

Traffic Safety Facts

Research Note

DOT HS 811 107

April 2009

Seat Belt Use in 2008—Race and Ethnicity Results Among Occupants Traveling With Children

Seat belt use continued to be lower for non-Hispanic African-Americans than other race and ethnicity groups among passenger vehicle occupants age 25 to 69 traveling with children in 2008. This result is from the National Survey of the Use of Booster Seats (NSUBS), the only probability-based nationwide survey that observes seat belt use and collects race and ethnicity. The NSUBS is conducted by the National Center for Statistics and Analysis of the National Highway Traffic Safety Administration.

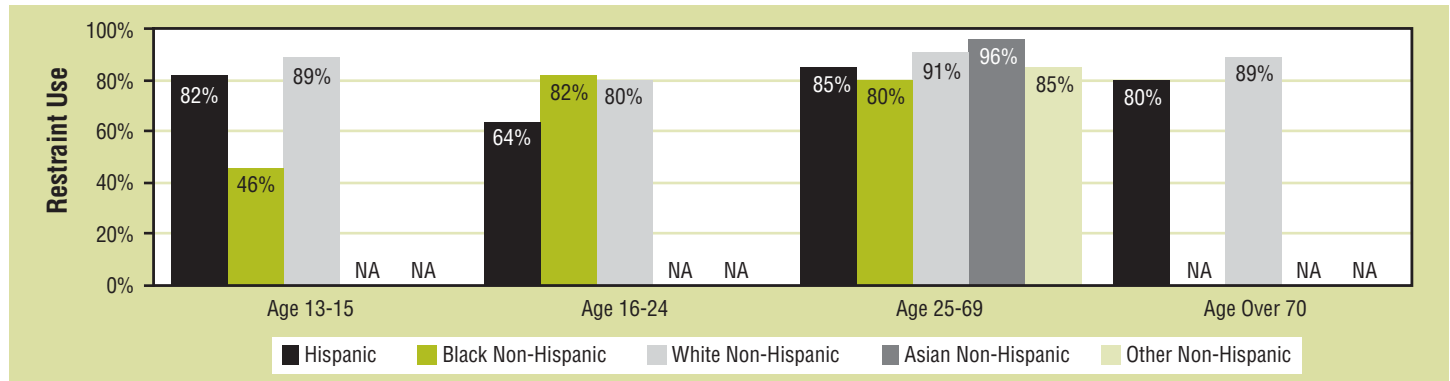
Other findings from the 2008 survey include the following:

- Seat belt use was lower for Hispanics than non-Hispanics among passenger vehicle occupants 25 to 69 traveling with children.

- Seat belt use jumped from 78 percent in 2007 to 89 percent in 2008 among White Non-Hispanic occupants age 13 to 15 years old, and this increase is statistically significant.

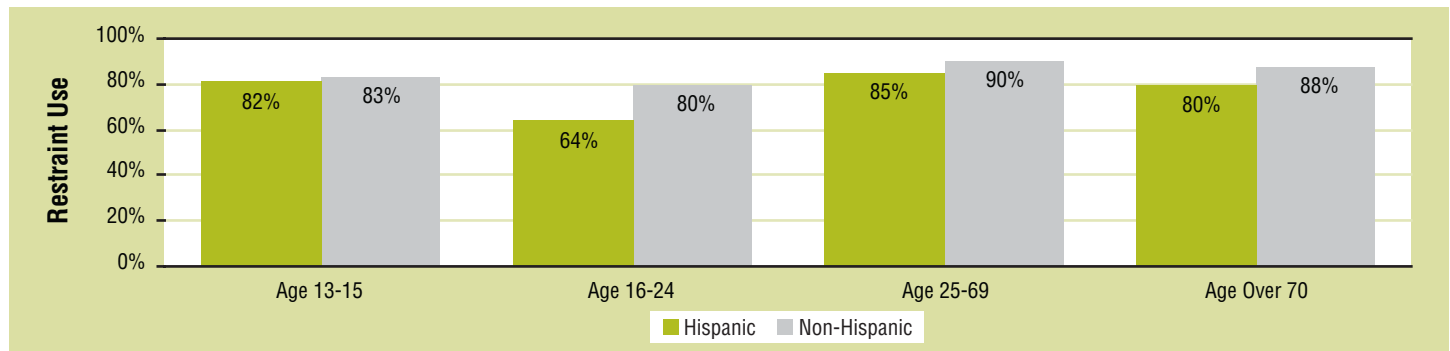
Please note that by design and necessity, the NSUBS survey only collects restraint use of vehicle occupants who are transporting or riding with children under age 13 to a restricted set of site types such as gas stations, day care centers, recreation centers, and restaurants in five fast food chains, not of all vehicle occupants on the road. See the section “What Do the Survey Results Tell Us? Are the Results Representative?” below for more information.

