

**Demographic Survey of Texas Lottery Players 2015**

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The Texas Lottery Commission 2015 Demographic Study of Texas Lottery Players surveyed a total of 1,979 Texas citizens aged 18 years and older between July and September of 2015. The survey respondents included both past-year players (who had played any Texas Lottery game in the past year) and non-players (who had not played any Texas Lottery game in the past year.) The percentage of respondents playing any Texas Lottery game (the participation rate) for 2015 was 28.7 percent, which was 3.7 percentage points higher than the 25.0 percent reported in 2014. The difference was statistically significant.<sup>2</sup> There were statistically significant differences between the samples of past-year players and non-players of Texas Lottery games in 2015 with regard to age, Hispanic origin and education. Among past-year players, differences in the percent playing any game were statistically significant based on the players' education, Hispanic origin and age. Income, unemployment status, own or rent home, marital status, children under 18 living in household, number of children under 18 living in household, gender, race and occupation were not statistically significant. Texas Lottery scratch games surpassed Lotto Texas as the most popular product by participation percentage among all games/features in 2015, with a participation rate of 41.5 percent. A total of six games showed a double-digit decline in their respective participation rate from 2014 to 2015, with the greatest decreases found for Lotto Texas, Mega Millions, Cash Five and Powerball. *It was possible that the filtering out of non-players for the individual game questions in the beginning of this year's survey contributed – at least partly – to the large decreases in rates.* The lottery sales districts with the highest and the lowest participation rates in any Texas Lottery games in 2015 were El Paso (47.1 percent) and Lubbock (24.7 percent). The lottery sales districts with the largest increases in participation rates for 2015 were Fort Worth and San Antonio: 21.0 percentage points and 20.8 percentage points, respectively. Dallas South sales district had the greatest decline in its participation rate from 2014 to 2015, falling by 10.3 percentage points.

**Keywords:** Texas lottery, lottery players, lottery games, demographics, Texas.

### **Highlights**

The following are some key findings of the 2015 survey on participation rates and personal expenditures in Texas Lottery games/features (see Table 1):

- Texas Lottery scratch games overtook Lotto Texas as the most popular game by participation rate among all games/features in 2015, with 41.5 percent of those who played a Texas Lottery game or feature in 2015 doing so via the purchase of a scratch ticket.

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<sup>1</sup> This paper is based on the report submitted to the Texas Lottery Commission.

<sup>2</sup> All statistical tests yield a margin of error of less than +/- 3.0 percent at the 95 percent confidence level.

- While remaining the second most popular game by participation percentage,<sup>3</sup> Lotto Texas recorded a decline of 36.6 percentage points in its rate from 2014 to 2015.
- Of all the Texas Lottery games and features in 2015, Texas Lottery scratch games had the highest average spend per play of \$11.66 by past-year players.
- Cash Five had the highest average number of times played per week (2.77 times) and the highest average number of times played per month (9.18 times) among all games and features by past-year players in 2015.

A brief summary of participation rates by games and add-on features is given below.<sup>4</sup>

*Note: Some games and add-on features had very low participation rates (between 0.2 percent and 3.0 percent). Consistent with previous years, we did not include statistical analyses for these games and features because their sample sizes were too small to provide any statistically meaningful information. Games and features that had an insufficient sample size are: Pick 3 Night, All or Nothing, Daily 4 Day, Daily 4 Night, and the Sum It Up features with Pick 3 Day, Pick 3 Night, Daily 4 Day and Daily 4 Night.*

An important change to the survey instrument in 2015 was that the respondents answered questions on only those individual games that they reported having played in the beginning of the survey. This method was different from the approach used in past years, in which respondents were asked detailed questions on all individual games in the survey.

For some individual games reported below, there were relatively large decreases in the rates among past-year players who reported playing the game in 2015 as compared to 2014. It was possible that the filtering out of non-players for the individual game questions in the beginning of the survey contributed – at least partly – to the large decreases in rates.

**Texas Lottery Scratch Tickets:** A total of 41.5 percent of the respondents reported that they purchased Texas Lottery scratch tickets in 2015. Thirty-two percent (32.2) of the respondents who bought scratch tickets reported that they purchased them at least once a week. Another 25.9 percent purchased the tickets at least once a month. Past-year players of Texas Lottery scratch games spent an average of \$11.66 per play.

**Lotto Texas:** A total of 31.2 percent of the past-year players reported playing Lotto Texas in this year's survey. Among them, 41.2 percent purchased Lotto Texas tickets at least once a week. Another nineteen percent (19.2) played the game at least once a month. On average, Lotto Texas players spent an average of \$6.52 per play.

**Mega Millions:** A total of 29.0 percent of past-year lottery players reported having played Mega Millions this year. Nearly one third (32.1 percent) of the respondents reported that they purchased Mega Millions tickets at least once a week. Twenty-nine percent (28.5) of the respondents purchased the tickets at least once a month. Mega Millions players spent an average of \$8.55 per play.

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<sup>3</sup> As distinguished from sales levels, Pick 3 is the second most popular game based on overall sales.

<sup>4</sup> Brief descriptions of the Texas Lottery games and add-on features can be found in Table D in the Appendix.

**Powerball:** A total of 20.1 percent of past-year lottery players reported that they played Powerball. Some 29.0 percent of the respondents who purchased Powerball tickets purchased them at least once a week. Another 24.6 percent had purchased Powerball tickets at least once a month. Powerball players spent an average of \$7.57 per play.

**Megaplier Feature with Mega Millions:** A total of 9.9 percent of past-year lottery players included Megaplier in their Mega Millions play. Among them, 32.1 percent reported having purchased the add-on feature at least once a week. Another 8.9 percent purchased the tickets at least once a month. Megaplier players spent an average of \$6.30 per play.

**Extra! Feature with Lotto Texas:** A total of 5.3 percent of past-year lottery players reported that they had selected the Extra! feature with their Lotto Texas tickets. Among these players, sixty percent purchased Extra! at least once a week. Another forty percent purchased the add-on feature at least once a month. On average, Lotto Texas players who purchased Extra! spent an average of \$6.67 per play.

**Pick 3 Day:** A total of 4.9 percent of the past-year lottery players had played Pick 3 Day in 2015. Half of the respondents who purchased Pick 3 Day tickets bought them at least once a week, and twenty-one percent (21.4) of the respondents purchased them at least once a month. On average, Pick 3 Day players spent \$7.88 per play.

**Power Play Feature with Powerball:** A total of 4.9 percent of past-year lottery players reported that they included Power Play with their Powerball ticket purchases. Exactly half of the respondents that purchased the Power Play feature with Powerball purchased it at least once a week. Another 10.7 percent purchased at least once a month. On average, Power Play players spent \$8.20 per play.

**Cash Five:** A total of 3.9 percent of the past-year lottery players had played Cash Five in 2015. Among these past-year players, fifty percent purchased Cash Five tickets at least once a week. Some 27.3 percent purchased tickets at least once a month. Cash Five players spent an average of \$4.35 per play.

**Texas Two Step:** A total of 3.9 percent of past-year lottery players had played Texas Two Step in 2015. Half of Texas Two Step players purchased tickets for the game at least once a week. Another twenty-seven percent (27.3) purchased the tickets at least once a month. Players of Texas Two Step spent an average of \$4.19 per play.

**Pick 3 Night:** A total of 3.0 percent of past-year lottery players reported that they played Pick 3 Night in 2015.

**All or Nothing:** A total of 1.6 percent of past-year lottery players responded that they had played All or Nothing.

**Sum It Up Feature with Pick 3 Day:** A total of 1.6 percent of past-year lottery players reported that they selected the Sum It Up feature with Pick 3 Day.

**Sum It Up Feature with Pick 3 Night:** A total of 1.6 percent of past-year lottery players reported that they added the Sum It Up feature when they played Pick 3 Night.

**Daily 4 Day:** A total of 1.2 percent of past-year lottery players stated that they played Daily 4 Day in 2015.

**Daily 4 Night:** A total of 0.7 percent of past-year lottery players reported that they played Daily 4 Night.

**Sum It Up Feature with Daily 4 Day:** A total of 0.4 percent of past-year lottery players reported that they added the Sum It Up feature to their purchases of Daily 4 Day.

**Sum It Up Feature with Daily 4 Night:** A total of 0.2 percent of the past-year lottery players reported that they selected the Sum It Up feature with Daily 4 Night.

**Table 1. Demographic Survey – Highlights of Key Findings**

Game/Feature <sup>1</sup>	2015 Participation Rate	Change in Rate from 2014	Frequency of Purchase		Average Number of Times Played (Past-year Players)		Average Spent Per Play	Page Results Begin
			At Least Once a Week	At Least Once a Month	Per Week	Per Month		
Texas Lottery Scratch Games	41.5% <sup>^</sup>	-16.1	32.2%	25.9%	1.57	4.27	\$11.66 <sup>^</sup>	22
Lotto Texas	31.2%	-36.6 <sup>^</sup>	41.2%	19.2%	1.51	3.64	\$6.52	28
Mega Millions	29.0%	-22.8	32.1%	28.5%	1.33	3.62	\$8.55	33
Powerball	20.1%	-19.2	29.0%	24.6%	1.23	3.05	\$7.57	39
Megaplier Feature with Mega Millions	9.9%	1.2	32.1%	8.9%	1.35	4.15	\$6.30	44
Extra! Feature with Lotto Texas	5.3%	0.4	60.0% <sup>^</sup>	40.0% <sup>^</sup>	1.50	3.37	\$6.67	49
Pick 3 Day	4.9%	-13.7	50.0%	21.43%	2.47	4.79	\$7.88	51
Power Play Feature with Powerball	4.9%	1.4	50.0%	10.7%	1.60	3.25	\$8.20	55
Cash Five	3.9%	-19.4	50.0%	27.27%	2.77 <sup>^</sup>	9.18 <sup>^</sup>	\$4.35	58
Texas Two Step	3.9%	-8.8	50.0%	27.3%	1.69	5.06	\$4.19	62

<sup>1</sup> Games and add-on features with participation rates of 3.0 percent or below are excluded from the table.

<sup>^</sup> The largest absolute value (positive or negative) in the column among all the games and features.

## Testing changes in lottery participation and expenditure from 2014 to 2015

In addition to the basic results that ensured continuity of information and presentation with prior survey reports, the 2015 report also provides statistical tests of *differences in lottery participation from 2014 to 2015*. The report highlights these differences for general participation rates and for the individual lottery games separately.

Comparing the 2015 survey results with those from 2014, we found that there were statistically significant decreases in the percent playing any game between 2014 and 2015 for the following individual games: Pick 3 Day (13.7 percentage-point decrease), Cash Five (19.4 percentage-point decrease), Lotto Texas (36.6 percentage-point decrease), Texas Lottery Scratch games (16.1 percentage-point decrease), Texas Two Step (8.8 percentage-point decrease), Mega Millions (22.8 percentage-point decrease), and Powerball (19.2 percentage-point decrease). The relatively large decreases in the participation rates for some individual games this year could be partly due to the filtering out of non-players for the individual game questions in the 2015 survey instrument.

In addition, increases in participation rates between 2014 and 2015 were statistically significant for the lottery sales districts of Fort Worth (21.0 percentage-point increase), McAllen (17.9 percentage-point increase), San Antonio (20.8 percentage-point increase), and Tyler (13.3 percentage-point increase).

## Introduction and Method of Analysis

A random survey of adult Texas residents aged 18 and older was conducted during July to September of 2015. The objectives were to measure the participation rates, the distribution and frequency of play, and the demographic profiles of past-year lottery players and non-players among the general adult population of Texas.

On behalf of the Texas Lottery Commission, the data collection and analysis were prepared under the auspices of the Hobby Center for Public Policy (HCPP) (<http://www.uh.edu/class/hcpp/index.php>). The individuals who worked on this study are listed in alphabetical order:

Diana Benitez  
Renée Cross  
Sophiya Das  
Rodrigo F. Nunez Donoso  
Jim Granato  
Cong Huang  
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This year the survey expanded beyond the industry standard of a random digit dialing (RDD) sample to include an address-based sample (described below). Telephone interviews were conducted for both types of samples.

Similar to last year, the RDD sampling method was used in the survey because it provides the best coverage of active telephone numbers and reduces sample bias.

The RDD method ensures the following:

- The conceptual frame and sampling frame match;
- The sample includes unlisted telephone numbers;
- The sampling frame is current, thus maximizing the probability that new residents are included; and
- There is comparability between land line surveys and surveys of cell phone users.

In addition to the RDD sampling, the 2015 survey employed Address-Based Sampling (ABS), which utilizes the US Postal Service's Computerized Delivery Sequence File (CDS). This database covers nearly 100 percent of all households in the United States.

The Hobby Center for Public Policy's Survey Research Institute (SRI) (<http://www.uh.edu/class/hcpp/research/polling/index.php>) fielded 2,002 telephone interviews. Of these, twenty-one (21) respondents answered "don't know," and two (2) respondents refused to answer the first question, "Have you played any of the Texas Lottery games in the past year?" These respondents, per the survey instrument design, were not asked any further questions on lottery play and were only read questions about their demographic status. Accordingly, these twenty-three (23) individuals were not used for the analyses we report below. This process resulted in **a total of 1,979 usable interviews of self-reported players and non-players**. The sample yielded a margin of error of less than +/- 2.2 percent at the 95 percent confidence level. The data for the survey were collected between July 13th and September 10th, 2015.

Note that in some cases, the subset samples will be small and this can create high volatility in some results in those categories. The subset proportions are an approximation of the overall population; however, the relatively small size of subsets can allow outliers to "bias" results when using the mean. We alert the reader to the influence of outliers throughout the report.

The standard SRI survey administration and management protocols include the following.

- Trained telephone interviewers are used to conduct the survey.
- Each interviewer completes intensive general training. The purposes of general training are to ensure that interviewers understand and practice all of the basic skills needed to conduct interviews and that they are knowledgeable about standard interviewing conventions.
- Besides receiving training in general administration and management protocols, the interviewers also participate in a specific training session for the project.
- Interviewers practice administering the survey to become familiar with the questions.

The Texas Lottery Commission provided a survey instrument designed to collect demographic data on adult Texans. The survey included past-year players and non-players and measured lottery participation rates, the frequency of lottery participation, and lottery spending patterns. The 2015 survey instrument used by the HCPP was similar to those used in previous years, with one exception that is described below.



A significant refinement to the survey instrument in the 2015 survey was the inclusion of the “filter” question, “What games have you played in the last year?” for the respondents who had played any Texas Lottery games. Specifically, *the interviewer read out the full list of Texas Lottery games to the respondent*, and checked those games the respondent answered he/she had played. *The respondent then answered questions only on those individual games that he/she had played.* This method was different from the approach used in the previous surveys, in which respondents were asked questions on all individual games, including those that they did not play. An advantage of the new survey instrument design is that it makes the interviewing process more efficient.

With regard to the sample, the survey had included cell phone users as part of the overall sample since 2007. Previous annual studies of lottery players and non-players in Texas have utilized the standard methodology for conducting RDD surveys. This method entails calling residential telephone numbers (landlines) randomly selected from a list of working numbers in homes that are not business lines. Because RDD sampling includes *unlisted* residential numbers, it is considered superior to methods that rely on published telephone numbers in generating samples. However, with the rapid increase in cell phone usage, traditional RDD sampling has been increasingly questioned because more and more individuals are exclusive users of cellular phones and therefore are excluded from RDD surveys that rely on traditional methods. Estimates of exclusively cellular phone users in the United States have increased in recent years: one study put the rate at 45 percent.<sup>5</sup> The trend implies that sample bias in standard RDD polling could be a major issue in the field.

To address this potential problem, Survey Sampling Inc., the largest RDD sample vendor in the United States, began selling cell phone samples to supplement traditional sets of numbers in the 1990s. The SRI took advantage of this capacity and bought a cell phone sub-sample of numbers to use for the 2015 Texas Lottery Study in addition to the standard statewide RDD sample.

This year’s survey also used Address-Based Sampling (ABS) based on the US Postal Service’s Computerized Delivery Sequence File. This comprehensive database covers almost all households in the United States. The advantage of ABS is that it makes the 2015 survey sample an even better representation of the Texas population than the RDD sample alone.<sup>6</sup>

The data included in this report were based on 697 (35.2 percent) completed interviews on standard landlines, 295 (14.9 percent) completed interviews from the cell phone sample, and 986 (49.9 percent) completed interviews from the address-based sample. This combination, in our judgment, improves the quality of the overall data in this year’s survey.

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<sup>5</sup> Blumberg, Stephen, and Julian Luke. 2015. “Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, July-December 2014.” Division of Health Interview Statistics, National Center for Health Statistics.

<sup>6</sup> A comparison of the participation rates of the past-year players between the address-based sample and the RDD sample (landline and cell phone users) can be found in Table A in the Appendix.

## Sample Characteristics<sup>7</sup>

Selected questions for each lottery game were cross-tabulated with the following seven demographic categories:

- Income,
- Employment status,
- Years of education,
- Age of respondent,
- Gender of respondent,
- Race/ethnicity of respondent, and
- Hispanic origin.<sup>8</sup>

Sub-categories for these factors are shown in the demographic tables that follow.

In the social sciences, the distribution of outcomes often varies in terms of the categories of analytic interest. Throughout this analysis, we will test to determine whether changes or differences between categories or groups are due to random chance. Traditional tests for statistical “significance” are used to test for differences between past-year players and non-players or for differences among past-year players (by demographic category). Specifically, we use standard *t* tests on the “equality of means.” Note also that discussions of statistical “significance” reflect a classical statistical (or “frequentist”) tradition. “Level” of statistical significance (denoted by a *p* value) has to do with the probability that what is observed differs from the null hypothesis (of no relation or no difference). In the classical tradition a *p* value of 0.05 indicates that in, say, 100 repeated samples, the value realized would fall within a given interval in 95 out of 100 samples. Extending this relation, a *p* value of .01 means that the result would fall within a pre-specified interval in 99 out of 100 samples. The closer the *p* value is to zero the stronger the finding.

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<sup>7</sup> Note that discrepancies between total sample size and various variables are due to respondents either refusing to answer or saying they did not know.

<sup>8</sup> Hispanic origin is based on self-identification by the respondent in the survey.

**Table 2. Demographics: Summary for Income, Employment, Home Ownership, and Age**

Demographic Factors	Number and Percentage Responding		
	All (n=1,979)	Past-Year Players (n=568)	Non-Players (n=1,411)
Year <sup>1</sup>			
2015	1,979 (100.0%)	568 (28.7%)	1,411 (71.3%)
2014	1,701 (100.0%)	425 (25.0%)	1,276 (75.0%)
2013	1,695 (100.0%)	618 (36.5%)	1,077 (63.5%)
Income	n=1,062 (100.0%)	n=346 (100.0%)	n=716 (100.0%)
Less than \$12,000	96 (9.0%)	30 (8.7%)	66 (9.2%)
Between \$12,000 and \$19,999	73 (6.9%)	35 (10.1%)	38 (5.3%)
Between \$20,000 and \$29,999	101 (9.5%)	35 (10.1%)	66 (9.2%)
Between \$30,000 and \$39,999	125 (11.8%)	43 (12.4%)	82 (11.5%)
Between \$40,000 and \$49,999	100 (9.4%)	30 (8.7%)	70 (9.8%)
Between \$50,000 and \$59,999	97 (9.1%)	32 (9.3%)	65 (9.1%)
Between \$60,000 and \$74,999	109 (10.3%)	27 (7.8%)	82 (11.5%)
Between \$75,000 and \$100,000	134 (12.6%)	44 (12.7%)	90 (12.6%)
More than \$100,000	227 (21.4%)	70 (20.2%)	157 (21.9%)
Employment Status	n=1,907 (100.0%)	n=540 (100.0%)	n=1,367 (100.0%)
Employed Full-time	795 (41.7%)	247 (45.7%)	548 (40.1%)
Employed Part-time	108 (5.7%)	29 (5.4%)	79 (5.8%)
Unemployed/Looking for Work	123 (6.5%)	28 (5.2%)	95 (7.0%)
Not in Labor Force	115 (6.0%)	23 (4.3%)	92 (6.7%)
Retired	766 (40.2%)	213 (39.4%)	553 (40.5%)
Own or Rent Home	n=1,907 (100.0%)	n=545 (100.0%)	n=1,362 (100.0%)
Own	1,478 (77.5%)	424 (77.8%)	1,054 (77.4%)
Rent	346 (18.1%)	108 (19.8%)	238 (17.5%)
Occupied without Payment	83 (4.4%)	13 (2.4%)	70 (5.1%)
Age of Respondent***	n=1,590 (100.0%)	n=456 (100.0%)	n=1,134 (100.0%)
18 to 24	83 (5.2%)	19 (4.2%)	64 (5.6%)
25 to 34	193 (12.1%)	39 (8.6%)	154 (13.6%)
35 to 44	244 (15.4%)	48 (10.5%)	196 (17.3%)
45 to 54	258 (16.2%)	91 (20.0%)	167 (14.7%)
55 to 64	283 (17.8%)	104 (22.8%)	179 (15.8%)
65 and over	529 (33.3%)	155 (34.0%)	374 (33.0%)

Note: \*  $p < 0.05$ , \*\*\*  $p < 0.001$ , two-tailed test. There was statistically significant difference between players and non-players regarding the distribution by age of the respondents.

<sup>1</sup> There was an increase in the proportion of respondents who reported that they participated in any of the Texas Lottery games during the past year in 2015 from those who reported that they participated in 2014. The difference was statistically significant.

