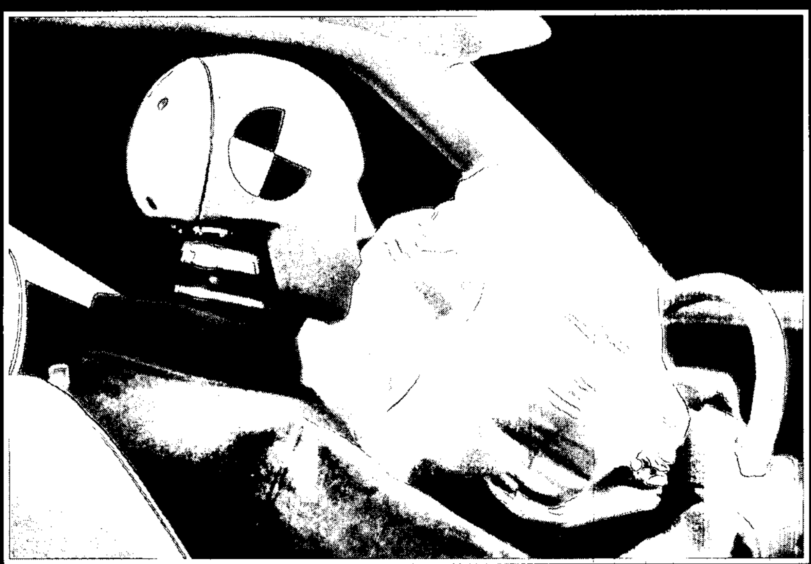
1996

Motor Vehicle Occupant Safety Survey

Volume 2:

Air Bags Report



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16. Abstract

The National Highway Traffic Safety Administration (NHTSA) commissioned the research firm of Schulman Ronca & Bucuvalas, Inc. (SRBI) to conduct the 1996 Motor Vehicle Occupant Safety Survey . Between November 4, 1996 and January 5, 1997 SRBI conducted a total of 8,210 telephone interviews among a national population sample. The percentages provided in the report are weighted to accurately reflect the national population of drivers age 16 or over. This report is a follow-up to the 1994 Motor Vehicle Occupant Safety Survey, thereby permitting comparisons of the public's attitudes and behavior regarding air bags between 1994 and 1996.

As in the 1994 survey, the 1996 version asked respondents if their vehicle had an air bag, whether they knew that seat belts still needed to be worn when an air bag is present, and their knowledge of the factors that trigger air bag deployment (i.e., speed and location of impact). In response to several highly-publicized air bag related fatalities, the 1996 survey added new questions examining the desirability of air bags and perceptions of injury risk from air bags.

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1996 Motor Vehicle Occupant Safety Survey

Introduction

A motor vehicle's occupant protection system consists of several components which, working together, offer optimum crash protection to drivers and passengers. Air bags have become an important part of that occupant protection system. Federal law requires that all passenger cars manufactured on or after September 1, 1997, and light trucks and vans manufactured on or after September 1, 1998, provide air bags at the driver and right front seat passenger positions.

As air bags have become more prevalent in the vehicle fleet, the number of fatalities they have prevented has grown. By June 1997, it is estimated that air bags had saved more than 2,000 lives.

In the 1994 Motor Vehicle Occupant Safety Survey, respondents were asked if their vehicle had an air bag, whether they knew that seat belts still needed to be worn when an air bag is present, and their knowledge of the factors that trigger air bag deployment (i.e., speed and location of impact). The primary air bag injury issue in 1994 was the danger to infants in rear-facing car seats when placed in the front seat of a vehicle having a passenger side air bag. This could place them in the air bag's path, with the force of impact being too great for the infant. NHTSA took action to alert the public to this danger, and advised that children in rear-facing car seats should always ride in a back seat. A question on this issue was included in the car seat module of both the 1994 and 1996 surveys.

The 1996 survey added new questions examining the desirability of air bags and perceptions of injury risk from air bags. This occurred because injury concerns about air bags had broadened as other forms of air bag related fatalities had been identified. By June 1997, there were 68 known air bag related fatalities, 25 drivers and 43 passengers (40 of whom were children or infants). Some fatalities had received extensive media attention. In most of these cases, safety restraints were not being used, or were used improperly. Nonetheless, these cases pointed to increased vulnerability to injury from air bags for children and short-statured adults.

Educational efforts to address this problem have emphasized several safety points (see NHTSA Brochure in Appendix A), including the warning that children 12 and under should ride buckled up in a rear seat. NHTSA also has issued regulatory proposals on the matter. By April 1997, three had become finalized rules: a requirement concerning placement of warning labels in new cars; an extension of the time period that manufacturers can offer passenger air bag cut-off switches in vehicles with no rear seats or small rear seats; and permission for manufacturers to use lower powered air bags.

With air bags having saved more than 2,000 lives, but recent fatalities generating pressure for giving vehicle owners the option of whether or not to have an operating air bag on both driver and passenger sides, complex safety issues have emerged. Of concern is that decisions not be made that result in more lives lost than saved; that people make the safest choices possible and not subtract from the integrity of the full occupant protection system if alternatives are available. Informed decisions require an accurate understanding of how air bags work, the risks they pose, and how those risks can be addressed. The extent to which the public has this understanding is a focus of the 1996 survey.

Methodology

The 1996 Motor Vehicle Occupant Safety Survey was conducted by Schulman, Ronca & Bucuvalas, Inc. (SRBI), a national survey research organization. SRBI conducted a total of 8,210 telephone interviews among a national population sample. To limit the survey length, SRBI separated the questionnaire into two versions. A total of 4,188 interviews were completed in Version 1 and 4,022 completed interviews in Version 2. Although some questions were used in both versions, each had its own set of distinct topics. Each sample was composed of approximately 4,000 persons age 16 and older, including oversamples of persons age 16-39. The procedures used in the survey yielded national estimates of the target population within specified limits of expected sampling variability, from which valid generalizations can be made to the general public.

The survey was fielded from November 4, 1996 to January 5, 1997. This is approximately the same time period in which the 1994 Occupant Protection Survey was conducted (October 5, 1994 to December 11, 1994). For a complete description of the methodology and sample disposition, including computation of weights, refer to the 1996 Motor Vehicle Occupant Safety Survey, Volume 1: Methodology Report.

The percentages provided in the following report are weighted to accurately reflect the national population of drivers age 16 or over. Unweighted sample sizes ("N's) are included so that readers know the exact number of respondents answering a given question, allowing them to estimate sampling precision. Percentages for some items may not add to 100 percent due to rounding, or because the question allowed for more than one response.

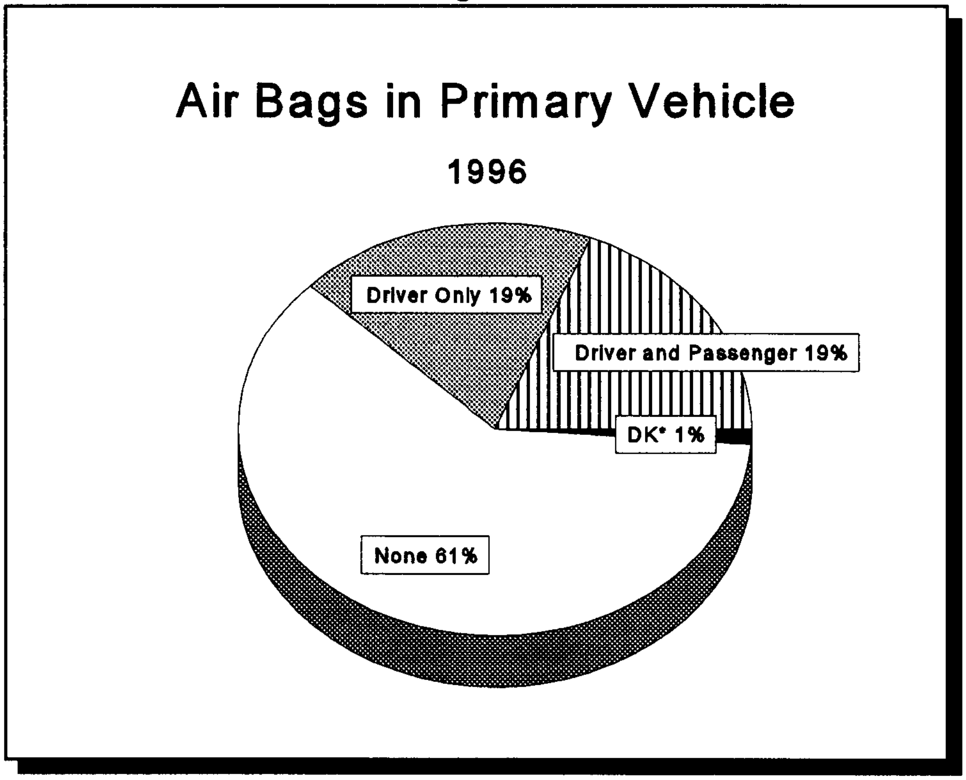
SECTION 1

1996 SURVEY RESULTS

Prevalence of Air Bags

By late 1996, nearly two out of five drivers reported having an air bag in their primary driving vehicle. The same proportion (19%) reported having driver and passenger side air bags as those with air bags on the driver side only. The majority of drivers (61%), however, did not have an air bag in the vehicle they drive most often.

Figure 1



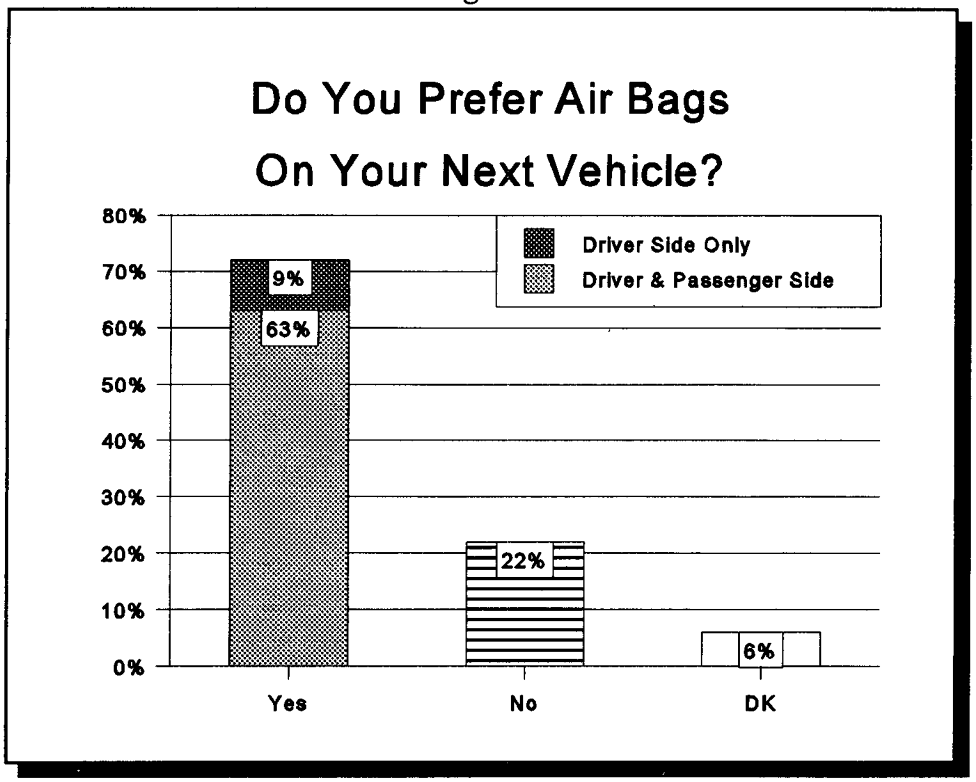
Qx: Does the (vehicle) you normally drive have an air bag?
Qx: Is the air bag for the driver only or is there also a passenger side air bag?
Base: Drivers whose primary vehicle is not a motorcycle
Unweighted N=7,608

* DK = "Don't Know"

Air Bag Demand

Most of the public (72%) would prefer air bags on their next vehicle, while 22% would prefer to have no air bags. The majority of the public preferred vehicles with both driver and passenger- side air bags, with only 9% preferring air bags on the driver's side only in their next vehicle.

Figure 2

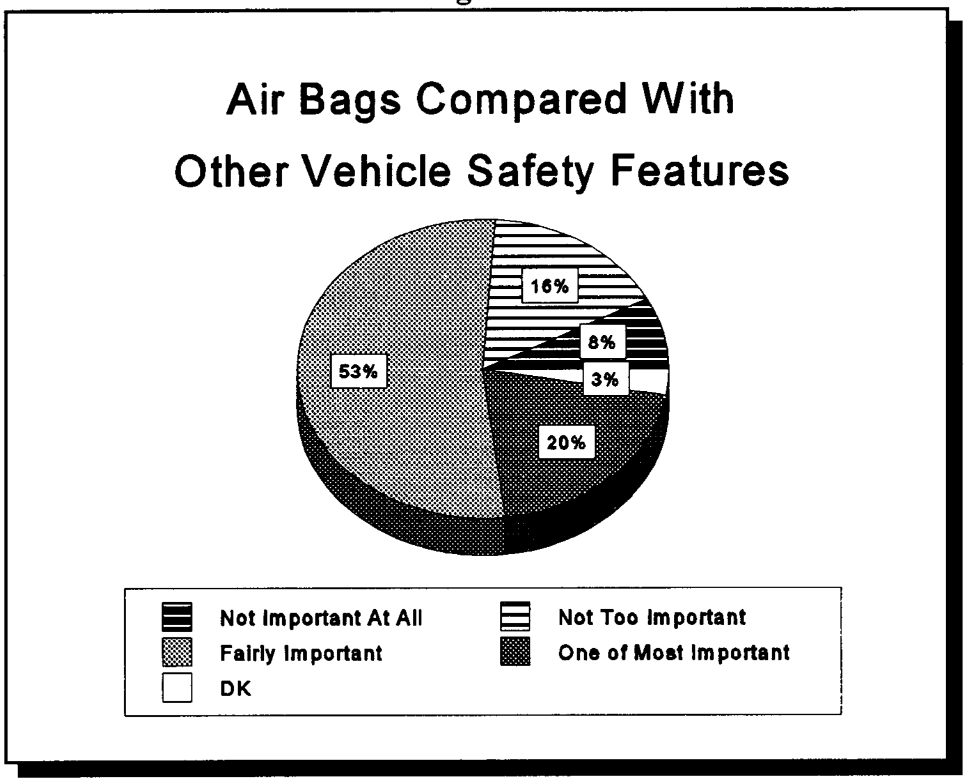


Qx: *Would you prefer that your next vehicle have driver side air bags only, driver and passenger side air bags, or no air bags?*
Base: *Total Population Age 16+*
Unweighted N=4,188

Air Bags' Importance As A Safety Feature

Air bags are designed as a safety feature. Only 20% of the public regarded them as one of the most important when compared to other automobile safety features. However, another 53% did regard them as *fairly important.* About one-fourth (24%) of the public felt that air bags were not too important or not important at all when compared to other vehicle safety features.

