

Traffic Safety Facts

Research Note

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Child Restraint Use in 2006 – Demographic Results

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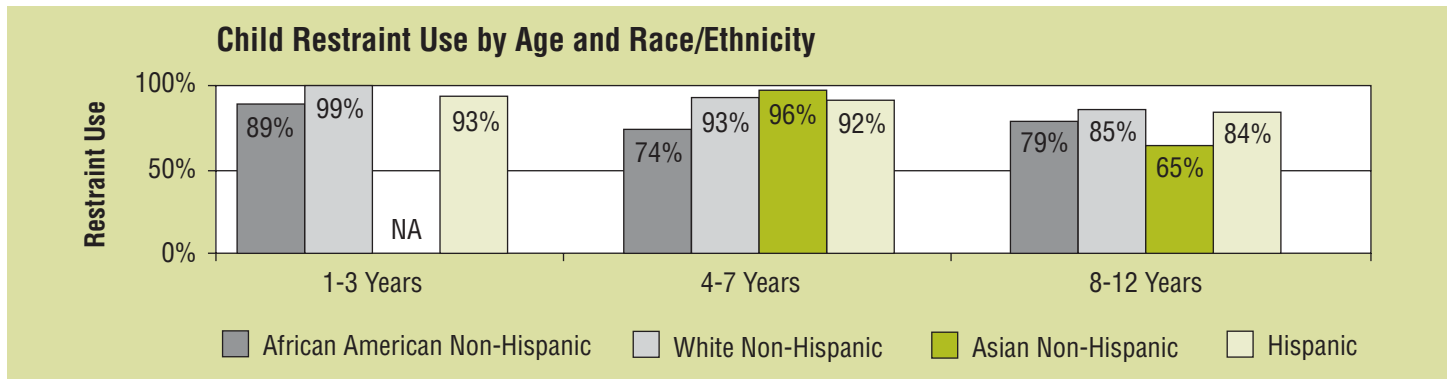
In the first-ever probability-based survey of the use of seat belts and child restraints by racial and ethnic groups in the United States based on data from motorists in transit, NHTSA found that only 65 percent of Asian children age 8 to 12 who were not of Hispanic descent were restrained by these safety devices in 2006, a lower rate than for other children in this age group. This result is from the National Survey of the Use of Booster Seats (NSUBS). The NSUBS is conducted by the National Center for Statistics and Analysis of the National Highway Traffic Safety Administration.

Other findings from the 2006 survey include the following:

- Only about three-quarters (74%) of African-American children age 4 to 7 not of Hispanic descent were restrained, a lower use rate than for other 4- to 7-year-old children;

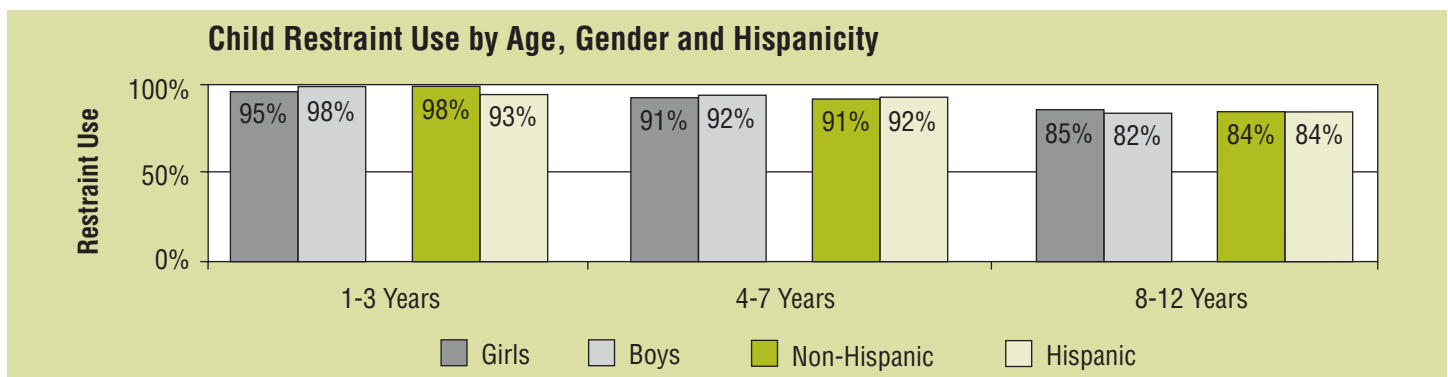
- Children 1 to 3 years old were restrained at high use rates (roughly 90% or higher), regardless of their race, ethnicity, gender, height, or weight.
- There were no statistically significant differences in the restraint use rates of boys versus girls.
- There were no statistically significant differences in the restraint use rates of Hispanic versus non-Hispanic children.