**Table 2. Demographics: Summary for Marital Status, Children, Gender, Race/Ethnicity, and Hispanic Origin (continued)**

Demographic Factors	Number and Percentage Responding		
	All (n=1,979)	Past-Year Players (n=568)	Non-Players (n=1,411)
Marital Status	n=1,915 (100.0%)	n=544 (100.0%)	n=1,371 (100.0%)
Married	1,108 (57.9%)	302 (55.5%)	806 (58.8%)
Widowed	258 (13.5%)	63 (11.6%)	195 (14.2%)
Divorced	149 (7.8%)	71 (13.1%)	78 (5.7%)
Separated	18 (0.9%)	9 (1.7%)	9 (0.7%)
Never Married	382 (20.0%)	99 (18.2%)	283 (20.6%)
Children under 18 Living in Household	n=1,850 (100.0%)	n=530 (100.0%)	n=1,320 (100.0%)
Yes	529 (28.6%)	137 (25.9%)	392 (29.7%)
No	1,321 (71.4%)	393 (74.2%)	928 (70.3%)
Number of Children under 18 Living in Household	n=529 (100.0%)	n=137 (100.0%)	n=392 (100.0%)
1	251 (47.5%)	58 (42.3%)	193 (49.2%)
2	184 (34.8%)	52 (38.0%)	132 (33.7%)
3	69 (13.0%)	20 (14.6%)	49 (12.5%)
4 or more	25 (4.7%)	7 (5.1%)	18 (4.6%)
Gender of Respondent	n=1,967 (100.0%)	n=563 (100.0%)	n=1,404 (100.0%)
Male	804 (40.9%)	243 (43.2%)	561 (40.0%)
Female	1,163 (59.1%)	320 (56.8%)	843 (60.0%)
Race	n=1,865 (100.0%)	n=522 (100.0%)	n=1,343 (100.0%)
White	1,169 (62.7%)	294 (56.3%)	875 (65.2%)
African American	270 (14.5%)	94 (18.0%)	176 (13.1%)
Hispanic	325 (17.4%)	116 (22.2%)	209 (15.6%)
Asian	41 (2.2%)	8 (1.5%)	33 (2.5%)
Native American Indian	18 (1.0%)	5 (1.0%)	13 (1.0%)
Other	42 (2.3%)	5 (1.0%)	37 (2.8%)
Hispanic Origin*	n=1,898 (100.0%)	n=541 (100.0%)	n=1,357 (100.0%)
Yes	352 (18.6%)	118 (21.8%)	234 (17.2%)
No	1,546 (81.5%)	423 (78.2%)	1,123 (82.8%)

Note: \*  $p < 0.05$ , two-tailed test. There was a statistically significant difference between players and non-players regarding the distribution by Hispanic origin of the respondents.

**Table 2. Demographics: Summary for Education and Occupation (continued)**

Demographic Factors	Number and Percentage Responding		
	All (n=1,979)	Past-Year Players (n=568)	Non-Players (n=1,411)
Education***	n=1,936 (100.0%)	n=552 (100.0%)	n=1,384 (100.0%)
Less than High School	69 (3.6%)	21 (3.8%)	48 (3.5%)
High School Graduate/GED	534 (27.6%)	175 (31.7%)	359 (26.0%)
Some College, no degree	378 (19.5%)	123 (22.3%)	255 (18.4%)
College Degree	603 (31.2%)	151 (27.4%)	452 (32.7%)
Graduate/Professional Degree	352 (18.2%)	82 (14.9%)	270 (19.5%)
Occupation	n=1,427 (100.0%)	n=417 (100.0%)	n=1,010 (100.0%)
Executive, Administrative, and Managerial	293 (20.5%)	93 (22.3%)	200 (19.8%)
Professional Specialty	462 (32.4%)	124 (29.7%)	338 (33.5%)
Technicians and Related Support	119 (8.3%)	41 (9.8%)	78 (7.7%)
Sales	182 (12.8%)	49 (11.8%)	133 (13.2%)
Administrative Support, Clerical	109 (7.6%)	33 (7.9%)	76 (7.5%)
Private Household	27 (1.9%)	14 (3.4%)	13 (1.3%)
Protective Service	19 (1.3%)	6 (1.4%)	13 (1.3%)
Service	100 (7.0%)	28 (6.7%)	72 (7.1%)
Precision Productions, Craft, and Repair	18 (1.3%)	5 (1.2%)	13 (1.3%)
Machine Operators, Assemblers, and Inspectors	31 (2.2%)	3 (0.7%)	28 (2.8%)
Transportation and Material Moving	21 (1.5%)	8 (1.9%)	13 (1.3%)
Equipment Handlers, Cleaners, Helpers, and Laborers	20 (1.4%)	6 (1.4%)	14 (1.4%)
Farming, Forestry, Fishing	17 (1.2%)	4 (1.0%)	13 (1.3%)
Armed Forces	9 (0.6%)	3 (0.7%)	6 (0.6%)

Note: \*\*\*  $p < 0.001$ , two-tailed test. There was a statistically significant difference between players and non-players regarding the distribution by education of the respondents.

- Table 2 shows that twenty-nine percent (28.7) of the survey respondents reported having participated in at least one of the Texas Lottery games in 2015. The increase in the participation rate over the previous year's 25.0 percent was statistically significant.
- Among the demographic factors, there was a statistically significant difference between the 2015 players and non-players in terms of age. Overall, the past-year players of the Texas Lottery games in 2015 were older than their non-player counterparts.<sup>9</sup> About the same

<sup>9</sup> Consistent with Texas Lottery survey reports in previous years, the term "past-year players" refers to the survey respondents who indicated playing any Texas Lottery games or add-on features in the past one year; the term "non-players" refers to those respondents who indicated not playing any Texas Lottery games or add-on features in the past one year.

proportions of the past-year players and non-players were aged 65 and over (34.0 percent and 33.0 percent, respectively). The respondents aged between 45 and 64 constituted 44.8 percent of the past-year players, whereas 30.5 percent of the non-players fell into this age range. By contrast, a higher proportion among the non-players (36.5 percent) than players (23.3 percent) belonged to the younger age cohort of 44 and below. The average age among the players was 55.7 years, which was also higher than the 53.7 years for the non-players. (Note: average ages are not shown in Table 2.)

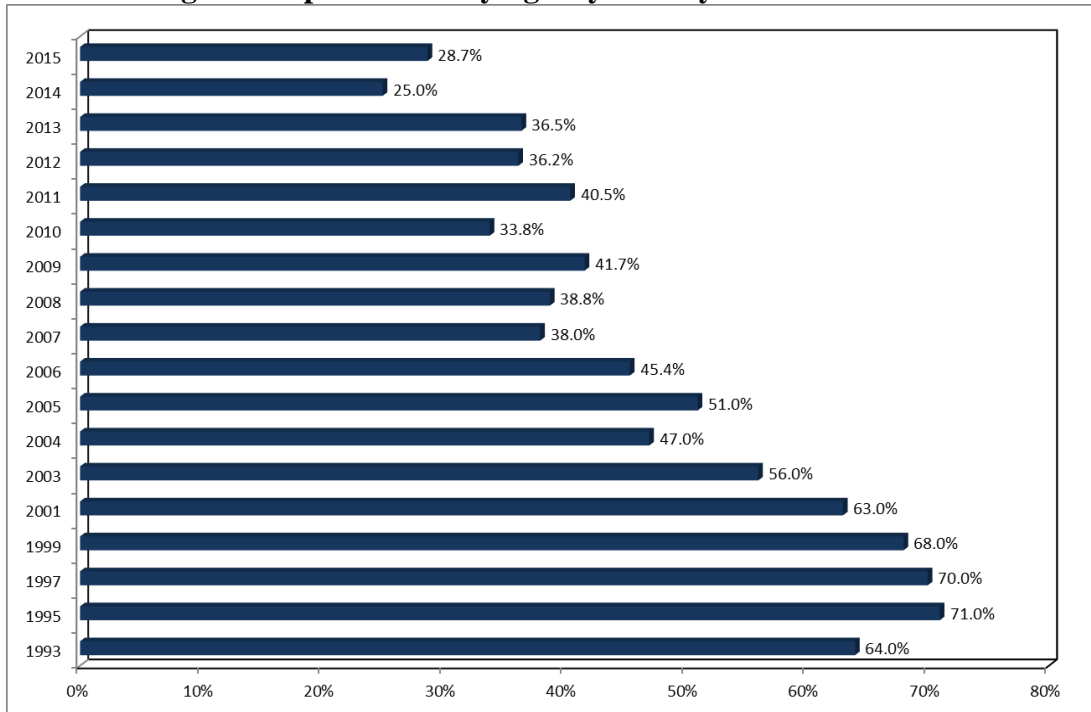
- Among the past-year players in this year, 18.6 percent was of Hispanic origin, which was 4.9 percentage points higher than the previous year's 13.7 percent. The proportion of the respondents with Hispanic origin among the past-year players was higher than their proportion among the non-players (21.8 percent and 17.2 percent, respectively).
- The difference between past-year players and non-players by education status was statistically significant in 2015. Among the past-year players, 31.7 percent were high school graduates or had a GED, and a higher proportion had some college education or a graduate/professional degree (42.3 percent). In comparison, more than half (52.2 percent) of the non-players had a college degree or a graduate/professional degree, while 26.0 percent were high school graduates or had a GED.
- The demographic factors of income, unemployment status, own or rent home, marital status, children under 18 living in household, number of children under 18 living in household, gender, race and occupation were not statistically significant in the 2015 survey.
- In terms of income, similar proportions of the past-year players (32.9 percent) and the non-players (34.5 percent) had a household annual income of \$75,000 or higher. Among those who had a household annual income of between \$12,000 and \$39,999, a higher proportion was players (32.6 percent) than non-players (26.0 percent).
- The proportion of the past-year players who were employed full-time was higher than those who were retired (45.7 percent and 39.4 percent, respectively). However, the corresponding proportions for the two groups among the non-players were about the same (40.1 percent and 40.5 percent, respectively).
- About the same proportions of the past-year players and non-players owned their homes (77.7 percent and 77.4 percent, respectively).
- More than half (55.5 percent) of the past-year players were married. Another 13.1 percent were divorced. Among the non-players, 5.7 percent indicated that they were divorced.
- More than one out of four past-year players had children under age 18 living in their households. Among these 25.9 percent of past-year players, eighty percent (80.3) had one or two children under age 18. The statistics on children living in the household for the non-players showed similar patterns.

- Despite the fact that men are typically more frequent players of the Texas Lottery games than women, more female respondents than male respondents were surveyed in 2015 (59.1 percent and 40.9 percent, respectively). As shown in Table 2, among the past-year players, 56.8 percent were female while 43.2 percent were male.
- In terms of race, the proportion of the respondents who were White among the past-year players was lower than their proportion among the non-players (56.3 percent and 65.2 percent, respectively). However, the reverse was true for African Americans: 18.0 percent were players and 13.1 percent were non-players. Likewise, a higher proportion among Hispanics was players than non-players. The findings were similar to those on Hispanic origin.
- The four largest occupational categories in the 2015 survey were: “professional specialty” (32.4 percent), “executive, administrative, and managerial occupations” (20.5 percent), “sales” (12.8 percent), and “technicians and related support” (8.3 percent). Together, they constituted seventy-four percent (74.0) of all the respondents by occupation. The occupational category of “professional specialty” constituted 29.7 percent of the past-year players, while the category of “executive, administrative, and managerial occupations” made up another 22.3 percent.

## Game Findings

### 1. Any Game Results

**Figure 1. Percentage of Respondents Playing Any Lottery Game**



Sources: 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, and 2015 HCPP survey data, 2006 University of North Texas (UNT) survey reports and survey reports from 1993-2005.

Figure 1 shows the past-year Texas Lottery participation rates over time for those playing any Texas Lottery game since the agency’s first survey conducted in 1993. The Texas Lottery participation rate in 2015 was twenty-nine percent (28.7), which was slightly higher (by 3.7 percentage points) than in 2014. In contrast to the significant decrease of 11.5 percentage points in participation rate from 2013 to 2014, the increase in participation for 2015 was of a much smaller magnitude, though statistically significant. Despite the small increase, the 2015 participation rate was lower than the participation rates of approximately 35 to 40 percent in recent years.

As shown in Table 3, there were significant differences among the respondents who had played any game according to the demographic categories of education, Hispanic origin, and age. In terms of education, respondents with high school diplomas and some college had a higher participation rate (32.8 and 32.5 percent, respectively) than the other respondents, in particular, those with graduate degrees (23.3 percent) or college degrees (25.0 percent). With regard to Hispanic origin, respondents who identify as Hispanic had a higher participation rate of 33.5 percent compared to those who were not Hispanic (27.4 percent). For age, the participation rate was higher among respondents in the 55 to 64 cohort (36.7 percent) as compared to those who were in the 35 to 44 cohort (19.7 percent).

Participation rates in the demographic categories of income, race, gender, and employment status were found not to be statistically significant.

**Table 3. Any Game: Past-Year Lottery Play and Median Dollars Spent per Month by Demographics**

<b>Year</b>	<b>Percentage Played</b>	<b>Median Dollars Spent</b>
2015 <sup>1</sup>	28.7 (n=568)	\$10.00
2014	25.0 (n=425)	12.00
2013	36.5 (n=618)	12.00
<b>Demographic Factors 2015</b>		
Education***		
Less than high school diploma	30.4 (n=21)	12.00
High school diploma	32.8 (n=175)	20.00
Some college	32.5 (n=123)	14.00
College degree	25.0 (n=151)	10.00
Graduate degree	23.3 (n=82)	4.50
Income		
Under \$12,000	31.3 (n=30)	20.00
\$12,000 to \$19,999	47.9 (n=35)	12.00
\$20,000 to \$29,999	34.7 (n=35)	7.00
\$30,000 to \$39,999	34.4 (n=43)	8.00
\$40,000 to \$49,999	30.0 (n=30)	15.00
\$50,000 to \$59,999	33.0 (n=32)	20.00
\$60,000 to \$74,999	24.8 (n=27)	10.00
\$75,000 to \$100,000	32.8 (n=44)	20.00
More than \$100,000	30.8 (n=70)	12.00



**Table 3. Any Game: Past-Year Lottery Play and Median Dollars Spent per Month by Demographics (continued)**

Demographic Factors 2015	Percentage Played	Median Dollars Spent
Race		
White	25.1 (n=294)	10.00
African American	34.8 (n=94)	15.00
Hispanic	35.7 (n=116)	12.00
Asian	19.5 (n=8)	8.50
Native American Indian	27.8 (n=5)	6.00
Other	11.9 (n=5)	33.00
Hispanic Origin*		
Yes	33.5 (n=118)	12.00
No	27.4 (n=423)	10.00
Gender		
Female	27.5 (n=320)	10.00
Male	30.2 (n=243)	12.00
Age***		
18 to 24	22.9 (n=19)	9.00
25 to 34	20.2 (n=39)	5.00
35 to 44	19.7 (n=48)	10.00
45 to 54	35.3 (n=91)	12.00
55 to 64	36.7 (n=104)	10.00
65 or older	29.3 (n=155)	15.00
Employment Status		
Employed full/part time	30.6 (n=276)	10.00
Unemployed	22.8 (n=28)	8.50
Retired	27.8 (n=213)	12.00

Note: \*  $p < 0.05$ , \*\*\*  $p < 0.001$ . The significance notations refer only to the “percentage played” column. In some categories, the number of respondents contributing to cell percentages is small. This small size has the effect of making generalizations from these figures more tenuous. Due to greater uncertainty, small sample size also requires larger discrepancies among categories to attain acceptable levels of statistical significance. We note in the discussion of individual lottery games those instances where sub-samples are especially small.

<sup>1</sup> The increase in the participation rates from 2014 to 2015 was statistically significant.

**Table 4. Participation and Dollars Spent by Lottery Sales District**

Lottery Sales District	2015 Percent Playing Any Game	2014 Percent Playing Any Game	Percentage Change from 2014	2015 Average Amount Spent Per Month among Past-Year Players	2015 Median Amount Spent Per Month among Past-Year Players
Austin	35.4 (n=29)	27.9 (n=31)	7.5	\$11.43	\$16.00
Dallas North	27.2 (n=31)	22.8 (n=31)	4.4	8.57	10.00
Dallas South	28.3 (n=28)	38.6 (n=34)	-10.3	5.40	7.50
El Paso	47.1 (n=16)	27.5 (n=11)	19.6	14.97	15.50
Fort Worth**	43.2 (n=41)	22.2 (n=22)	21.0	7.57	12.00
Houston East	27.7 (n=33)	21.6 (n=32)	6.1	7.10	16.00
Houston Northwest	25.2 (n=40)	32.4 (n=48)	-7.2	12.95	8.00
Houston Southwest	25.1 (n=52)	29.8 (n=50)	-4.7	6.46	17.50
Lubbock	24.7 (n=21)	24.4 (n=29)	0.3	4.90	10.00
McAllen*	43.5 (n=20)	25.6 (n=21)	17.9	24.74	10.00
San Antonio***	43.5 (n=47)	22.7 (n=29)	20.8	15.73	20.00
Tyler*	28.7 (n=29)	15.4 (n=20)	13.3	8.29	8.00
Waco	32.6 (n=29)	27.1 (n=32)	5.5	12.30	12.00

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . The letter “n” denotes the number of respondents who played any Texas Lottery game.

- Among the 13 lottery sales districts, El Paso experienced the highest participation rate (47.1 percent) in any Texas Lottery game in 2015, as shown in Table 4. The lottery sales districts of McAllen and San Antonio both saw a participation rate of forty-four percent (43.5). The Lubbock sales district had the lowest participation rate of 24.7 percent in 2015. The Houston Southwest and Houston Northwest lottery sales districts also recorded low participation rates for 2015: 25.1 percent and 25.2 percent, respectively.

- Compared to 2014, the lottery sales districts with the largest increases in participation rates for 2015 were Forth Worth and San Antonio: 21.0 percentage points and 20.8 percentage points, respectively. The Dallas South sales district had the greatest decline in participation rate of 10.3 percentage points from 2014 to 2015. The differences in participation rates between 2015 and 2014 were statistically significant for the Fort Worth, McAllen, San Antonio, and Tyler lottery sales districts.
- The three lottery sales districts with the highest average monthly amounts spent per player in 2015 were McAllen (\$24.74), San Antonio (\$15.73), and El Paso (\$14.97). The lottery sales districts of Lubbock (\$4.90), Dallas South (\$5.40), and Houston Southwest (\$6.46) had the lowest average monthly amounts spent per player in 2015.
- The two lottery sales districts with the highest median monthly amounts spent per player were San Antonio (\$20.00) and Houston Southwest (\$17.50). In contrast, three lottery sales districts logged single-digit median monthly amounts spent per player for 2015: Dallas South (\$7.50), Houston Northwest (\$8.00), and Tyler (\$8.00).

**Table 5. Number and Percentage of Respondents Playing by Game/Feature**

Texas Lottery Game/Feature	2015 Number and Percent Playing the Game (n=568)	2014 Number and Percent Playing the Game (n=425)	Change in Percentage from 2014
Texas Lottery Scratch Games	236 (41.5%)	245 (57.6%)	-16.1%
Lotto Texas	177 (31.2%)	288 (67.8%)	-36.6%
Mega Millions	165 (29.0%)	220 (51.8%)	-22.8%
Powerball	114 (20.1%)	167 (39.3%)	-19.2%
Megaplier Feature with Mega Millions	56 (9.9%)	37 (8.7%)	1.2%
Extra! Feature with Lotto Texas	30 (5.3%)	21 (4.9%)	0.4%
Pick 3 Day	28 (4.9%)	79 (18.6%)	-13.7%
Power Play Feature with Powerball	28 (4.9%)	15 (3.5%)	1.4%
Cash Five	22 (3.9%)	99 (23.3%)	-19.4%
Texas Two Step	22 (3.9%)	54 (12.7%)	-8.8%
Pick 3 Night	17 (3.0%)	5 (1.2%)	1.8%
All or Nothing	9 (1.6%)	27 (6.4%)	-4.8%
Sum It Up Feature with Pick 3 Day	9 (1.6%)	11 (2.6%)	-1.0%
Sum It Up Feature with Pick 3 Night	9 (1.6%)	4 (0.9%)	0.7%
Daily 4 Day	7 (1.2%)	9 (2.1%)	-0.9%
Daily 4 Night	4 (0.7%)	9 (2.1%)	-1.4%
Sum It Up Feature with Daily 4 Day	2 (0.4%)	3 (0.7%)	-0.3%
Sum It Up Feature with Daily 4 Night	1 (0.2%)	3 (0.7%)	-0.5%

Note: Games are shown in decreasing order of popularity based on 2015 percentages.

In contrast to 2014, Texas Lottery scratch games were the most popular Texas Lottery game in 2015: forty-two percent (41.5) of past-year lottery players had played this game, as shown in Table 5. The second-most popular choice among lottery players was Lotto Texas, at thirty-one (31.2) percent. Mega Millions was popular as well and almost one third of past-year lottery players played this game (29.0 percent). A total of six games had a double-digit decline in their respective participation rate from 2014 to 2015. Lotto Texas saw the largest decline in participation rate from 2014 to 2015 (36.6 percentage points decrease), followed by Mega Millions and Cash Five (a decline of 22.8 percentage points and 19.4 percentage points, respectively).<sup>10</sup>

### **Notes on the report formats for the individual game results**

The following sections presented the individual game results, from the most popular game/add-on feature to the least popular game/add-on feature. Detailed statistical analyses were presented for the top five games/add-on feature in 2015: Texas Lottery Scratch Games, Lotto Texas, Mega Millions, Powerball, and the Megaplier feature with Mega Millions.

Less detailed statistical analyses were provided for the mid-range games/add-on features of participation rates below six percent and higher than three percent. We did not include analyses for individual games/add-on features with participation rates of three percent or lower because their sample sizes were too small to provide any statistically meaningful information.

In addition, there were two implications on the individual game table “Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics” for the top five individual games in the 2015 report as a result of the change in the design of the instrument employed for this year’s survey.

First, there were relatively large decreases in the rates for some individual games among past-year players who reported playing the game in 2015 as compared to 2014. It was likely that the filtering out of non-players for the individual game questions in this year’s survey contributed – at least partly – to the large rate decreases. Many of these changes were statistically significant and the test results were indicated in the individual game tables.

Second, the data collected by the questions for an individual game for this year were limited to those who had played the game, instead of both players and non-players, as in past surveys. Hence, comparisons between past-year players and non-players for any individual games were not possible this year. Therefore, the analysis for individual games for this year’s report focused on past-year players. This was reflected in the change to the format of the individual game table “Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics” for the top five individual games in the report.

Specifically, the revised table format presented the “Number and Percent Playing the Game” (the middle column), instead of the “Percentage Played Game Among Past Year Players” (which compared the proportions played and not played) as in past reports. In addition, there were no statistical tests for the difference between past-year players and non-players by demographic categories for this year’s report.

