1995 Survey of Child Restraint Use in Fourteen Texas Cities

by

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This is the eleventh report of child restraint use in Texas following child passenger safety legislation in 1984. The Texas child passenger safety law went into effect without sanctions on October 1, 1984; enforcement with the imposition of $25-$50 fines began on January 1, 1985. Since that time, TTI has collected data in selected cities throughout the State to monitor usage rates. This report presents the results of the 1995 survey conducted in 14 cities, and compares these findings to the results of the earlier surveys.

Survey Method

The 1995 observational survey of child restraint use was conducted in March in the following 14 cities:

Amarillo	El Paso
Austin	Fort Worth
Beaumont	Houston
Brownsville	Lubbock
Bryan/College Station	San Antonio
Corpus Christi	Tyler
Dallas	Waco

Observations were conducted at two types of sites, child care centers and shopping centers. Every attempt was made to keep the observation sites consistent between waves of the survey. In some cases, however, a child care center may have closed, or refused to give permission for the observation. In some cases, child care centers were operating on a limited basis or were temporarily closed during the survey period. Alternate child care center sites of similar size were selected when possible within the same zip code. At child care center sites an attempt was made to observe restraint usage for the population of the center. That is, to the extent possible, every child arriving or departing from the center was observed. At each shopping center location, data was taken for 50 children. The sample size at shopping center locations in years prior to 1993 was 100. Therefore, the shopping center data since 1992 has been weighted by a factor of two, to maintain a comparable contribution to the overall data set as in prior years.

As in previous years, the 1995 survey utilized Texas A&M University students as observers. Observers were provided with two training sessions totalling approximately eight hours. The first training session was a classroom setting consisting of a slide presentation, a video

presentation, and a thorough discussion and demonstration of correct and incorrect child restraint use. The students then participated in practice observations at child care centers and shopping centers throughout the Bryan/College Station area. During the survey period, a TTI study staff member visited each observer at both a day care center and a shopping center site in each city to assure the accuracy of their observations.

Despite careful attention to observational technique in order to reduce errors in the data, several aspects of the survey method suggest the possibility of a bias that should be mentioned. First, observations conducted at child care centers during the morning drop-off time generally "catch" people unaware, so that upon arrival at the center their restraint behavior is not modified due to the presence of the observer. This assumes no prior notification to parents or guardians by the child care center. In most cases, participating child care centers cooperate in making the survey unannounced. Occasionally, however, parents and guardians are forewarned, and their restraint behavior may be modified, resulting in higher levels of restraint use than might occur without notification.

A more significant potential bias is introduced during the afternoon pick-up at child care centers because parents and guardians encounter the observer as they arrive at the center. This prompts questions inside the center. Once they are informed of the observer's purpose, their response may not exemplify their usual restraint behavior.

Other observational limitations concern varying degrees of detail that are site and situation dependent. Restraint misuse at shopping center sites are no doubt conservative estimates because observers collect data on vehicles entering or exiting the shopping center parking lot, and are not in a position to monitor the infant/child being placed in or taken out of the car. Additionally, the vantage point at child care centers does not always allow for close scrutiny of restraint misuse in all cases. Some child care centers are reluctant to allow observers to scrutinize vehicle interiors too closely. These situations are handled on an individual basis.

The child restraint use and misuse reported herein is based solely on observational data. Since permission to observe was not obtained from restraint users (only from site managers and directors), the specificity of the data is limited to what could be observed unobtrusively, and in the case of shopping centers, in moving vehicles.

Results of the 1995 Survey

13,612 observations were made in the 1995 phase of the survey. In this sample of 14 Texas cities, 48.8 percent of the children were riding correctly restrained in either an approved child safety seat or the vehicle safety belt. Ten of these observations were of children riding in integrated car seat systems. An additional 9.4 percent were observed to be restrained, but in an incorrect and unsafe manner (e.g., child safety seat incorrectly installed, infant or child not secured properly in child safety seat, incorrect use of safety belt system). The remainder of the children in the total sample, 41.8 percent, were found to be riding unrestrained (5.1 percent held on laps), despite the legal mandate (Table 1). In 170 cases where a child was riding unrestrained, an unused child safety seat was observed in the vehicle. Almost all of these vehicles with unused safety seats were cars rather than pickups (165 cars and 5 pickups).