Figure 3



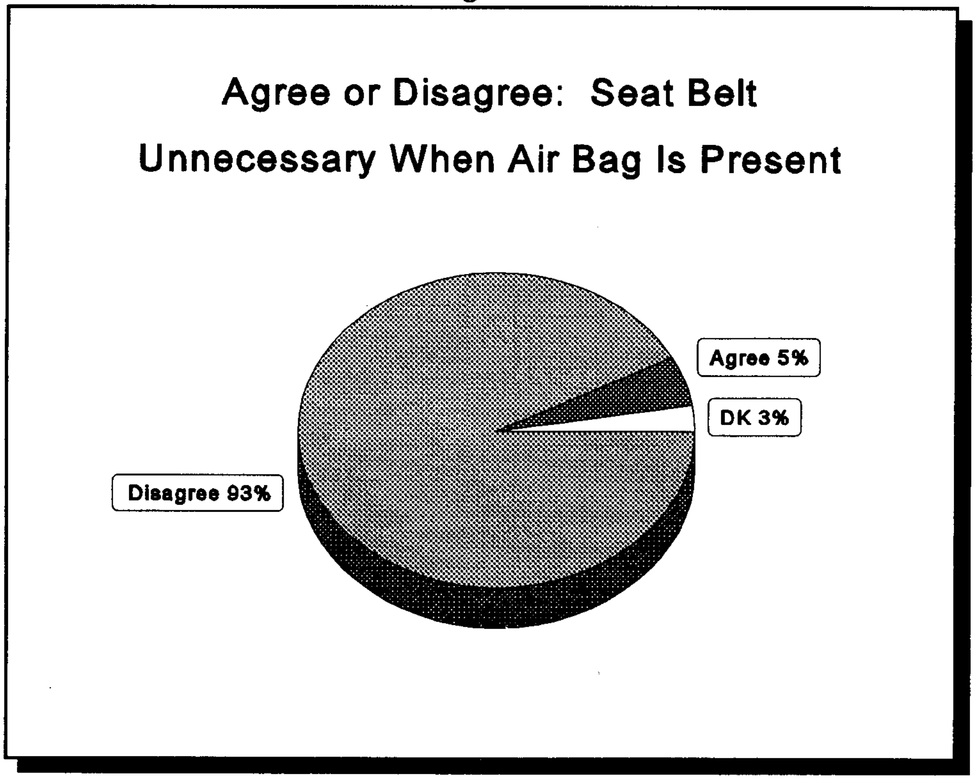
Qx: *Compared to the other safety features of motor vehicles, do you consider air bags to be one of the most important, fairly important, not too important or not important at all?*
Base: *Total Population Age 16+*
Unweighted N=4,188

Air Bags and Seat Belt Use

Air bags and seat belts are two parts of a vehicle's passenger safety system. Safety experts emphasize that drivers and passengers should always wear their seat belts, regardless of whether or not the vehicle contains an air bag.

To assess consumer understanding of this issue, respondents were asked to agree or disagree with the statement: "If my car has a drivers side air bag, I don't need to wear my seat belt when driving" (or for non-drivers, whether or not they need to wear the belt if there is a passenger side air bag). Correctly, the overwhelming majority (93%) did not view air bags as a substitute for seat belts.

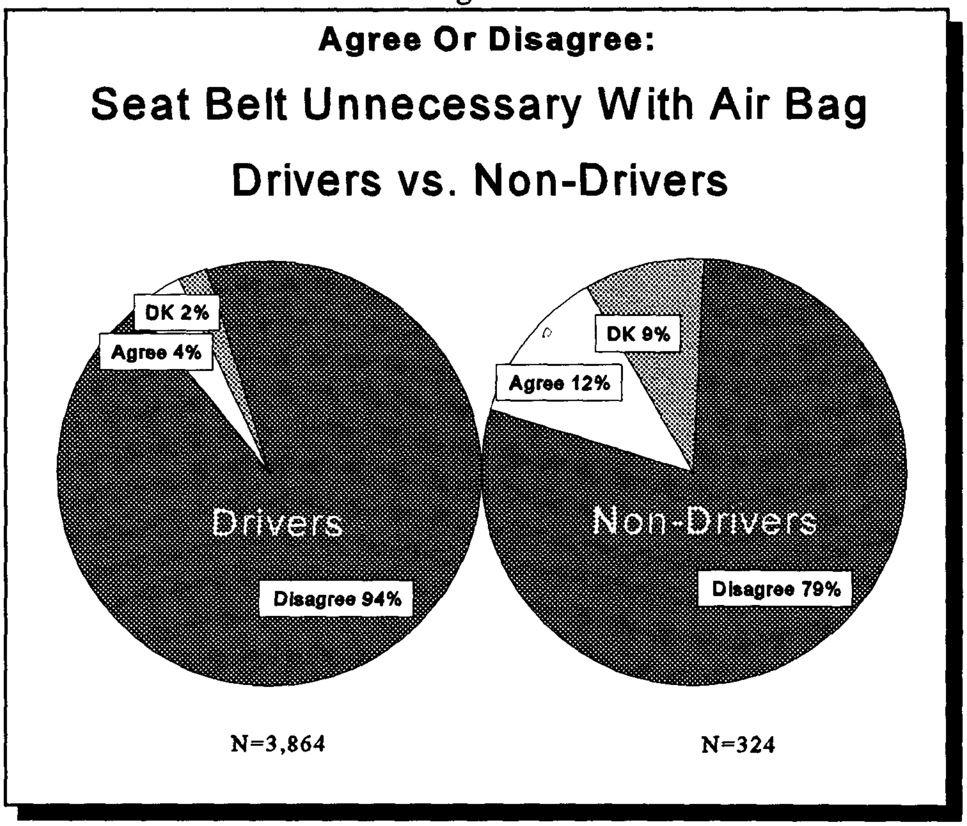
Figure 4



Qx: *Please tell me whether you agree or disagree with the following statement: "If my car has a (driver/passenger) side air bag, I don't need to wear my seat belt when (driving/riding)."*
Base: *Total population age 16+*
Unweighted N=4,188

Drivers were more likely than non-drivers* to believe that seat belts should still be used when the vehicle has an air bag. About 94% of drivers correctly disagreed with the statement "If my car has a driver side air bag, I don't need to wear my seat belt when driving." By contrast, 79% of non-drivers disagreed with the passenger side statement.

Figure 5



Qx: *Please tell me whether you agree or disagree with the following statement: "If my car has a (driver/passenger) side air bag, I don't need to wear my seat belt when (driving/riding)."*
Base: *Total Population age 16+*

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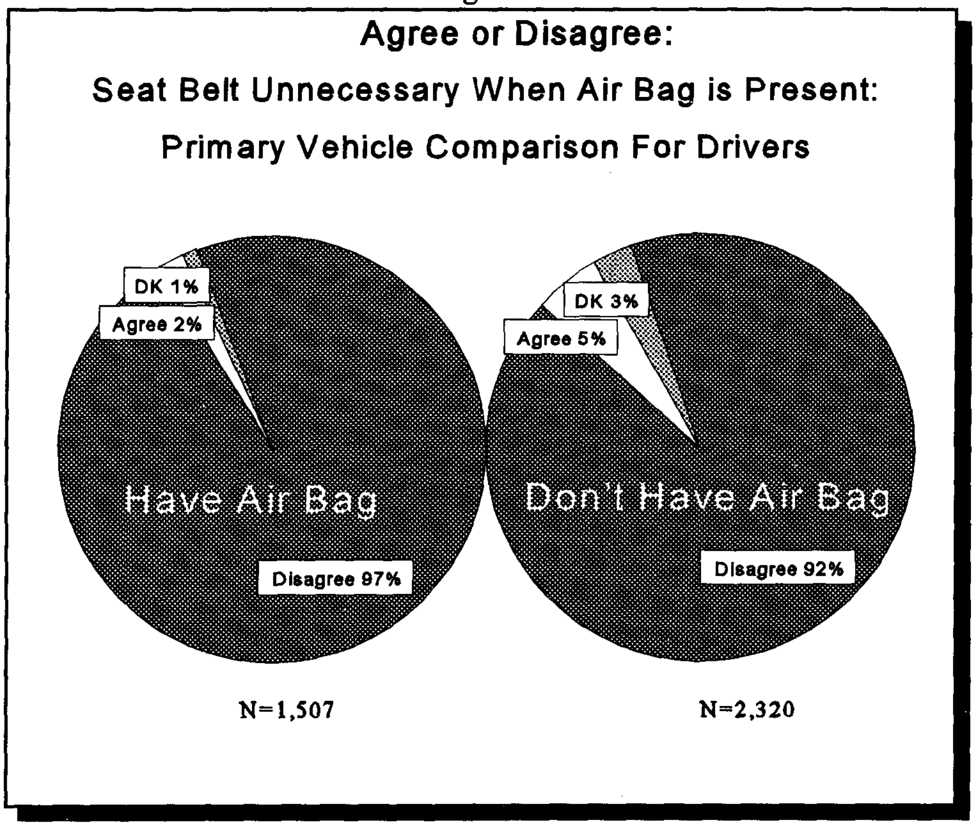
* For purposes of this study, respondents are classified as non-drivers if they said they never drove a motor vehicle. Eight percent of the total driving age population was classified as non-drivers, who tended to be either in the youngest age category (ages 16-20, 22%) or in the oldest age category (age 65 or older, 25%).

Drivers with air bags in their primary vehicle were even more likely to know that air bags do not eliminate the need for seat belts. Ninety-seven percent of drivers with air bags correctly disagreed that seat belts were unnecessary with air bags compared with 92% of drivers without air bags in the primary vehicle.

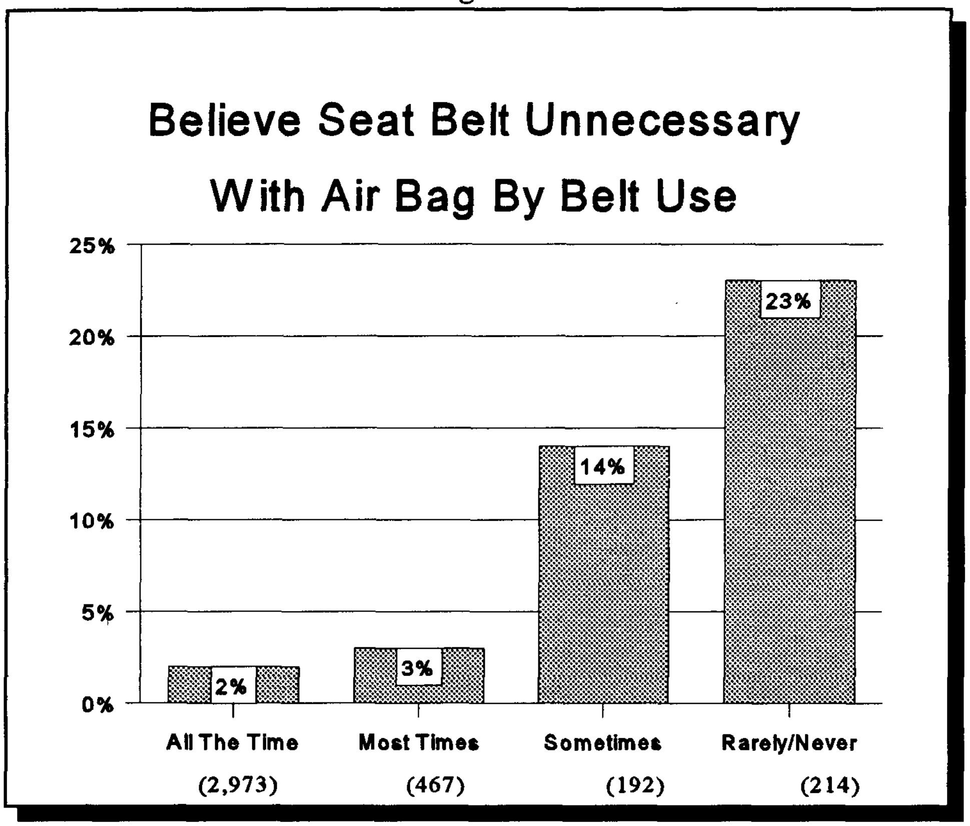
Figure 6



Qx:	*Please tell me whether you agree or disagree with the following statement: "If my car has a (driver/passenger) side air bag, I don't need to wear my seat belt when (driving/riding)."*
Qx:	*Does the vehicle you normally drive have an air bag?*
Base:	*Drivers whose primary vehicle is not a motorcycle*

Only 2% of drivers who said they use their seat belt all the time when driving agreed (incorrectly) with the statement, "If my car has a driver side air bag, I don't need to wear my seat belt when driving." The less frequently one wore a seat belt, the more likely he or she was to agree with the statement. Nearly a quarter (23%) of drivers who rarely or never wear their seat belt incorrectly stated that seat belts don't need to be worn when an air bag is present.

Figure 7

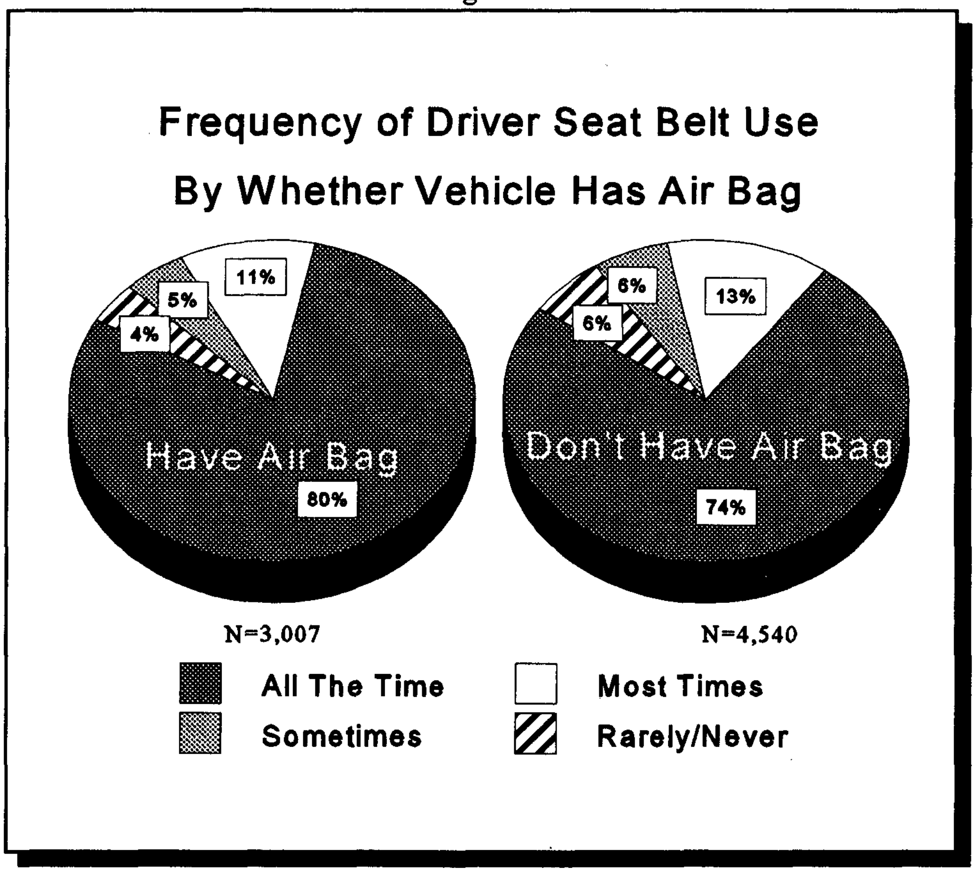


Qx: *Please tell me whether you agree or disagree with the following statement. If my car has a driver side air bag, I don't need to wear my seat belt when driving.*

Base: *Drivers whose primary vehicle is not a motorcycle*

Seat belt use did not decline when vehicles were equipped with air bags. In fact, seat belt use was somewhat higher among those who had air bags. Eighty percent of drivers with air bags said they use their seat belts all the time compared with 74% of drivers whose primary vehicle did not have an air bag.