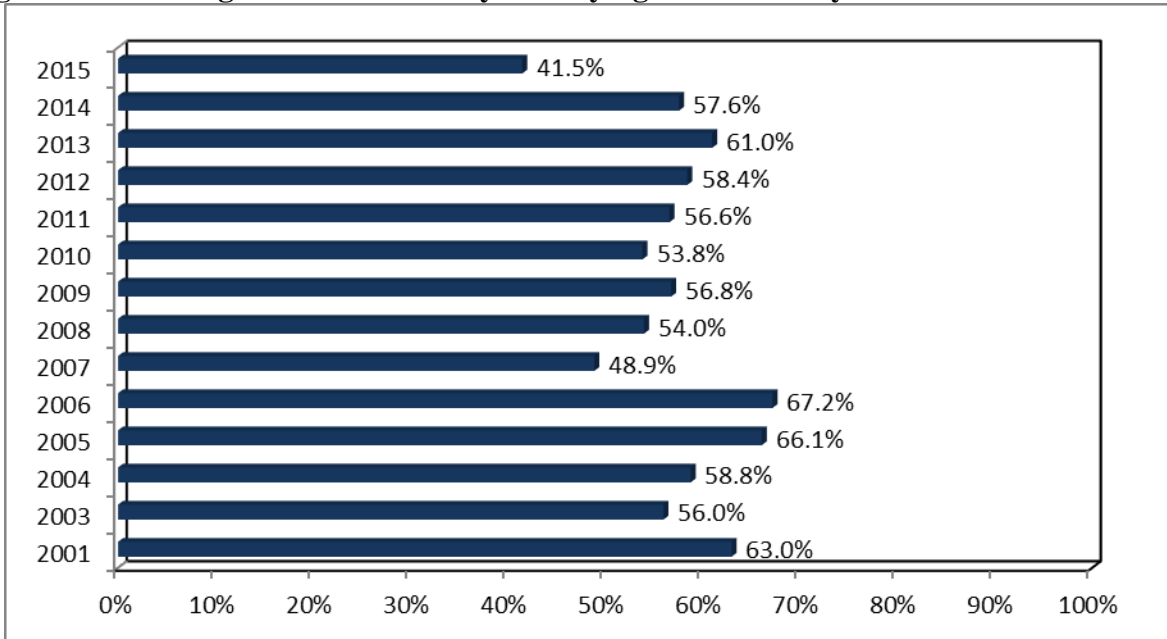
There was no change to the format or analysis of the “Median Dollars Spent” column in the table between this year’s report and past reports.

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<sup>10</sup> The large decreases in the participation rates for some individual games this year could be partly due to the filtering out of non-players for the individual game questions in the 2015 survey instrument.

## 2. Texas Lottery Scratch Games Results

**Figure 2. Percentage of Past-Year Players Playing Texas Lottery Scratch Games**



Sources: Hobby Center for Public Policy 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015 survey data and additional survey reports 2001-2006.

As shown in Figure 2, forty-two percent (41.5) of the past-year players bought Texas Lottery scratch tickets. The participation rate was 16.1 percentage points lower than the rate recorded in 2014. Texas Lottery scratch games, as a category, was the most popular Texas Lottery game in 2015.

**Figure 3. Frequency of Purchasing Texas Lottery Scratch Tickets (n=236)**

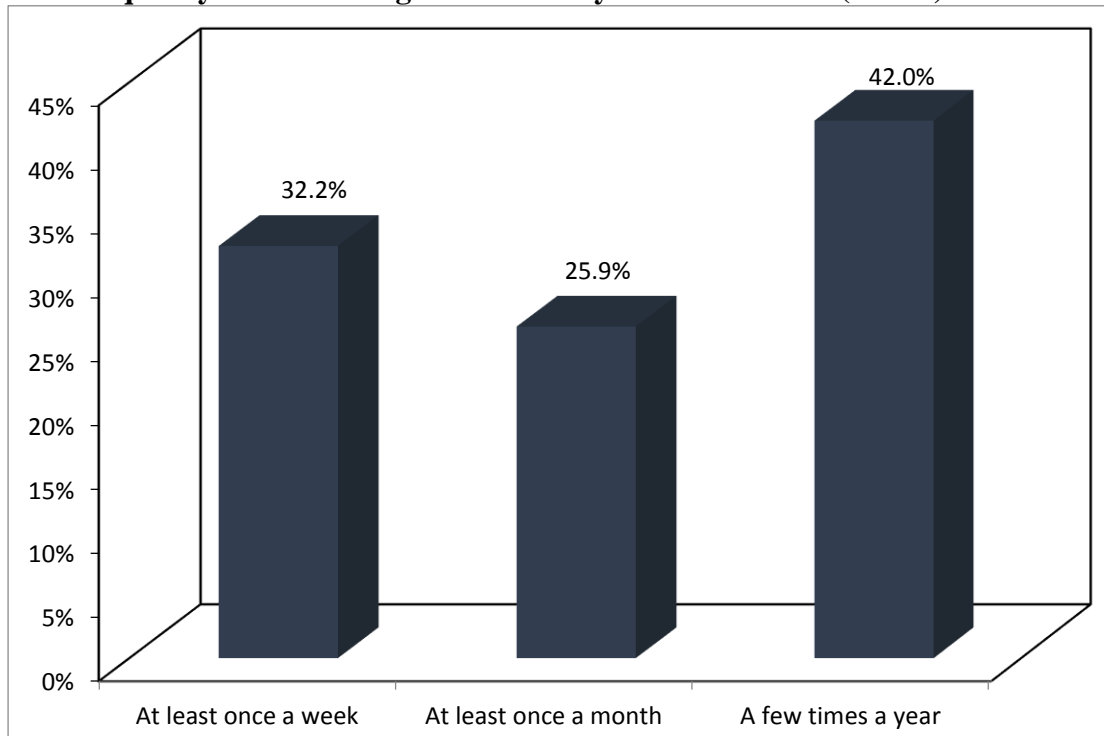


Figure 3 illustrates that 32.2 percent of respondents purchased Texas Lottery scratch tickets at least once a week. Another 26 percent (25.9) purchased the tickets at least once a month and forty-two percent reported purchasing tickets a few times a year.

**Table 6. Average Number of Times Played Texas Lottery Scratch Games**

Played Texas Lottery Scratch Games	Average Number of Times Played	
	2015	2014
Per week for weekly past-year players <sup>11</sup>	1.56	2.45
Per month for monthly past-year players	4.27	7.19
Per year for yearly past-year players <sup>12</sup>	25.42	23.57

<sup>11</sup> The average number of times playing Texas Lottery scratch games per week excludes a respondent who reported having played 12 times per week. If this respondent is included, the average number of times playing a game is 1.72 per week.

<sup>12</sup> The average number of times playing Texas Lottery scratch games per year excludes a respondent who claimed to have played 300 or more times per year. If this respondent is included, the average number of times playing a game increases to 32.32 times per year.

Table 6 shows that the weekly past-year players of the Texas Lottery scratch games played an average number of 1.56 times per week. Monthly players played an average number of 4.27 times per month. The yearly players played an average number of 25.4 times per year.

*Note that weekly, monthly, and yearly rates are distinct from each other. These responses were recorded as follows: respondents that claimed to play weekly were not asked if they played monthly or yearly and respondents that claimed to play monthly were not asked if they played weekly or yearly. Finally, respondents who claimed to play yearly were not asked if they played weekly or monthly.*<sup>13</sup>

**Table 7. Dollars Spent on Texas Lottery Scratch Tickets**

Texas Lottery Scratch Tickets	Dollars Spent	
	2015	2014
Average spent per play <sup>14</sup>	\$11.66	\$7.64
Average spent per month (mean)	29.79	20.74
Average spent per month (median)	18.00	5.00

Texas Lottery scratch games players spent an average of \$11.66 per play in 2015 as compared to the \$7.64 reported in 2014 (Table 7). Those who played on a monthly or more frequent basis spent an average of \$9.05 more than the previous year. Half of the respondents spent \$18.00 or more per month on the game, which was \$13.00 higher than in 2014.

As shown in Table 8, there was a decrease of sixteen percentage points (16.1) among past-year players playing Texas Lottery scratch games in 2015 as compared to 2014 (41.5 percent and 57.6 percent, respectively). The difference was statistically significant.

- The second column of Table 8 is the “Number and Percent Playing the Game” under the revised table format for this year. The numbers and percentages in the second column were totaled for each demographic characteristic. Differing from past reports, all numbers were shown in this year’s report, including those of five or fewer respondents, for completeness in calculating the total for each demographic factor. This reporting rule was used for the Number and Percent Playing the Game column for the top five individual game tables.
- With respect to the demographic factor of education, past-year players of Texas Lottery scratch games who had a high school diploma constituted the largest proportion (39.0 percent) of players. In addition, sizable proportions of the past-year players had some college (25.1 percent), and a college degree (22.5 percent).
- In terms of income level, past-players who had an income of \$75,000 and above constituted the largest proportion who reported playing Texas Lottery scratch games (29.0 percent).

<sup>13</sup> We follow this coding method for each game/feature regarding average time played.

<sup>14</sup> The average spent per play on Texas Lottery scratch tickets excludes a respondent who reported having spent \$300 per play. If this respondent is included, the average spent per play is \$12.92.

- Past-year players of Texas Lottery scratch games included 55.0 percent White and 16.8 percent African American. Some 25.6 percent of the respondents were of Hispanic origin.
- Fifty-nine percent (58.6) of the Texas Lottery scratch games past-year players were female, while forty-two percent (41.5) were male.
- In terms of age, past-year players of Texas Lottery scratch games who were age 55 or older constituted the largest proportion of players (54.7 percent).
- A great proportion (57.9 percent) of the past-year players of Texas Lottery scratch games was employed either full time or part time.
- The demographics of the past-year players who spent the highest median dollars on Texas Lottery scratch tickets included: those who had a high school diploma (\$17.50), those of incomes between \$40,000 and \$49,999 and with more than \$100,000 (both spent \$20.00), African American (\$20.00), male (\$20.00), and those aged between 25 and 54 (\$20.00).



**Table 8. Texas Lottery Scratch Games: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics**

Texas Lottery Scratch Games	Number and Percent Playing the Game	Median Dollars Spent
Year***		
2015	236 (41.5%)	\$10.00
2014	245 (57.6%)	5.00
<b>2015 Demographics</b>		
Education	n=231 (100.0%)	
Less than high school diploma	11 (4.8%)	5.00
High school diploma	90 (39.0%)	17.50
Some college	58 (25.1%)	10.00
College degree	52 (22.5%)	10.00
Graduate degree	20 (8.7%)	7.50
Income	n=155 (100.0%)	
Less than \$12,000	16 (10.3%)	7.00
\$12,000 to \$19,999	18 (11.6%)	7.50
\$20,000 to \$29,999	17 (11.0%)	10.00
\$30,000 to \$39,999	19 (12.3%)	10.00
\$40,000 to \$49,999	13 (8.4%)	20.00
\$50,000 to \$59,999	19 (12.3%)	16.00
\$60,000 to \$74,999	8 (5.2%)	10.00
\$75,000 to \$100,000	22 (14.2%)	15.00
More than \$100,000	23 (14.8%)	20.00
Race	n=220 (100.0%)	
White	121 (55.0%)	10.00
African American	37 (16.8%)	20.00
Hispanic	57 (25.9%)	8.00
Asian	4 (1.8%)	-- <sup>1</sup>
Native American Indian	--	--
Other	1 (0.5%)	--
Hispanic Origin	n=227 (100.0%)	
Yes	58 (25.6%)	9.00
No	169 (74.5%)	10.00
Gender	n=234 (100.0%)	
Female	137 (58.6%)	8.00
Male	97 (41.5%)	20.00

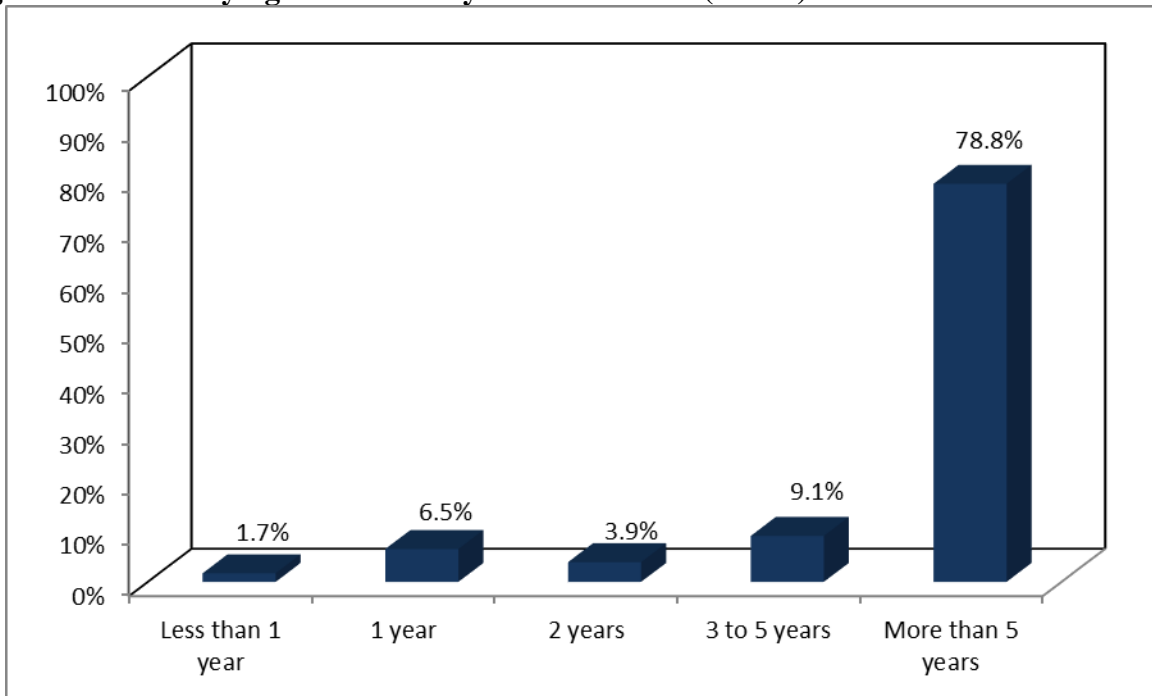
**Table 8. Texas Lottery Scratch Games: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics (continued)**

Age	n=194 (100.0%)	
18 to 24	12 (6.2%)	3.00
25 to 34	20 (10.3%)	20.00
35 to 44	21 (10.8%)	20.00
45 to 54	35 (18.0%)	20.00
55 to 64	51 (26.3%)	6.00
65 or older	55 (28.4%)	16.00
Employment Status	n=216 (100.0%)	
Employed full/part time	125 (57.9%)	10.00
Unemployed	10 (4.6%)	4.50
Retired	81 (37.5%)	12.00

Note: \*\*\*  $p < 0.001$ , two-tailed test.

<sup>1</sup> There were only five or fewer respondents in this sub-category and therefore it is not reported. The reporting rule is used for median dollars spent by demographics in all subsequent tables.

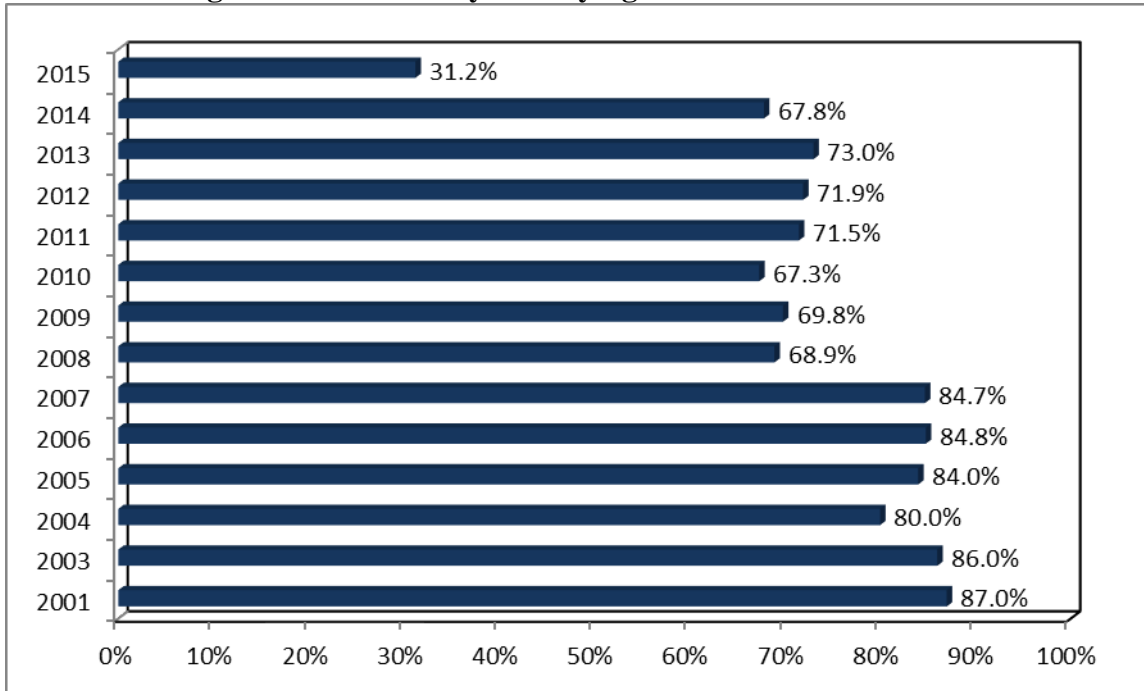
**Figure 4. Years Playing Texas Lottery Scratch Games (n=231)**



Similar to the previous year, a high proportion (78.8 percent) of the respondents who played Texas Lottery scratch games reported playing them for more than 5 years. On the other hand, eight percent (8.2) of the respondents reported having played Texas Lottery scratch games for just one year or less (Figure 4).

### 3. Lotto Texas Results

Figure 5. Percentage of Past-Year Players Playing Lotto Texas



Sources: Hobby Center for Public Policy 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015 survey data and additional survey reports 2001-2006.

As shown in Figure 5, thirty-one percent (31.2) of past-year players bought Lotto Teas in 2015. The participation rate was 36.6 percentage points lower than in 2014 (67.8 percent).

**Figure 6. Frequency of Purchasing Lotto Texas Tickets (n=177)**

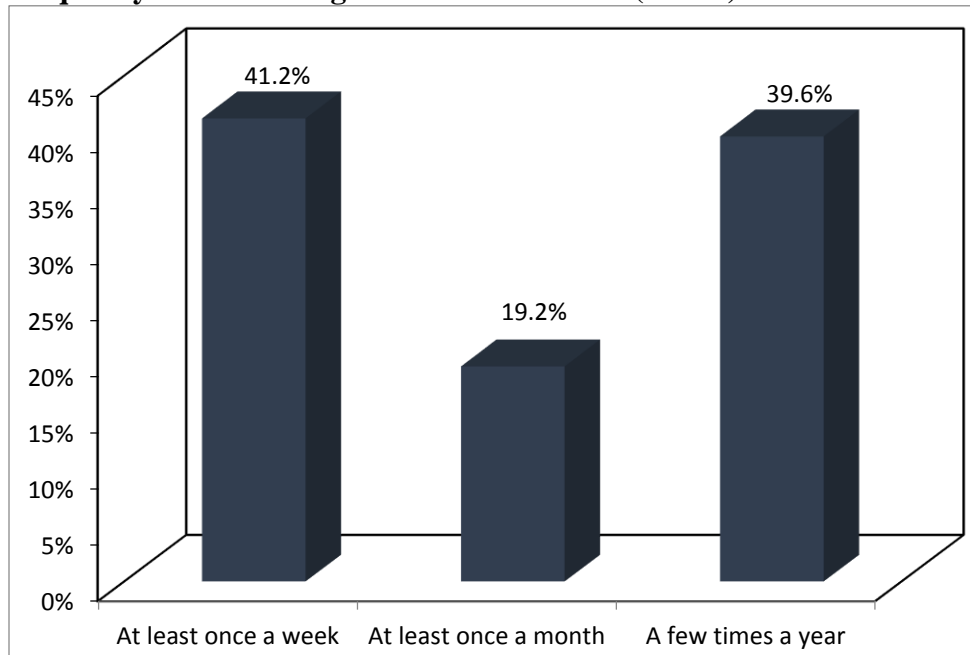


Figure 6 shows that forty-one percent (41.2) of the respondents that purchased Lotto Texas tickets purchased them at least once a week. Slightly more than nineteen percent (19.2) bought the tickets at least once a month. Forty percent (39.6) of the respondents reported having purchased Lotto Texas tickets a few times a year. The weekly, monthly, and yearly figures were lower than those reported in 2014 (32.6 percent, 22.2 percent, and 45.2 percent, respectively).

**Table 9. Average Number of Times Played Lotto Texas**

Played Lotto Texas	Average Number of Times Played	
	2015	2014
Per week for weekly past-year players	1.51	1.54
Per month for monthly past-year players <sup>15</sup>	3.64	4.90
Per year for yearly past-year players <sup>16</sup>	27.79	27.00

As shown in Table 9, weekly players of Lotto Texas bought the game 1.51 times per week. Monthly players did so 3.64 times per month on average, which was 1.26 times lower than the previous year. Yearly players reported playing slightly more frequently this year than last year, with an average of 27.79 times played.

<sup>15</sup> The figure excludes the respondents who reported having played Lotto Texas 30 or more times per month. If those respondents are included, the average number of games played goes up to 4.44 per month.

<sup>16</sup> The figure excludes the respondents who reported having played Lotto Texas 200 or more times per year. If those respondents are included, the average number of games played is 41.09 per year.

**Table 10. Dollars Spent on Lotto Texas**

Lotto Texas	Dollars Spent	
	2015	2014
Average spent per play	\$6.52	\$5.38
Average spent per month (mean)	21.82	12.08
Average spent per month (median)	10.00	5.00

As presented in Table 10, Lotto Texas players spent an average of \$6.52 per play, which was \$1.14 more than in 2014. Those who reported playing the game on a monthly or more frequent basis spent an average of \$21.82 per month, or \$9.74 more than the previous year. Approximately half of the respondents were likely to spend \$10.00 or more a month on playing Lotto Texas, which was two times the amount reported in 2014.