Due to insufficient data to form reliable estimates on infants' (under age 1) restraint use, this research note presents results on children 1 to 12 years old.



NA: Data not sufficient to produce reliable estimate

Source: The National Survey of the Use of Booster Seats, NHTSA's National Center for Statistics and Analysis 2006



Source: The National Survey of the Use of Booster Seats, NHTSA's National Center for Statistics and Analysis 2006

Restraint Use Among Children Age 1 – 3

Subgroup of Children Age 1-3 ^{1,4}	Estimated Restraint Use ²	Standard Error	Confidence That Use Is High or Low in Group ³
Children Who Are			
Boys	98%	2%	90%
Girls	95%	1%	90%
Children Reported to Be⁴			
White Non-Hispanic	99%	1%	75%
Black or African-American Non-Hispanic	89%	3%	99%
Asian Non-Hispanic	NA	NA	NA
Other Non-Hispanic	NA	NA	NA
Hispanic or Latino	93%	13%	64%
Children Reported to Be⁴			
Hispanic or Latino	93%	13%	64%
Neither Hispanic nor Latino	98%	1%	64%
Children Whose Height⁴ Is Between			
0 and 36 Inches	97%	1%	68%
37 and 53 Inches	95%	3%	69%
54 and 56 Inches	NA	NA	NA
57 Inches or More	NA	NA	NA
Children Who Weigh⁴ Between			
0 and 19 Pounds	NA	NA	NA
20 and 40 Pounds	97%	1%	75%
41 and 60 Pounds	91%	8%	76%
61 Pounds or More	NA	NA	NA
Children Surveyed at a			
Gas Station	94%	3%	62%
Fast Food Restaurant	95%	2%	71%
Day Care Center	97%	1%	90%
Recreation Center	99%	1%	94%

¹ Survey data was obtained on children age 1 to 12 in passenger vehicles at a nationwide probability sample of gas stations, day care centers, recreation centers, and restaurants in five fast food chains.

² Use of child safety seats (front- or rear-facing), booster seats, and seat belts. 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., child occupants who are boys) is higher or lower than use in the corresponding complementary occupant group (e.g., child occupants who are girls). 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 Race, ethnicity, height, weight, and age of children are obtained by asking the driver.

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

Restraint Use Among Children Age 4 – 7

Subgroup of Children Age 4-7 ^{1,4}	Estimated Restraint Use ²	Standard Error	Confidence That Use Is High or Low in Group ³
Children Who Are			
Boys	92%	3%	56%
Girls	91%	3%	56%
Children Reported to Be⁴			
White Non-Hispanic	93%	2%	67%
Black or African-American Non-Hispanic	74%	14%	90%
Asian Non-Hispanic	96%	10%	67%
Other Non-Hispanic	NA	NA	NA
Hispanic or Latino	92%	10%	51%
Children Reported to Be⁴			
Hispanic or Latino	92%	10%	51%
Neither Hispanic nor Latino	91%	3%	51%
Children Whose Height⁴ Is Between			
0 and 36 Inches	87%	4%	87%
37 and 53 Inches	92%	3%	88%
54 and 56 Inches	85%	14%	67%
57 Inches or More	93%	9%	59%
Children Who Weigh⁴ Between			
0 and 19 Pounds	NA	NA	NA
20 and 40 Pounds	94%	4%	78%
41 and 60 Pounds	90%	3%	70%
61 Pounds or More	89%	4%	70%
Children Surveyed at a			
Gas Station	83%	5%	92%
Fast Food Restaurant	91%	5%	58%
Day Care Center	93%	3%	93%
Recreation Center	92%	4%	74%

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² Use of child safety seats (front- or rear-facing), booster seats, and seat belts. 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., child occupants who are boys) is higher or lower than use in the corresponding complementary occupant group (e.g., child occupants who are girls). 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 Race, ethnicity, height, weight, and age of children are obtained by asking the driver.