Figure 8



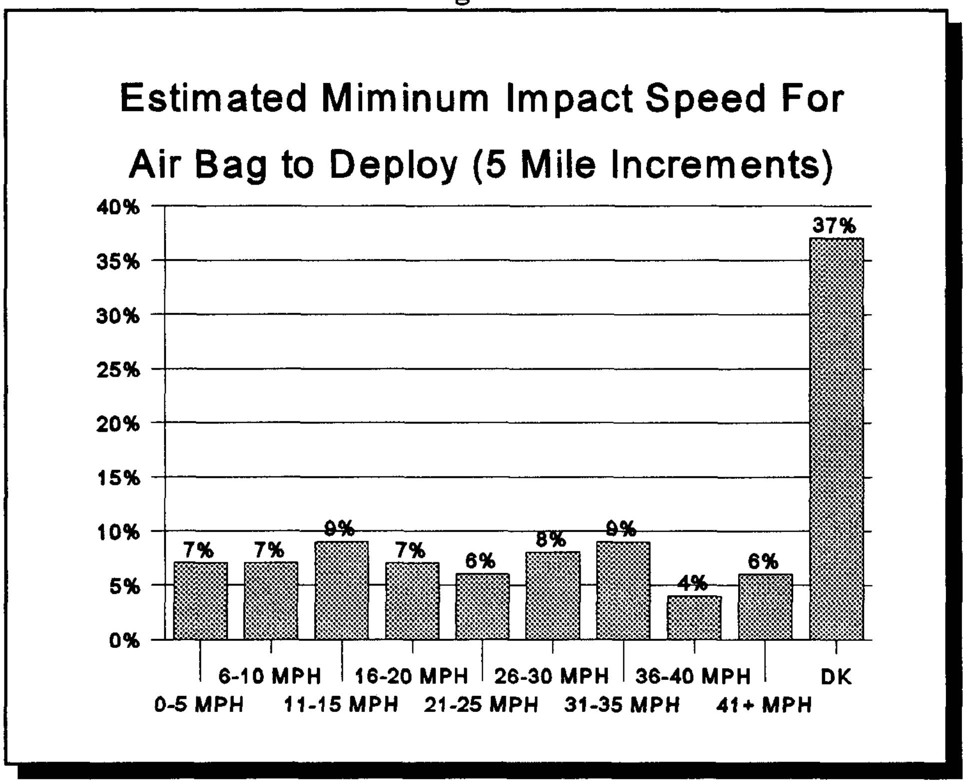
Qx: *Does the vehicle you normally drive have an air bag?*
Base: *Drivers whose primary vehicle is not a motorcycle*

Minimum Speed for Air Bag Deployment

The crash velocity necessary for an air bag to deploy varies somewhat across vehicles. The range of crash deployment speeds is about 7-14 mph in terms of the velocity of a vehicle going into a solid wall ("barrier equivalent").

There was no consensus among the public about the minimum speed at which air bags deploy. Their estimates of impact speed for deployment spread fairly evenly from less than 6 mph to over 40 mph. The majority (53%) estimated that air bags deploy at speeds of 35 mph or less. More than a third (37%) said they didn't know the minimum impact speed for an air bag to deploy.

Figure 9

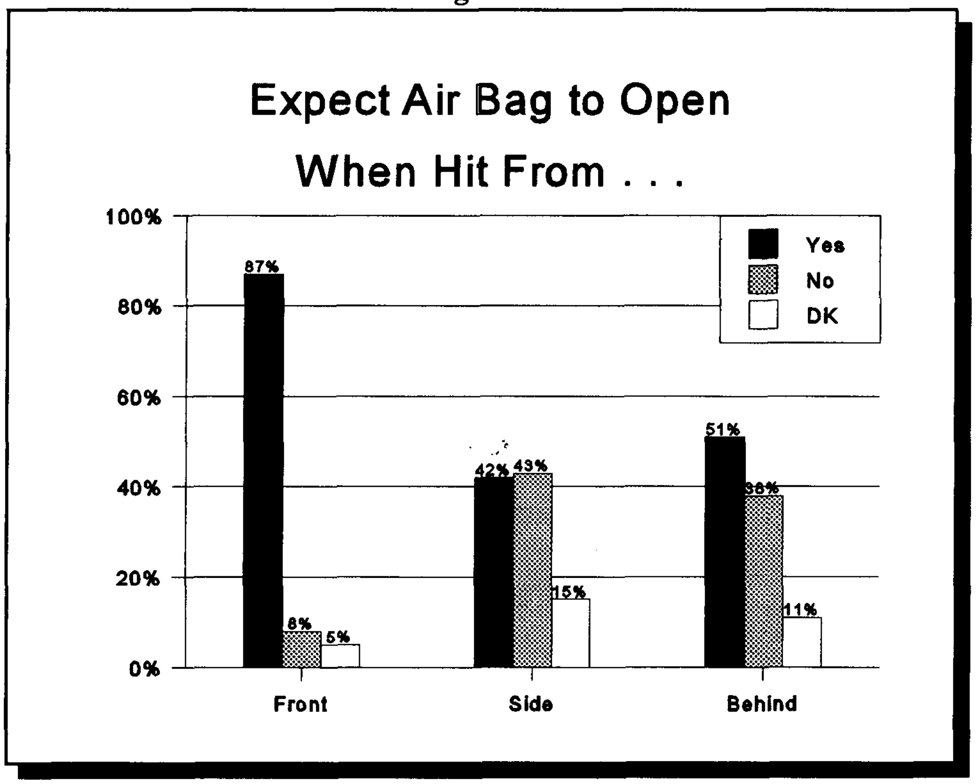


Qx: Based on what you know or have heard, what is the minimum speed a vehicle would have to be hit in order for an air bag to open up?
Base: Total population age 16+
Unweighted N=4,188

Location of Impact and Air Bag Deployment

Most of the public was aware that air bags are designed for front-end impacts. The overwhelming majority (87%) believed air bags will open if the vehicle was hit from the front at a moderate speed. However, more than four in ten believed that air bags would open if the vehicle was hit from the side (incorrect for most vehicles*), and half incorrectly thought they would open if hit from the rear.

Figure 10

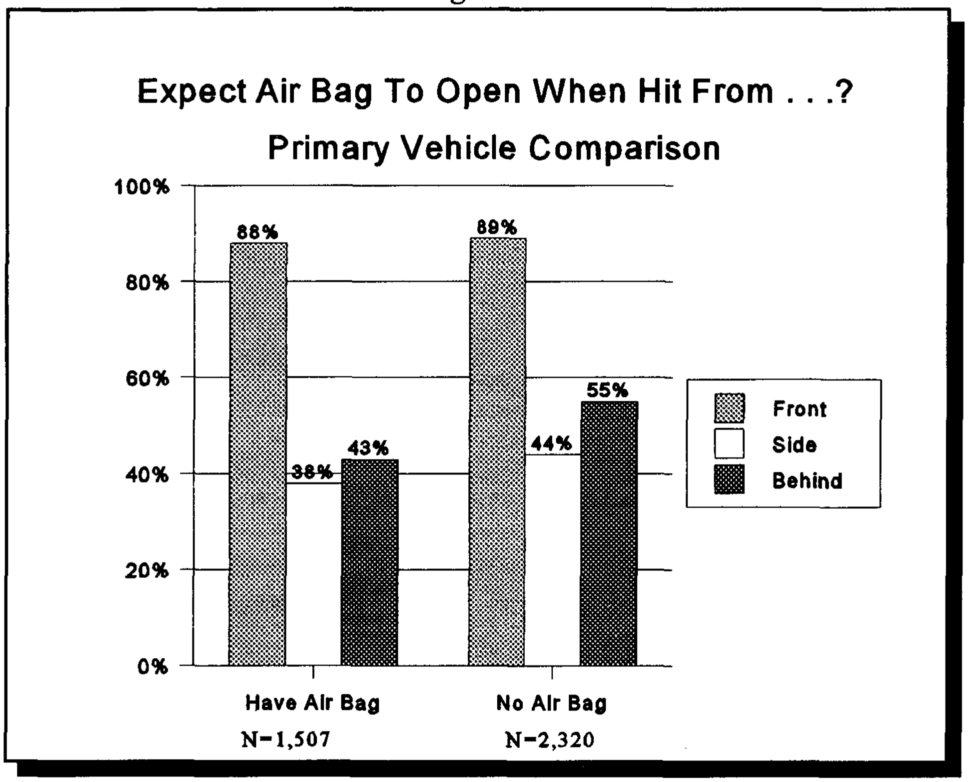


Qx: *If a vehicle is hit from the [front, side, behind] at a moderate speed, would you expect the air bag to open?*
Base: *Total population age 16+*
Unweighted N=4,188

* Air bag deployment can occur for vehicle impacts from clock positions 10 to 2.

A substantial proportion of drivers with air bag equipped vehicles assumed that side and rear impacts can cause air bags to deploy. Among drivers with air bags in their primary vehicle, 38% believed that a side impact will activate the air bag and 43% thought a rear impact will do so. By comparison, 44% of drivers whose primary vehicle does not have an air bag thought a side impact would activate an air bag and 55% believed that a rear impact would deploy the bag.

Figure 11



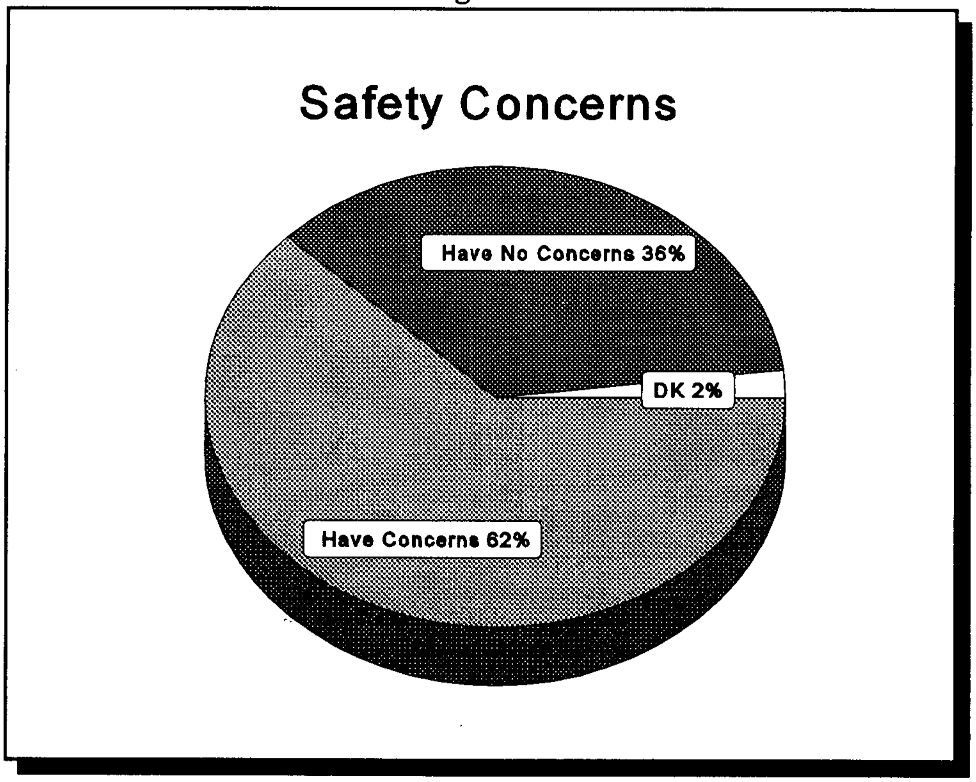
Qx: *If a vehicle is hit from the (front, side, behind) at a moderate speed, would you expect the air bag to open?*

Base: *Drivers whose primary vehicle is not a motorcycle.*

Safety Concerns

Even though 72% of the public would prefer an air bag in their next vehicle, many still expressed concerns about air bag safety. In fact, more than 6 out of 10 respondents (62%) said that they had concerns about air bag safety.

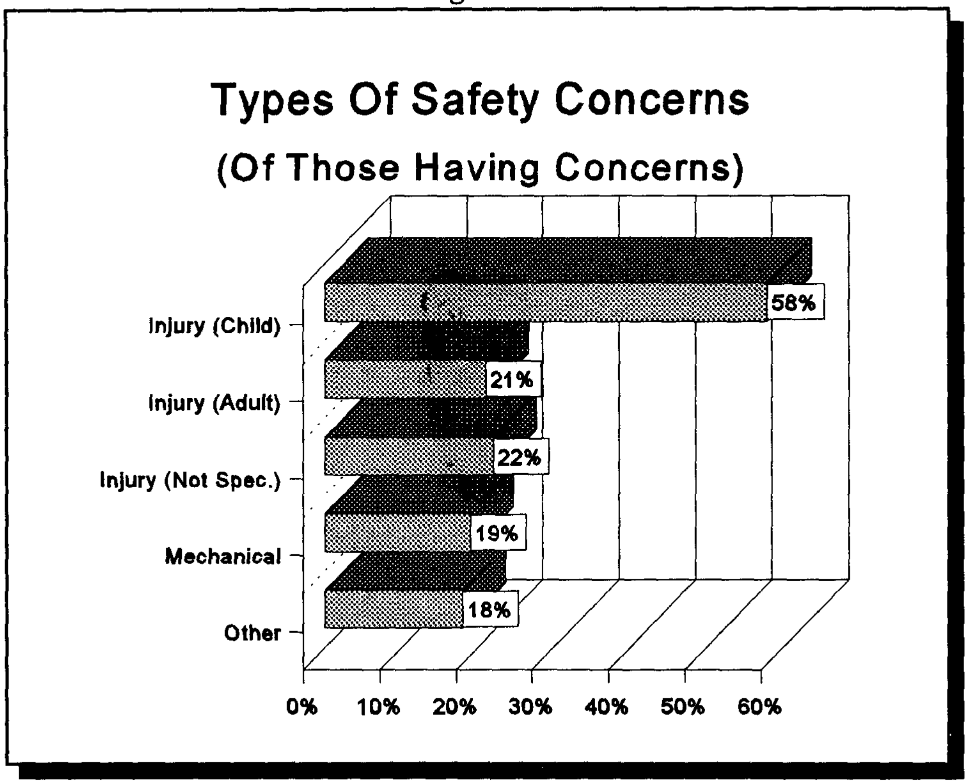
Figure 12



Qx: Do you have any concerns about the safety of air bags?
Base: Total population age 16+
Unweighted N=4,188

Most of those worried about air bag safety were concerned about severe injuries to children. The public also expressed concerns about injuries to adults, injuries in general, and mechanical problems with the air bags.

Figure 13



Qx: Do you have any concerns about the safety of air bags?
Qx: What are those concerns?
Base: Those with concerns about the safety of air bags
Unweighted N=2,648

Table 1 provides a more detailed breakout of the concerns expressed by respondents.