As shown in Table 11, there was a decrease of thirty-seven percentage points (36.6) among past-year players reporting playing Lotto Texas in 2015 as compared to 2014 (31.2 percent and 67.8 percent, respectively). The difference was statistically significant.

- With respect to the demographic factor of education, past-year players of Lotto Texas who had a high school diploma or college degree constituted the largest proportions (26.9 percent and 25.1 percent, respectively).
- In terms of income level, twenty-four percent (23.6) of the past-year players of Lotto Texas had incomes of more than \$100,000.
- Past-year players of Lotto Texas included 57.5 percent White and 16.8 percent African American. Nearly one-quarter (24.4 percent) of the respondents reported that they were of Hispanic origin.
- Almost two thirds (65.3 percent) of the Lotto Texas past-year players were female, while thirty-five percent (34.7) were male.
- In terms of age, sixty-one percent (60.8) of the past-year players of Lotto Texas were 55 years or older. A large proportion (57.7 percent) of the past-year players of Lotto Texas was employed either full or part time.
- The demographics of the past-year players who spent the highest median dollars on Lotto Texas included: those of the income level of between \$12,000 and \$19,999 (\$30.00), Hispanic origin (\$12.00), and unemployed (\$22.50).

**Table 11. Lotto Texas: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics**

<b>Lotto Texas</b>	<b>Number and Percent Playing the Game</b>	<b>Median Dollars Spent</b>
Year***		
2015	177 (31.2%)	\$5.00
2014	288 (67.8%)	4.00
<b>2015 Demographics</b>		
Education	n=175 (100.0%)	
Less than high school diploma	6 (3.4%)	7.50
High school diploma	47 (26.9%)	8.00
Some college	41 (23.4%)	10.00
College degree	44 (25.1%)	5.00
Graduate degree	37 (21.1%)	2.00
Income	n=110 (100.0%)	
Less than \$12,000	8 (7.3%)	18.00
\$12,000 to \$19,999	7 (6.4%)	30.00
\$20,000 to \$29,999	13 (11.8%)	1.00
\$30,000 to \$39,999	16 (14.6%)	2.50
\$40,000 to \$49,999	9 (8.2%)	10.00
\$50,000 to \$59,999	9 (8.2%)	8.00
\$60,000 to \$74,999	10 (9.1%)	6.50
\$75,000 to \$100,000	12 (10.9%)	2.00
More than \$100,000	26 (23.6%)	5.00
Race	n=167 (100.0%)	
White	96 (57.5%)	5.00
African American	28 (16.8%)	4.50
Hispanic	39 (23.4%)	12.00
Asian	1 (0.6%)	--
Native American Indian	1 (0.6%)	--
Other	2 (1.2%)	--
Hispanic Origin	n=172 (100.0%)	
Yes	42 (24.4%)	12.00
No	130 (75.6%)	5.00
Gender	n=176 (100.0%)	
Female	115 (65.3%)	5.00
Male	61 (34.7%)	10.00

**Table 11. Lotto Texas: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics (continued)**

Age	n=153 (100.0%)	
18 to 24	3 (2.0%)	--
25 to 34	18 (11.8%)	1.50
35 to 44	10 (6.5%)	--
45 to 54	29 (19.0%)	10.00
55 to 64	41 (26.8%)	5.00
65 or older	52 (34.0%)	8.00
Employment Status	n=168 (100.0%)	
Employed full/part time	97 (57.7%)	5.00
Unemployed	10 (6.0%)	22.50
Retired	61 (36.3%)	5.00

Note: \*\*\*  $p < 0.001$ , two-tailed test.

**Figure 7. Years Playing Lotto Texas (n=174)**

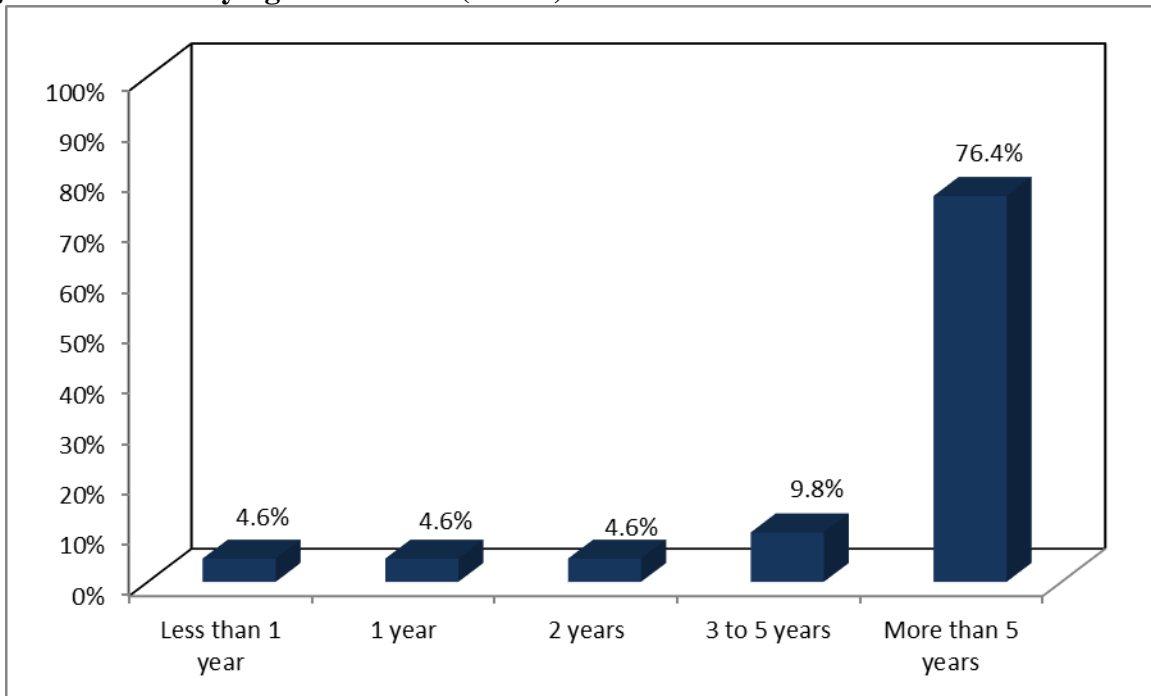
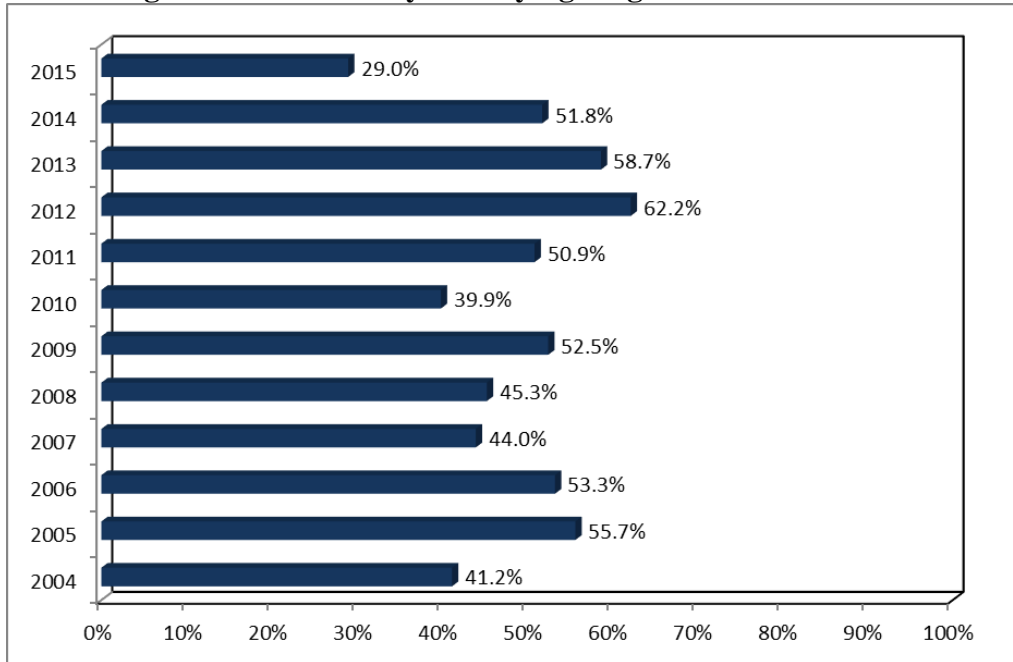


Figure 7 shows that 76.4 percent of the respondents who played Lotto Texas in the past year reported playing it for more than five years. This rate was 10.7 percentage points lower than in 2014. Nine percent (9.2) of the respondents reported having played Lotto Texas for less than two years.

#### 4. Mega Millions Results

**Figure 8. Percentage of Past-Year Players Playing Mega Millions**



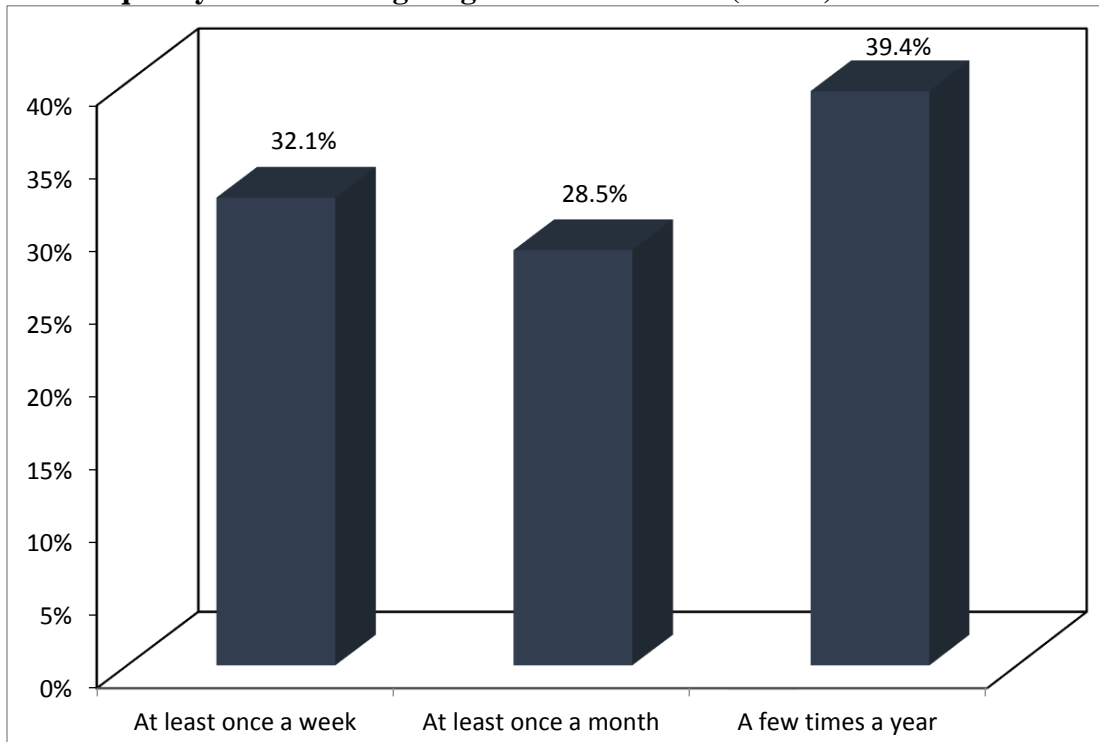
Sources: Hobby Center for Public Policy 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015 survey data and additional survey reports 2004-2006.

Figure 8 shows that twenty-nine percent of the past-year players played Mega Millions in 2015, a decrease of 22.8 percentage points compared to the participation rate in 2014.<sup>17</sup>

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<sup>17</sup> Note that participation rates in the multi-state jackpot games vary considerably depending on whether the jackpots roll over enough to push the amounts into the hundreds of millions.



**Figure 9. Frequency of Purchasing Mega Millions Tickets (n=165)**

As shown in Figure 9, 32.1 percent of survey respondents reported that they purchased Mega Millions tickets at least once a week, and 28.5 percent did so at least once a month. The remaining 39.4 percent reported buying the tickets a few times a year, a decline of 22.4 percentage points from the figure reported in 2014.

**Table 12. Average Number of Times Played Mega Millions**

Played Mega Millions	Average Number of Times Played	
	2015	2014
Per week for weekly past-year players	1.32	1.37
Per month for monthly past-year players	3.62	3.57
Per year for yearly past-year players <sup>18</sup>	21.78	18.37

Table 12 shows that the weekly players of Mega Millions played the game an average number of 1.32 times per week. Monthly players did so 3.62 times per month on average, and yearly players averaged 21.78 times per year. Despite the lower participation rate for this year, there were only slight differences in the average numbers of times played between 2014 and 2015 for Mega Millions.

<sup>18</sup> The average number of times playing Mega Millions excludes a respondent who reported having played 260 times a year. If this respondent is included, the average number of times playing the game is 23.29 per year.

**Table 13. Dollars Spent on Mega Millions**

Mega Millions	Dollars Spent	
	2015	2014
Average spent per play <sup>19</sup>	\$8.55	\$5.21
Average spent per month (mean) <sup>20</sup>	16.67	8.95
Average spent per month (median)	8.00	4.00

Table 13 shows that Mega Millions players spent an average of \$8.55 per play in 2015, which was \$3.34 higher than the 2014 figure (\$5.21). Those who reported playing the game on a monthly or more frequent basis spent an average of \$16.67, which was \$7.72 more than in 2014. Approximately half of the respondents spent \$8.00 or more a month on purchasing Mega Millions tickets, which was \$4.00 more than the previous year. Overall, the smaller number of Mega Millions players in 2015 spent more on average than their counterparts in 2014.

Table 14 documents a decrease of 22.8 percentage points in the participation rates for Mega Millions between 2015 (29.0 percent) and 2014 (51.8 percent). The difference was statistically significant.

- In terms of education, past-year players of Mega Millions who had a college degree or some college education constituted the largest proportions (30.2 percent and 23.9 percent, respectively). Some 22.6 percent of the past-year players had a high school diploma.
- On income level, 23.5 percent of the past-year players of Mega Millions had incomes of \$100,000 or higher. Another 18.4 percent of the past-year players belonged to the \$75,000 to \$100,000 income bracket.
- Past-year players of Mega Millions included African American (20.1 percent) and White (50.3 percent). Some 21.0 percent of the respondents were of Hispanic origin.
- Sixty-two percent (62.2) of Mega Millions past-year players were female, while thirty-eight percent (37.8) were male.
- In terms of age, thirty-eight percent (37.8) of the past-year players of Mega Millions were 65 years or older. Twenty-one percent (20.5) were in the age bracket of 55 to 64, and twenty-two percent (22.1) were ages 45 to 54.
- Fifty percent of the past-year players of Mega Million were employed either full time or part time. Another forty-four percent were retired.

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<sup>19</sup> The average spent per play on Mega Millions excludes a respondent who reported having spent \$400 per play. If this respondent is included, the average spent per play is \$11.11.

<sup>20</sup> The average spent per month on Mega Millions excludes a respondent who reported having spent \$400 per month. If this respondent is included, the average spent per month is \$19.51.

- The demographics of the past-year players who spent the highest median dollars on Mega Millions included: those who were in the income bracket of \$50,000 to \$59,999 (\$22.50), African American (\$8.00), those aged 55 or older (\$8.00), and those who were retired (\$8.00).

**Table 14. Mega Millions: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics**

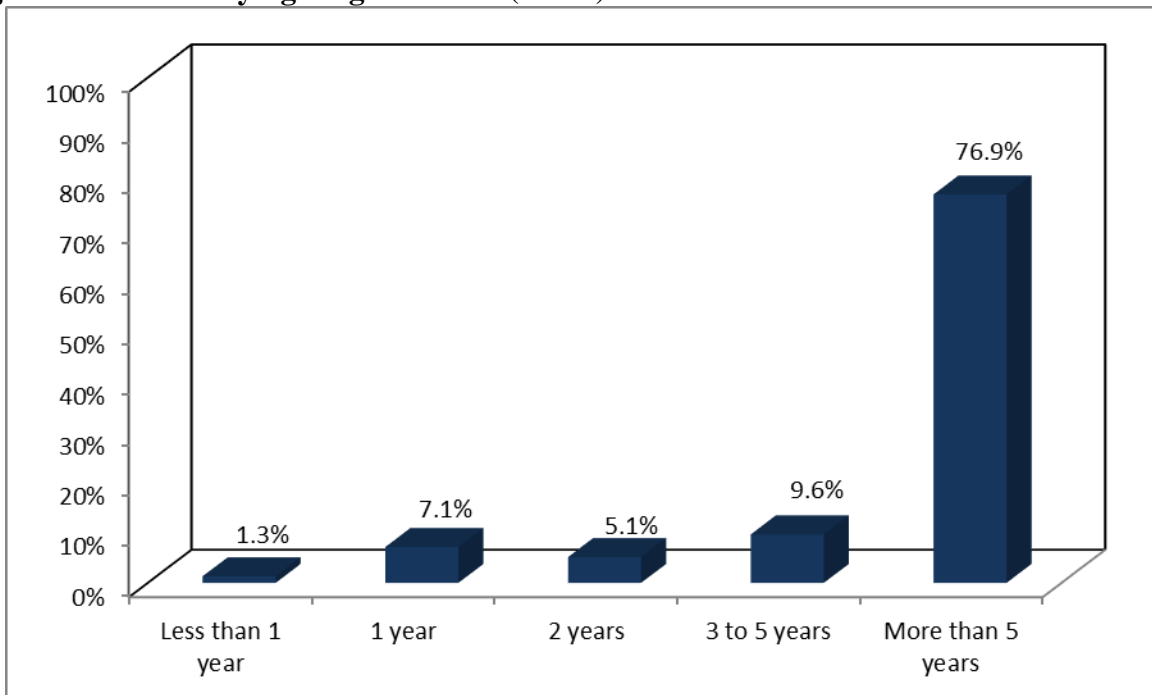
Mega Millions	Number and Percent Playing the Game	Median Dollars Spent
Year***		
2015	165 (29.0%)	\$6.00
2014	220 (51.8%)	2.50
<b>2015 Demographics</b>		
Education	n=159 (100.0%)	
Less than high school diploma	7 (4.4%)	4.00
High school diploma	36 (22.6%)	8.00
Some college	38 (23.9%)	8.00
College degree	48 (30.2%)	5.00
Graduate degree	30 (18.9%)	2.50
Income	n=98 (100.0%)	
Less than \$12,000	5 (5.1%)	--
\$12,000 to \$19,999	7 (7.1%)	8.00
\$20,000 to \$29,999	5 (5.1%)	--
\$30,000 to \$39,999	12 (12.2%)	13.00
\$40,000 to \$49,999	9 (9.2%)	4.00
\$50,000 to \$59,999	10 (10.2%)	22.50
\$60,000 to \$74,999	9 (9.2%)	8.00
\$75,000 to \$100,000	18 (18.4%)	11.00
More than \$100,000	23 (23.5%)	10.00
Race	n=149 (100.0%)	
White	75 (50.3%)	8.00
African American	30 (20.1%)	8.00
Hispanic	35 (23.5%)	5.00
Asian	5 (3.4%)	--
Native American Indian	3 (2.0%)	--
Other	1 (0.7%)	--
Hispanic Origin	n=157 (100.0%)	
Yes	33 (21.0%)	4.00
No	124 (79.0%)	8.00
Gender	n=164 (100.0%)	
Female	102 (62.2%)	7.00
Male	62 (37.8%)	5.50

**Table 14. Table 14. Mega Millions: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics (continued)**

Age	n=127 (100.0%)	
18 to 24	1 (0.8%)	--
25 to 34	9 (7.1%)	--
35 to 44	15 (11.8%)	1.00
45 to 54	28 (22.1%)	7.00
55 to 64	26 (20.5%)	8.00
65 or older	48 (37.8%)	8.00
Employment Status	n=150 (100.0%)	
Employed full/part time	75 (50.0%)	6.00
Unemployed	9 (6.0%)	5.00
Retired	66 (44.0%)	8.00

Note: \*\*\*  $p < 0.001$ , two-tailed test.

**Figure 10. Years Playing Mega Millions (n=156)**



As seen in Figure 10, 76.9 percent of the respondents reported that they had been playing Mega Millions for more than five years. The proportion was slightly higher than the 70.1 percent reported in the 2014 survey. A total of 8.4 percent of the respondents reported having played Mega Millions for less than two years.

## 5. Powerball Results

### Percentage of Past-Year Players Playing Powerball

Twenty percent (20.1) of the past-year lottery players reported that they played the Powerball game in 2015. This percentage was nineteen percentage points (19.2) lower than the one recorded in 2014 (39.3 percent).

**Figure 11. Frequency of Purchasing Powerball Tickets (n=114)**

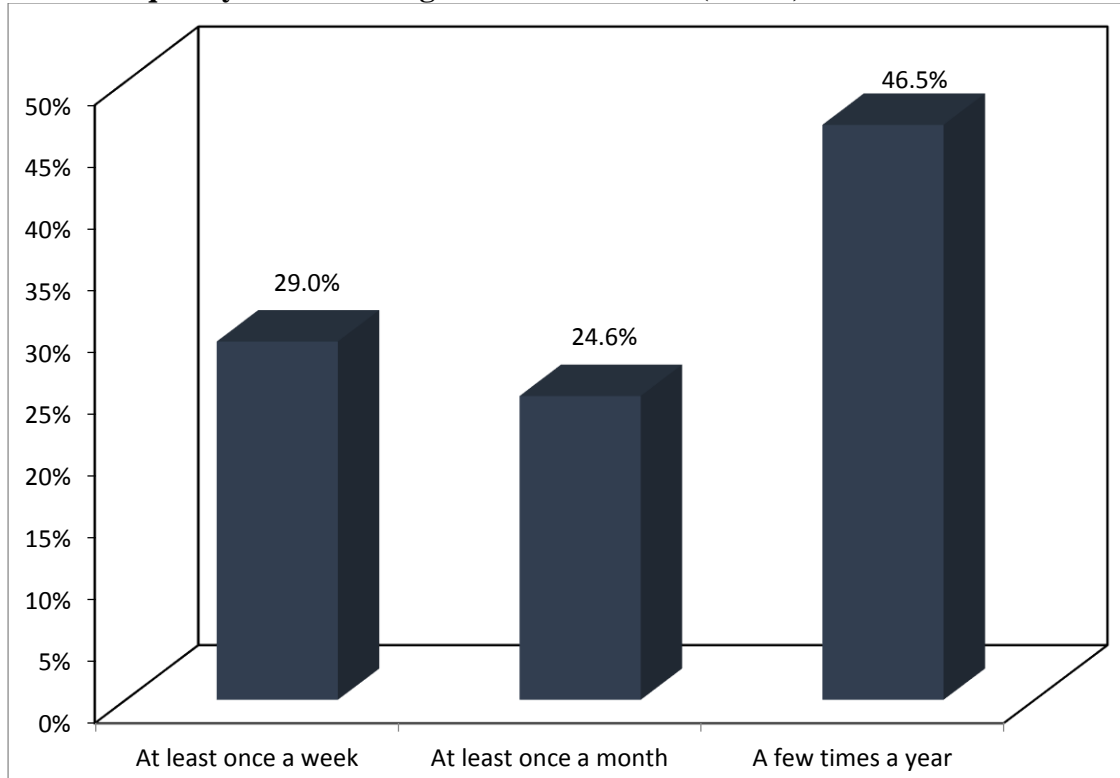


Figure 11 shows that twenty-nine percent of the respondents who purchased Powerball tickets purchased them at least once a week. One quarter (24.6 percent) purchased the tickets at least once a month. The remaining 47 percent (46.5) of the respondents reported having bought Powerball tickets a few times a year, a decrease of 14.5 percentage points from last year (61.0 percent).

