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Demographic Survey of Texas Lottery Players 2016

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Demographic Survey of Texas Lottery Players 2016[1]

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The Texas Lottery Commission 2016 Demographic Study of Texas Lottery Players surveyed a total of 1,685 Texas residents aged 18 years and older between June and August, 2016. 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 2016 was 35.0 percent, which was 6.3 percentage points higher than the rate of 28.7 percent in 2015. The increase in the participation rate was statistically significant.[2] In contrast to the overall downward trend in the Texas Lottery participation rates in the last two decades, there was a noticeable gain of 10 percentage points in the participation rates over the past two years. There were statistically significant differences between the samples of past-year players and non-players of Texas Lottery games in 2016 with regard to employment status, own or rent home, age, number of children under 18 living in household, gender, and Hispanic origin. Among past-year players, differences in the percent playing any game were statistically significant based on the players' Hispanic origin, gender, age and employment status. Among the individual games/add-on features, Lotto Texas was the most popular game in terms of participation in 2016, with a high participation rate of 61.1 percent. The second- and third-most popular games in 2016 were Mega Millions (60.3 percent) and Powerball (56.5 percent), respectively.[3] In comparison to 2015, a total of five games recorded a double-digit increase in their respective participation rate in 2016. They were Powerball (increase of 36.4 percentage points), Mega Millions (31.3 percentage points), Lotto Texas (29.9 percentage points), Pick 3 Day (19.9 percentage points) and Cash Five (15.8 percentage points). Texas Triple Chance, a new game introduced in 2015, had the highest frequency of purchase among those playing at least once a week (38.9 percent) among past-year players. Consistent with past years' findings, most 2016 past-year players had participated in Texas lottery games for more than five years. The lottery sales districts with the highest and the lowest participation rates in any Texas Lottery games in 2016 were Houston East (45.9 percent) and Houston Northwest (27.0 percent). The lottery sales district with the largest participation rate increase for 2016 was Houston East (18.2 percentage points). In contrast, the San Antonio sales district experienced the greatest participation rate decline, 4.5 percentage points. The differences in participation rates between 2015 and 2016 were statistically significant for the lottery sales districts of Dallas South, Houston East, and Houston Southwest.

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

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[1] This paper is based on the report submitted to the Texas Lottery Commission.
[2] All statistical tests yield a margin of error of less than +/- 2.4 percent at the 95 percent confidence level.
[3] The participation rate is defined as the proportion (percentage) of the survey respondents who indicated having played any of the Texas Lottery games or add-on features in 2016.

Highlights

The following are some key findings of the 2016 survey on participation rates and personal expenditures in Texas Lottery games/features (see Table 1):

- Lotto Texas overtook Texas Lottery scratch games as the most popular game by participation rate (61.1 percent) among all games/features in 2016.
- Mega Millions became the second-most popular game by participation percentage (60.3 percent), with an increase of 31.3 percentage points in its rate from 2015 to 2016.
- Of all the Texas Lottery games and features in 2016, Pick 3 Day games had the highest average spent per play of $13.93 by past-year players.
- Pick 3 Day also had the highest average number of times played per week (2.1 times), and Texas Lottery scratch games had the highest average number of times played per month (5.6 times) among all games and features by past-year players in 2016.
- Houston East had the highest participation rate (45.9 percent) in any Texas Lottery game in 2016. The lottery sales districts of Fort Worth and El Paso had the second- and third-highest participation rates of 45.7 percent and 43.2 percent, respectively.
- Three lottery sales districts logged double-digit increases in participation rates in 2016. They are Houston East (18.2 percentage points), Houston Southwest (17.8 percentage points), and Dallas South (14.6 percentage points).

A brief summary of participation rates by games and add-on features is given below.[4]

Note: Some games and add-on features had very low participation rates (between 0.3 percent and 2.7 percent). Consistent with previous years, we did not include statistical analyses for these games and features because the number of respondents who played these games and features was too small to provide any statistically meaningful information. Games and features that had an insufficient number of respondents for reliable statistical analysis are: Pick 3 Night, 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.

Lotto Texas: A total of 61.1 percent of the past-year players reported playing Lotto Texas in this year's survey. Among them, 25.0 percent purchased Lotto Texas tickets at least once a week. Another 21.7 percent played the game at least once a month. On average, Lotto Texas players spent an average of $8.59 per play.

Mega Millions: A total of 60.3 percent of past-year lottery players reported having played Mega Millions this year. One fifth (20.9 percent) of the respondents reported that they purchased Mega Millions tickets at least once a week, while 15.5 percent of the respondents purchased the tickets at least once a month. Mega Millions players spent an average of $7.17 per play.

