time by four out of 10 teens.

What teens say they do

- In focus groups, most teens agreed on "more than 10 miles per hour over posted limits" as their definition of speeding.
- Half of all teens reported driving 10 miles per hour or more over the posted limit at least sometimes.

CRASH FACT: Speed is a major contributor to teen crash fatalities. Crash risk increases incrementally with each mile per hour over the speed limit.[13]

Good News

"I don't know how I'm going to be able to control my speed yet, but I'm going to work on it."
— *Las Vegas, N.M., focus group, Oct. 2005*

Challenges

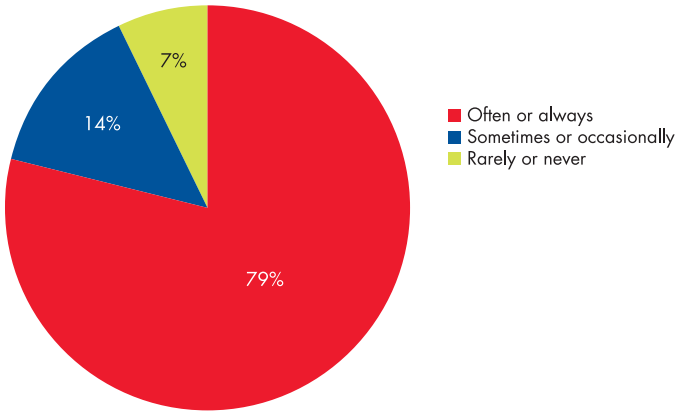
"Sometimes when I'm going fast it doesn't even feel like I'm going that fast."
— *St. Matthews, S.C., interview, May 2006*

"Some people like the rush of it."
— *St. Matthews, S.C., interview, May 2006*

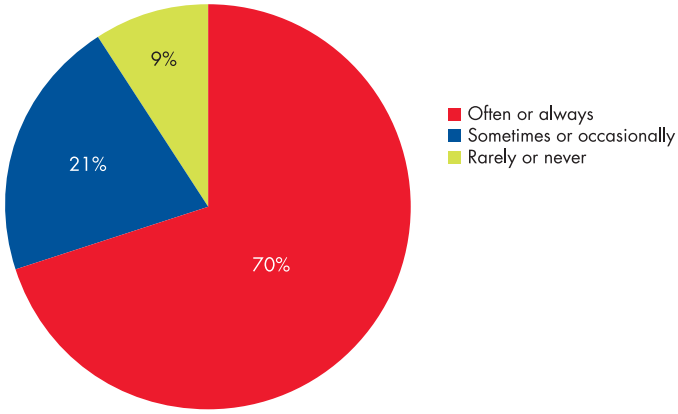
Seat belt Use

Teens have the lowest seat belt use rates of any age group, leading to deadly consequences.[14] Meanwhile, primary seat belt laws, which permit law enforcement officers to pull a car over if occupants are not wearing seat belts, have been adopted by only 23 states and the District of Columbia.[15] We asked teens about their belt-wearing habits, both as drivers and as passengers.

Wear seat belts when driving



Wear seat belts as passenger



- Consistent use of seat belts by teens was nearly 13 percent more common when they were driving as compared with when they were riding as a passenger (with a driver of any age).
- Only 65 percent said they consistently wore their belts as both a driver *and* a passenger.
- Among those who rarely or never wear belts as a driver, 75 percent also rarely or never ride belted as a passenger.

CRASH FACTS: ■ Six out of 10 of drivers ages 16 to 20 who were killed in crashes were unrestrained. ■ Almost two out of three teens killed as occupants of motor vehicles are unrestrained.[16]

Good News

"I tell my passengers, if you don't buckle up you're not coming with me."
— *Las Vegas, N.M., focus group, Oct. 2005*

Challenges

"I don't think many teenagers have been in a wreck where seat belts saved their lives and I don't think they realize how important it is to them."
— *Las Vegas, N.M., focus group, Oct. 2005*

"You don't put on your seat belt if you're just driving down the street, or the dirt road."
— *Las Vegas, N.M., focus group, Oct. 2005*

"When I drive with my parents I always put it on, but like when I'm a passenger, I usually have to be told because I always forget."
— *Holdrege, Neb., focus group, Oct. 2005*

"They're uncomfortable."
— *Thomasville, Ga., focus group, Nov. 2005*

A Look at Our Population

A total of 5,665 students responded to our survey.
All data described in this report are weighted, meaning that the sample is representative of all U.S. public school students in the ninth through 11th grades, representing 10.6 million students. Our sample includes teens who are learning to drive and those who have been driving independently for several years, as well as those who have never driven and may be several years away from driving on their own.