**Table 15. Average Number of Times Played Powerball**

Played Powerball	Average Number of Times Played	
	2015	2014
Per week for weekly past-year players	1.23	1.51
Per month for monthly past-year players	3.05	4.28
Per year for yearly past-year players	23.79	19.53

Table 15 shows that weekly players of Powerball played the game an average number of 1.23 times per week. Monthly players did so 3.05 times per month on average. Yearly players bought the tickets 23.79 times per year on average, which was 4.26 times higher than the corresponding figure for 2014.

**Table 16. Dollars Spent on Powerball**

Powerball	Dollars Spent	
	2015	2014
Average spent per play	\$7.57	\$5.54
Average spent per month (mean)	19.73	10.43
Average spent per month (median)	9.00	5.00

As shown in Table 16, Powerball players spent an average of \$7.57 per play in 2015, which represented an increase of \$2.03 compared to the value in 2014 (\$5.54). Those who reported playing the game on a monthly or more frequent basis spent an average of \$19.73 per month, which was \$9.30 more than in 2014. Approximately half of the respondents were likely to spend \$9.00 or more a month on Powerball, which was higher than the median in 2014 (\$5.00).

Table 17 depicts a decrease of 19.2 percentage points in the participation rates for Powerball between 2015 (20.1 percent) and 2014 (39.3 percent). The difference in the percentage of respondents playing Powerball between 2014 and 2015 was statistically significant.

- For the demographic factor of education, past-year players of Powerball who had a high school diploma or some college education constituted the largest proportions (29.2 percent and 27.4 percent, respectively). Another 25.7 percent of the past-year players had a college degree.
- In terms of income level, 21.1 percent of the past-year players of Powerball had incomes of \$100,000 or higher, whereas 18.4 percent of the past-year players had incomes of between \$75,000 and \$100,000.
- Past-year players of Powerball included 19.8 percent African American and 60.4 percent White. Exactly seventeen percent of the respondents reported that they were of Hispanic origin.

- Forty percent (39.8) of the Powerball past-year players were male, while sixty percent (60.2) were female.
- In terms of age, 35.0 percent of the past-year players of Powerball were 65 years or older. Eighteen percent were in the 55-to-64 age bracket, and 20.0 percent were between the ages of 45 and 54.
- Fifty-five percent (54.5) of the past-year players of Powerball were employed either full time or part time. Another forty percent (39.6) were retired. Six percent (5.9) were unemployed.
- The demographics of the past-year players who spent the highest median dollars on Powerball included: those who were in the income bracket of less than \$12,000 (\$20.00), African American (\$8.00), male (\$12.00), those aged between 35 and 44 (\$10.00), and those who were retired (\$8.00).

**Table 17. Powerball: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics**

<b>Powerball</b>	<b>Number and Percent Playing the Game</b>	<b>Median Dollars Spent</b>
Year***		
2015	114 (20.1%)	\$5.00
2014	167 (39.3%)	2.00
<b>2015 Demographics</b>		
Education	n=113 (100.0%)	
Less than high school diploma	4 (3.5%)	--
High school diploma	33 (29.2%)	5.00
Some college	31 (27.4%)	8.00
College degree	29 (25.7%)	5.00
Graduate degree	16 (14.2%)	5.50
Income	n=76 (100.0%)	
Less than \$12,000	7 (9.2%)	20.00
\$12,000 to \$19,999	10 (13.2%)	8.00
\$20,000 to \$29,999	5 (6.6%)	--
\$30,000 to \$39,999	9 (11.8%)	1.00
\$40,000 to \$49,999	5 (6.6%)	--
\$50,000 to \$59,999	5 (6.6%)	--
\$60,000 to \$74,999	5 (6.6%)	--
\$75,000 to \$100,000	14 (18.4%)	5.00
More than \$100,000	16 (21.1%)	5.50
Race	n=111 (100.0%)	
White	67 (60.4%)	5.00
African American	22 (19.8%)	8.00
Hispanic	18 (16.2%)	4.50
Asian	4 (3.6%)	--
Native American Indian	--	--
Other	--	--
Hispanic Origin	n=112 (100.0%)	
Yes	19 (17.0%)	2.00
No	93 (83.0%)	6.00
Gender	n=113 (100.0%)	
Female	68 (60.2%)	5.00
Male	45 (39.8%)	12.00



**Table 17. Powerball: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics (continued)**

Age	n=100 (100.0%)	
18 to 24	2 (2.0%)	--
25 to 34	9 (9.0%)	2.00
35 to 44	16 (16.0%)	10.00
45 to 54	20 (20.0%)	2.00
55 to 64	18 (18.0%)	7.00
65 or older	35 (35.0%)	8.00
Employment Status	n=101 (100.0%)	
Employed full/part time	55 (54.5%)	5.00
Unemployed	6 (5.9%)	7.50
Retired	40 (39.6%)	8.00

Note: \*\*\*  $p < 0.001$ , two-tailed test.

**Figure 12. Years Playing Powerball (n=109)**

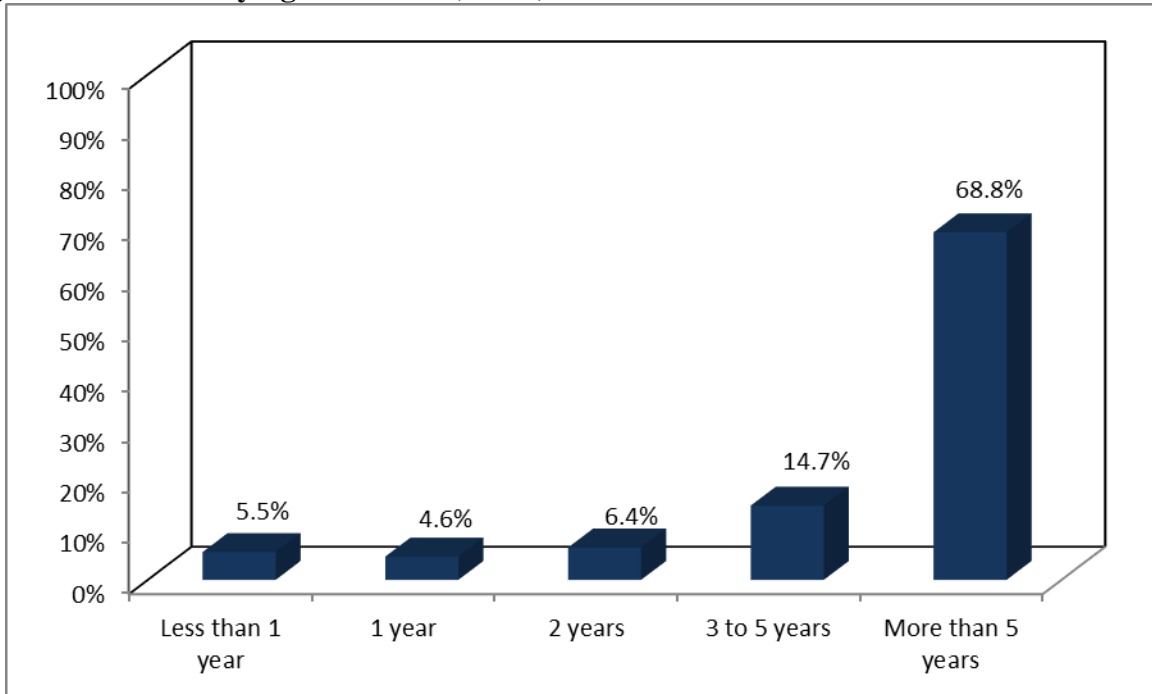
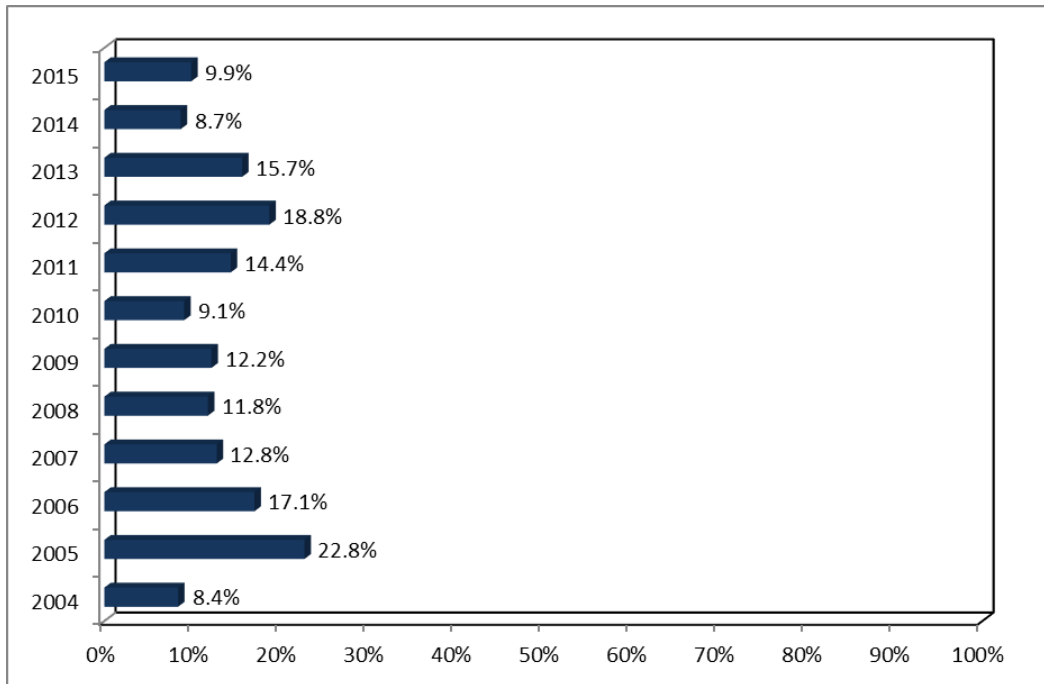


Figure 12 illustrates that 68.8 percent of the respondents mentioned that they had been playing Powerball for more than five years, a slight decrease of 4.7 percentage points compared to the previous year. A total of 10.1 percent of the respondents reported having played Powerball for less than two years, which was 2.3 percentage points lower than in 2014.

## 6. Megaplier Feature with Mega Millions Results

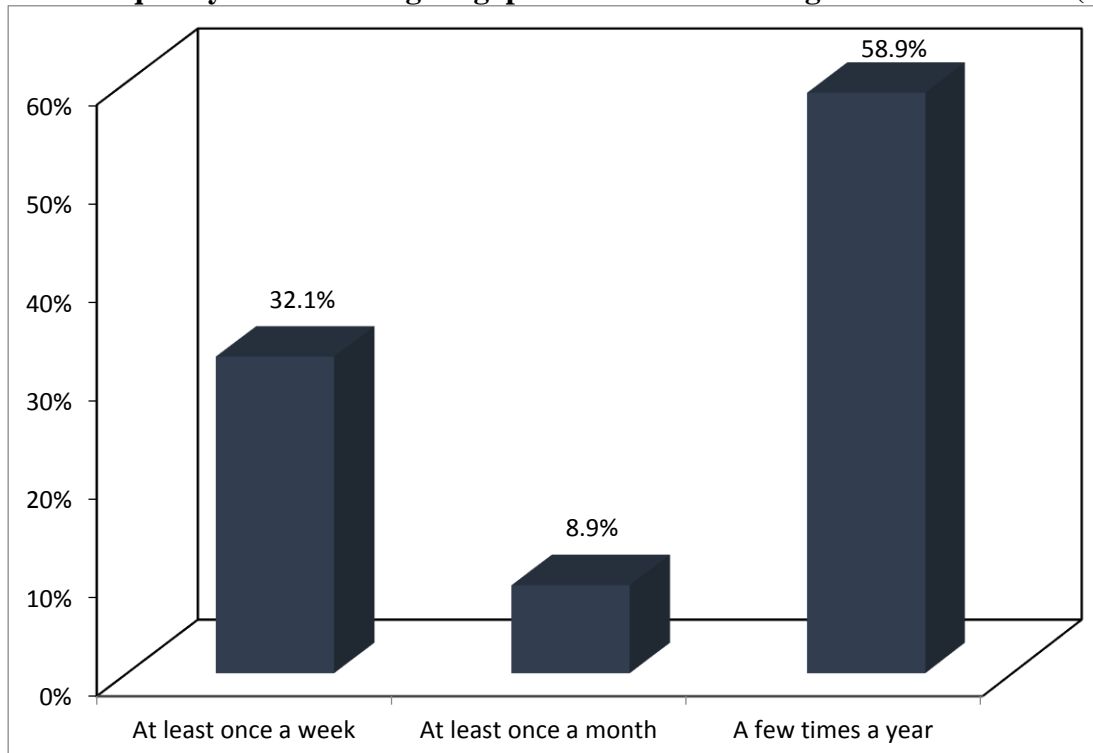
**Figure 13. Percentage of Past-Year Players Purchasing Megaplier Feature with Mega Millions Tickets**



Sources: Hobby Center for Public Policy 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015 survey data and additional survey reports 2004-2006.

As seen in Figure 13, ten percent (9.9) of the past-year players purchased Megaplier, the Mega Millions add-on feature, in 2015. This rate was a modest 1.2 percentage-point increase from 2014.

**Figure 14. Frequency of Purchasing Megaplier Feature with Mega Millions Tickets (n=56)**



A total of 58.9 percent of respondents who purchased Megaplier with their Mega Millions tickets in 2015 reported that they did so a few times a year, a drop of 16.8 percentage points over the previous year. About one third (32.1 percent) picked the feature at least once a week. Nine percent (8.9) purchased the feature at least once a month (Figure 14).

**Table 18. Average Number of Times Purchased Megaplier Feature with Mega Millions**

Purchased Megaplier Feature with Mega Millions	Average Number of Times Purchased	
	2015	2014
Per week for weekly past-year players <sup>21</sup>	1.35	1.50
Per month for monthly past-year players	4.15	4.80
Per year for yearly past-year players	17.34	11.47

Table 18 shows that the weekly players who added the Megaplier feature to their Mega Millions purchase chose the feature an average number of 1.35 times per week. The monthly players did so 4.15 times per month on average. The weekly and monthly figures for 2015 were

<sup>21</sup> The average number of times purchasing Megaplier with Mega Millions per week excludes a respondent who reported having purchased the add-on feature 8 times per week. If this respondent is included, the average number of times of purchase rises to 1.63 per week.

slightly lower than the corresponding figures of 2014. The yearly players added the feature 17.34 times per year on average in 2015, which was higher than the number reported in 2014 (11.47).

**Table 19. Dollars Spent on Megaplier Feature with Mega Millions**

Megaplier Feature with Mega Millions	Dollars Spent	
	2015	2014
Average spent per play	\$6.31	\$5.56
Average spent per month (mean)	7.26	12.44
Average spent per month (median)	4.00	4.00

The respondents who purchased the Megaplier feature with Mega Millions spent an average of \$6.31 per play (Table 19). Those who reported adding the feature on a monthly or more frequent basis spent an average of \$7.26 per month, as compared to \$12.44 in 2014. Similar to 2014, about half of the respondents were likely to spend \$4.00 or more a month on Megaplier.

As Table 20 indicates, there was a slight increase of 1.2 percentage points in the participation rates for the Megaplier add-on feature to Mega Millions between 2015 (9.9 percent) and 2014 (8.7 percent). The difference, however, was not statistically significant.

- For the demographic factor of education, over half (56.4 percent) of the past-year players of Megaplier feature with Mega Millions had a college degree or some college education. With regard to income level, a total of 55.6 percent of the past-year players of Megaplier feature with Mega Millions had income of \$75,000 or more.
- Past-year players of Megaplier feature with Mega millions included White (39.2 percent) and African American (23.5 percent). Twenty-five percent (24.5) of the respondents were of Hispanic origin.
- Twenty-five percent of the Megaplier feature with Mega Millions past-year players were male, while the much larger proportion (seventy-five percent) was female.
- In terms of age, thirty percent (29.6) of the past-year players of Megaplier feature with Mega Millions were 65 years or older. Twenty-one percent (20.5) were in the age bracket of 55 to 64. Another twenty-five percent were in the age bracket of 45 and 54.
- Sixty-seven percent (67.3) of the past-year players of Megaplier feature with Mega Millions were employed either full time or part time. Twenty-nine percent (28.9) were retired.
- The demographics of the past-year players who spent the highest median dollars on the Megaplier feature with Mega Millions included: those who were in the income bracket of above \$100,000 (\$7.00), White (\$4.00), and male (\$4.50).

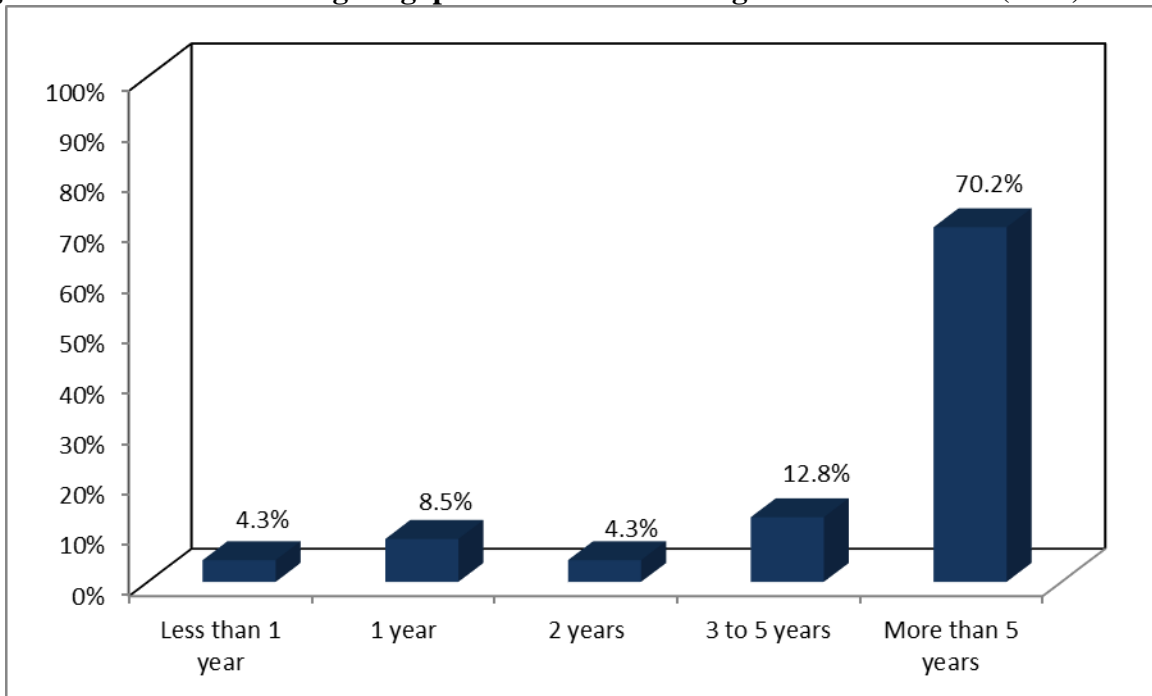
**Table 20. Megaplier Feature with Mega Millions: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics**

<b>Megaplier Feature with Mega Millions</b>	<b>Number and Percent Playing the Game</b>	<b>Median Dollars Spent</b>
Year		
2015	56 (9.9%)	\$2.50
2014	37 (8.7%)	--
<b>2015 Demographics</b>		
Education	n=55 (100.0%)	
Less than high school diploma	3 (5.5%)	--
High school diploma	10 (18.1%)	4.00
Some college	14 (25.5%)	4.00
College degree	17 (30.9%)	2.00
Graduate degree	11 (20.0%)	4.00
Income	n=36 (100.0%)	
Less than \$12,000	1 (2.8%)	--
\$12,000 to \$19,999	3 (8.3%)	--
\$20,000 to \$29,999	3 (8.3%)	--
\$30,000 to \$39,999	1 (2.8%)	--
\$40,000 to \$49,999	3 (8.3%)	--
\$50,000 to \$59,999	3 (8.3%)	--
\$60,000 to \$74,999	2 (5.6%)	--
\$75,000 to \$100,000	10 (27.8%)	2.50
More than \$100,000	10 (27.8%)	7.00
Race	n=51 (100.0%)	
White	20 (39.2%)	4.00
African American	12 (23.5%)	1.00
Hispanic	16 (31.4%)	2.00
Asian	1 (2.0%)	--
Native American Indian	1 (2.0%)	--
Other	1 (2.0%)	--
Hispanic Origin	n=53 (100.0%)	
Yes	13 (24.5%)	3.00
No	40 (75.5%)	3.00
Gender	n=56 (100.0%)	
Female	42 (75.0%)	2.00
Male	14 (25.0%)	4.50