Table 1. Air Bag Concerns

Item	%
Injury (Child)	**58%**
• Injury, Unspecified	27%
• Killed	17%
• Injury if Placed in Front Seat	14%
• Suffocate or Smother	9%
Injury (Adult)	**21%**
• Small Adults Being Killed	9%
• Suffocating	5%
• Injury, Unspecified	4%
• Killed	3%
Injury (Not Specified)	**22%**
• Injuries Due To Speed of Air Bag	8%
• Injuries Due To Air Bag Deployment	6%
• Injury to Neck	4%
• More Injuries With Air Bags Than Without	4%
• Broken Bones	2%
Mechanical Problem	**19%**
• Rate of Deployment Too Fast	6%
• Air Bag Malfunction	5%
• Split and Release Chemicals	3%
• Deploys in Minor Accident	3%
• Deploys Prematurely (No Accident)	3%
• Explodes	2%

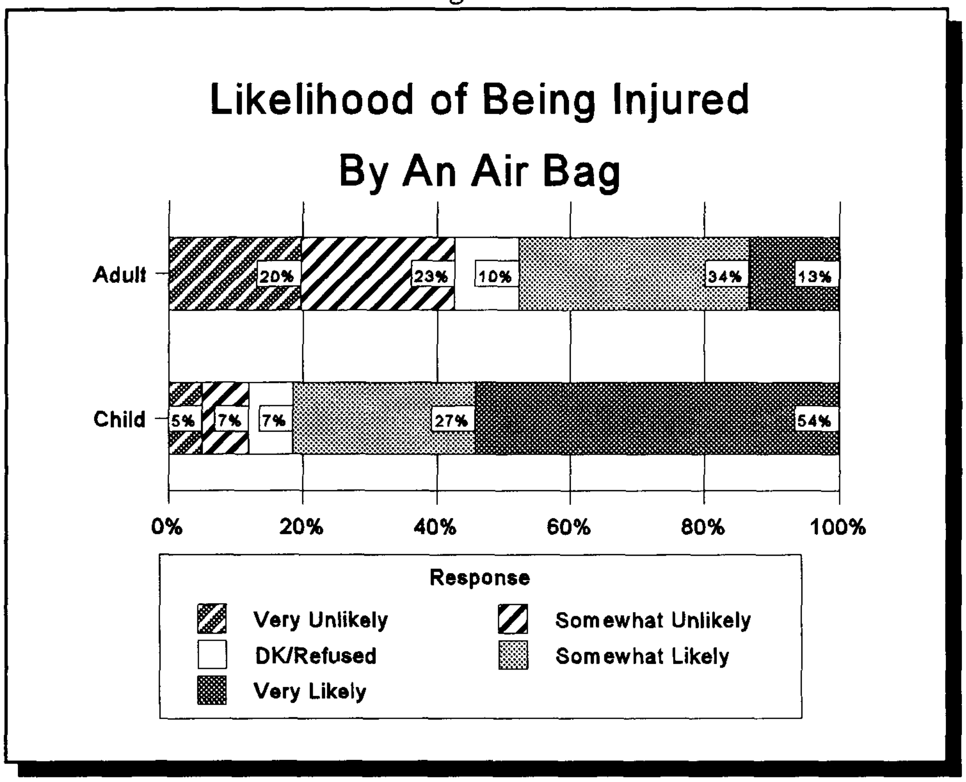
Percentages don't total 100% due to multiple responses
Base: Those With Concerns About Air Bag Safety
Unweighted N=2,648

Likelihood of Injury: Adult Versus Children

Respondents were asked what they thought was the likelihood that, when an air bag deploys normally: 1) an adult sitting in the front seat would be injured *by* the air bag; and 2) a small child sitting in the front seat would be injured *by* the air bag. Almost half believed it either *somewhat likely* or *very likely* that an adult would be injured by an air bag. Forty-three percent felt it was unlikely.

The public widely viewed children as susceptible to injury from air bags. The majority thought that it was *very likely* that a small child would be injured by an air bag. Eight in ten people believed it was either *somewhat likely* or *very likely* a small child sitting in the front seat would be injured by an air bag opening normally.

Figure 14

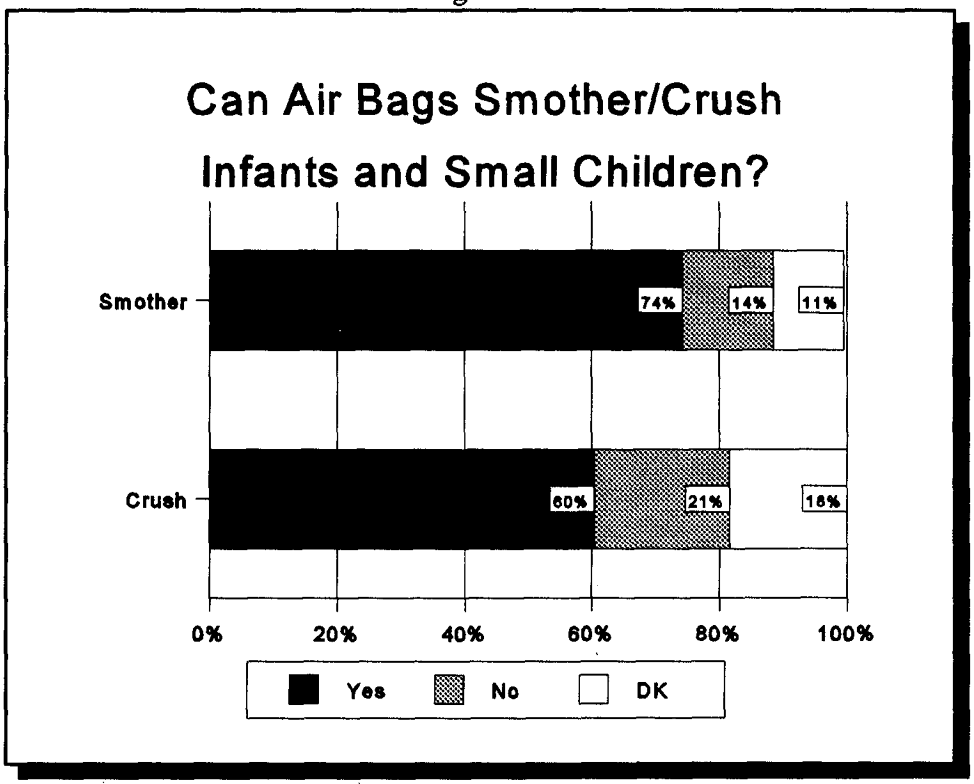


Qx: *Based on what you know or have heard, how likely is it that a(n) [adult/small child] sitting in the front seat would be injured by an air bag when it opens normally?*

Base: Total population age 16+ *Unweighted N=4,022*

The majority of the public believed that air bags are capable of causing serious harm to infants or small children. Nearly three of four (74%) felt that air bags can *smother* an infant or a small child. Sixty percent believed that air bags can *crush* infants or small children.

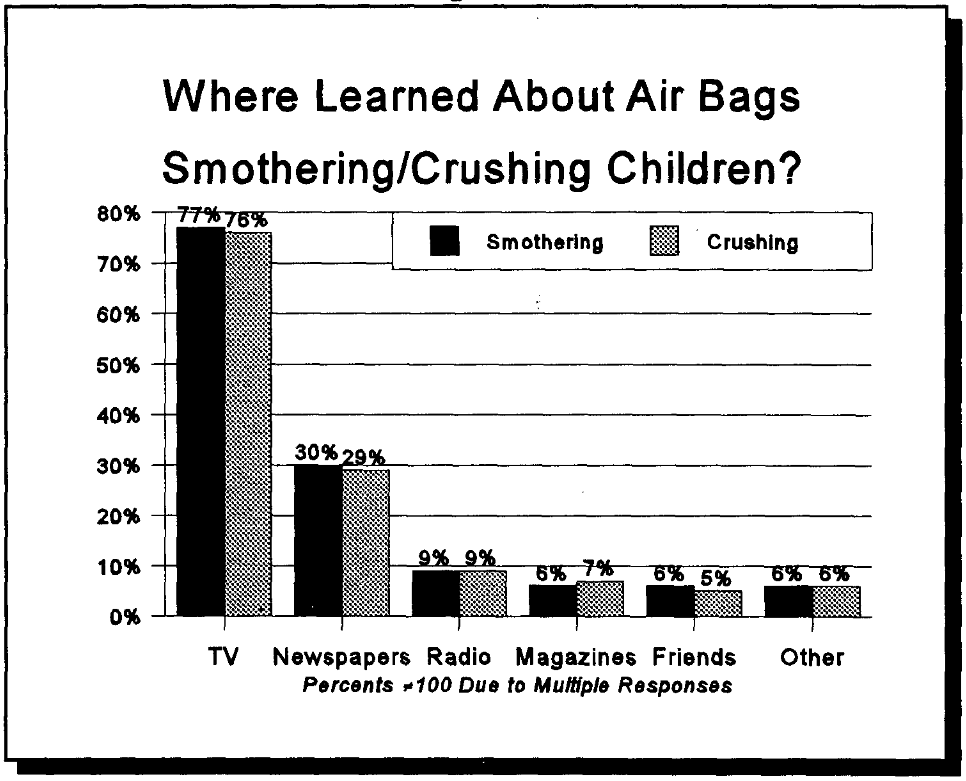
Figure 15



Qx: *Based on what you know or have heard, can an air bag [smother/crush] an infant or small child sitting in the front seat when it opens up?*
Base: *Total population age 16+*
Unweighted N=4,022

More than 3 out of 4 people pointed to television as the information source for their beliefs that air bags can smother or crush infants and small children. Reading newspaper articles was the only other commonly identified news source for this opinion (about 30%), followed by radio, magazines, and through friends and co-workers. About 6% mentioned other sources, which included insurance agents, car dealers, mechanics, and police, among others.

Figure 16

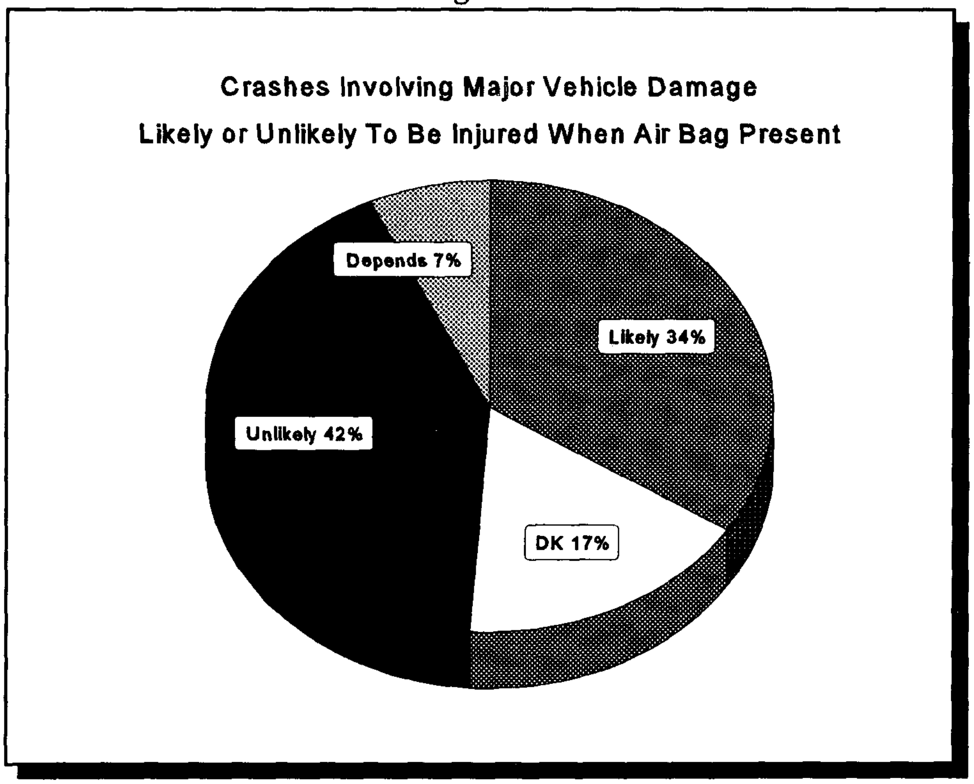


Qx: *Where did you hear or learn about this?*
Base: *Believe air bags can smother child, Unweighted N=2,963*
Base: *Believe air bags can crush child, Unweighted N=2,404*

Likelihood of Injury With Air Bag in Vehicle

Drivers were divided on whether they would be injured in a crash with major vehicle damage while in an air bag equipped vehicle. Roughly 42% felt an injury was unlikely with air bags; however, about a third (34%) felt injuries were likely even with air bags. A fairly large proportion (17%) said they weren't sure.

Figure 17

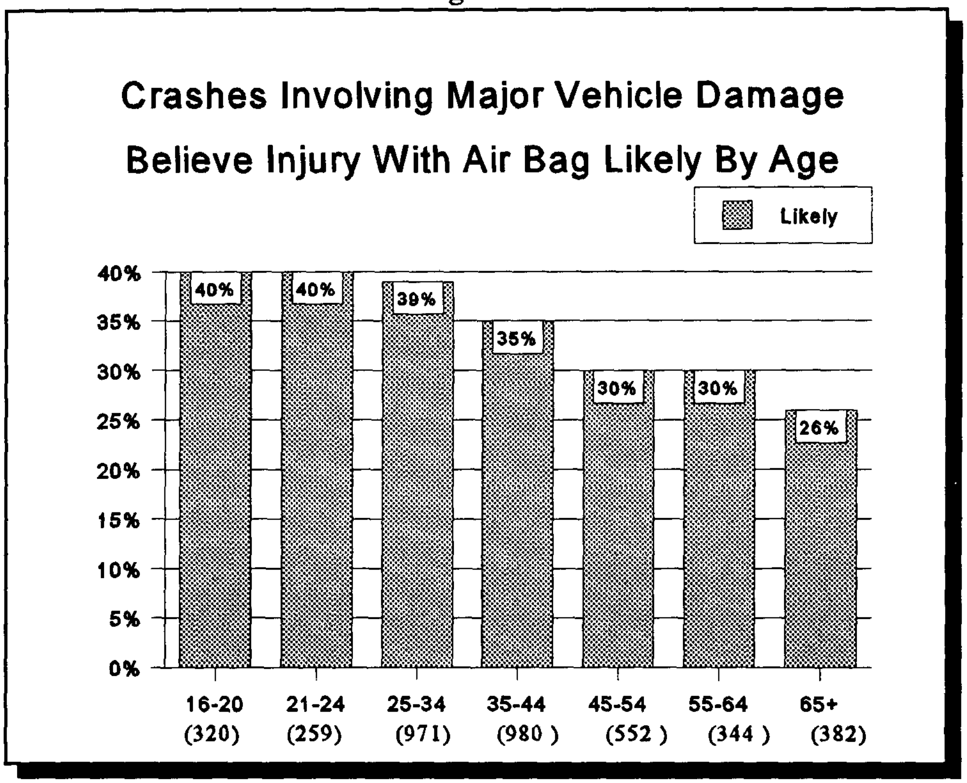


Qx: If you are driving in a vehicle that has an air bag and you get into an accident involving major vehicle damage, is it likely or unlikely that you would be injured?
Base: Drivers
Unweighted N=3,864

Likelihood of Injury With Air Bag in Vehicle By Age

Youth and young adults were more likely than older drivers to believe they would be injured if they were in a crash in an air bag equipped vehicle. About 4 in 10 drivers ages 16-34 believed it is likely they would be injured, with the percentage decreasing for older driver age groups.

Figure 18



Qx: *If you are driving in a vehicle that has an air bag and you got into an accident involving major vehicle damage, is it likely or unlikely that you would be injured?*
Base: *Drivers*
Unweighted N's listed above

This age correlation may be more a function of risky driving behavior than an indication of people's confidence in air bags. The data suggest that those who engage in risky driving behaviors (e.g., speeding, driving and drinking, infrequent seat belt use, etc.) are more likely than those who don't to believe they are vulnerable to injury in a crash involving major vehicle damage while in an air bag equipped vehicle.