Powerball: A total of 56.5 percent of past-year lottery players reported they played Powerball. Some 16.8 percent of the respondents who purchased Powerball tickets purchased

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[4] Brief descriptions of the Texas Lottery games and add-on features can be found in Table A in the Appendix.

them at least once a week. Another 15.9 percent purchased Powerball tickets at least once a month. Powerball players spent an average of $7.95 per play.

Texas Lottery Scratch Tickets: A total of 43.1 percent of the respondents reported they purchased Texas Lottery scratch tickets in 2016. More than one quarter (27.6 percent) of the respondents who bought scratch tickets reported that they purchased them at least once a week. Another 22.8 percent purchased the tickets at least once a month. Past-year players of Texas Lottery scratch games spent an average of $10.85 per play.

Pick 3 Day: A total of 19.9 percent of the past-year lottery players played Pick 3 Day in 2016. Twenty-one percent (21.4) of the respondents who purchased Pick 3 Day tickets bought them at least once a week, and another 22.2 percent of the respondents purchased them at least once a month. On average, Pick 3 Day players spent $13.93 per play.

Megaplier Feature with Mega Millions: A total of 16.8 percent of past-year lottery players included Megaplier in their Mega Millions play. Among them, 19.2 percent reported having purchased the add-on feature at least once a week. Another 14.1 percent purchased the tickets at least once a month. Megaplier players spent an average of $7.79 per play.

Cash Five: A total of 15.8 percent of the past-year lottery players played Cash Five in 2016. Among these past-year players, twenty-five percent (24.7) purchased Cash Five tickets at least once a week. Some 29.0 percent purchased tickets at least once a month. Cash Five players spent an average of $8.04 per play.

Power Play Feature with Powerball: A total of 11.0 percent of past-year lottery players reported they included Power Play with their Powerball ticket purchases. Twelve percent (12.3) of the respondents that purchased the Power Play feature with Powerball purchased it at least once a week. Another 20.0 percent purchased it at least once a month. On average, Power Play players spent $6.73 per play.

Texas Two Step: A total of 10.0 percent of past-year lottery players had played Texas Two Step in 2016. Twenty-five percent (25.4) of Texas Two Step players purchased tickets for the game at least once a week. Another 11.9 percent purchased the tickets at least once a month. Players of Texas Two Step spent an average of $13.47 per play.

Extra! Feature with Lotto Texas: A total of 8.3 percent of past-year lottery players reported they had selected the Extra! feature with their Lotto Texas tickets. Among these players, 38.8 percent purchased Extra! at least once a week. Another 61.2 percent purchased the add-on feature at least once a month. On average, Lotto Texas players who purchased Extra! spent an average of $9.12 per play.

All or Nothing: A total of 3.7 percent of past-year lottery players responded that they had played All or Nothing. Eighteen percent (18.2) of All or Nothing players purchased tickets for the game at least once a week. Another 22.7 percent purchased the tickets at least once a month. Players of Texas Two Step spent an average of $6.78 per play.

Texas Triple Chance: A total of 3.1 percent of the past-year lottery players played Texas Triple Chance in 2016. Among these past-year players, 38.9 percent purchased Texas Triple Chance tickets at least once a week.

Sum It Up Feature with Pick 3 Day: A total of 2.7 percent of past-year lottery players reported they selected the Sum It Up! feature with Pick 3 Day.

Daily 4 Day: A total of 1.5 percent of past-year lottery players stated they played Daily 4 Day in 2016.

Pick 3 Night: A total of 1.4 percent of past-year lottery players reported they played Pick 3 Night in 2016.

Sum It Up Feature with Pick 3 Night: A total of 0.9 percent of past-year lottery players reported they added the Sum It Up! feature when they played Pick 3 Night.

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

Sum It Up! Feature with Daily 4 Day: A total of 0.5 percent of past-year lottery players reported 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 0.3 percent of the past-year lottery players reported they selected the Sum It Up! feature with Daily 4 Night.