**Table 20. Megaplier Feature with Mega Millions: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics (continued)**

Age	n=44 (100.0%)	
18 to 24	--	--
25 to 34	4 (9.1%)	--
35 to 44	7 (15.9%)	--
45 to 54	11 (25.0%)	1.00
55 to 64	9 (20.5%)	4.00
65 or older	13 (29.6%)	4.00
Employment Status	n=52 (100.0%)	
Employed full/part time	35 (67.3%)	2.00
Unemployed	2 (3.9%)	--
Retired	15 (28.9%)	4.00

**Figure 15. Years Purchasing Megaplier Feature with Mega Millions Tickets (n=47)**



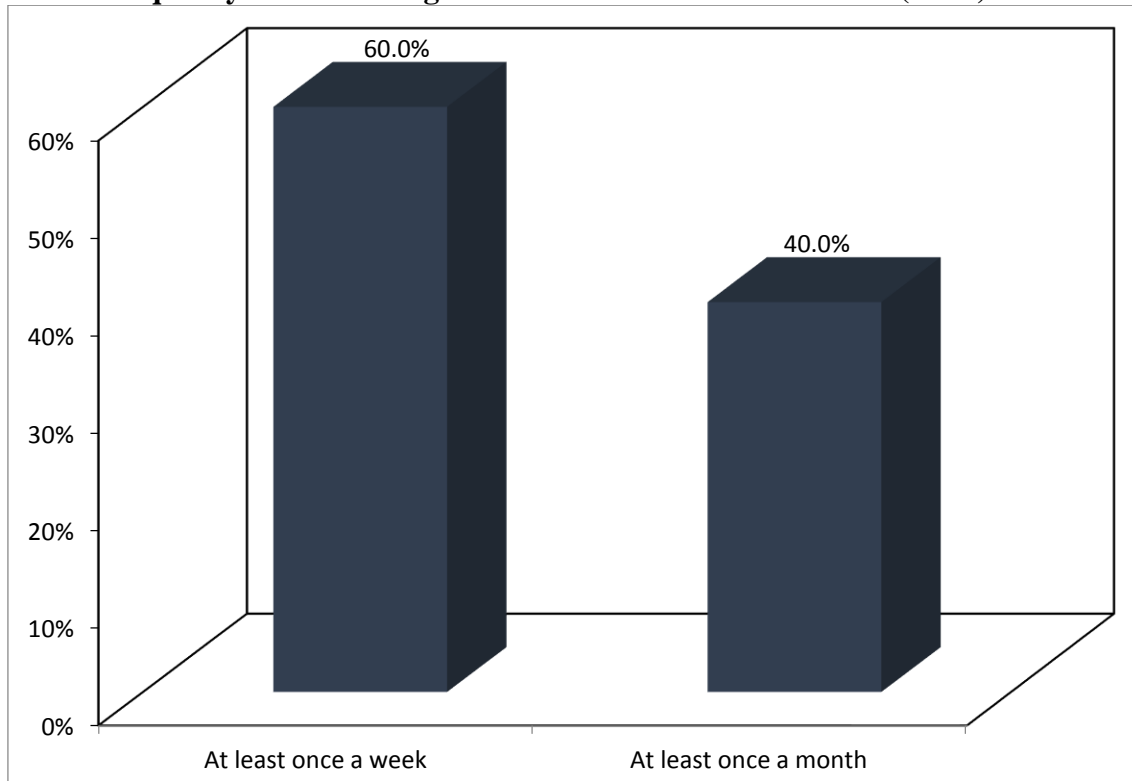
As shown in Figure 15, 70.2 percent of the respondents who added Megaplier to their purchase of Mega Millions tickets had done so for more than five years, an increase of 10.2 percentage points as compared to the previous year's statistic. A total of 12.8 percent of the players reported adding the feature for less than two years.

## 7. Extra! Feature with Lotto Texas Results

### Percentage of Past-Year Players Purchasing Extra! Feature with Lotto Texas

A total of five percent (5.3) of past-year lottery players reported purchasing the Extra! add-on feature with Lotto Texas, slightly higher than the previous year (4.9 percent).

**Figure 16. Frequency of Purchasing Extra! Feature with Lotto Texas (n=30)**



As seen in Figure 16, among those who purchased the Extra! feature with Lotto Texas, sixty percent of them did it at least once a week, whereas the other forty percent purchased the feature at least once a month. The corresponding frequencies reported in 2014 were 28.6 percent and 71.4 percent, respectively.

**Table 21. Average Number of Times Purchased Extra! Feature with Lotto Texas**

Purchased Extra! Feature with Lotto Texas	Average Number of Times Purchased	
	2015	2014
Per week for weekly past-year players	1.50	1.83
Per month for monthly past-year players <sup>22</sup>	3.37	4.56

As shown in Table 21, weekly past-year players purchased the Extra! feature with Lotto Texas 1.50 times per week on average. The monthly players picked the feature 3.37 times per month which was 1.19 times fewer than in 2014.

**Table 22. Dollars Spent on Extra! Feature with Lotto Texas**

Extra! Feature with Lotto Texas	Dollars Spent	
	2015	2014
Average spent per play	\$6.67	\$4.74
Average spent per month (mean) <sup>23</sup>	8.73	9.22
Average spent per month (median) <sup>24</sup>	5.00	5.00

Past-year players of the Extra! add-on feature spent an average of \$6.67 per play, an increase of \$1.93 from the previous year (Table 22). Those who reported adding the feature on a monthly or more frequent basis spent an average of \$8.73 per month. Similar to the previous year, half of the respondents were likely to spend \$5.00 or more a month on Extra!

Because the numbers of respondents for the demographic sub-categories were too small to provide any statistically meaningful information, we did not include the analysis on lottery play and median dollars spent per month by past-year player demographics for the Extra! feature with Lotto Texas.

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<sup>22</sup> The figure excludes a respondent who reported having played the Extra! add-on feature with Lotto Texas 30 times per month. If this respondent is included, the average number of games played is 4.32 per month.

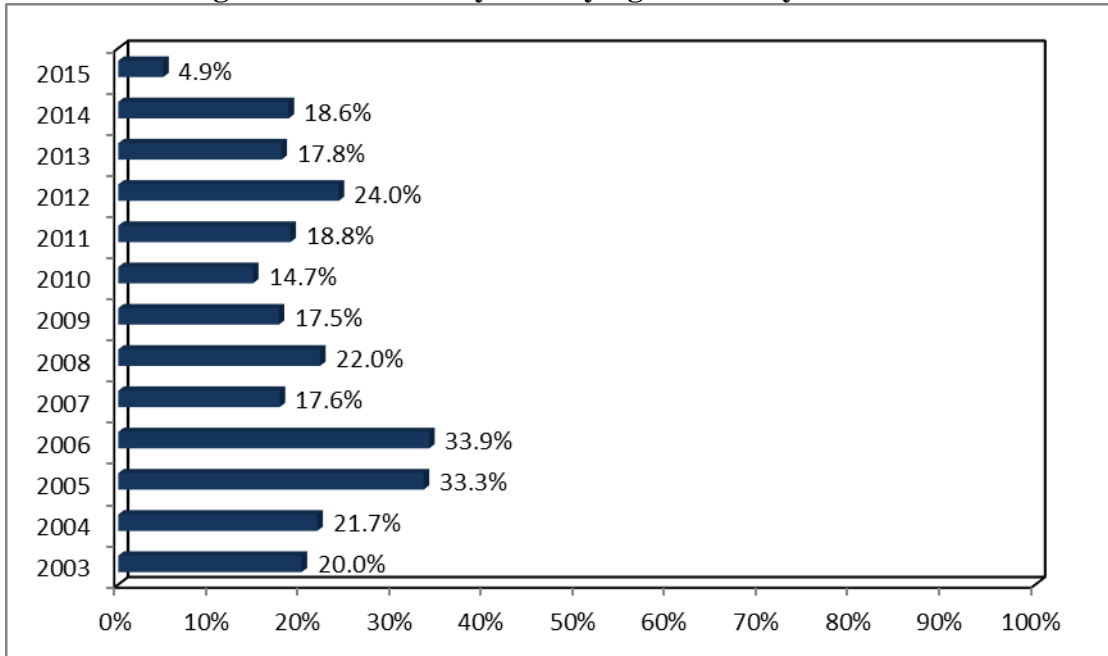
<sup>23</sup> The figure excludes a respondent who reported having spent \$450 per month. If this respondent is included, the average spent per month is \$36.31.

<sup>24</sup> The figure excludes a respondent who reported having spent \$450 per month per month. If this respondent is included, the median spent per month is \$6.50.



## 8. Pick 3 Day Results

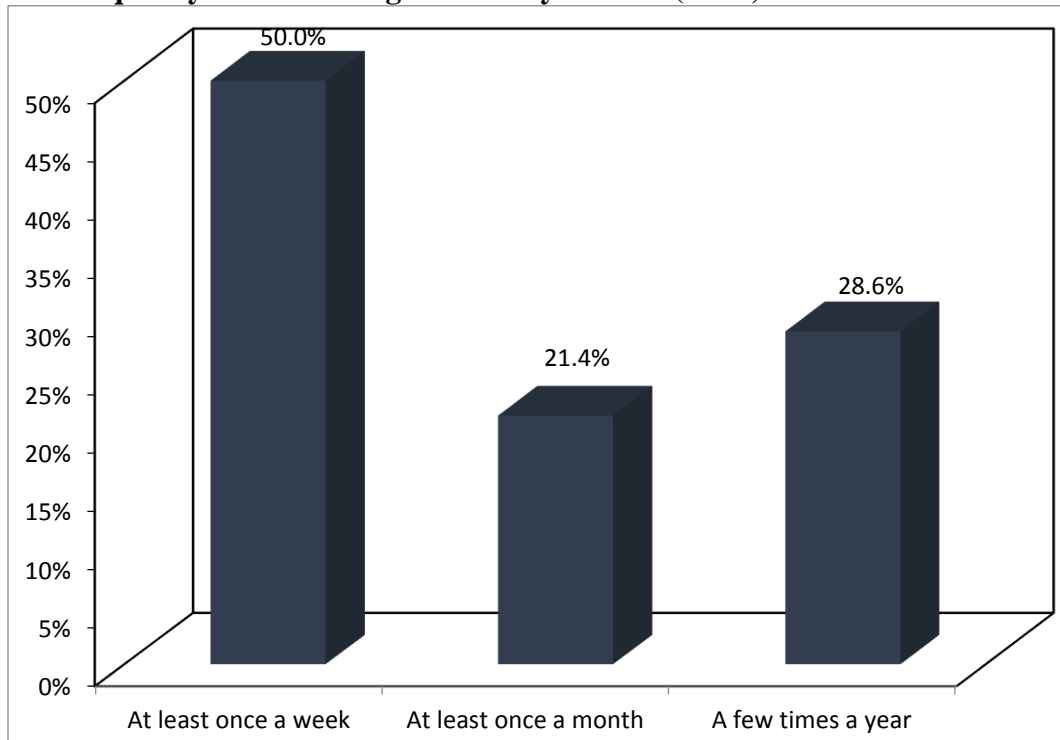
**Figure 17. Percentage of Past-Year Players Playing Pick 3 Day**



Sources: Hobby Center for Public Policy 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015 survey data and additional survey reports 2003-2006.

Figure 17 shows that five percent (4.9) of players played Pick 3 Day in 2015, a decrease of 13.7 percentage points over the previous year. The reader is reminded that the large decline in the participation rate in Pick 3 Day, and in some other individual games, could be partially attributed to the modified design of the survey instrument in 2015.

**Figure 18. Frequency of Purchasing Pick 3 Day Tickets (n=28)**



As shown in Figure 18, half (50.0 percent) of the past-year players that bought Pick 3 Day tickets purchased them at least once a week. Another twenty-one percent (21.4) bought tickets at least once a month, which was 6.2 percentage points higher than the frequency recorded in 2014. Twenty-nine percent (28.6) of the respondents purchased the tickets only a few times a year, which was 24.6 percentage points lower than the previous year (53.2 percent).

**Table 23. Average Number of Times Played Pick 3 Day**

Played Pick 3 Day	Average Number of Times Played	
	2015	2014
Per week for weekly past-year players	2.47	2.13
Per month for monthly past-year players <sup>25</sup>	4.79	7.08
Per year for yearly past-year players	32.12	21.93

Table 23 shows that weekly players of Pick 3 Day played this game an average number of 2.47 times per week, monthly players an average number of 4.79 times per month, and yearly players an average of 32.12 times. Although the 2015 average of the weekly players was slightly higher than the previous year’s average (2.47 and 2.13, respectively), the 2015 average for monthly

<sup>25</sup> The figure excludes respondents who reported that they played Pick 3 Day 30 or more times per month. If those respondents are included, the average monthly time the respondents play the game is 9.14.

players was lower than the 2014 average (4.79 and 7.08, respectively). In addition, the 2015 average for yearly players was larger than the 2014 average (32.12 and 21.93, respectively).

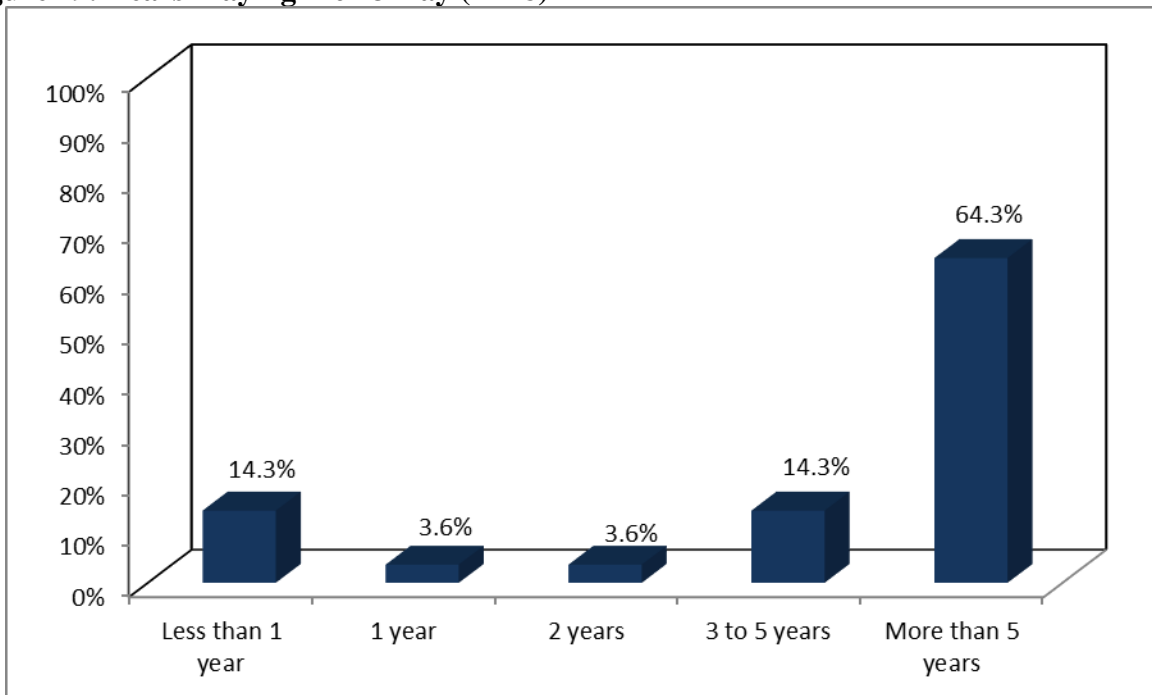
**Table 24. Dollars Spent on Pick 3 Day**

Pick 3 Day	Dollars Spent	
	2015	2014
Average spent per play	\$7.88	\$5.70
Average spent per month (mean)	26.81	19.27
Average spent per month (median)	10.00	5.00

As shown in Table 24, Pick 3 Day players spent an average of \$7.88 per play, which was \$2.18 more than the previous year. Those who reported playing the game on a monthly basis spent an average of \$26.81 per month, or \$7.54 more than in 2014. Half of the respondents were likely to spend \$10.00 or more a month on playing Pick 3 Day (compared to the \$5.00 in 2014). The per-month figures were for those respondents who reported playing the game on a monthly or more frequent (i.e., weekly) basis.

Because the numbers of respondents for the demographic sub-categories were too small to provide any statistically meaningful information, we did not include the analysis on lottery play and median dollars spent per month by past-year player demographics for Pick 3 Day.

**Figure 19. Years Playing Pick 3 Day (n=28)**



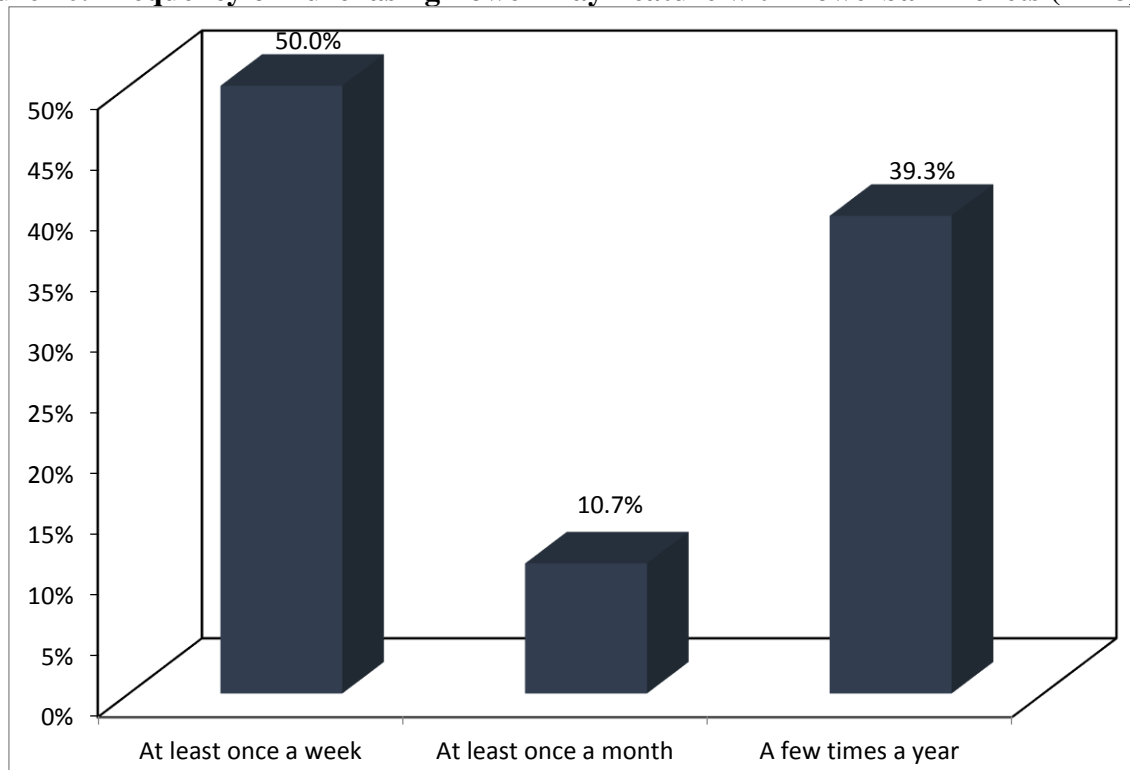
As seen in Figure 19, sixty-four percent (64.3) of the respondents that played Pick 3 Day reported playing it for more than five years. The proportion was slightly lower than the 66.2 percent reported in the 2014 survey. Eighteen percent (17.9) of the respondents reported playing Pick 3 Day for less than two years.

## **9. Power Play Feature with Powerball Results**

### **Percentage of Past-Year Players Purchasing Power Play Feature with Powerball**

Five percent (4.9) of the past-year lottery players reported that they added the Power Play feature to their Powerball purchases in 2015. This participation rate was 1.4 percentage points higher than the previous year.

**Figure 20. Frequency of Purchasing Power Play Feature with Powerball Tickets (n=28)**



As shown in Figure 20, half ( 50.0 percent) of the respondents who added the Power Play feature to their Powerball ticket purchases did so at least once a week, which were 10 percentage points larger than in 2014. Thirty-nine percent (39.3) of respondents purchased the feature a few times a year, a decrease of 7.4 percentage points from last year. The remaining 10.7 percent added the feature at least once a month, a decrease of 2.6 percentage points as compared to the previous year.

**Table 25. Average Number of Times Purchased Power Play Feature with Powerball**

Purchased Power Play Feature with Powerball	Average Number of Times Purchased	
	2015	2014
Per week for weekly past-year players	1.60	1.67
Per month for monthly past-year players	3.25	5.86
Per year for yearly past-year players <sup>26</sup>	18.62	23.00

The data in Table 25 indicate that the weekly players of the Power Play add-on feature reported selecting this feature 1.60 times per week on average, which was similar to last year's 1.67 times. Monthly players reported an average number of 3.25 per month, a decrease of 2.61 times from 2014 (5.86 times). Yearly players reported picking the feature an average number of 18.62 times per year, which was 4.38 times lower than the corresponding figure in 2014 (23.00 times).