Seat Belt Use by Age and Race / Ethnicity for Occupants Traveling With Children in 2008



NA: Data not sufficient to produce a reliable estimate
Source: National Survey of the Use of Booster Seats, NHTSA's National Center for Statistics and Analysis, 2008

Seat Belt Use by Age and Hispanicity for Occupants Traveling With Children in 2008



Source: National Survey of the Use of Booster Seats, NHTSA's National Center for Statistics and Analysis, 2008

Seat Belt Use of Occupants Traveling With Children by Age and Race/Ethnicity

Subgroup of Occupants ¹	2007			2008			2007-2008 Change	
	Estimated Restraint Use ²	Standard Error	Confidence That Use Is High or Low in Group ³	Estimated Restraint Use ²	Standard Error	Confidence That Use Is High or Low in Group ³	Change in Percentage Points	Confidence in a Change in Use ⁴
Occupants Age 13-15								
Occupants Who Are Reported to Be ¹								
White Non-Hispanic	78%	3%	79%	89%	6%	99%	11	98%
Black or African-American Non-Hispanic	NA	NA	NA	46%	19%	100%	NA	NA
Asian Non-Hispanic	NA	NA	NA	NA	NA	NA	NA	NA
Other Non-Hispanic	NA	NA	NA	NA	NA	NA	NA	NA
Hispanic or Latino	90%	7%	97%	82%	11%	53%	-8	70%
Occupants Reported to Be ⁴								
Hispanic or Latino	90%	7%	97%	82%	11%	53%	-8	70%
Neither Hispanic nor Latino	76%	4%	97%	83%	5%	53%	7	89%
Occupants Age 16-24								
Occupants Who Are Reported to Be ¹								
White Non-Hispanic	80%	5%	70%	80%	10%	96%	0	0%
Black or African-American Non-Hispanic	84%	8%	60%	82%	5%	73%	-2	25%
Asian Non-Hispanic	NA	NA	NA	NA	NA	NA	NA	NA
Other Non-Hispanic	NA	NA	NA	NA	NA	NA	NA	NA
Hispanic or Latino	82%	5%	53%	64%	17%	92%	-18	84%
Occupants Reported to Be ⁴								
Hispanic or Latino	82%	5%	53%	64%	17%	92%	-18	84%
Neither Hispanic nor Latino	82%	4%	53%	80%	9%	92%	-2	16%
Occupants Age 25-69								
Occupants Who Are Reported to Be ¹								
White Non-Hispanic	89%	2%	100%	91%	2%	100%	2	67%
Black or African-American Non-Hispanic	76%	5%	99%	80%	7%	99%	4	43%
Asian Non-Hispanic	85%	8%	60%	96%	4%	100%	11	84%
Other Non-Hispanic	94%	3%	100%	85%	9%	72%	-9	83%
Hispanic or Latino	81%	2%	96%	85%	4%	98%	4	67%
Occupants Reported to Be ⁴								
Hispanic or Latino	81%	2%	96%	85%	4%	98%	4	67%
Neither Hispanic nor Latino	88%	3%	96%	90%	2%	98%	2	57%
Occupants Over 70								
Occupants Who Are Reported to Be ¹								
White Non-Hispanic	92%	4%	66%	89%	13%	73%	-3	29%
Black or African-American Non-Hispanic	NA	NA	NA	NA	NA	NA	NA	NA
Asian Non-Hispanic	NA	NA	NA	NA	NA	NA	NA	NA
Other Non-Hispanic	NA	NA	NA	NA	NA	NA	NA	NA
Hispanic or Latino	NA	NA	NA	80%	19%	72%	NA	NA
Occupants Reported to Be ⁴								
Hispanic or Latino	NA	NA	NA	80%	19%	72%	NA	NA
Neither Hispanic nor Latino	92%	4%	89%	88%	10%	72%	-4	37%

¹ Survey data was obtained on drivers and passengers of passenger vehicles appearing to contain children under 13 years old at a nationwide probability sample of gas stations, day care centers, recreation centers, and restaurants in five fast food chains.