Table 2. Percent Believing Injury Likely In a Crash While In An Air Bag Equipped Vehicle By Driving Behavior

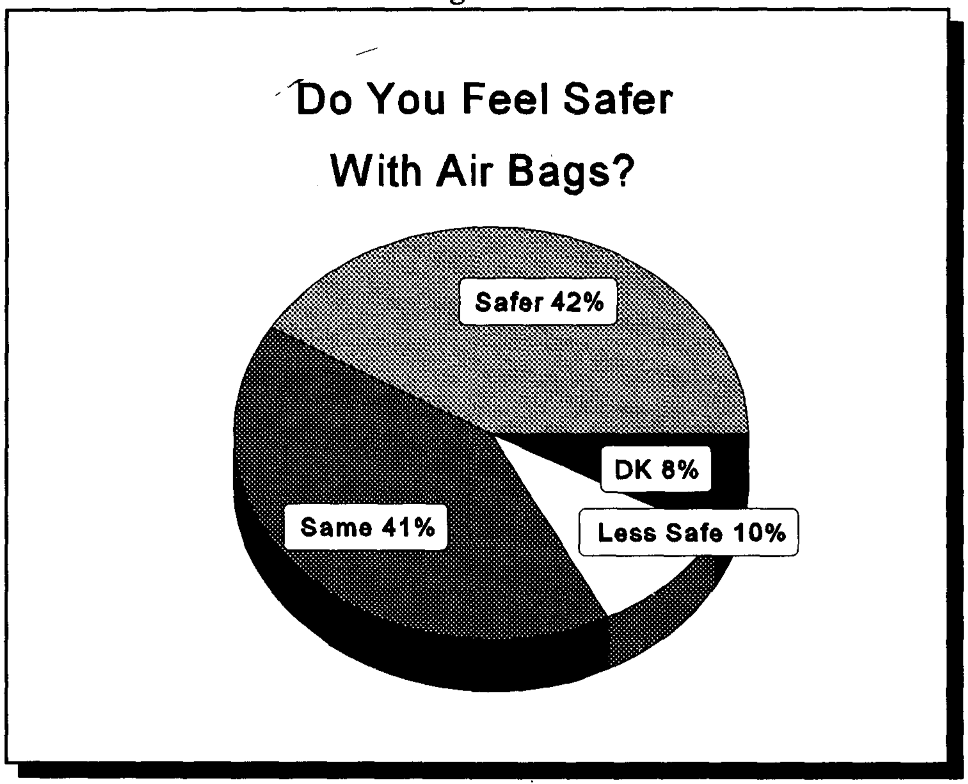
Driving Behavior	Percent Likely	Unweighted N
Highway Passing		
• Others tend to pass me	31%	2,401
• I tend to pass others	38%	1,147
Highway Driving Speed (55 mph limit)		
• Less than 55 mph	29%	141
• 55 mph	30%	1,020
• 56-60 mph	34%	1,776
• 61-65 mph	40%	729
• Over 65 mph	42%	159
Drinking and Driving In Past 30 Days?		
• No, didn't drink in past 30 days	33%	1,702
• No, but did drink in past 30 days	33%	1,559
• Yes, Drove after drinking in past 30 days	37%	585
Frequency of Seat Belt Use		
• All the time	33%	2,973
• Most of the time	32%	467
• Some of the time	33%	192
• Rarely/Never	43%	214

Base: Drivers

Feeling Safer With Air Bags

All respondents were asked whether they felt safer or less safe with air bags. Despite the concerns about air bag safety, the public did not appear to regard air bags as dangerous to them personally. Four in ten said they felt safer with air bags compared to 10% who said they felt less safe. Forty-one percent said they felt about as safe with air bags as without them.

Figure 19



Qx: On balance, do you feel safer in motor vehicles with air bags, about the same, or less safe in vehicles with air bags than those without air bags?
Base: Total population age 16+
Unweighted N=4,188

Gender Differences

Safety Concerns By Gender

Females were more likely to be concerned about air bag safety than were males. More than two thirds of females (68%) said they had concerns about air bag safety compared with 56% of all males. More females than males also believed it likely for both adults and small children to be injured by air bags. Females were much more likely than males to believe air bags can smother children (82% to 66%), but only slightly more likely than males to believe air bags can crush them (62% to 58%). Females were less likely than males to feel safer in a vehicle with air bags (37% compared to 47%).

Table 3a. Safety Concerns By Gender

Item	Total	Males	Females
Have Concerns About Safety of Air Bags	62%	56%	68%
Likely to Injure Adult	48%	40%	54%
Likely to Injure Small Child	81%	77%	86%
Believes Air Bag Can Smother Child	74%	66%	82%
Believes Air Bag Can Crush Child	60%	58%	62%
Feels Safer With Air Bags in Vehicle	42%	47%	37%

Base: Total population age 16+

Knowledge of Air Bag Functionality By Gender

Females were generally less knowledgeable about how air bags function than were males. About one in eight (12%) females thought that air bags deployed at speeds of less than 20 MPH compared to nearly one in three (36%) males. Nearly half (49%) of females said they "don't know" what the minimum impact speed for an air bag to deploy is, compared to less than a quarter (23%) of males.

Fewer females (84%) than males (90%) said their air bags would open if their vehicle was hit at a moderate speed from the front. Females were more likely than males to believe that air bags will open if their vehicle is hit from the side (49% compared to 35% for males). The majority of females (54%) also thought that air bags would deploy if their vehicle was hit from behind, compared to 48% of males.

Table 3b. Knowledge Of Air Bag Functionality By Gender

Item	Total	Males	Females
Minimum Speed of Impact For Air Bag To Open:			
• Under 10 MPH	8%	12%	4%
• 10-19 MPH	16%	24%	8%
• 20-29 MPH	13%	17%	10%
• 30-39 MPH	16%	17%	16%
• 40 MPH and Over	10%	6%	13%
• Don't Know	37%	23%	49%
Expect Air Bag To Open If Hit At Moderate Speed From . . . ?			
• Front	87%	90%	84%
• Side	42%	35%	49%
• Behind	51%	48%	54%

Base: Total population age 16+

Car Seats

A number of the recent injuries involving air bags occurred to children sitting in the vehicle's front seat. In some cases, the injuries involved small children in car seats. Therefore, it is important to know where adults who drive with children place child car seats and whether this is affected by the presence of air bags.

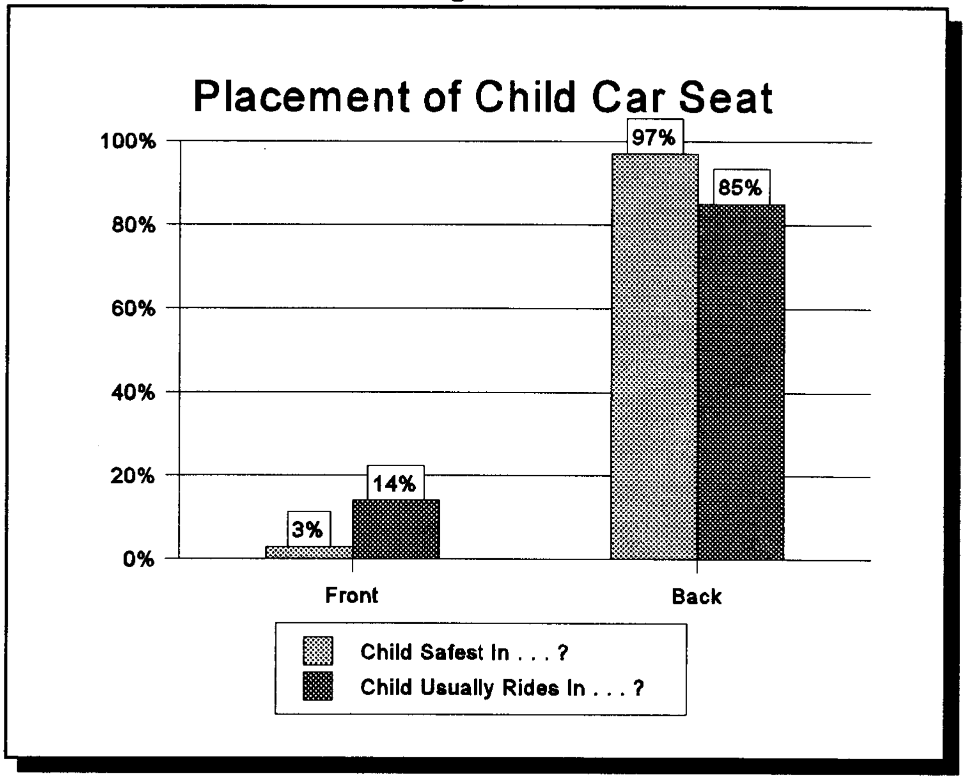
The 1996 Motor Vehicle Occupant Safety Survey asked a detailed set of child car seat questions to a subgroup in the sample for whom car seat issues were deemed especially relevant. These were parents of children under age 6, and non-parents living with children under age 6 who at least sometimes drove with those children. For each of these respondents, a specific child was selected as a referent about whom questions were asked. In households where multiple children were eligible as referents, the interviewers randomly selected one child, giving priority, however, to biological offspring. If the child at least sometimes rode in a car seat, an extensive series of questions about car seat use was asked for that child.

The following three pages present selected findings from this series of questions on car seats that relate to the air bag issue.

Placement of Child Car Seat

The overwhelming majority (97%) of this parent/caregiver subsample knew that the back seat is the safest part of the vehicle to place a child's car seat. Nonetheless, a fairly substantial percentage (14%) still placed the child in the front seat when they drove.

Figure 20

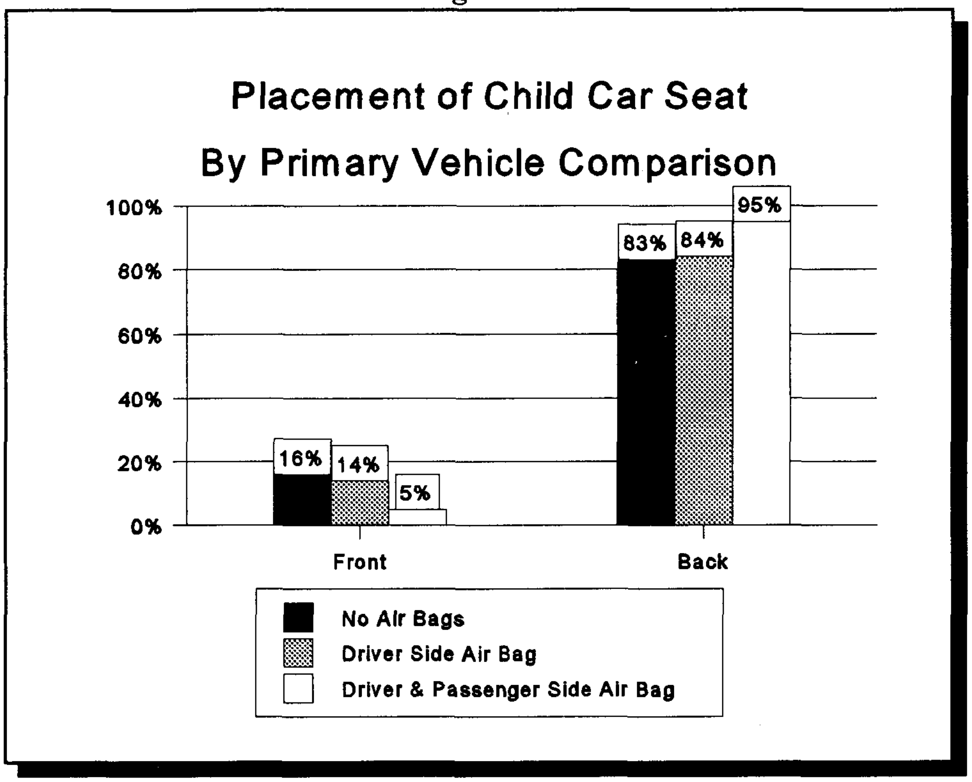


Qx: *When you are driving and (he/she) rides in the child car seat, is it usually in the front seat or the back seat?*
Qx: *Where would you say it is safest to place a child car seat in the vehicle . . . in the front seat or in the back seat?*
Base: *Child at least sometimes rides in car seat (see page 26)*
Unweighted N=544

Placement of Child Car Seat In Vehicles With Air Bags

Children are safer when placed in the back seat, especially if the vehicle has passenger side air bags. Children riding in the front seat can be seriously injured or killed when an air bag comes out in a crash. The respondents were more likely to place car seats in the front seat if their primary vehicle didn't have a passenger side air bag. About 5% of those with both driver and passenger side air bags said they usually place the car seat in the front seat. In contrast, 14% of those with driver side only air bags and 16% of those without any air bags said they put the car seat in the front.

Figure 21

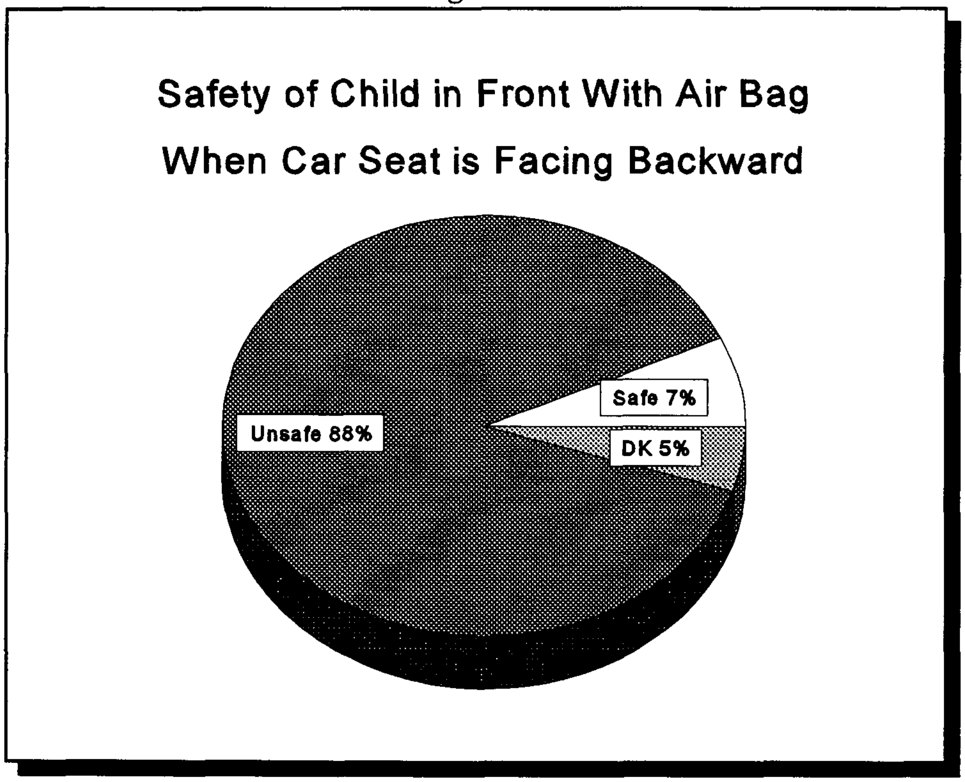


Qx: *When you are driving and (he/she) rides in the child car seat, is it usually in the front seat or the back seat?*
Base: *Child at least sometimes rides in car seat (see page 26).*
Unweighted N=544

Child Car Seats That Face Forward In Vehicles With Air Bags

This parent/caregiver subsample was asked if they thought it was safe to place a rear-facing car seat in the front seat of a vehicle having passenger-side air bags. **The correct answer is no, because it could place the child in the air bag's path, with the force of impact being too great for the child.** While most (88%) said it was unsafe, 7% believed it was safe, and 5% said they weren't sure.

Figure 22



Qx: Some child car seats are designed so that the child faces backward, to the rear of the motor vehicle. Suppose a child is riding in a child car seat facing backward . . . if the vehicle has a passenger side air bag, is it safe or unsafe to have the child car seat in the front seat?
Base: Child at least sometimes rides in car seat (see page 26).
Unweighted N=544

Effects of News Reports On Attitudes During Field Period

The results of this study are probably affected somewhat by events that occurred both prior to and during the period when the survey was administered. These events included fatalities to children caused by air bags that were heavily reported in the media during the survey's field period. A review of respondent attitudes during the field period suggests that these events had an impact on the public's attitudes toward air bags on a variety of issues. In general, the events increased public concern about air bag safety and effectiveness. This increase, however, appeared to subside toward the end of the field period.