Table 1. Observed Child Restraint Use in the Combined Texas Sample (1995) (N = 13,612)

Restraint Use	Frequency	Percent
Correctly Restrained:		
Correct use of child safety seat	3483	25.6
Correct use of vehicle safety belt	3155	23.2
Total	6638	48.8
Incorrectly Restrained:		
Incorrect use of child safety seat	735	5.4
Incorrect use of vehicle safety belt	509	3.7
Unsafe child seat	36	.3
Total	1280	9.4
Unrestrained:		
No restraint	5001	36.7
Child held on lap	693	5.1
Total	5694	41.8

When the observations were examined by type of observation site, restraint use was found to be higher at child care centers than at shopping centers. Approximately 63.7 percent of the children observed at child care centers were observed to be riding restrained in some manner, (correctly or incorrectly) while 54.7 percent of the children observed at shopping centers were restrained (Table 2).

Table 2. Total Observations of Child Restraint Use by Type of Site

	Type of Observation Site	
	Day Care Centers Frequency (%)	Shopping Centers Frequency (%)
Restraint Usage		
Correctly Restrained	2682 (51.3)	1978 (47.2)
Incorrectly Restrained	648 (12.4)	316 (7.5)
Unrestrained	1896 (36.3)	1899 (45.3)
Total	5226 (100.0)	4193 (100.0)

Analysis by vehicle type (car versus pickup truck) showed that children were more likely to be riding unrestrained in pickups. While 40.6 percent of the children in cars were not restrained by any system, 51.5 percent of the child passengers of pickups were not restrained (Table 3).

Table 3. Child Restraint Use by Type of Vehicle

	Vehicle Type	
	Car Frequency (%)	Pickup Frequency (%)
Correctly Restrained	6026 (49.7)	612 (41.4)
Incorrectly Restrained	1175 (9.7)	105 (7.1)
Unrestrained	4933 (40.6)	761 (51.5)
Total	12134 (100.0)	1478 (100.0)

An analysis by individual city revealed that the percentage of correct child restraint use in the 14 cities varied from a high of 64.7 percent in Austin to a low of 24.4 percent in Amarillo. Incorrect restraint use varied from 3.9 percent in Corpus Christi to 18.5 percent in Amarillo (Table 4). A breakdown of observed usage rates at day care centers and shopping centers for individual cities revealed that in Bryan/College Station and San Antonio the proportion of unrestrained children observed at child care centers was higher than the proportion of unrestrained children observed at shopping centers. In all other cities surveyed, usage observed at day care centers was consistently higher than that observed at shopping centers (Tables 5 and 6). Incorrect restraint use was observed more frequently at day care centers than at shopping center sites. As mentioned previously, this is very likely to be a result of the observation technique, which allowed for greater scrutiny at the day care center sites during drop-off and pick-up times.

It is important to note that the variation in restraint use within cities by site can be very large. While these combined data are presented as a city total, the results should not be interpreted as uniform restraint usage for the reported cities. Site specific results by city are provided in the Appendix.

Table 4. Observed Child Restraint Use in 14 Texas Cities

City (# Observed)	Percent Restraint Use		
	Correctly Restrained	Incorrectly Restrained	Unrestrained
Amarillo (893)	24.4	18.5	57.1
Austin (831)	64.7	7.9	27.3
Beaumont (717)	44.3	12.3	43.4
Brownsville (790)	30.9	5.9	63.2
Bryan/College St. (795)	64.3	14.1	21.6
Corpus Christi (1029)	51.7	3.9	44.4
Dallas (1021)	46.2	9.2	44.6
El Paso (1044)	41.2	7.0	51.8
Fort Worth (919)	64.7	7.9	27.3
Houston (1346)	44.0	11.3	44.7
Lubbock (992)	61.9	10.9	27.2
San Antonio (858)	50.7	6.6	42.7
Tyler (1130)	58.4	9.9	31.7
Waco (1247)	38.4	7.5	54.1