**Table 26. Dollars Spent on Power Play Feature with Powerball**

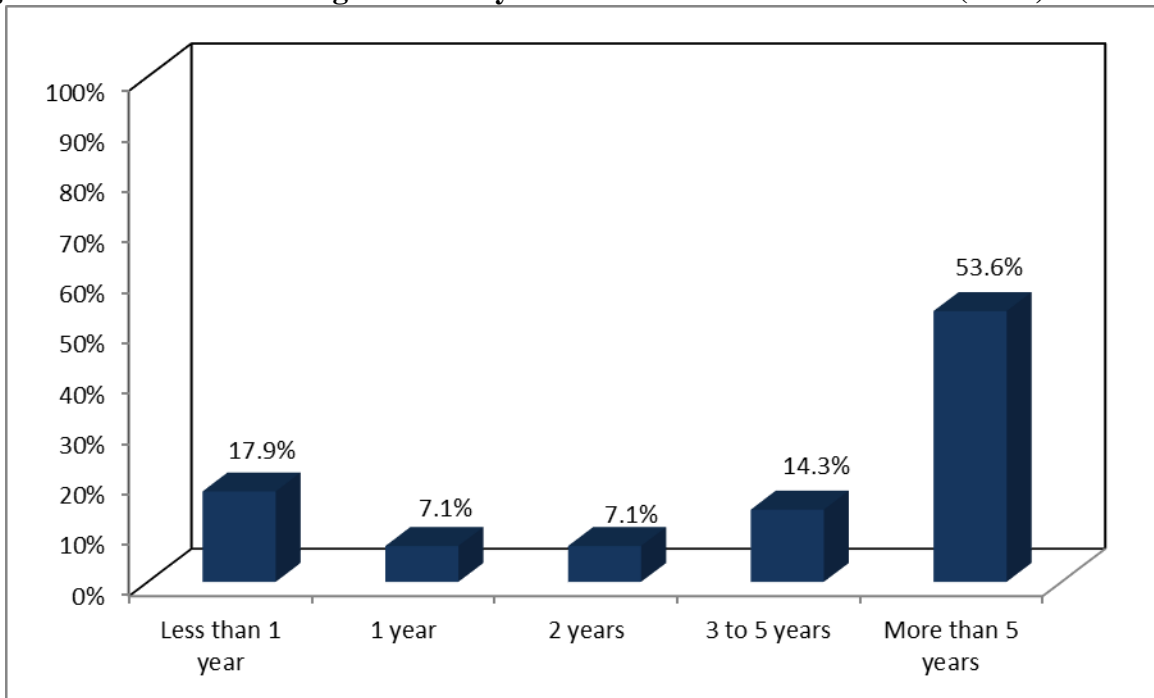
Power Play Feature with Powerball	Dollars Spent	
	2015	2014
Average spent per play	\$8.20	\$8.80
Average spent per month (mean)	9.74	21.73
Average spent per month (median)	6.00	20.00

Table 26 shows that the respondents selecting the add-on Power Play feature spent an average of \$8.20 per play. Those who reported purchasing the feature on a monthly or more frequent basis spent an average of \$9.74 per month, which was substantially lower than the corresponding figure in year 2014 (\$21.73). Approximately half of respondents were likely to spend \$6.00 or more a month on Power Play, which was also substantially lower than the corresponding figure in year 2014 (\$20.00).

Because the numbers of respondents for the demographic sub-categories were too small to provide any statistically meaningful information, we did not include the analysis on lottery play and median dollars spent per month by past-year player demographics for the Power Play feature with Powerball tickets.

<sup>26</sup> The average number of times adding Power Play to Powerball tickets of yearly past-year players excludes a respondent who reported having done so 240 times per year. If this respondent is included, the average number is 26.81 times per year.

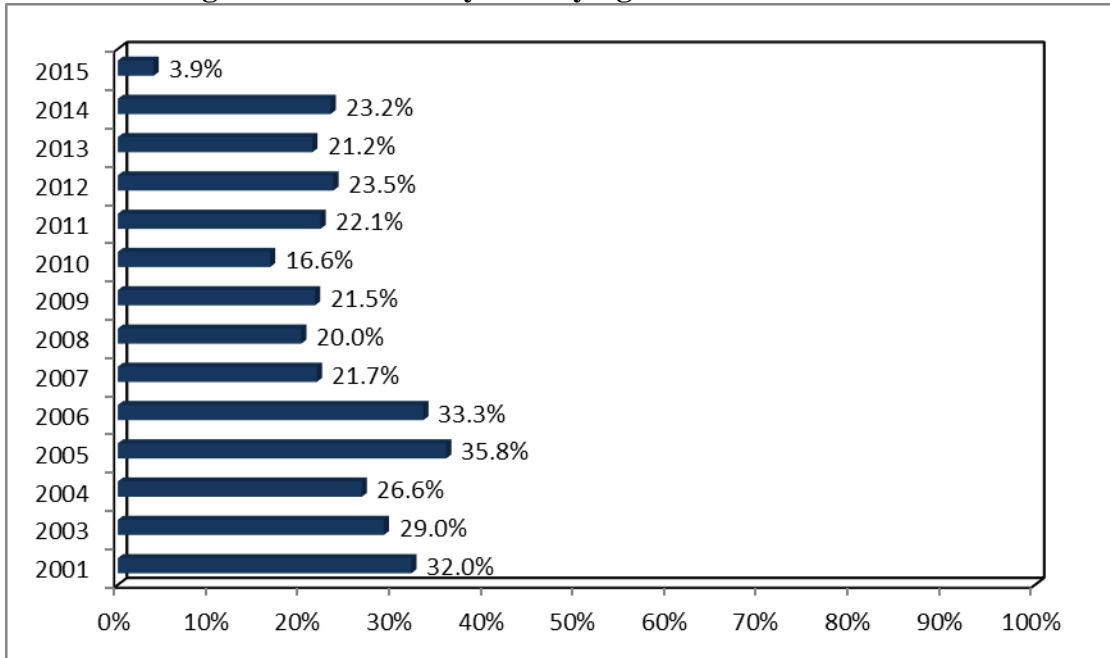
**Figure 21. Years Purchasing Power Play Feature with Powerball Tickets (n=28)**



As seen in Figure 21, fifty-four percent (53.6) of the respondents reported that they had purchased the Power Play feature for more than five years, which was 6.4 percentage points lower than the corresponding figure in 2014. On the other hand, 25.0 percent of the respondents reported having purchased the Power Play feature for less than two years, an increase of 5 percentage points from 2014.

## 10. Cash Five Results

Figure 22. Percentage of Past-Year Players Playing Cash Five



Sources: Hobby Center for Public Policy 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015 survey data and additional survey reports 2001-2006.

Figure 22 shows that 3.9 percent of the lottery games past-year players reported playing Cash Five in 2015. This participation rate was 19.3 percentage points lower than in 2014.

**Figure 23. Frequency of Purchasing Cash Five Tickets (n=22)**

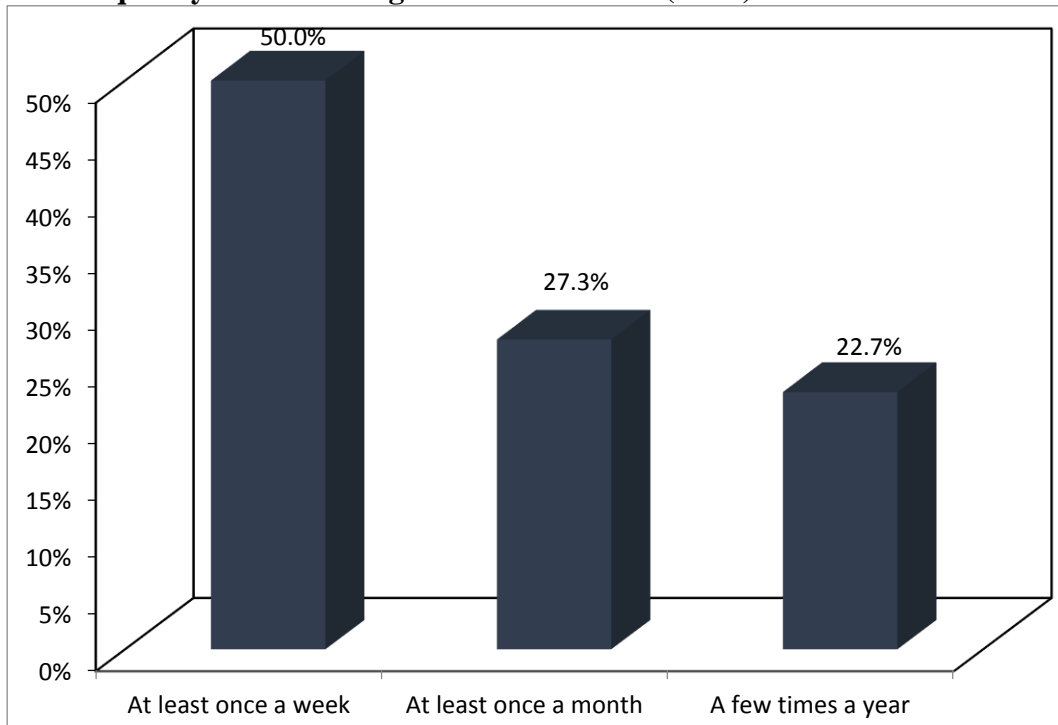


Figure 23 illustrates that 50.0 percent of the respondents that purchased Cash Five tickets bought them at least once a week and twenty-seven percent (27.3) purchased the tickets at least once a month. Twenty-three percent (22.7) did so just a few times a year, which were 38.9 percentage points lower than in 2014. The three corresponding frequencies of purchasing Cash Five tickets in 2014 were 21.2 percent, 17.2 percent, and 61.6 percent, respectively.

**Table 27. Average Number of Times Played Cash Five**

Played Cash Five	Average Number of Times Played	
	2015	2014
Per week for weekly past-year players	2.77	2.50
Per month for monthly past-year players	9.18	5.95
Per year for yearly past-year players <sup>27</sup>	22.79	19.94

As shown in Table 27, weekly players of Cash Five played an average number of 2.77 times per week. Monthly players played this game 9.18 times per month on average. Yearly players played this game 22.79 times per year on average. All frequencies were larger than the frequencies for 2014 (2.50 times, 5.95 times, and 19.94 times respectively).

<sup>27</sup> The figure excludes the respondents who reported having played Cash Five 300 or more times per year. If those respondents are included, the average number of games played is 66.09 per year.



**Table 28. Dollars Spent on Cash Five**

Cash Five	Dollars Spent	
	2015	2014
Average spent per play	\$4.35	\$5.68
Average spent per month (mean)	25.85	14.76
Average spent per month (median)	12.50	4.00

As reported in Table 28, Cash Five players spent an average of \$4.35 per play, which was lower than the amount spent last year (\$5.68). Those who reported playing the game at a monthly or more frequent basis spent an average of \$25.85 per month, which was an increase of \$11.09 from 2014. Half of the respondents were likely to spend \$12.50 or more a month on playing Cash Five, which was higher than the amount reported in the previous year (\$4.00).

Because the numbers of respondents for the demographic sub-categories were too small to provide any statistically meaningful information, we did not include the analysis on lottery play and median dollars spent per month by past-year player demographics for Cash Five.

**Figure 24. Years Playing Cash Five (n=22)**

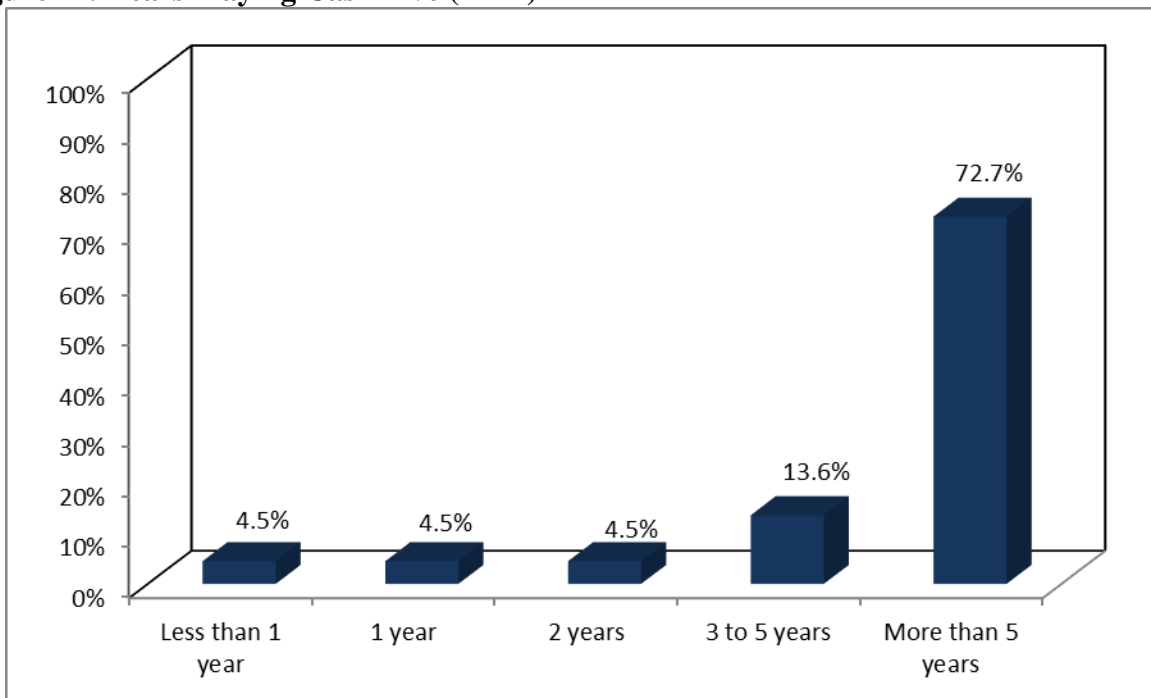
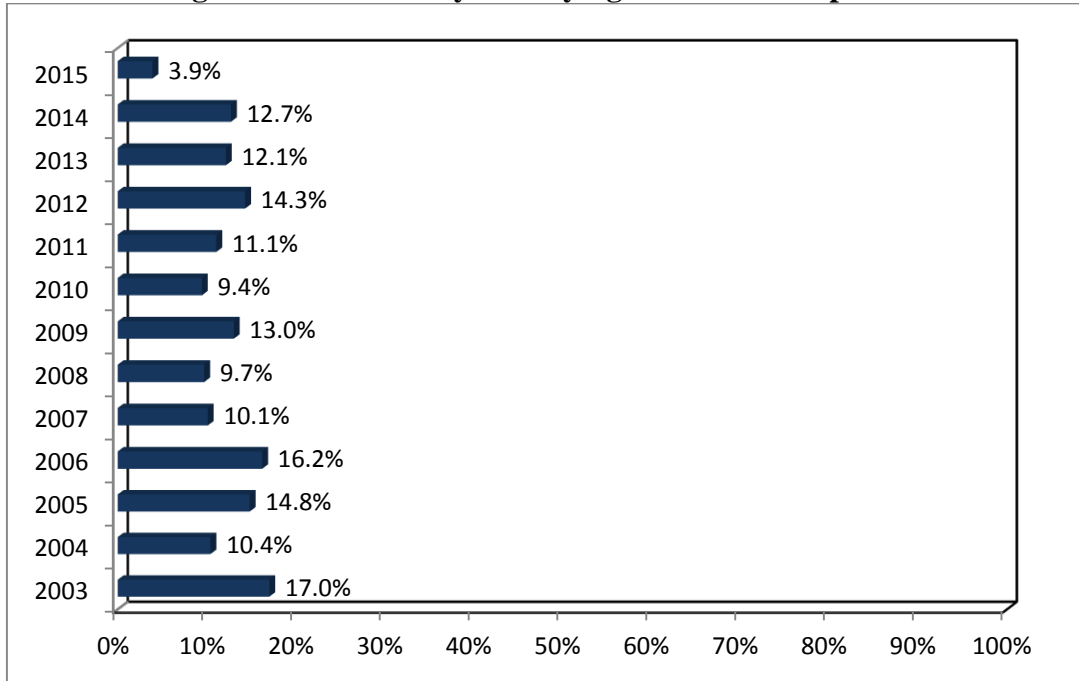


Figure 24 shows that seventy-three percent (72.7) of the respondents who played Cash Five during the past year reported having played it for more than five years, which was similar to the previous year (73.2 percent). Another nine percent of respondents reported having played Cash Five for less than two years.

## 11. Texas Two Step Results

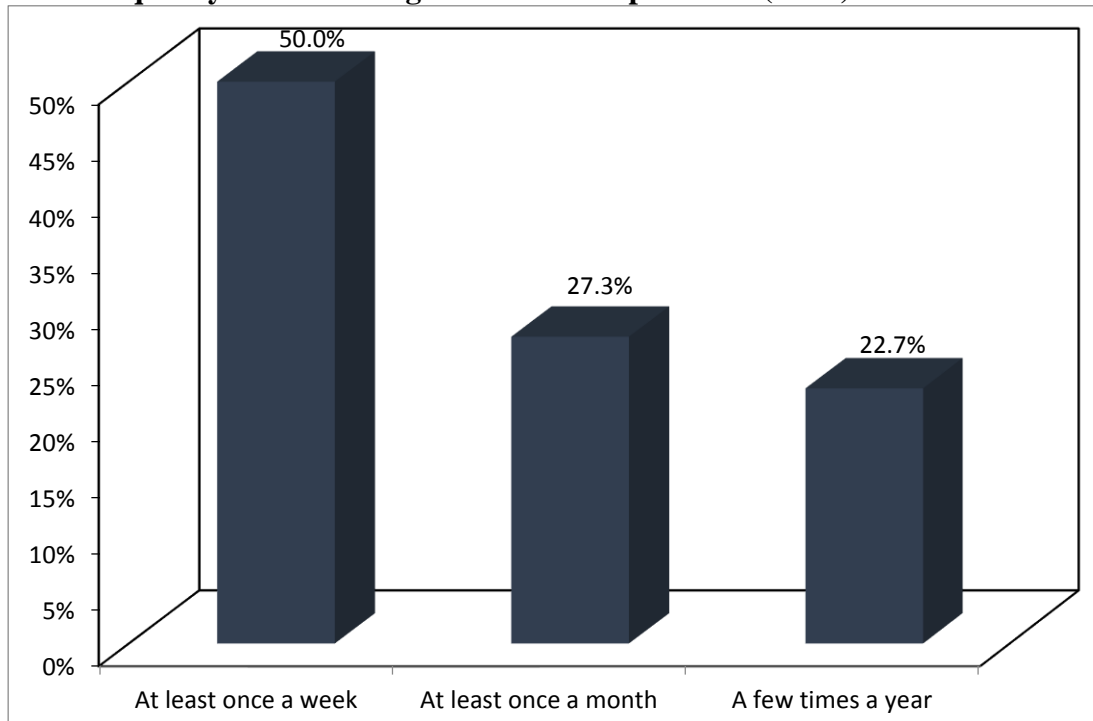
**Figure 25. Percentage of Past-Year Players Playing Texas Two Step**



Sources: Hobby Center for Public Policy 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015 survey data and additional survey reports 2003-2006.

As indicated in Figure 25, 3.9 percent of the past-year players reported playing Texas Two Step in 2015, which was much lower than the participation rate recorded in 2014 (12.7 percent).

**Figure 26. Frequency of Purchasing Texas Two Step Tickets (n=22)**



As seen in Figure 26, fifty percent of Texas Two Step players purchased tickets for the game at least once a week. Twenty-seven percent (27.3) reported that they purchased tickets at least once a month. Another 22.7 percent of the players purchased tickets a few times a year, a decrease of 27.3 percentage points from the previous year.

**Table 29. Average Number of Times Played Texas Two Step**

Played Texas Two Step	Average Number of Times Played	
	2015	2014
Per week for weekly past-year players	1.69	1.50
Per month for monthly past-year players <sup>28</sup>	5.06	4.18
Per year for yearly past-year players <sup>29</sup>	26.15	26.05

As shown in Table 29, weekly players of Texas Two Step played an average number of 1.69 times per week. Monthly players reported playing the game 5.06 times per month, and yearly players logged 26.15 times per year. Overall, there were only slight differences in the average numbers of times played between 2014 and 2015 for Texas Two Step.

<sup>28</sup> The average number of times playing Texas Two Step excludes a respondent who reported having played 30 times a month. If this respondent is included, the average number of games played is 6.53 per month.

<sup>29</sup> The average number of times playing Texas Two Step excludes a respondent who reported having played 356 times a year. If this respondent is included, the average number of games played is 41.86 per year.

**Table 30. Dollars Spent on Texas Two Step**

Texas Two Step	Dollars Spent	
	2015	2014
Average spent per play	\$4.19	\$5.34
Average spent per month (mean)	20.22	12.74
Average spent per month (median)	8.00	4.00

Table 30 reveals that the respondents who played Texas Two Step spent an average of \$4.19 per play in 2015, down by \$1.15 from the previous year. Those who reported playing the game on a monthly or more frequent basis spent an average of \$20.22 per month. The median monthly expenditure for 2015 was \$8.00, which was twice the value of 2014.

Because the numbers of respondents for the demographic sub-categories were too small to provide any statistically meaningful information, we did not include the analysis on lottery play and median dollars spent per month by past-year player demographics for Texas Two Step.

**Figure 27. Years Playing Texas Two Step (n=20)**

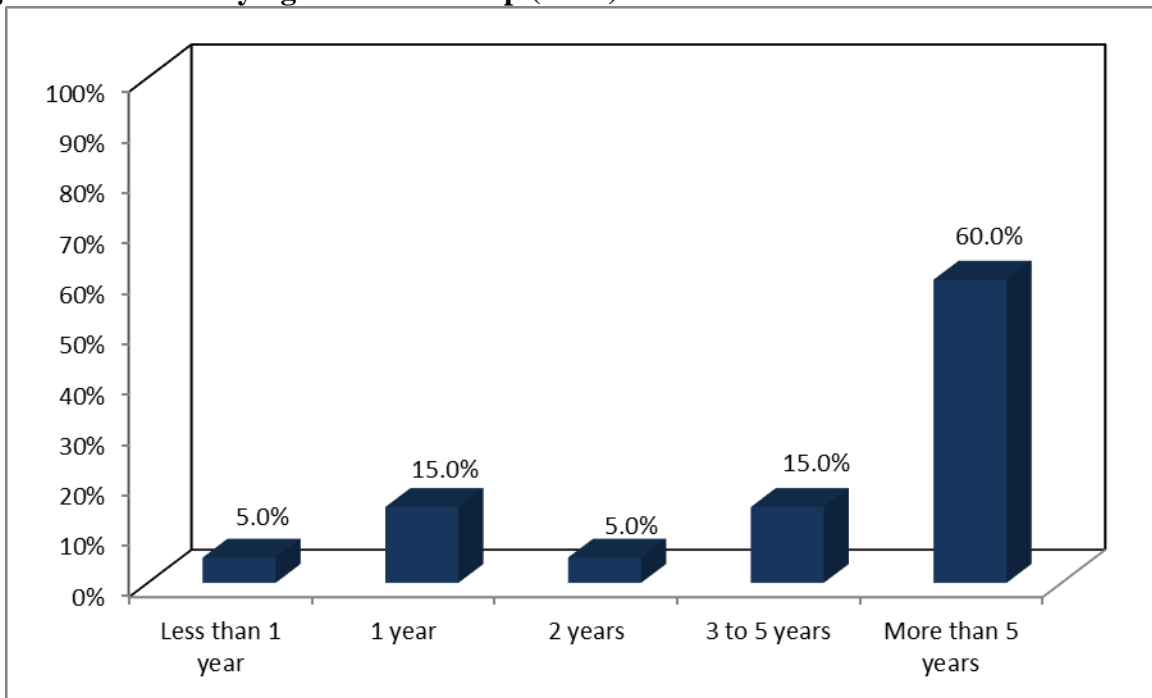


Figure 27 illustrates that 60.0 percent of the respondents reported that they had bought Texas Two Step for more than five years. A total of 20.0 percent of the respondents reported having played Texas Two Step for less than two years.