A typical pattern during the field period was for attitudes about air bags to worsen at about Week 3 of the field period (mid November), level off, and then return to early November levels by the end of the field period. In a number of instances the attitude improved between Weeks 1 and 2 of the field period, which may represent the waning impact of an earlier event. Two weeks earlier, in October, an air bag fatality was widely reported by the news media. A second event in mid November (between Weeks 2 and 3 of the field period) corresponded with a second worsening in ratings, followed by another correction in mid December. Some of the more significant findings include the following:

- Drivers were more wary of air bags smothering or crushing children at the end of the field period than they were at the beginning.
- Drivers' assessment of air bags as "one of the most important" vehicle safety features sharply declined after Week 2 of the field period then steadily improved.
- Despite shifts during the field period, a plurality of drivers still felt safer with air bags than without them in Week 7.
- Most people continued to favor driver and passenger side air bags at the close of the field period.

Although the field period lasted until January 5, only cases recorded up to December 22 are recorded on the charts that follow. The last two weeks were primarily devoted to convincing initial refusals to participate. These respondents may differ substantially from those who did not refuse when first contacted. Also, the number of cases during these last two weeks was substantially fewer.

Figure 23

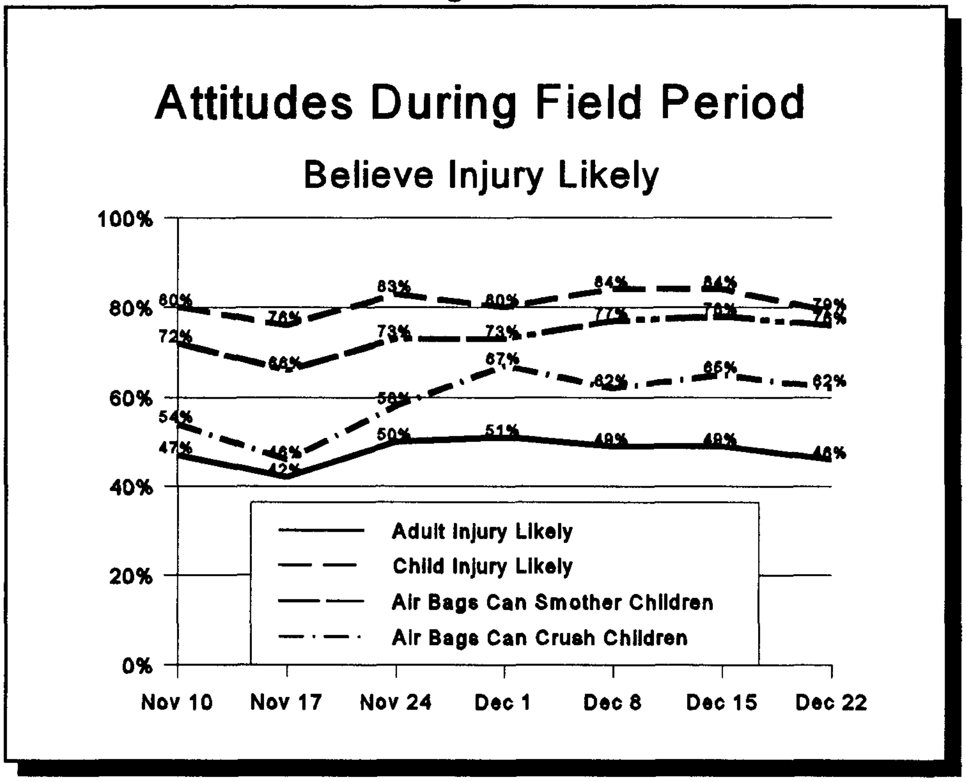

Attitudes During Field Period
Believe Injury Likely
100%
80%
60%
40%
20%
0%
Adult Injury Likely
Child Injury Likely
Air Bags Can Smother Children
Air Bags Can Crush Children
Nov 10
Nov 17
Nov 24
Dec 1
Dec 8
Dec 15
Dec 22

Figure 24

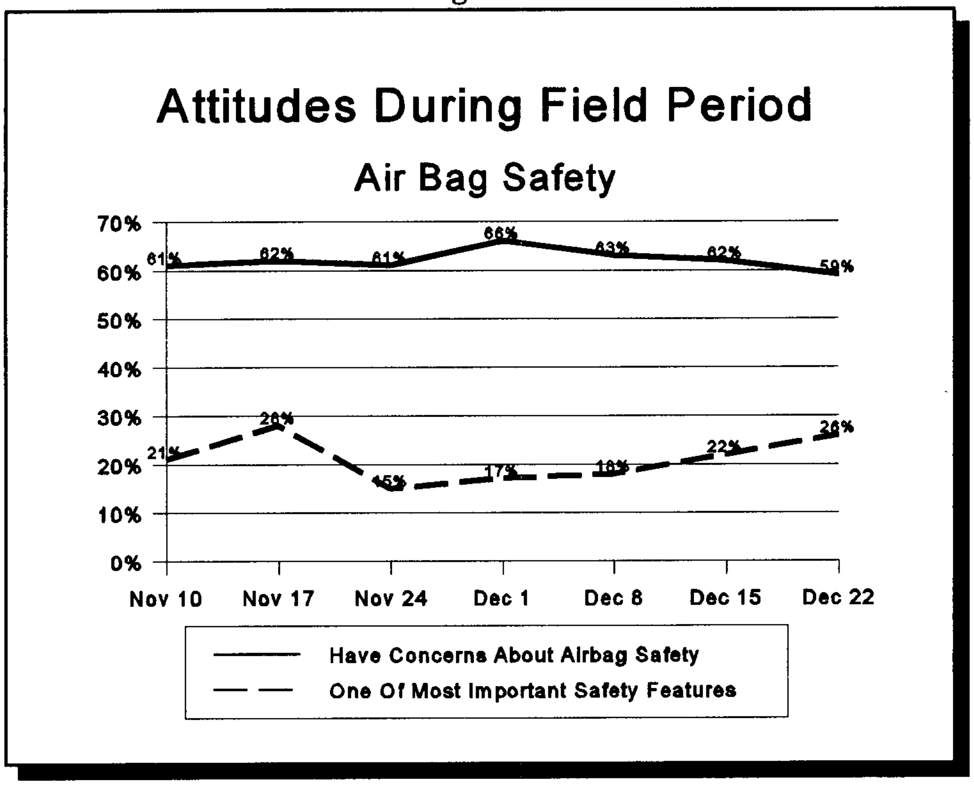

Attitudes During Field Period
Air Bag Safety
70%
60%
50%
40%
30%
20%
10%
0%
61%
62%
61%
66%
63%
62%
59%
21%
28%
15%
17%
18%
22%
26%
Nov 10
Nov 17
Nov 24
Dec 1
Dec 8
Dec 15
Dec 22
Have Concerns About Airbag Safety
One Of Most Important Safety Features

Figure 25

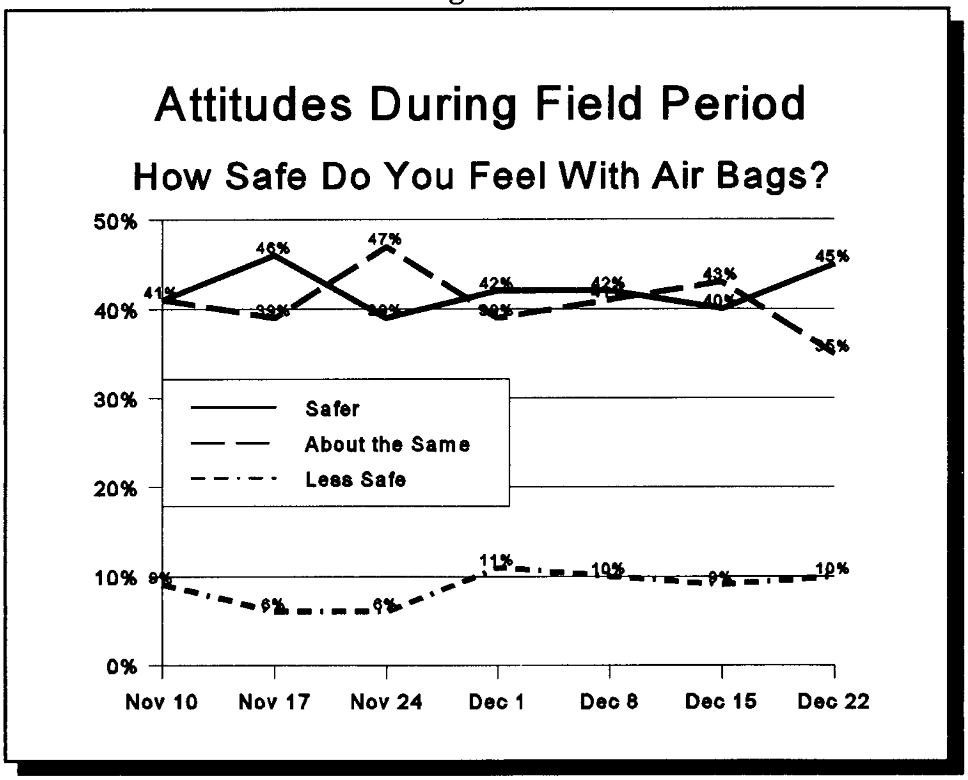
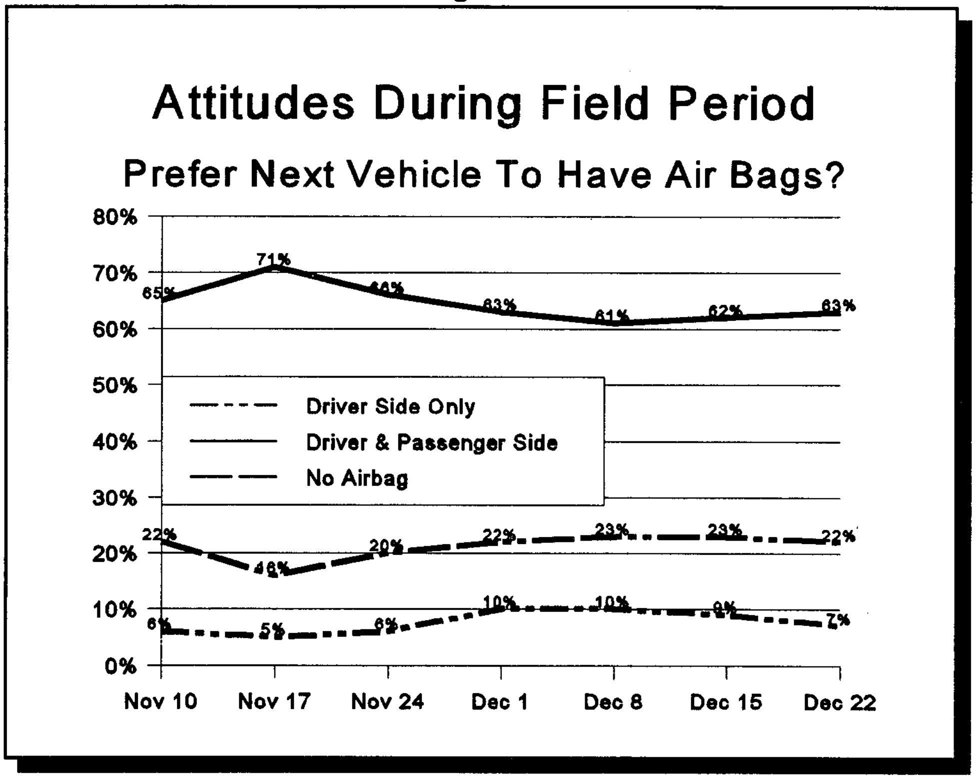

Attitudes During Field Period
How Safe Do You Feel With Air Bags?
50%
40%
30%
20%
10%
0%
Safer
About the Same
Less Safe
Nov 10
Nov 17
Nov 24
Dec 1
Dec 8
Dec 15
Dec 22

Figure 26


Attitudes During Field Period
Prefer Next Vehicle To Have Air Bags?
80%
70%
60%
50%
40%
30%
20%
10%
0%
Driver Side Only
Driver & Passenger Side
No Airbag
65%
71%
66%
63%
61%
62%
63%
22%
16%
20%
22%
23%
23%
22%
6%
5%
6%
10%
10%
9%
7%
Nov 10
Nov 17
Nov 24
Dec 1
Dec 8
Dec 15
Dec 22

SECTION 2

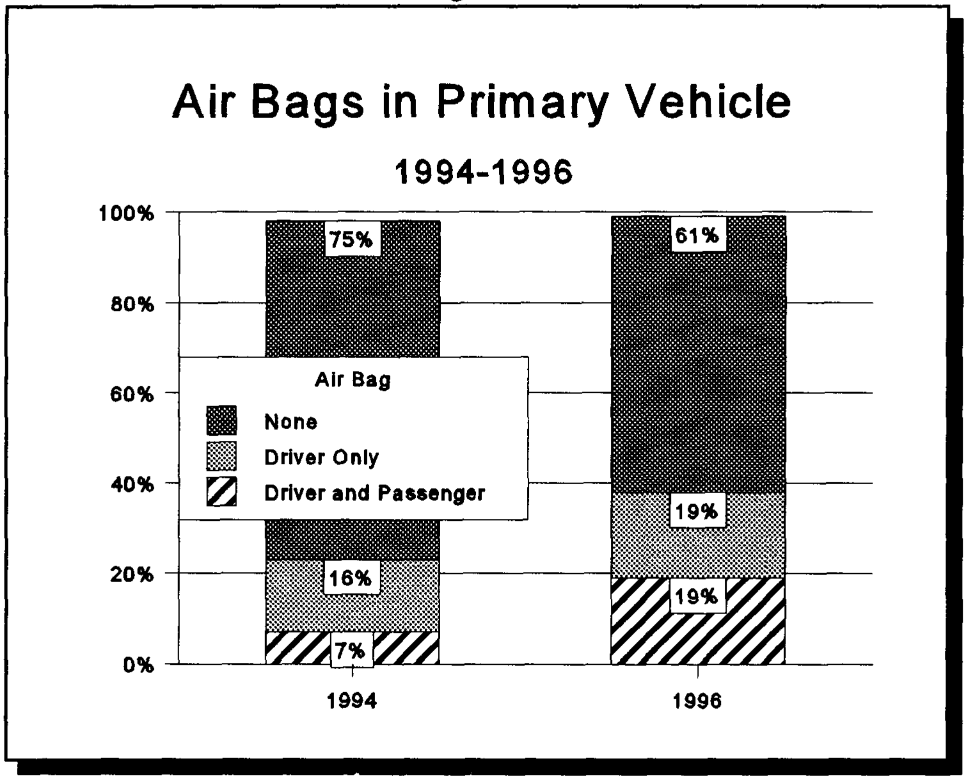
TRENDS

1994 - 1996

Prevalence of Air Bags, 1994-96

The percentage of drivers reporting air bags in their primary vehicles dramatically increased from two years earlier. In 1996, 38% reported air bags in their primary vehicle compared to only 23% in late 1994. The largest increase came in the percentage of vehicles with both driver and passenger side air bags, increasing from 7% to 19% over this period of time. In contrast, the percentage of vehicles with driver side only air bags increased just three percentage points, from 16% to 19%.