Table 5. Observed Child Restraint Use at Day Care Centers in 14 Texas Cities

City (# Observed)	Percent Restraint Use		
	Correctly Restrained	Incorrectly Restrained	Unrestrained
Amarillo (291)	25.4	21.0	53.6
Austin (227)	67.0	15.9	17.2
Beaumont (217)	54.4	15.7	29.9
Brownsville (190)	35.8	11.0	53.2
Bryan/College Station (393)	60.8	17.3	21.9
Corpus Christi (423)	56.7	8.0	35.2
Dallas (281)	52.7	13.5	33.8
El Paso (440)	41.8	11.1	47.1
Fort Worth (313)	63.6	10.5	25.9
Houston (542)	49.1	14.0	36.9
Lubbock (386)	61.7	11.9	26.4
San Antonio (356)	45.8	11.0	43.3
Tyler (520)	64.2	10.0	25.8
Waco (647)	40.0	9.4	50.5

Table 6. Observed Child Restraint Use at Shopping Centers in 14 Texas Cities

City (# Observed, weighted by a factor of 2)	Percent Restraint Use		
	Correctly Restrained	Incorrectly Restrained	Unrestrained
Amarillo (602)	23.9	17.3	58.8
Austin (604)	63.9	5.0	31.1
Beaumont (500)	40.0	10.8	49.2
Brownsville (600)	29.3	4.3	66.3
Bryan/College Station (402)	67.7	11.0	21.4
Corpus Christi (606)	48.2	1.0	50.8
Dallas (740)	43.8	7.6	48.6
El Paso (604)	40.7	4.0	55.3
Fort Worth (606)	65.3	6.6	28.1
Houston (804)	40.5	9.5	50.0
Lubbock (606)	62.1	10.2	27.7
San Antonio (502)	54.2	3.6	42.2
Tyler (610)	53.4	9.8	36.7
Waco (600)	36.7	5.3	58.0

Trend Analyses

This section of the analysis compares child restraint use over the ten years for which data has been collected. Percentages restrained at child care centers and shopping centers were contrasted and changes across time were examined. An assumption was made that the use of restraints for each child, when two or more were riding in the same vehicle, was not independent. In other words, restraint use for one child would influence whether or not a restraint was used for any or all of the other child passengers. Due to this assumed dependency of restraint use among multiple child passengers, the major statistical analyses were carried out using observations on vehicles with a single child occupant.

In this analysis, the reported percentages for restrained children include both correctly and incorrectly restrained. Combining correctly and incorrectly restrained proportions helps to eliminate any bias that may have been introduced due to problems associated with accurately assessing examples of misuse. As was explained previously, instances of misuse included in this data set were limited to those that were obvious to the observers without prolonged inspection and thus represent a conservative estimate of actual misuse. This was particularly true at shopping centers where cars did not always stop at the observation points. By combining correct and incorrect proportions into a broader category of overall restraint use, the effect of observer bias is reduced.

Table 7 shows overall restraint use for each of the study cities over time. During the first year of the child restraint law, child restraint use increased by at least 50 percent in all study cities except Austin. (Austin's baseline usage rate was the highest of the original 11 cities.) In four of the study areas, child restraint use more than doubled in that same time period. These changes, which occurred coincident with the implementation of the child passenger safety law in Texas, were consistent with the experiences noted in other States at the time legislation was put into effect. What occurred between 1985 and 1986, however, represented more than just the transition from the first year to the second year of enforcement. The mandatory safety belt use law (MUL) in Texas went into effect on September 1, 1985; thus, observed child restraint usage rates in 1986 were probably affected by the new legislation requiring the use of safety belts by adults in this State. In 1987 child restraint use dropped in every survey city except Corpus Christi. By 1987 the safety belt use law was in its second year of effect and restraint use in general had declined somewhat (Womack, et al., 1987). Other studies have documented a strong relationship between drivers' use of safety belts and their use of child restraints for their children (Kernish, et al., 1986). The combined average driver belt use in January of 1987 for the same 12 cities of the child restraint survey was 59.5 percent, compared to the average for child restraint use of 54.2 percent in March of 1987.