Please see the Methods section on Page 19 for a more detailed description of the sampling and weighting plan.

	CHARACTERISTIC	PERCENT
GENDER	Male	51%
	Female	49%
RACE/ ETHNICITY	Black	16%
	Hispanic	16%
	White	62%
	Other	6%
GRADE	9	38%
	10	33%
	11	29%
AGE	14 and younger	13%
	15	34%
	16	31%
	17	18%
	18 and older	4%

Methods for the National Young Driver Survey

The goal of the National Young Driver Survey was to learn more about teens' views on what is important to keep them safe in cars. It is part of The Children's Hospital of Philadelphia and State Farm's Young Driver Research Initiative, created to develop effective interventions that can be implemented nationally to help save young lives.

■ Survey Creation – In the fall of 2005, 45 focus groups involving nearly 300 students were conducted among diverse populations across the country. The purpose of the focus groups was to hear teens' thoughts about the factors that make a difference in whether teens are safe in cars, and to ask them to prioritize the issues they raised. This unique student viewpoint formed the core of questions in the survey. Simultaneously, additional survey content was created based on an extensive literature review and input from an international panel of experts. Whenever possible, topics based on expert recommendations or the literature review were included as previously validated survey items. Items from the students, on the other hand, were included in their own words to ensure that their true meaning was preserved. The survey was designed as a paper-and-pencil questionnaire to be completed in less than one class period by students with an eighth-grade reading level, and responses were recorded on an optically scannable answer sheet. The survey was pilot-tested in diverse schools in Illinois and Pennsylvania prior to the national launch.

■ Study Sample – Students in public schools in grades nine through 11 were asked to participate in the survey. These grades were selected to include students who had reached the age by which many students begin to drive, as well as those students approaching that age. A nationally representative two-stage sample of schools and students was drawn. At the first stage, all public schools in the country were stratified into urban and rural categories. Schools were defined as urban if the ZIP code in which they were located was at least as urbanized as the median ZIP code in the U.S.; otherwise they were defined as rural. A stratified random sample of 120 schools was selected. Of these schools, 68 participated.

The second stage of sampling consisted of randomly choosing one ninth-grade class, two 10th-grade classes and one 11th-grade class within participating schools. Tenth graders were over-sampled to provide more information about early drivers, as many students either begin their driving experience or substantially increase it in this grade.

A total of 5,665 students participated in the survey, yielding an overall student participation rate of 85 percent. When including the participation rates of both schools and the students, the overall response rate was calculated at 48 percent. When the data are weighted, the sample is representative of all 10.6 million public school students in ninth through 11th grades. Class size averaged 21 students.

■ Survey Administration – This study would not have been possible without the participation of dozens of schools and the help of their teachers across the country who administered the survey. Standardized survey administration procedures, based on those used for the Centers for Disease Control and Prevention's Youth Risk Behavior Surveillance Survey, were designed to protect student privacy and allow for anonymous participation. These procedures were followed at each school and in each participating classroom. Research indicates that when students know that procedures are in place to protect their privacy and to allow for anonymous participation, data of this nature can be gathered as reliably from adolescents as from adults. Internal analytical checks demonstrated strong reliability and face validity of the data collected. The survey and all associated procedures received approval from the Institutional Review Boards (IRB) of both The Children's Hospital of Philadelphia and ORC Macro, the survey research firm that conducted the survey. An IRB is an oversight group that makes sure the rights and welfare of research participants are protected.

■ Survey Analysis – All survey analyses were conducted at The Children's Hospital of Philadelphia after survey data were weighted to adjust for the variable probabilities of selection and differential nonresponse, which considered gender, race/ethnicity, and grade. The sampling weights were first computed as the reciprocal of the probability of selection for students. According to design, sampling weights were approximately equal for all students in a grade in a given stratum (rural or urban). All analyses were conducted using SPSS 14.0 for Windows (SPSS Inc., Chicago, Ill.); frequency percentages were rounded to the nearest whole number.

■ Qualitative Research Sources – The quotations in this report were excerpted from in-depth interviews conducted with more than 40 teens in seven states and focus groups conducted with nearly 450 teens in 17 states between September 2005 and May 2006.

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