Figure 27

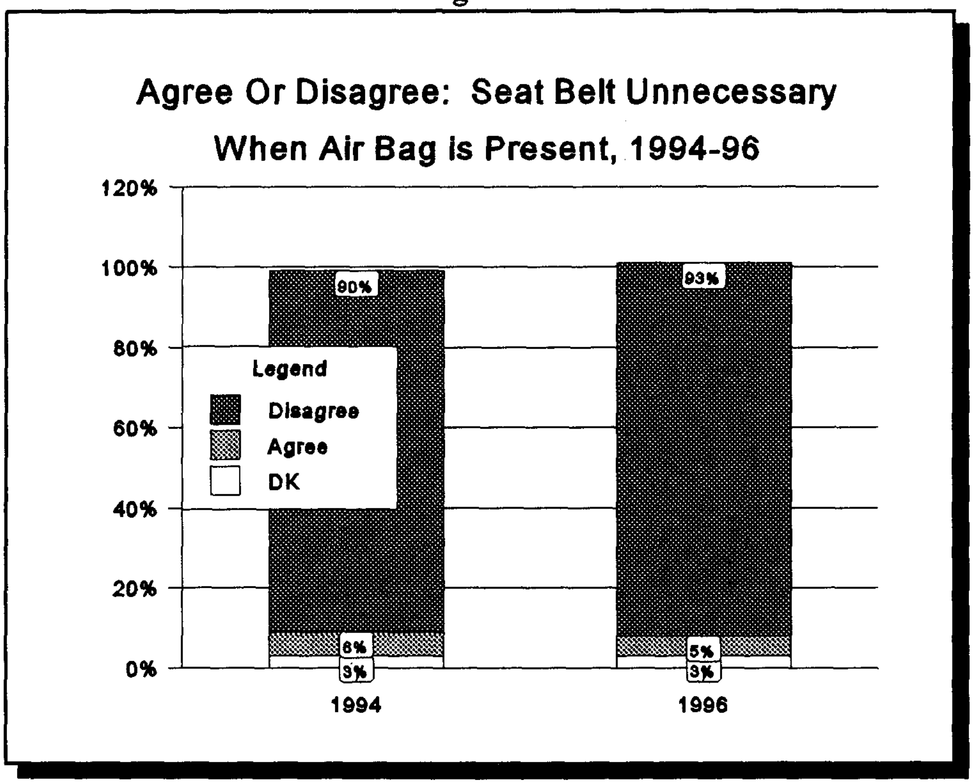


Qx: *Does the (vehicle) you normally drive have an air bag?*
Qx: *Is the airbag for the driver only or is there also a passenger side air bag?*
Base: *Drivers whose primary vehicle is not a motorcycle*

Air Bags and Seat Belt Use, 1994-96

The proportion of respondents who did not view air bags as a substitute for seat belts increased slightly in two years. In 1994, 90% disagreed with the statement "If my car has an air bag, I don't need to wear my seat belt when driving/riding" compared to 93% in 1996.

Figure 28



Qx: *Please tell me if you agree or disagree with the following statement: "If my car has a (driver/passenger) side air bag, I don't need to wear my seat belt when (driving/riding)."*

Base: *Total population age 16+*

Drivers continued to be more likely than non-drivers to understand that safety belts should still be used when the vehicle has an air bag. In both years, more than 90% of drivers disagreed with the statement that seat belts were unnecessary with air bags, compared to less than 80% of non-drivers.

The biggest change occurred among non-drivers, with 79% in 1996 disagreeing that seat belts are unnecessary with air bags compared to 71% in 1994. There were also fewer non-drivers now (9%) who said they were unsure, a drop from 15% previously.

Table 4 . Agree Or Disagree: Seat Belt Is Unnecessary With Air Bag Drivers vs. Non-drivers, 1994-96

Driver			Non-driver		
If my car has an air bag, I don't need to wear my seat belt	1994	1996	If my car has an air bag, I don't need to wear my seat belt	1994	1996
Agree	6%	4%	Agree	14%	12%
Disagree	92%	94%	Disagree	71%	79%
DK	2%	2%	DK	15%	9%

Qx: *Please tell me if you agree or disagree with the following statement: "If my car has a (driver/passenger) side air bag, I don't need to wear my seat belt when (driving/riding)."*

Base: *Total population age 16+*

As in 1994, those with air bags in their primary vehicle were slightly more likely to know that air bags do not eliminate the need for seat belts. Fully 97% with air bags disagreed with the statement "If my car has a driver side air bag, I don't need to wear my seat belt when driving" compared with 92% of those without air bags in the primary vehicle. This is virtually unchanged from two years earlier.

Table 5. Agree Or Disagree: Seat Belt Unnecessary When Air Bag is Present Primary Vehicle Comparison, 1994-96

Have Air Bag			**Don't Have Air Bag**		
If my car has an air bag, I don't need to wear my seat belt	1994	1996	If my car has an air bag, I don't need to wear my seat belt	1994	1996
Agree	4%	2%	Agree	6%	5%
Disagree	96%	97%	Disagree	91%	92%
DK	0%	1%	DK	3%	3%

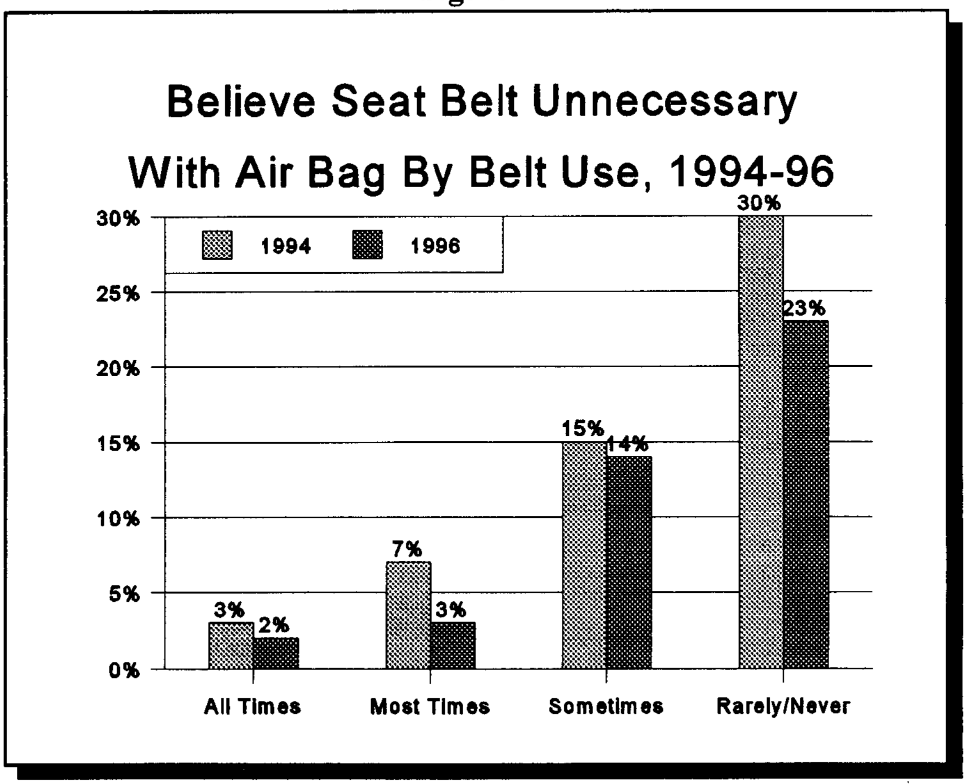
Qx: *Please tell me whether you agree or disagree with the following statement: "If my car has a (driver/passenger) side air bag, I don't need to wear my seat belt when (driving/riding)."*

Base: *Drivers whose primary vehicle is not a motorcycle*

Everyone, regardless of the frequency of their seat belt use, was less likely today to agree with the statement, "If my car has a driver side air bag, I don't need to wear my seat belt when driving."

The biggest change occurred among infrequent (rarely or never) seat belt users. In 1994, 30% of infrequent belt users were more likely to disregard the importance of seat belts if a car has air bags, compared with only 23% in 1996.

Figure 29



Qx: *Please tell me whether you agree or disagree with the following statement: "If my car has a driver side air bag, I don't need to wear my seat belt when I am driving."*

Base: *Drivers whose primary vehicle is not a motorcycle*

Drivers with air bags continued to be more likely to use their seat belts than were those without air bags in their primary vehicle. In 1996, 80% of drivers with air bags reported that they used their seat belts all the time and 11% most of the time. By comparison, 74% of drivers whose primary vehicle did not have an air bag said they used their seat belt all the time with an additional 13% using their belt most of the time.

Table 6. Frequency of Driver Seat Belt Use By Whether Vehicle Has Air Bag, 1994-96

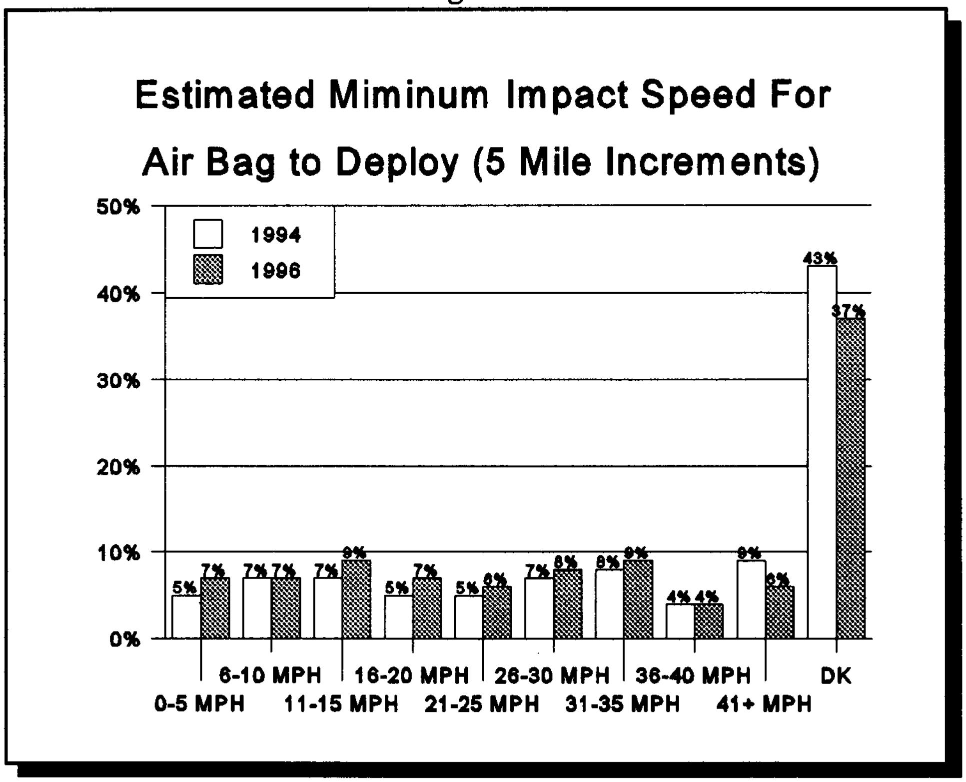
Have Air Bag			**Don't Have Air Bag**		
Frequency of Seat Belt Use	1994	1996	Frequency of Seat Belt Use	1994	1996
All Times	82%	80%	All Times	72%	74%
Most Times	10%	11%	Most Times	14%	13%
Sometimes	4%	5%	Sometimes	7%	6%
Rarely/Never	4%	4%	Rarely/Never	8%	6%

Qx: *Does the vehicle you normally drive have an air bag?*
Base: *Drivers whose primary vehicle is not a motorcycle*

Minimum Speed for Air Bag Deployment, 1994-96

As was the case in 1994, the public was fairly uncertain about the minimum speed at which air bags deploy. However, respondents were slightly more likely to estimate a speed than they were two years ago. In 1996, 37% said they didn't know compared to 43% in 1994.

Figure 30

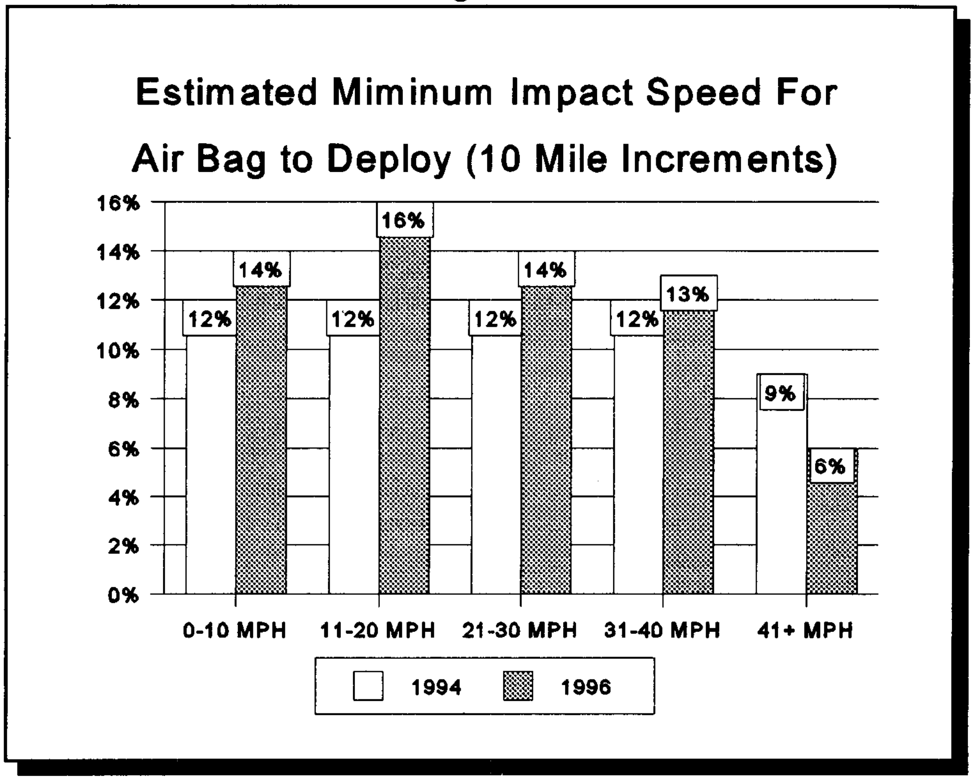


Qx: *Based on what you know or have heard, what is the minimum speed a vehicle would have to be hit in order for an air bag to open up?*
Base: *Total population age 16+*

Similar to 1994's results, the estimates of crash speed for air bag deployment were spread fairly evenly across a wide range of speeds. Clustering the ranges by 10 mph increments, 14% said 0-10 mph, 16% said 11-20 mph, 14% said 21-30 mph, and 13% said 31-40 mph.

However, respondents in the most recent survey appeared slightly more inclined to think air bags deploy at lower speeds than did those in the previous survey. In 1996, 30% thought air bags deployed below 21 mph compared with 24% in 1994.

Figure 31

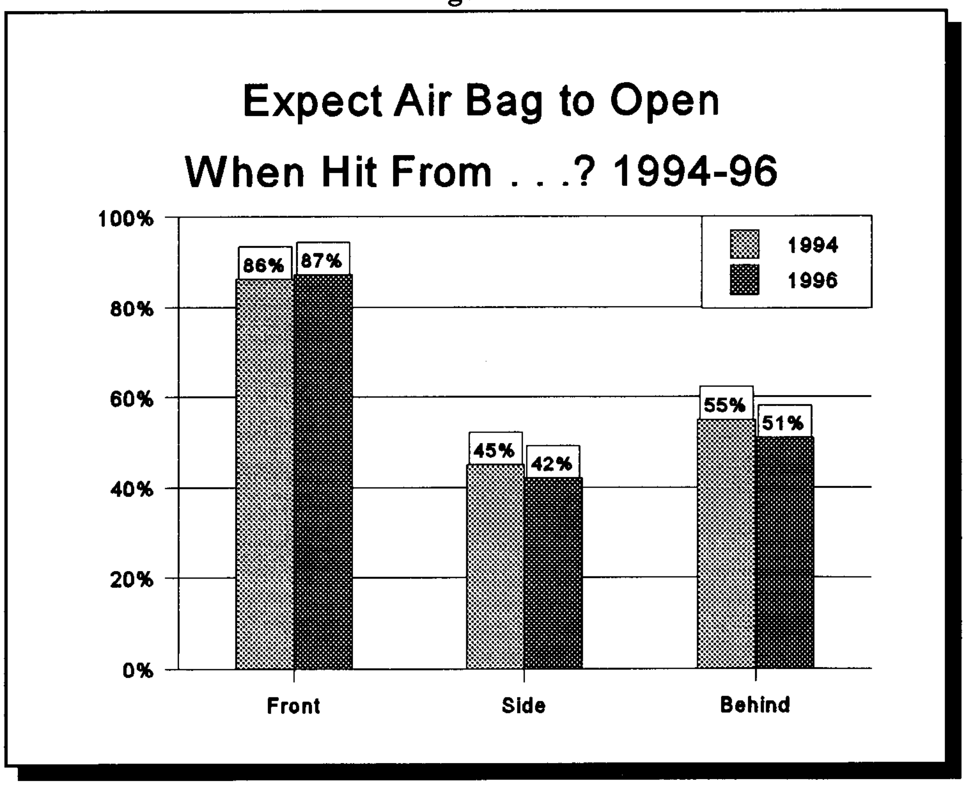


Qx: Based on what you know or have heard, what is the minimum speed a vehicle would have to be hit in order for an air bag to open up?
Base: Total population age 16+

Location of Impact and Air Bag Deployment, 1994-96

About the same proportion in 1996 (87%) believed air bags will open if hit from the front at a moderate speed as did in 1994 (86%). Respondents were, however, less likely to think air bags would open if hit from the side (from 45% in 1994 to 42% in 1996), and if hit from behind (from 55% to 51%).