While child restraint use in 1987 decreased in all the survey cities except Corpus Christi, more fluctuation across cities was evidenced in 1988. In 1988, one city showed an increase in use and four cities showed decreases. Increased child restraint use was observed in eight of 12 study cities in the 1989 survey. This trend in increased usage was evidenced in 1990 for six cities, in 1991 for eight cities, and in 1992 for nine cities. However, in 1993 only three cities

Table 7. Observed Percentage of Restraint In Vehicles With One Child Occupant by City Over Time[a]

	1984[b]	1985[c]	1986[c]	1987[d]	1988[d]	1989[d]	1990[d]	1991[d]	1992[d]	1993[d]	1994[d]	1995[d]
Amarillo	18.1	38.9	64.0	49.3	56.3	37.3	45.9	53.2	52.5	65.7	57.2	49.1
Austin	45.0	60.9	75.7	73.9	70.6	76.5	74.4	80.2	73.8	68.6	77.5	76.0
Beaumont	NA	NA	NA	NA	60.6	50.8	67.8	68.6	64.0	63.6	74.0	65.5
Brownsville	8.3	15.6	50.9	17.2	13.9	19.3	27.2	35.1	34.1	22.9	33.3	39.2
Bryan/CS	33.6	51.3	73.8	62.2	63.1	62.9	69.8	79.6	77.7	76.1	74.1	80.4
Corpus Ch.	18.3	33.6	51.8	61.3	53.3	62.5	58.2	59.7	61.6	63.5	74.2	59.5
Dallas	28.2	49.8	65.5	52.9	55.7	62.7	53.1	71.5	66.2	62.9	62.3	60.6
El Paso	NA	35.6	60.0	54.3	57.2	52.8	59.9	47.1	55.1	42.6	56.6	50.7
Ft. Worth	NA	NA	NA	NA	63.3	63.8	68.5	71.9	71.2	63.2	66.2	77.7
Houston	24.3	44.4	60.3	56.7	52.1	48.5	45.5	53.5	51.4	55.7	60.4	58.4
Lubbock	20.2	47.4	65.4	59.7	53.6	54.4	53.2	70.7	64.4	62.7	74.3	77.3
San Antonio	20.4	53.0	61.9	58.7	43.5	42.5	47.6	50.2	59.6	61.4	56.1	62.6
Tyler	20.0	49.7	68.1	55.5	58.0	65.0	66.5	68.0	71.5	73.4	71.1	70.7
Waco	23.1	42.1	59.8	48.2	52.8	48.4	50.4	64.4	58.9	70.2	66.6	57.8

[a] Percentages reflect correct and incorrect restraint
[b] Period before law was passed
[c] Includes day care centers matched with pre-law survey only
[d] Includes all day care centers surveyed

Table 8. Percentages of Vehicles With All, Some, or None of the Child Occupants Restrained[a] by Type of Center and Year

	1984[b]	1985[c]	1986[c]	1987[d]	1988[d]	1989[d]	1990[d]	1991[d]	1992[d]	1993[d]	1994[d]	1995[d]
Day Care Centers (n)	(716)	(556)	(575)	(903)	(1024)	(1033)	(883)	(654)	(781)	(786)	(928)	(761)
All	14.1	36.5	50.0	45.4	44.2	43.4	46.1	46.7	46.2	44.3	51.4	43.2
Some	14.4	16.7	18.3	14.5	18.8	17.2	18.7	21.6	17.7	22.4	20.9	21.2
None	71.5	46.8	31.7	40.1	37.0	39.4	35.2	31.7	36.1	33.3	27.7	35.6
Shopping Centers (n)	(994)	(908)	(686)	(1371)	(1125)	(1042)	(908)	(915)	(1091)	(478)	(532)	(542)
All	11.7	28.1	39.9	30.9	34.6	33.2	29.7	36.2	38.4	41.2	43.2	34.9
Some	10.8	13.7	20.1	13.6	10.9	14.8	14.6	14.1	15.1	15.1	17.3	20.7
None	77.6	58.3	39.9	55.4	54.5	52.0	55.7	49.7	46.5	43.7	39.5	44.5
Combined (n)	(1710)	(1464)	(1261)	(2274)	(2149)	(2075)	(1791)	(1609)	(1872)	(1742)	(1992)	(1845)
All	12.7	31.3	44.6	36.7	39.2	38.3	37.8	40.7	41.7	42.6	48.4	39.8
Some	12.3	14.8	19.3	14.0	14.6	16.0	16.6	17.3	16.2	18.4	19.6	21.0
None	75.0	53.9	36.2	49.3	46.2	45.7	45.6	42.0	42.1	39.0	32.0	39.3