² Restraint use is observed by trained data collectors prior to or just as the vehicle comes to a stop, except in the case of observation at fast food drive-through lanes, where restraint use is observed prior to the vehicle reaching the drive-through window.

³ The level of statistical confidence that use in the occupant group (e.g., occupants who are Hispanic or Latino) is higher or lower than use in the corresponding complementary occupant group (e.g., occupants who are neither Hispanic nor Latino). Confidence levels that meet or exceed 90 percent are formatted in boldface type. Confidence levels are rounded to the nearest percentage point, and so levels reported as "100 percent" confidence are between 99.5 percent and 100.0 percent.

⁴ The degree of statistical confidence that the 2008 use rate is different from the 2007 rate. Confidence levels that meet or exceed 90% percent are formatted in boldface type.

Note: Some 2007 estimates have been revised from those previously published to reflect the changed practice of reporting race/ethnicity based on the passenger vehicle occupants' self-definition rather than observed race/ethnicity.

Note: Some estimates have large standard errors, e.g., belt use among Hispanics over 70 year olds was 19 percent in 2008, which means that the margin of error for this estimate was +/- 38 percentage points, and thus the estimate could be as low as 42 percent. **NA:** Data not sufficient to produce a reliable estimate.

Source: The National Survey of the Use of Booster Seats, National Highway Traffic Safety Administration, National Center for Statistics and Analysis

Survey Methodology

The National Survey of the Use of Booster Seats obtains its data by sending trained data collectors to a probability sample of gas stations, day care centers, recreation centers, and restaurants in five national fast food chains across the U.S. The choice of these types of data collection sites stems from the necessity of observing restraint use from a close range in a slow-moving or stopped vehicle, the ability to conduct interviews, the survey's primary purpose of estimating booster seat use, and the desire to capture large numbers of children.

Data collectors approach passenger vehicles appearing to have child occupants under age 13, observe the restraint use of up to nine occupants in the first three rows of seats, and conduct interviews to obtain the race and ethnicity of all occupants (obtained in compliance with OMB standards for such data) and the heights, weights, and ages of child occupants appearing to be under 13. (The approximate ages of other occupants (expressed as an age range, such as 16-24 years), and the genders of all occupants, are subjectively assessed by the data collectors.)

In order to capture restraint usage before children unfasten the restraints, restraint use is observed by the data collectors prior to or just as the vehicle comes to a stop, except in the case of observation at fast food drive through lanes, where restraint use is observed prior to the vehicle reaching the drive-through window.

In order to reach as wide an audience as possible, the NSUBS uses some Spanish-speaking data collectors.

Sites, Vehicles and Occupants in NSUBS

Numbers of	2007	2008	Percentage Change
Data Collection Sites	430	440	3%
Vehicles Observed	4,800	6,200	29%
Occupants 13 and Older Observed	6,640	8,380	26%

The 2008 NSUBS survey data is based on the observation of 18,000 occupants, 9,700 of whom were under age 13, in 6,200 vehicles at 45 daycare centers, 142 fast food restaurants, 209 gas stations, and 45 recreation centers nationwide. The survey observed 430 occupants age 13 to 15, 549 occupants 16 to 24, 7,250 occupants 25 to 69, and 150 occupants 70 and older. The data was collected between July 17 and July 31, 2008, while the 2007 data was collected between July 19 and August 2, 2007.

The NSUBS uses a complex multistage probability sample, statistical data editing, imputation of unknown values, and complex estimation and variance estimation procedures. See the NHTSA Technical Report referenced below for more information on these procedures, as well as for more information on the survey's data collection protocols.

Please note that some estimates have large standard errors, e.g., belt use among Hispanics over 70 was 19 percent in 2008, which means that the margin of error for this estimate was +/- 38 percentage points, and thus the estimate could be as low as 42 percent.