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

Restraint Use Among Children Age 8 – 12

Subgroup of Children Age 8-12 ^{1,4}	Estimated Restraint Use ²	Standard Error	Confidence That Use Is High or Low in Group ³
Children Who Are			
Boys	82%	5%	68%
Girls	85%	5%	68%
Children Reported to Be⁴			
White Non-Hispanic	85%	3%	72%
Black or African-American Non-Hispanic	79%	12%	65%
Asian Non-Hispanic	65%	11%	94%
Other Non-Hispanic	NA	NA	NA
Hispanic or Latino	84%	9%	51%
Children Reported to Be⁴			
Hispanic or Latino	84%	9%	50%
Neither Hispanic nor Latino	84%	3%	50%
Children Whose Height⁴ Is Between			
0 and 36 Inches	NA	NA	NA
37 and 53 Inches	83%	5%	60%
54 and 56 Inches	81%	6%	67%
57 Inches or More	86%	4%	73%
Children Who Weigh⁴ Between			
0 and 19 Pounds	NA	NA	NA
20 and 40 Pounds	NA	NA	NA
41 and 60 Pounds	83%	6%	56%
61 Pounds or More	84%	3%	52%
Children Surveyed at a			
Gas Station	81%	7%	61%
Fast Food Restaurant	83%	6%	54%
Day Care Center	86%	5%	70%
Recreation Center	88%	8%	74%

¹ Survey data was obtained on children age 1 to 12 in passenger vehicles at a nationwide probability sample of gas stations, day care centers, recreation centers, and restaurants in five fast food chains.

² Use of child safety seats (front- or rear-facing), booster seats, and seat belts. 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., child occupants who are boys) is higher or lower than use in the corresponding complementary occupant group (e.g., child occupants who are girls). 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 Race, ethnicity, height, weight, and age of children are obtained by asking the driver.

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 and the ability to conduct interviews with the drivers of stopped vehicles, combined with the desire to capture large numbers of children.

Data collectors approach passenger vehicles appearing to have child occupants under the age of 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 age 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.

The 2006 survey data is based on the observation of 10,000 occupants, 5,300 of whom were under age 13, in 3,500 vehicles at 28 day care centers, 107 fast food restaurants, 205 gas stations, and 43 recreation centers nationwide. The survey interviewed the drivers of 4,431 children under age 13, including 197 infants, 1,061 children 1 to 3 years old, 1,685 children 4 to 7 years old, and 1,488 children 8 to 12 years old. The data was collected between July 17 and July 29, 2006.

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.

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 Office of Management and Budget (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. However the survey uses a probability sample of these site types, and so its results are representative of children who frequent these types of sites.

For instance, the survey result of 65 percent restraint use among 8- to 12-year-old Asian non-Hispanic children means that among children in this age range who were taken by passenger vehicles to gas stations, day care centers, recreation centers, or fast food restaurants in 2006, 65 percent were in seat belts, booster seats, or child safety seats. Whether or not the restraint use rate for children of this age group, race, and ethnicity who do not frequent these site types is an open question, and not one that the NSUBS (or any other survey we know of) 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 OMB. Specifically, the following 10 race/ethnicity categories are employed in the survey:

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 drivers of vehicles to report their own race and ethnicity and of all other vehicle occupants. (In particular, the race and ethnicity of children are as reported by the driver.) In recording the survey results, data collectors are permitted to take into account information offered by vehicle passengers. Respondents reporting themselves (or others) to be multiracial are recorded by the data collector as such.

Because of insufficient numbers of children observed in certain race/ethnic groups, we also 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, a child is considered to be “restrained” if the child meets any of the following five definitions:

Rear-Facing Child Safety Seat - The child occupant is in a seat that sits on top of the vehicle seat in such a way that the child faces the rear of the vehicle, and the harness straps are across the child’s front. The harness straps might be secured or not.

Front-Facing Child Safety Seat – The child occupant is in a seat that sits on top of the vehicle seat in such a way that the occupant faces the front of the vehicle, and with harness straps that are across the child’s front.

High-Backed Booster Seat - The child occupant is in a seat with a seat back that sits on top of the vehicle seat, and has a seat belt across the front of the child’s body, whether lap or lap/shoulder. No harness is in use.

Backless Booster Seat - The child occupant is sitting on a platform with no seat back that sits on top of the vehicle seat, and has a seat belt across the front of the child’s body, whether lap or lap/shoulder. No harness is in use.

Seat Belt – The child is sitting on the vehicle seat and the seat belt is across front of the body (includes lap belts).

For More Information

The NSUBS has very rich information on the restraint use of all children under age 13. In particular, the NSUBS provides the agency’s estimate of booster seat use among 4- to 7-year-olds and provides the best data to date 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 2006” and “Child Restraint Use in 2006—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 2007.

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 2006 – Demographic Results” and “Child Restraint Use in 2006” 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.



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