[a] Percentages reflect correct and incorrect restraint
[b] Period before law was passed
[c] Includes day care centers matched with pre-law survey only
[d] Includes all sites surveyed

showed increases in child restraint use and seven of the 14 cities showed no change in child restraint use. Increased child restraint use was observed in seven cities in 1994, and only one city showed a significant decrease in use.

Five of the 14 study cities showed no statistically significant changes in child restraint use in 1995. Four cities showed significant increases over 1994 usage rates. These cities were: Brownsville ($z=1.98$, $p<.05$), Bryan/College Station ($z=2.69$, $p<.01$), Fort Worth ($z=4.95$, $p<.01$), and San Antonio ($z=2.30$, $p<.05$). Five cities showed significant decreases over the 1994 rate: Amarillo ($z=2.81$, $p<.01$), Beaumont ($z=2.77$, $p<.01$), Corpus Christi ($z=2.69$, $p<.01$), El Paso ($z=2.31$ $p<.05$), and Waco ($z=3.49$, $p<.01$). Three of these cities were areas where usage rates increased in 1994, and the decreases observed in 1995 represent a regression to 1993 levels of use.

The analysis of multiple child passengers was conducted in a slightly different manner, due to the lack of independence of observations on children within the same vehicle. A comparison was made between the proportions of vehicles with all of the child passengers restrained, none restrained, and at least one but not every child in the vehicle restrained. As shown in Table 8, very little change over time has been observed in the percentages of vehicles in which all, some, or none of the children riding in a single vehicle were restrained, until 1994. In 1994, the proportion of vehicles observed at day care centers in which all children were restrained increased significantly ($z=-2.94$, p.01). The proportion of vehicles observed at shopping centers in which all or some of the children were restrained also increased, although not to a significant degree. The overall combined effect from all observations was a significant increase ($z=3.56$, $p<.01$) in the proportion of vehicles in which multiple child passengers were each restrained. This trend was reversed in 1995. The proportion of vehicles observed at day care centers in which all children were restrained decreased significantly ($z=2.30$, $p<.05$) to a level comparable to 1993. Data for shopping center sites showed comparable proportionate child restraint use to 1993. However, the combined effect indicated an increase in the overall proportion of vehicles with no children restrained, and a decrease in the proportion in which all children were restrained in 1995.

Table 9 shows percentages of child restraint use for each city over time, without controlling for the effect of multiple child passenger dependence. In other words, the percentages provided in Table 9 are for every child observed in each survey. When all observations are considered, the results indicate that the total average across all cities increased significantly during the two years in which restraint legislation was being implemented ($z=-29.05$, $p<.01$ from 1984 to 1985; and $z=-35.04$, $p<.01$ from 1985 to 1986). However, a significant decline in total child restraint use was evidenced in 1987 ($z=14.74$, $p<.01$). During the two-year period following (1988 and 1989), child restraint use for the 14 cities combined did not change to a statistically significant degree. The 1990 survey revealed the first significant increase in child restraint use since 1986 ($z=-5.43$, $p<.01$ from 1989 to 1990. Significantly greater use continued in 1991 ($z=-8.73$, $p<.01$). A small, statistically non-significant decrease in overall child restraint use was observed in 1992. The 1993 survey revealed a statistically significant increase from 1992 in overall child restraint use ($z=-2.85$, $p<.01$). An increase in overall child restraint use was again observed in 1994 ($z=-3.58$, $p<.01$). The average usage rate across the 14 cities significantly

Table 9. Observed Child Restraint Use by City Over Time[a]