## Conclusion

The Texas Lottery Commission 2015 Demographic Study of Texas Lottery Players surveyed a total of 1,979 Texas adults aged 18 years and older between July 13 and September 10, 2015. The Texas Lottery participation rate for 2015 was 28.7 percent, which was slightly higher (by 3.7 percentage points) than the 25.0 percent in the previous year. Despite the small increase, the Texas Lottery participation rate for 2015 remained lower than the thirty percent or higher participation rates recorded in recent years (see Figure 1).

The 2015 survey differed from past surveys in two significant ways. First, this year's survey included an address-based sample, in addition to the landline and cell phone samples used in the surveys since 2007. Based on a comprehensive database that covers almost all households in the United States, the inclusion of the address-based sample means that the 2015 survey sample provides better representation of the Texas population.<sup>30</sup>

The second important change was on the survey instrument in the 2015 survey. This year, the respondents answered questions on only those individual games that they had played. This method was different from the approach used in past years, in which the respondents were asked questions on all individual games, including those that they did not play. A possible implication of the filtering out of non-players for individual game questions was the relatively large decreases in the participation rates for some individual games among past-year players who reported playing the game in 2015 as compared to 2014.

There were statistically significant differences between the samples of past-year players and non-players of Texas Lottery games in 2015 with regard to age, Hispanic origin and education (see Table 2). On the other hand, there were no statistically significant differences between past-year players and non-players by income, employment status, own or rent home, marital status, children under 18 living in household, number of children under 18 living in household, gender, race or occupation. Among past-year players, differences in the percent playing any game were statistically significant for education, Hispanic origin and age, but not for the other demographic factors (see Table 3).

In comparison to 2014, a total of six games recorded a double-digit decline in their respective participation rate in 2015 (see Table 1). Lotto Texas, the most popular game in 2014 based on participation rate, had a drop of thirty-seven percentage points in participation rate from 2014 (67.8 percent) to 2015 (31.2 percent). Despite the fall in its participation rate, Lotto Texas remained the second most popular game in terms of participation in 2015. Other games that suffered a large participation rate decline included Mega Millions (22.8 percentage points decrease, from 51.8 percent to 29.0 percent), Cash Five (19.4 percentage points decrease, from 23.3 percent to 3.9 percent), and Powerball (19.2 percentage points decrease, from 39.3 percent to 20.1 percent).<sup>31</sup>

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<sup>30</sup> For a comparison of the participation rates of the past-year players between the address-based sample and the RDD sample (landline and cell phone users), please refer to Table A in the Appendix.

<sup>31</sup> The reader is reminded that the large decreases in the participation rates in some of the individual games this year could be partly due to the use of the filtering out of non-players for the individual game questions in the 2015 survey instrument. In particular, there were relatively large decreases in the proportions of past-year players who indicated purchasing any individual game or add-on feature a few times a year in 2015 as compared to 2014 for the following games/add-on features: Pick 3 Day (a drop of 24.6 percentage points), Cash Five (38.9 percentage points), Texas Two Step (27.3 percentage points), Mega Millions (22.4 percentage points), Megaplier feature with Mega Millions (16.8 percentage points), and Powerball (14.5 percentage points).

Texas Lottery scratch games overtook Lotto Texas as the most popular game in terms of participation among all games/features in 2015, with a participation rate of 41.5 percent. Texas Lottery scratch games also attained the highest average expenditure per play of \$11.66 by past-year players.

Cash Five had the highest average number of times played per week (2.77 times) and the highest average number of times played per month (9.18 times) among all games and features by players in 2015. Similar to past years, most 2015 players had participated in Texas lottery games for more than five years.

Lastly, the lottery sales districts with the highest and the lowest participation rates in any Texas Lottery games in 2015 were El Paso (47.1 percent) and Lubbock (24.7 percent) (see Table 4). The lottery sales districts with the largest increases in participation rates for 2015 were Fort Worth and San Antonio: 21.0 percentage points and 20.8 percentage points, respectively. The Dallas South sales district had the greatest decline of 10.3 percentage points in participation rates from 2014 to 2015. The differences in participation rates between 2015 and 2014 were statistically significant for the Fort Worth, McAllen, San Antonio, and Tyler lottery sales districts.

## Appendix

Table A. Past-Year Lottery Play by Demographics: Comparisons of Random Digit Dialing (RDD) Sample and Address-based Sample

Demographic Factors	Percentage Played		Difference in Percentage Played (Address-based - RDD)
	Random Digit Dialing Sample	Address-based Sample	
Year 2015*	31.2% (n=309)	26.2% (n=258)	-5.0%
Education			
Less than high school diploma	33.3% (n=13)	26.7% (n=8)	-6.6%
High school diploma	34.6% (n=100)	30.6% (n=75)	-4.0%
Some college	34.5% (n=61)	30.9% (n=62)	-3.6%
College degree	28.0% (n=81)	22.3% (n=70)	-5.7%
Graduate degree	24.6% (n=42)	21.7% (n=39)	-2.9%
Income			
Under \$12,000	35.6% (n=21)	24.3% (n=9)	-11.3%
\$12,000 to \$19,999	50.0% (n=15)	46.5% (n=20)	-3.5%
\$20,000 to \$29,999	38.7% (n=24)	28.2% (n=11)	-10.5%
\$30,000 to \$39,999	32.8% (n=22)	36.2% (n=21)	3.4%
\$40,000 to \$49,999	37.0% (n=17)	22.6% (n=12)	-14.4%
\$50,000 to \$59,999	37.3% (n=19)	28.3% (n=13)	-9.0%
\$60,000 to \$74,999	31.3% (n=15)	19.7% (n=12)	-11.6%
\$75,000 to \$100,000	32.4% (n=23)	33.3% (n=21)	0.9%
More than \$100,000	34.9% (n=37)	27.3% (n=33)	-7.6%
Race			
White	27.1% (n=154)	23.3% (n=140)	-3.8%
African American	38.9% (n=44)	31.9% (n=50)	-7.0%
Hispanic	39.3% (n=77)	29.7% (n=38)	-9.6%
Asian	13.6% (n=3)	26.3% (n=5)	12.7%
Native American Indian	20.0% (n=2)	37.5% (n=3)	17.5%
Other	10.3% (n=3)	15.4% (n=2)	5.1%
Hispanic Origin			
Yes	36.7% (n=76)	28.5% (n=41)	-8.2%
No	28.9% (n=213)	25.9% (n=210)	-3.0%

**Table A. Past-Year Lottery Play by Demographics: Comparisons of Random Digit Dialing (RDD) Sample and Address-based Sample (continued)**

Demographic Factors	Percentage Played		Difference in Percentage Played (Address-based - RDD)
	Random Digit Dialing Sample	Address-based Sample	
Gender			
Female*	30.5% (n=174)	24.5% (n=145)	-6.0%
Male	31.6% (n=132)	28.8% (n=111)	-2.8%
Age			
18 to 24	26.3% (n=15)	15.4% (n=4)	-10.9%
25 to 34	22.7% (n=27)	16.2% (n=12)	-6.5%
35 to 44*	24.6% (n=31)	14.4% (n=17)	-10.2%
45 to 54	39.5% (n=47)	31.7% (n=44)	-7.8%
55 to 64	41.7% (n=55)	32.5% (n=49)	-9.2%
65 or older	30.6% (n=74)	28.2% (n=81)	-2.4%
Employment Status			
Employed full/part time	30.0% (n=156)	27.7% (n=119)	-2.3%
Unemployed	22.4% (n=15)	23.2% (n=13)	0.8%
Retired	29.2% (n=101)	26.7% (n=112)	-2.5%

Notes:

\*  $p < 0.05$ .

The percentage in each cell is the proportion of past-year players among all respondents (past-year players and non-players) for the sub-category.

The numbers and percentages of the non-players are not shown in the table.

The statistical test is on the difference in the participation rates between the RDD sample and the address-based sample.

Table A compares the participation rates of the Texas Lottery survey respondents between the address-based sample and the random digit dialing (RDD) sample of landline and cell phone users.<sup>32</sup> The table shows the percentages and numbers of respondents playing any game by demographics for the two samples. The last column is the difference in percentage played (address-based minus RDD).

At the aggregate level, there was a moderate difference of five percentage points (5.0) in the participation rate of the RDD sample (31.2 percent) relative to the lower rate (26.2 percent) of the address-based sample. The difference was statistically significant.

As for the demographic factors, there was a similar pattern of lower participation rates for the address-based respondents relative to the RDD respondents. Both females and males recorded lower participation rates for the address-based sample as compared to the RDD sample (lower by 6.0 percentage points and 2.8 percentage points, respectively). However, only the difference for the female respondents was statistically significant.

<sup>32</sup> A total of 992 (50.1 percent) completed interviews in the 2015 survey were from the RDD sample, and 986 (49.9 percent) were from the address-based sample.



Lower participation rates were also found in the address-based respondents relative to the RDD ones across all age groups. However, only the difference for the age group of 35 to 44 (lower by 10.2 percentage points) was statistically significant.

The address-based respondents did not play any of the lottery games as much as their RDD counterparts for all educational levels. In addition, most of the sub-categories of the income factor recorded lower participation rates for the address-based respondents, with those in the income bracket of \$40,000 to \$49,999 having the greatest difference (lower by 14.4 percentage points). None of the differences by education and income factors, however, was statistically significant.

In terms of race, the address-based sample for White, African American and Hispanic Texans recorded lower participation rates than those from the RDD sample. None of the differences, however, was statistically significant. (Note that the reverse was true for Asian and Native American Indian although the sample sizes for these two groups were very small.)

Last, the address-based respondents who were employed full/part time or retired played slightly fewer games as compared to their RDD counterparts. There was a very small difference between the two samples for those who were unemployed. None of the differences by employment status, however, were statistically significant.

In summary, the new address-based sample for the 2015 Texas Lottery survey had a statistically significant difference in the overall participation rate (lower by 5.0 percentage points) relative to the RDD sample. While there was a similar pattern of lower participation rates for the address-based respondents as compared to the RDD respondents for the demographic factors, most of the differences at the demographic sub-categories were not statistically significant. Since this year's survey was the first time the address-based sample was used in addition to the RDD sample, it should be noted that the current findings on the differences between the two samples were by no means conclusive.

Finally, one of the key benefits of the address-based sampling approach is its high level of coverage (above 95 percent) of U.S. residential households.<sup>33</sup> However, the survey literature reports mixed results regarding the response rates between the RDD and the address-based methods. That said, there were findings in this study that showed higher response rates for the address-based approach for, among other factors, areas with low RDD response rates, and urban areas where address coverage was high.<sup>34</sup> For the Texas Lottery survey, the address-based sub-sample outperformed the cell phone and landline sub-samples in response rates, with 18.0 percent, 10.5 percent, and 5.4 percent, respectively. If the address-based method can consistently produce a good response rate for the Texas Lottery survey in the future, it could serve as a complementary or an alternative method to the RDD approach.

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<sup>33</sup> Link, Michael, Gail Daily, Charles Shuttles, Christine Bourquin, and Tracie Yancey, 2009. "Addressing the cell phone-only problem: cell phone sampling versus address based sampling." *Survey Practice*.

<sup>34</sup> Link, Michael, Michael Battaglia, Martin Frankel, Larry Osborn, and Ali Mokdad. 2008. "A comparison of address-based sampling (ABS) versus random-digit dialing (RDD) for general population surveys." *Public Opinion Quarterly* 72, 1: 6-27.

**Table B. Sample Population by Texas County<sup>35</sup> (n=1,470)**

County	Count	Percentage
Anderson	5	0.34
Angelina	7	0.48
Aransas	1	0.07
Archer	1	0.07
Austin	2	0.14
Bailey	4	0.27
Bandera	1	0.07
Bastrop	2	0.14
Baylor	2	0.14
Bee	2	0.14
Bell	12	0.82
Bexar	71	4.83
Blanco	1	0.07
Bowie	10	0.68
Brazoria	17	1.16
Brazos	7	0.48
Brown	1	0.07
Burnet	1	0.07
Caldwell	2	0.14
Calhoun	1	0.07
Callahan	1	0.07
Cameron	10	0.68
Camp	2	0.14
Cass	2	0.14
Chambers	1	0.07
Cherokee	4	0.27
Childress	1	0.07
Clay	2	0.14
Coleman	1	0.07
Collin	38	2.59
Collingsworth	1	0.07
Colorado	2	0.14

County	Count	Percentage
Comal	5	0.34
Cooke	1	0.07
Coryell	5	0.34
Dallas	94	6.39
Delta	1	0.07
Denton	25	1.70
Eastland	2	0.14
Ector	3	0.20
El Paso	42	2.86
Ellis	8	0.54
Fannin	3	0.20
Fayette	4	0.27
Foard	4	0.27
Fort Bend	40	2.72
Frio	1	0.07
Gaines	1	0.07
Galveston	14	0.95
Garland	1	0.07
Gillespie	2	0.14
Goliad	2	0.14
Gray	1	0.07
Grayson	3	0.20
Gregg	8	0.54
Grimes	2	0.14
Guadalupe	13	0.88
Hall	1	0.07
Hamilton	3	0.20
Hardin	6	0.41
Harris	384	26.12
Harrison	4	0.27
Hayes	1	0.07
Hays	5	0.34

<sup>35</sup> The discrepancy between the sample in Table A (n=1,470) and the total sample (n=1,979) is due to respondents stating that they “did not know” or were “unsure” of their county of residence. Some refused to answer the question. The respondents came from 144 out of 254 counties, 56.7 percent of the counties in Texas.

County	Count	Percentage
Henderson	4	0.27
Hidalgo	12	0.82
Hill	1	0.07
Hockley	1	0.07
Hood	2	0.14
Hopkins	3	0.20
Houston	4	0.27
Howard	1	0.07
Hunt	5	0.34
Hutchinson	1	0.07
Jasper	6	0.41
Jefferson	12	0.82
Jim Wells	1	0.07
Johnson	10	0.68
Jones	1	0.07
Kaufman	5	0.34
Kerr	1	0.07
Kinney	1	0.07
Kleberg	1	0.07
Lamar	9	0.61
Lamb	2	0.14
Lampasas	4	0.27
Lavaca	2	0.14
Leon	1	0.07
Liberty	2	0.14
Llano	3	0.20
Lubbock	17	1.16
Madison	1	0.07
Matagorda	1	0.07
Maverick	1	0.07
McLennan	9	0.61
Medina	2	0.14
Midland	3	0.20
Milam	1	0.07
Montague	1	0.07
Montgomery	28	1.90
Morris	1	0.07
Nacogdoches	4	0.27
Navarro	3	0.20
Newton	6	0.41

County	Count	Percentage
Nolan	1	0.07
Nueces	9	0.61
Oldham	4	0.27
Orange	4	0.27
Palo Pinto	3	0.20
Panola	1	0.07
Parker	5	0.34
Polk	3	0.20
Potter	15	1.02
Rains	2	0.14
Randall	13	0.88
Robertson	3	0.20
Rockwall	6	0.41
Rusk	4	0.27
Sabine	2	0.14
San Patricio	8	0.54
Scurry	1	0.07
Shelby	2	0.14
Smith	10	0.68
Starr	1	0.07
Stephens	1	0.07
Sutton	1	0.07
Tarrant	148	10.07
Taylor	9	0.61
Throckmorton	1	0.07
Tom Green	6	0.41
Travis	64	4.35
Tyler	1	0.07
Upshur	1	0.07
Uvalde	5	0.34
Van Zandt	2	0.14
Waller	8	0.54
Washington	2	0.14
Webb	8	0.54
Wichita	5	0.34
Williamson	18	1.22
Wilson	3	0.20
Winkler?	1	0.07
Wise	7	0.48
Wood	5	0.34

**Table C. Counties by Lottery Sales District**

<b>Austin District</b>	Cooke	<b>Lubbock District</b>	Midland	Willacy	Lamar
<i>(Counties)</i>	Denton	<i>(Counties)</i>	Mitchell	Zapata	Leon
Bastrop	Foard	Andrews	Moore	<b>San Antonio District</b>	Madison
Blanco	Hardeman	Armstrong	Motley	<i>(Counties)</i>	Marion
Brazos	Hood	Bailey	Nolan	Atascosa	Morris
Burleson	Jack	Briscoe	Ochiltree	Bandera	Nacogdoches
Caldwell	Johnson	Brown	Oldham	Bexar	Newton
Fayette	Montague	Callahan	Parmer	Caldwell	Panola
Grimes	Palo Pinto	Carson	Potter	Colorado	Polk
Hays	Parker	Castro	Randall	Comal	Rains
Lee	Tarrant	Childress	Reagan	De Witt	Red River
Travis	Throckmorton	Cochran	Roberts	Dimmit	Rusk
Washington	Wichita	Coke	Runnels	Edwards	Sabine
Williamson	Wilbarger	Coleman	Schleicher	Fayette	San Augustine
<b>Dallas North District</b>	Wise	Collingsworth	Scurry	Frio	Shelby
<i>(Counties)</i>	Young	Concho	Shackelford	Gillespie	Smith
Collin	<b>Houston East District</b>	Cottle	Sherman	Gonzales	Titus
Cooke	<i>(Counties)</i>	Crane	Stephens	Guadalupe	Trinity
Dallas	Chambers	Crockett	Sterling	Karnes	Tyler
Denton	Galveston	Crosby	Stonewall	Kendall	Upshur
Fannin	Hardin	Dallam	Sutton	Kerr	Van Zandt
Grayson	Harris	Dawson	Swisher	Kinney	Wood
Hood	Harris	Deaf Smith	Taylor	La Salle	<b>Waco District</b>
Hunt	Jasper	Dickens	Terry	Lavaca	<i>(Counties)</i>
Rockwall	Jefferson	Donley	Tom Green	Maverick	Bell
Tarrant	Liberty	Eastland	Upton	McMullen	Blanco
<b>Dallas South District</b>	Montgomery	Ector	Wheeler	Medina	Bosque
<i>(Counties)</i>	Newton	Fisher	Yoakum	Real	Burnet
Dallas	Orange	Floyd	<b>McAllen District</b>	Uvalde	Cameron
Tarrant	San Jacinto	Gaines	<i>(Counties)</i>	Wilson	Comanche
<b>El Paso District</b>	<b>Houston Northwest District</b>	Garza	Aransas	Zavala	Coryell
<i>(Counties)</i>	<i>(Counties)</i>	Glasscock	Bee	<b>Tyler District</b>	Eastland
Brewster	Austin	Gray	Bexar	<i>(Counties)</i>	Ellis
Culberson	Fort Bend	Hale	Brooks	Anderson	Freestone
El Paso	Harris	Hall	Calhoun	Angelina	Hamilton
Hudspeth	Liberty	Hansford	Cameron	Bowie	Hill
Jeff Davis	Montgomery	Haskell	Duval	Camp	Hood
Pecos	San Jacinto	Hemphill	Goliad	Cass	Johnson
Presidio	Walker	Hockley	Hidalgo	Cherokee	Lampasas
Reeves	Waller	Howard	Hill	Dallas	Limestone
Terrell	<b>Houston Southwest District</b>	Hutchinson	Jackson	Delta	Llano
Ward	<i>(Counties)</i>	Irion	Jim Hogg	Franklin	Mason
Winkler	Austin	Jones	Jim Wells	Freestone	McLennan
<b>Fort Worth District</b>	Brazoria	Kimble	Kleberg	Gregg	Milam
<i>(Counties)</i>	Fort Bend	Knox	La Salle	Harrison	Mills
Archer	Galveston	Lamb	Live Oak	Henderson	Navarro
Baylor	Harris	Lipscomb	Nueces	Hopkins	Robertson
Clay	Matagorda	Lubbock	Refugio	Houston	San Saba
	Wharton	Lynn	San Patricio	Hunt	Somervell
		Martin	Starr	Jasper	Tarrant
		McCulloch	Victoria	Kaufman	Williamson
		Menard	Webb		

**Table D. Descriptions of Texas Lottery Games and Add-on Features<sup>36</sup>**

<b>Texas Lottery Game and Add-on Feature</b>	<b>Description</b>	<b>Drawing Schedule</b>
Lotto Texas®	The original jackpot game where the player picks 6 numbers.	Wednesday and Saturday
Extra!®	The add-on feature for Lotto Texas.	Wednesday and Saturday
Pick 3™	The daily game where the player picks 3 numbers.	Four times a day, Monday - Saturday
Daily 4™	The daily game where the player picks 4 numbers with 7 different play types.	Four times a day, Monday - Saturday
Sum It Up!®	The add-on feature for another way to win with Daily 4 or Pick 3.	Four times a day, Monday - Saturday
Scratch	Games in which the player scratches out portions of the ticket to reveal prize symbols.	Monday - Saturday
Cash Five®	The daily game where the player picks 5 numbers.	Once a day, Monday - Saturday
Texas Two Step®	The jackpot game where the player picks 4 numbers plus a bonus ball.	Monday and Thursday
Mega Millions®	The multi-state large jackpot game where the player picks 5 numbers plus a mega ball.	Tuesday and Friday
Megaplier®	The add-on feature for Mega Millions that can increase non-jackpot prizes.	Tuesday and Friday
Powerball®	The multi-state large jackpot game.	Wednesday and Saturday
Power Play®	The add-on feature for Powerball that can increase non-jackpot prizes.	Wednesday and Saturday
All or Nothing™	The daily game where the player picks 12 numbers or picks none of the numbers drawn.	Four times a day, Monday - Saturday

<sup>36</sup> The table provides brief descriptions of the Texas Lottery games and add-on features that are presented in the report. Detailed information of the games and add-on features can be found at the website: <http://www.txlottery.org/export/sites/lottery/Games/index.html>.