Table 1. Demographic Survey – Highlights of Key Findings

Game/Feature[1]	2016 Participation Rate	Change in Rate from 2015	Frequency of Purchase		Average Number of Times Played (Past-year Players)		Average Spent Per Play
			At Least Once a Week	At Least Once a Month	Per Week	Per Month	
Lotto Texas	61.1%^	29.9	25.0%	21.7%	1.57	3.90	$8.59
Mega Millions	60.3%	31.3	20.9%	15.5%	1.61	3.67	$7.17
Powerball	56.5%	36.4^	16.8%	15.9%	1.50	3.76	$7.95
Texas Lottery Scratch Games	43.1%	1.6	27.6%	22.8%	2.00	5.57^	$10.85
Pick 3 Day	19.9%	15.0	21.4%	22.2%	2.09^	4.18	$13.93^
Megaplier Feature with Mega Millions	16.8%	6.9	19.2%	14.1%	1.56	3.51	$7.79
Cash Five	15.8%	11.9	24.7%	29.0%	1.94	5.00	$8.04
Power Play Feature with Powerball	11.0%	6.1	12.3%	20.0%	1.38	3.30	$6.73
Texas Two Step	10.0%	6.1	25.4%	11.9%	1.37	3.78	$13.47
Extra! Feature with Lotto Texas	8.3%	3.0	38.8%	61.2%^	1.45	3.56	$9.12
All or Nothing	3.7%	2.1	18.2%	22.7%	1.44	3.83	$6.78
Texas Triple Chance	3.1%	--	38.9%^	--	1.67	5.20	--

[1] Games and add-on features with participation rates of 3.0 percent or below are excluded from the table.
^ The largest absolute value (positive or negative) in the column among all the games and features.

Testing changes in lottery participation and expenditure from 2015 to 2016

In addition to the basic results that ensured continuity of information and presentation with prior survey reports, the 2016 report also provides statistical tests of *differences in lottery participation from 2015 to 2016*. The report highlights these differences for general participation rates and for the individual lottery games separately.

Comparing the 2016 survey results with those from 2015, we found there were statistically significant increases in the percent playing any game between 2015 and 2016 for the following individual games: Powerball (36.4 percentage points increase), Mega Millions (31.3 percentage points), Lotto Texas (29.9 percentage points), Pick 3 Day (15.0 percentage points), Cash Five (11.9 percentage points), and Megaplier feature with Mega Millions (6.9 percentage points). The much higher participation rates for some of the individual games this year relative to last year could be attributed to the filtering out of non-players for the individual game questions in the 2015 survey instrument. The filter question was not used in the 2016 survey instrument. As a result, the participation rates of the individual games in this year's report were more consistent with the participation rates in the 2014 report as well as in the reports from prior years. With respect to the lottery sales districts, increases in participation rates between 2015 and 2016 were statistically significant for Houston East (18.2 percentage points), Houston Southwest (17.8 percentage points), and Dallas South (14.6 percentage points).

Introduction and Method of Analysis

A survey of a random sample of adult Texas residents aged 18 and older was conducted between June and August of 2016. 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 adult population of Texas.

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

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Similar to past years, the random digit dialing (RDD) sampling method was used in the survey because it provides the best coverage of active telephone numbers and reduces sample bias.[5]

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.

The Hobby School of Public Affairs' Survey Research Institute (SRI) (http://www.uh.edu/class/hobby/cpp/polling/) fielded 1,698 telephone interviews. Of these, nine (9) respondents answered "don't know," and four (4) 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 thirteen (13) individuals were not used for the analyses we reported below. This process resulted in **a total of 1,685 usable interviews of self-reported players and non-players**. The sample yielded a margin of error of less than +/- 2.4 percent at the 95 percent confidence level. The data for the survey were collected between June 14 and August 9, 2016.

Note that in some cases, the subset samples are 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 insure 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

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[5] The exception was the 2015 survey, in which a combination of RDD sampling and the address-based sampling (ABS) were used in the data collection.

patterns. The 2016 survey instrument used by the HSPA was similar to those used in past years except the 2015 survey.[6]

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. Estimates of exclusively cellular phone users in the United States have increased in recent years: one study put the rate at 45 percent.[7] 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 2016 Texas Lottery Study in addition to the standard statewide RDD sample.

The data included in this report were based on 1,021 (60.6 percent) completed interviews on landlines, and 664 (39.4 percent) completed interviews on cell phones.

Lastly, with regard to the respondents' level of education, due to an error in the data collection, instead of asking all respondents for their level of education as in past surveys, only those respondents who indicated they were enrolled in school as full-time or part-time students (n=108) were asked the question on education level in the 2016 survey. As result, no statistical analysis is conducted on these data, although descriptive statistics for this limited sub-set of respondents are included in the tables. We have included footnotes in all the relevant tables to remind the readers about this discrepancy in the data.

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[6] The 2015 survey included a filter question that resulted in the respondent answering questions only on those individual games that he/she had played. The approach was different from the past surveys in which the respondent was asked questions on all individual games.