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Amarillo	16.5	35.9	60.3	38.8	49.6	32.1	43.8	51.2	46.7	62.4	52.9	42.9
Austin	40.6	55.7	73.5	68.3	67.7	71.4	72.3	76.6	71.2	70.7	74.3	72.6
Beaumont	NA	NA	NA	NA	56.2	49.5	60.2	63.6	63.8	63.7	66.6	56.6
Brownsville	7.3	10.9	44.5	15.3	14.5	21.2	25.3	31.5	33.0	22.0	31.4	36.8
Bryan/CS	30.1	47.7	69.8	60.8	61.8	62.1	67.6	78.1	74.8	74.8	70.5	78.4
Corpus Christi	18.8	37.2	52.1	53.7	50.9	58.4	56.1	59.0	59.5	64.3	75.0	55.6
Dallas	26.4	44.7	59.7	48.7	54.3	59.2	49.4	69.7	60.8	65.5	63.7	55.4
El Paso	NA	32.1	55.5	48.6	54.5	47.9	57.3	45.0	50.9	44.4	50.6	48.2
Ft. Worth	NA	NA	NA	NA	63.2	59.1	65.4	71.7	65.3	64.0	63.1	72.6
Houston	19.6	37.1	52.7	54.0	50.9	44.3	44.2	48.0	46.9	50.3	56.8	55.3
Lubbock	17.8	37.0	60.1	54.0	46.4	52.3	50.6	64.7	61.0	61.7	70.6	72.8
San Antonio	18.7	42.8	53.0	57.5	42.0	40.1	46.1	45.6	51.4	54.9	50.6	57.3
Tyler	19.8	42.5	66.6	55.1	56.3	62.0	64.0	61.2	65.8	70.0	66.9	68.3
Waco	20.6	36.0	52.7	42.0	48.8	46.5	46.0	59.6	56.0	59.5	63.0	45.9
Pre-law Average[b]	**21.5**											
Post-law Average[b]		**38.3**	**58.4**	**49.7**	**51.2**	**50.4**	**53.5**	**58.7**	**57.3**	**59.0**	**61.1**	**58.5**

[a]Percentages reflect correct and incorrect restraint use for all children observed.
[b]Averages represent average of percentages in column.

decreased in 1995 ($z=-4.42$, $p<.01$). The average usage rate for 1995 is not statistically different from the 1993 average usage rate across the 14 cities.

Summary

The 1995 survey of child restraint use, conducted in 14 Texas cities, revealed that 48.8 percent of the 14,152 children observed were correctly restrained in a child safety seat or vehicle safety belt. The remainder of the child passengers were restrained incorrectly (9.4 percent) or not restrained at all (41.8 percent). The percentage of child restraint use varied from 36.8 to 78.4 percent across cities. Four cities showed significant increases in child restraint use from 1994 (Brownsville, Bryan/College Station, Fort Worth, and San Antonio). Significant decreases over 1994 rates were observed in five cities (Amarillo, Beaumont, Corpus Christi, El Paso, and Waco. The remaining five cities did not show a significant change from the previous year. A statistically significant decrease in restraint use was found when all child passengers in all cities observed were compared with those observed in 1994. Additionally, the usage rate in vehicles with a single child passenger also decreased significantly from 1994 to 1995. Furthermore, the proportion of vehicles in which all of the multiple child passengers were restrained decreased significantly to the 1993 level.

REFERENCES

Kernish, R., and L. London, Strategies to Increase the Use of Child Safety Seats: An Assessment of Current Knowledge, National Analysts, Booz, Allen and Hamilton, Inc., December 1986.

Womack, K. N., and J. Fesenmaier, 1987 Survey of Front Seat Occupant Restraint Use in Fourteen Texas Cities, Texas Transportation Institute, Texas A&M University System, September 1987.