Figure 32



Qx: *If a vehicle is hit from the [front, side, behind] at a moderate speed, would you expect the air bag to open?*

Base: *Total population age 16+*

The percentages of drivers assuming that side and rear impacts can cause air bags to deploy have not changed dramatically in the past two years. For both years, drivers who did not have air bags were more likely than drivers with air bags to believe that an air bag would deploy from side or rear impacts.

Table 7. Expectations Concerning Air Bag Deployment: Front, Side, and Rear Impacts, Primary Vehicle Comparison, 1994-96

% Saying Air Bag Would Open

Have Air Bag	1994	1996	Don't Have Air Bag	1994	1996
Front	87%	88%	Front	87%	89%
Side	37%	38%	Side	47%	44%
Behind	46%	43%	Behind	57%	55%

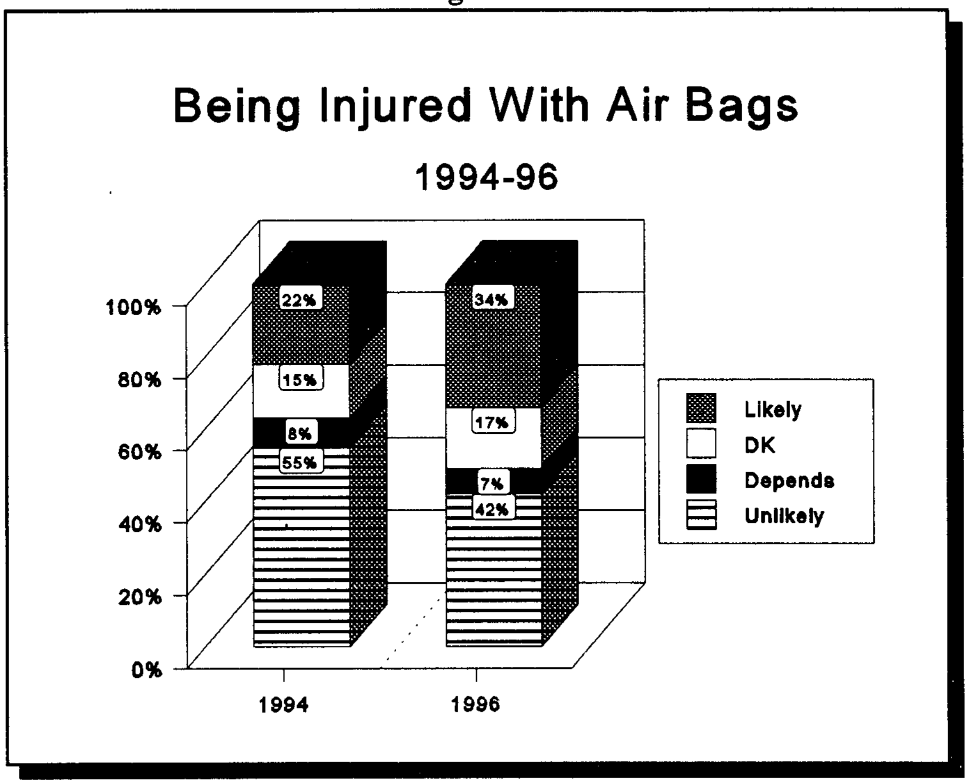
Qx: *If a vehicle is hit from the (front, side, behind) at a moderate speed, would you expect the air bag to open?*

Base: *Drivers whose primary vehicle is not a motorcycle*

Likelihood of Injury With Air Bag in Vehicle, 1994-96

The public is much more likely today than they were two years ago to think that in a crash with major vehicle damage in an air bag equipped vehicle an injury is likely. In 1996, 42% felt an injury was unlikely in an air bag equipped vehicle, a 13 percentage point drop from two years earlier. More than one-third felt an injury was likely, up from 22% in 1994. Concerns about air bag safety may have eroded public confidence in their effectiveness. As with the previous survey, a fairly large proportion (17%) said they weren't sure.

Figure 33



Qx: *If you are driving in a vehicle that has an air bag and you get into an accident involving major vehicle damage, is it likely or unlikely that you would be injured?*

Base: *Drivers*

A comparison of those with air bags in their primary vehicles with those without air bags provides further evidence of a slight erosion in public confidence. Today, 32% of those with air bags believed it was likely they would be injured in a crash involving major vehicle damage compared with only 24% who believed this to be the case in 1994. About 35% of drivers without air bags in their primary vehicle thought it likely they would be injured in a serious crash in an air bag equipped vehicle, compared with only 21% who thought this in 1994.

Concerns about air bag safety have also increased the level of uncertainly with air bag owners. In 1994, 10% responded "don't know" to the likelihood of being injured, while in 1996 nearly 15% said they weren't sure.

Table 8. Perceived Likelihood of Injury In Crash Involving Major Vehicle Damage When Air Bag Is Present: Primary Vehicle Comparison By Year, 1994-96

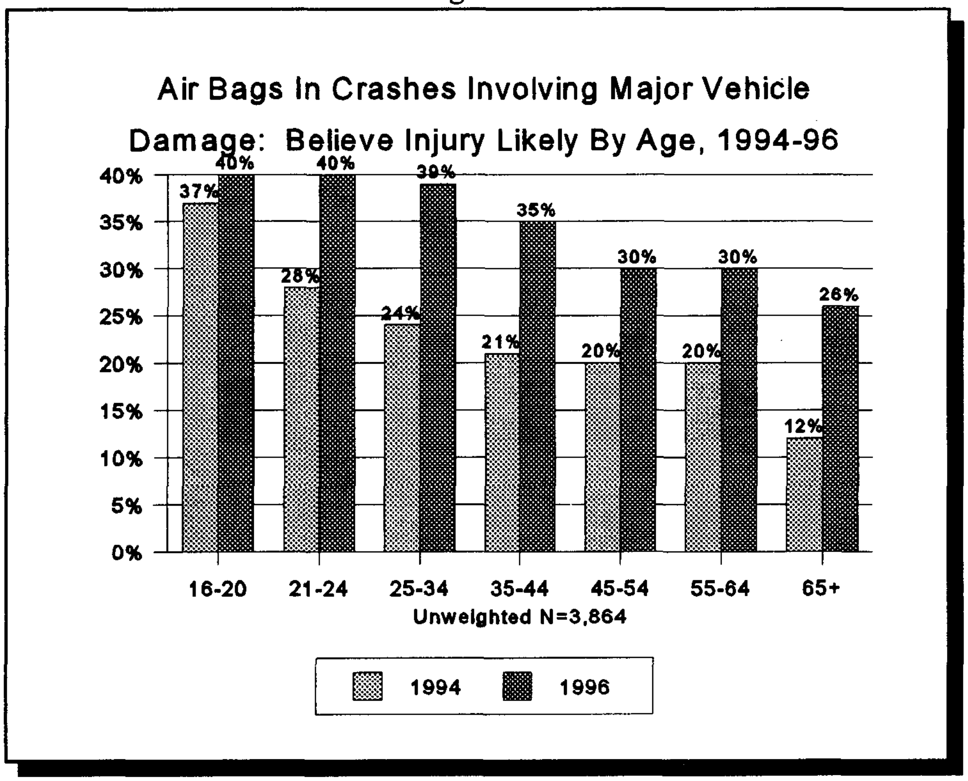
Have Air Bag	1994	1996	Don't Have Air Bag	1994	1996
Likely	24%	32%	Likely	21%	35%
Unlikely	58%	45%	Unlikely	55%	40%
Depends	8%	8%	Depends	8%	7%
DK	10%	15%	DK	16%	18%

Qx: *Does the vehicle you normally drive have an air bag?*
Qx: *If you are driving in a vehicle that has an air bag and you got into an accident involving major vehicle damage, is it likely or unlikely that you would be injured?*
Base: *Drivers whose primary vehicle is not a motorcycle*

As in 1994, youth today were more likely than older adults to believe they would be injured if they had a serious crash in an air bag equipped vehicle. However, increased concerns about air bag safety were evident across all age groups. In 1996, 40% of 16-24 year olds thought it likely they would be injured compared with 33% in 1994. Today, 39% of the 25-34 year olds thought it likely compared to 24% two years earlier.

The older age groups also showed increases in believing they would be hurt in a serious crash. In 1994, 20% thought injury likely in both the 45-54 and the 55-64 age groups. In 1996, both of these groups rose to 30 percent. Likewise, only 12% of drivers 65 years and older thought injury likely in 1994, while more than double (26%) thought this was the case today.

Figure 34



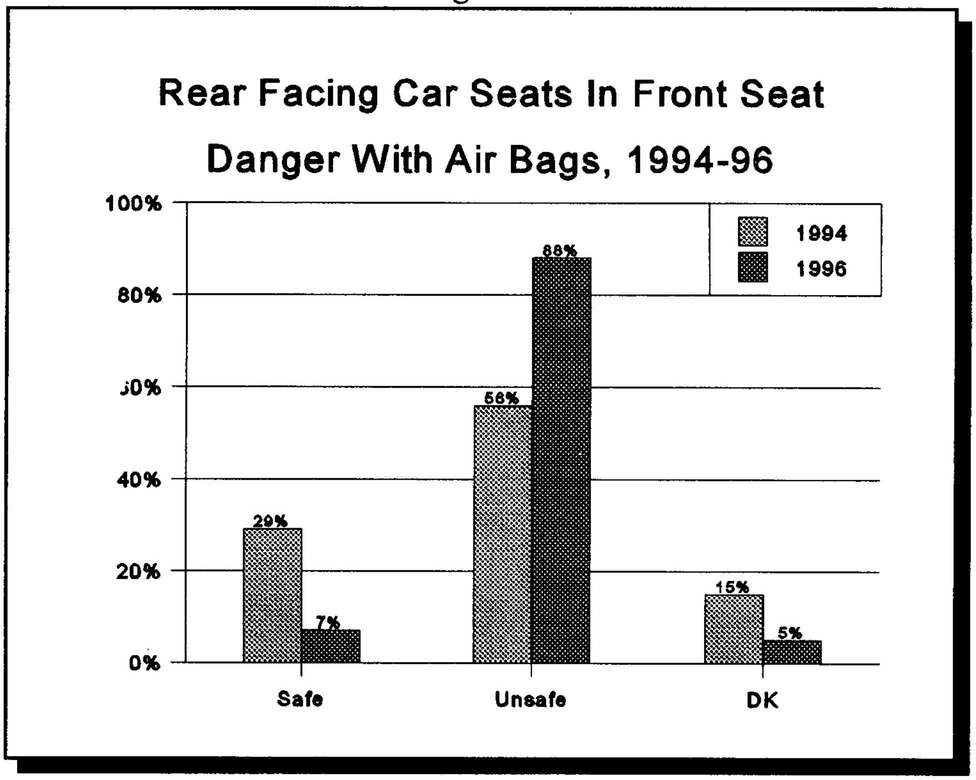
Qx: *If you are driving in a vehicle that has an air bag and you got into an accident involving major vehicle damage, is it likely or unlikely that you would be injured?*

Base: *Drivers*

Car Seats, 1994-96

Parents and caregivers using car seats (see definition on page 26) were much more likely today than they were two years ago to know that it is unsafe to place rear-facing car seats in the front seat of a vehicle with passenger side air bags. Nearly 9 out of 10 (88%) correctly stated that it was unsafe to place a rear-facing car seat in the front seat of a vehicle with air bags, compared with only 56% who thought this in 1994.

Figure 35



Qx: *Some child car seats are designed so that the child faces backward, to the rear of the car. Suppose a child is riding in a child car seat facing backward . . . if the vehicle has a passenger side air bag, is it safe or unsafe to have the child car seat in the front seat?*

Base: *Child at least sometimes rides in car seat (see page 26)*

CONCLUSIONS

In 1996 there were several well-publicized events about air bag related fatalities involving small children. Some of these events occurred during the field period of this survey. These events seem to have had an impact on the public's perception of air bag safety and effectiveness. Not surprisingly, most of the concerns about air bag safety focus on their potentially harmful effects on children.

The public does not fully understand how air bags function. For example, a large percentage of air bag owners believe they will deploy when impact is from the side or from behind. Also, most people believe that children can be killed by air bags smothering them after normal deployment, indicating that they are unaware that air bags deflate immediately after inflating.

Females are more likely than males to believe air bags are dangerous. Females are also less informed about how air bags function and the factors that trigger their deployment.

Despite the concerns about their safety, air bags still enjoy broad public support. Most consumers said they would like their next vehicle to have air bags on both the driver's and passenger's side. Only a small percentage regard vehicles with air bags as less safe to them personally than vehicles without air bags. It appears that most of the public wants the added safety that air bags potentially offer.

The public does not regard air bags as a substitute for seat belts, in fact, the presence of air bags in vehicles has not caused a decline in seat belt usage. On the contrary, those with air bags in their primary vehicles are more likely than those without air bags to wear their seat belts. When compared to other automobile safety features, the majority of the public regards air bags as at least fairly important. So despite concerns about their safety, the public still favors air bags.

APPENDIX

AIR BAG ALERT: AIR BAG SAFETY FACTS

AIR BAG ALERT

AIR BAG SAFETY: BUCKLE EVERYONE! CHILDREN IN BACK!

Air bags save lives. They work best when everyone is buckled and children are properly restrained in the back seat. Children riding in the front seat can be seriously injured or killed when an air bag comes out in a crash.

An air bag is not a soft, billowy pillow. To do its important job, an air bag comes out of the dashboard at up to 200 miles per hour – faster than the blink of an eye. The force of an air bag can hurt those who are too close to it. Drivers can prevent air bag-related injuries to adults and children by following the critical safety points on the back.

AIR BAG SAFETY: BUCKLE EVERYONE! CHILDREN IN BACK!

Child Safety Points

- Children 12 and under should ride buckled up in a rear seat.
- Infants in rear facing child safety seats should NEVER ride in the front seat of a vehicle with a passenger side air bag.
- Small children should ride in a rear seat in child safety seats approved for their age and size.
- If a child over one year old must ride in the front seat with a passenger side air bag, put the child in a front facing child safety seat, a booster seat, or a correct fitting lap/shoulder belt– AND move the seat as far back as possible.

Adult Safety Points

- Everyone should buckle up with both lap and shoulder belts on every trip. Air bags are supplemental protection devices.
- The lap belt should be worn under the abdomen and low across the hips. The shoulder portion should come over the collar bone away from the neck and cross over the breast bone. The shoulder belt in most new cars can be adjusted on the side pillar to improve fit.
- Driver and front passenger seats should be moved as far back as practical, particularly for shorter statured people.

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National Highway Traffic Safety Administration

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