The design of the survey, survey preparation activities, data collection, estimation, and variance estimation for the NSUBS were conducted by Westat, Inc., under the direction of the National Center for Statistics and Analysis in NHTSA under Federal contract number DTNH22-07-D-00057. The OMB clearance number for the NSUBS is 2127-0644.

What Do the Survey Results Tell Us? Are the Results Representative?

By design and necessity, the NSUBS survey data is obtained from a restricted set of site types, namely gas stations, day-care centers, recreation centers, and restaurants in five fast food chains, and restricts its observed vehicles to those appearing to contain a child under age 13. However, the survey uses a probability sample of these site types, and so its results are representative of people who frequent these types of sites and travel with children.

For instance, the survey result of 85 percent restraint use among Hispanic or Latino occupants age 25 to 69 means that among occupants in this category who were riding with children in passenger vehicles to gas stations, daycare centers, recreation centers, or fast food restaurants in 2008, 85 percent were in seat belts. Whether or not the seat belt use rate for occupants of this age group and ethnicity who do not frequent these site types or do not travel with children is higher or lower is an open question, and not one that the NSUBS (or any other available survey) can answer.

Definitions

The NSUBS supports NHTSA's multicultural initiative by providing critical data on restraint use by race/ethnicity. Race/ethnicity data in the NSUBS is collected in accordance with Federal standards set forth by the Office of Management and Budget (OMB). Specifically, the following 10 race/ethnicity categories are employed in the survey data collection:

Not Hispanic nor Latino and

- American Indian or Alaska Native
- Asian
- Black or African-American
- Native Hawaiian or Pacific Islander
- White

Hispanic or Latino and

- American Indian or Alaska Native
- Asian
- Black or African-American

- Native Hawaiian or Pacific Islander
- White

The NSUBS data collectors ask the adult occupants of vehicles to report the race and ethnicity of all occupants. Respondents reporting themselves (or others) to be multiracial are recorded by the data collector as such.

Because of insufficient numbers of occupants observed in certain race/ethnic groups, we report the NSUBS data using the following five collapsed race/ethnicity groups:

- Hispanic or Latino
- White Non-Hispanic
- Black or African-American Non-Hispanic
- Asian Non-Hispanic
- Other Non-Hispanic (which comprises people not of Hispanic origin who are American Indian, Alaska Native, Native Hawaiian or Pacific Islander)

In the survey, an occupant considered to be restrained in a seat belt if the occupant is sitting on the vehicle seat and the seat belt is across front of the body (includes lap belts).

For More Information

This Research Note was written by Timothy M. Pickrell, a Mathematical Statistician in the Mathematical Analysis Division, National Center for Statistics and Analysis, NHTSA and by Tony Jianqiang Ye, a contractor employed by URC Enterprises, working with the Mathematical Analysis Division, National Center for Statistics and Analysis, NHTSA. For questions regarding the information presented in this document, please contact timothy.pickrell@dot.gov.

The NSUBS provides a rich data source for information on the restraint use of child and adult occupants. In particular, the NSUBS provides the agency's estimate of booster seat use among 4- to 7-year-olds and provides data on the premature graduation of children age 0 to 12 to restraint types that are inappropriate for their height or weight. This publication is part of a series that presents overall results from the survey on these topics. Please see the companion publications "Booster Seat Use in 2008" and "Child Restraint Use in 2008—Use of Correct Restraint Types" for the latest data on these topics. Detailed information on the NSUBS survey design and analysis procedures are provided in the NHTSA Technical Report "The 2006 National Survey of the Use of Booster Seats—Methodology Report." These publications will be available at the Web site <http://www-nrd.nhtsa.dot.gov/CMSWeb/ViewCatalogbyCategory.aspx> in 2009.

Additional results related to demography and child restraints are provided by NHTSA's National Occupant Protection Use Survey, a survey that employs purely observational means (i.e., does not conduct interviews) to measure restraint use on the nation's roadways. Please see the publications "Seat Belt Use in 2007—Demographic Results" for the latest results on these topics. These are available at the above NHTSA Web page.

For more information on the campaign by NHTSA to increase child restraint use, see www.nhtsa.gov.

For information on the OMB standards for the collection of race and ethnicity data in government surveys, please see "Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity, Federal Register Notice, Volume 62, Number 210, pages 58781-58790, October 30, 1997," available at www.omb.gov.



U.S. Department
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**National Highway
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