APPENDIX

Results By City By Site

Restraint Use By Site By City		
City/Site (# Obs.)	% Restrained	% Unrestrained
Amarillo		
1 (46)	23.9	76.1
2 (55)	67.3	32.7
3 (29)	55.2	44.8
4 (100)	46.0	54.7
5 (102)	33.3	66.7
6 (32)	37.5	62.5
7 (25)	24.0	76.0
8 (100)	36.0	64.0
9 (100)	48.0	52.0
10 (31)	51.6	48.4
11 (28)	35.7	64.3
12 (100)	32.0	68.0
13 (100)	52.0	48.0
14 (45)	60.0	40.0
Austin		
1 (47)	91.5	8.5
2 (102)	78.4	21.6
3 (35)	85.7	14.3
4 (100)	54.0	46.0
5 (100)	60.0	40.0
6 (102)	70.6	29.4
7 (38)	81.6	18.4
8 (15)	40.0	60.0
9 (100)	72.0	28.0
10 (38)	100.0	0.0
11 (6)	100.0	0.0
12 (100)	78.0	22.0
13 (48)	70.8	29.2
Beaumont		
1 (24)	75.0	25.0
2 (100)	68.0	32.0
3 (100)	52.0	48.0
4 (57)	75.4	24.6
5 (37)	94.6	5.4
6 (22)	54.5	45.5
7 (9)	22.2	77.8
8 (26)	76.9	23.1
9 (100)	40.0	60.0
10 (100)	44.0	56.0
11 (16)	37.5	62.5
12 (100)	50.0	60.0
13 (26)	61.5	38.5

Restraint Use By Site By City		
City/Site (# Obs.)	% Restrained	% Unrestrained
Brownsville		
1 (24)	54.2	45.8
2 (100)	26.0	74.0
3 (39)	51.3	48.7
4 (19)	52.6	47.4
5 (100)	18.0	82.0
6 (32)	53.1	46.9
7 (22)	31.8	68.2
8 (100)	30.0	70.0
9 (100)	36.0	64.0
10 (15)	66.7	33.3
11 (39)	30.8	69.2
12 (100)	42.0	58.0
13 (100)	50.0	50.0
Bryan/CS		
1 (100)	80.0	20.0
2 (100)	76.0	24.0
3 (100)	78.0	22.0
4 (102)	80.4	19.6
5 (40)	47.5	52.5
6 (39)	84.6	15.4
7 (52)	92.3	7.7
8 (47)	83.0	17.0
9 (22)	40.9	59.1
10 (16)	75.0	25.0
11 (32)	81.2	18.8
12 (38)	81.6	18.4
13 (40)	82.5	17.5
14 (34)	97.1	2.9
15 (33)	72.7	27.3
Corpus Christi		
1 (39)	71.8	28.2
2 (100)	42.0	58.0
3 (67)	85.1	14.9
4 (13)	69.2	30.8
5 (106)	32.1	67.9
6 (88)	50.0	50.0
7 (19)	57.9	42.1
8 (100)	42.0	58.0
9 (100)	64.0	36.0
10 (100)	46.0	54.0
11 (33)	87.9	12.1
12 (100)	70.0	30.0
13 (34)	52.9	47.1
14 (19)	63.2	36.8
15 (91)	61.5	38.5
16 (20)	50.0	50.0

Restraint Use By Site By City		
City/Site (# Obs.)	% Restrained	% Unrestrained
Dallas		
1 (104)	57.7	42.3
2 (34)	35.3	64.7
3 (62)	88.7	11.3
4 (104)	69.2	30.8
5 (100)	34.0	64.0
6 (29)	65.5	34.5
7 (19)	36.8	63.2
8 (102)	58.8	41.2
9 (5)	40.0	60.0
10 (20)	55.0	45.0
11 (106)	37.7	62.3
12 (17)	82.3	17.7
13 (35)	82.9	17.1
14 (110)	72.7	27.3
15 (26)	34.6	65.4
16 (34)	82.3	17.7
17 (114)	29.8	70.2
El Paso		
1 (100)	16.0	84.0
2 (42)	52.4	47.6
3 (100)	54.0	46.0
4 (24)	16.7	83.3
5 (74)	52.7	47.3
6 (102)	35.3	64.7
7 (45)	62.2	37.8
8 (25)	52.0	48.0
9 (100)	40.0	60.0
10 (35)	74.3	25.7
11 (29)	55.2	44.8
12 (36)	77.8	22.2
13 (100)	52.0	48.0
14 (53)	67.9	32.1
15 (52)	28.8	71.2
16 (102)	70.6	29.4
17 (25)	24.0	76.0

Restraint Use By Site By City		
City/Site (# Obs.)	% Restrained	% Unrestrained
Fort Worth		
1 (45)	91.1	22.9
2 (104)	78.9	44.0
3 (25)	68.0	31.2
4 (33)	93.9	28.6
5 (100)	76.0	20.0
6 (23)	52.2	54.2
7 (15)	40.0	90.9
8 (102)	47.1	30.8
9 (100)	86.0	40.0
10 (43)	60.5	29.2
11 (100)	56.0	80.4
12 (37)	86.5	51.5
13 (29)	57.7	40.0
14 (100)	88.0	46.0
15 (28)	96.4	17.4
16 (30)	66.7	12.9
17 (5)	100.0	1.6
Houston		
1 (23)	43.5	56.5
2 (26)	46.1	53.9
3 (100)	40.0	60.0
4 (102)	56.9	43.1
5 (59)	50.9	49.1
6 (40)	70.0	30.0
7 (86)	80.2	19.8
8 (47)	36.2	63.8
9 (100)	42.0	58.0
10 (53)	43.4	56.6
11 (35)	60.0	40.0
12 (100)	74.0	26.0
13 (22)	59.1	40.9
14 (52)	73.1	26.9
15 (100)	70.0	30.0
16 (50)	84.0	16.0
17 (100)	14.0	86.0
18 (49)	79.6	20.4
19 (102)	49.0	51.0
20 (100)	54.0	46.0

Restraint Use By Site By City		
City/Site (# Obs.)	**% Restrained**	**% Unrestrained**
Lubbock		
1 (43)	69.8	30.2
2 (102)	72.5	27.5
3 (100)	82.0	18.0
4 (53)	83.0	17.0
5 (33)	66.7	33.3
6 (102)	68.6	31.4
7 (34)	61.8	38.2
8 (33)	69.7	30.3
9 (53)	64.1	35.9
10 (100)	70.0	30.0
11 (56)	91.1	8.9
12 (100)	80.0	20.0
13 (45)	93.3	6.7
14 (102)	60.8	39.2
15 (36)	47.2	52.8
San Antonio		
1 (58)	27.6	72.4
2 (102)	58.8	41.2
3 (100)	42.0	58.0
4 (11)	9.1	90.9
5 (52)	38.5	61.5
6 (65)	46.1	53.9
7 (100)	42.0	58.0
8 (43)	67.4	32.6
9 (41)	87.8	12.2
10 (100)	78.0	22.0
11 (31)	87.1	12.9
12 (30)	66.7	33.3
13 (25)	92.0	8.0
14 (100)	68.0	32.0

Restraint Use By Site By City		
City/Site (# Obs.)	% Restrained	% Unrestrained
Tyler		
1 (123)	77.2	22.8
2 (104)	73.1	26.9
3 (48)	79.2	20.8
4 (82)	54.9	45.1
5 (102)	66.6	33.3
6 (33)	78.8	21.2
7 (49)	79.6	20.4
8 (100)	48.0	52.0
9 (102)	66.7	33.3
10 (35)	65.7	34.3
11 (42)	85.7	14.3
12 (12)	83.3	16.7
13 (102)	66.7	33.3
14 (66)	80.3	19.7
15 (100)	58.0	42.0
16 (30)	70.0	30.0
Waco		
1 (40)	70.0	30.0
2 (135)	32.6	67.4
3 (92)	79.3	20.7
4 (100)	48.0	52.0
5 (48)	64.6	35.4
6 (102)	47.1	52.9
7 (47)	40.4	59.6
8 (37)	54.1	45.9
9 (100)	22.0	78.0
10 (47)	34.0	66.0
11 (96)	58.3	41.7
12 (102)	37.3	62.7
13 (36)	86.1	13.9
14 (50)	64.0	36.0
15 (78)	14.1	85.9
16 (100)	40.0	60.0
17 (37)	40.5	59.5