[7] 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.

Sample Characteristics[8]

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

- Income,
- Education,
- Employment status,
- Age of respondent,
- Gender of respondent,
- Race/ethnicity of respondent, and
- Hispanic origin.[9]

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 in100 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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[8] Note that the discrepancies between total sample size and various variables are due to respondents either refusing to answer or saying they did not know.

[9] Hispanic origin is based on self-identification by the survey respondent.

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

Demographic Factors	Number and Percentage Responding		
	All (n=1,685)	Past-Year Players (n=589)	Non-Players (n=1,096)
Year[1]			
2016	1,685 (100.0%)	589 (35.0%)	1,096 (65.0%)
2015	1,979 (100.0%)	568 (28.7%)	1,411 (71.3%)
2014	1,701 (100.0%)	425 (25.0%)	1,276 (75.0%)
Income	n=818 (100.0%)	n=346 (100.0%)	n=472 (100.0%)
Less than $12,000	62 (7.6%)	21 (6.1%)	41 (8.7%)
Between $12,000 and $19,999	51 (6.2%)	22 (6.4%)	29 (6.1%)
Between $20,000 and $29,999	61 (7.5%)	27 (7.8%)	34 (7.2%)
Between $30,000 and $39,999	69 (8.4%)	27 (7.8%)	42 (8.9%)
Between $40,000 and $49,999	70 (8.6%)	29 (8.4%)	41 (8.7%)
Between $50,000 and $59,999	76 (9.3%)	30 (8.7%)	46 (9.8%)
Between $60,000 and $74,999	94 (11.5%)	44 (12.7%)	50 (10.6%)
Between $75,000 and $100,000	117 (14.3%)	53 (15.3%)	64 (13.6%)
More than $100,000	218 (26.7%)	93 (26.9%)	125 (26.5%)
Employment Status***	n=1,652 (100.0%)	n=579 (100.0%)	n=1,073 (100.0%)
Employed Full-time	626 (37.9%)	271 (46.8%)	355 (33.1%)
Employed Part-time	109 (6.6%)	34 (5.9%)	75 (7.0%)
Unemployed/Looking for Work	63 (3.8%)	11 (1.9%)	52 (4.9%)
Not in Labor Force	105 (6.4%)	36 (6.2%)	69 (6.4%)
Retired	749 (45.3%)	227 (39.2%)	522 (48.7%)
Own or Rent Home**	n=1,607 (100.0%)	n= 564 (100.0%)	n=1,043 (100.0%)
Own	1,252 (77.9%)	455 (80.7%)	797 (76.4%)
Rent	284 (17.7%)	96 (17.0%)	188 (18.0%)
Occupied without Payment	71 (4.4%)	13 (2.3%)	58 (5.6%)
Age of Respondent**	n=1,332 (100.0%)	n=469 (100.0%)	n=863 (100.0%)
18 to 24	61 (4.6%)	13 (2.8%)	48 (5.6%)
25 to 34	107 (8.0%)	50 (10.7%)	57 (6.6%)
35 to 44	120 (9.0%)	52 (11.1%)	68 (7.9%)
45 to 54	148 (11.1%)	70 (14.9%)	78 (9.0%)
55 to 64	284 (21.3%)	112 (23.9%)	172 (19.9%)
65 and over	612 (46.0%)	172 (36.7%)	440 (51.0%)

Note: ** p < 0.01, *** p < 0.001, two-tailed test. There were statistically significant differences between players and non-players regarding the distribution by employment status, own or rent home, and age of the respondents.

[1] 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 2016 from those who reported that they participated in 2015. 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=1,685)	Past-Year Players (n=589)	Non-Players (n=1,096)
Marital Status	n=1,622 (100.0%)	n=568 (100.0%)	n=1,054 (100.0%)
Married	971 (59.9%)	353 (62.2%)	618 (58.6%)
Widowed	208 (12.8%)	50 (8.8%)	158 (15.0%)
Divorced	162 (10.0%)	66 (11.6%)	96 (9.1%)
Separated	22 (1.4%)	9 (1.6%)	13 (1.2%)
Never Married	259 (16.0%)	90 (15.9%)	169 (16.0%)
Children under 18 Living in Household	n=1,530 (100.0%)	n=538 (100.0%)	n=992 (100.0%)
Yes	281 (18.4%)	119 (22.1%)	162 (16.3%)
No	1,249 (81.6%)	419 (77.9%)	830 (83.7%)
Number of Children under 18 Living in Household**	n=281 (100.0%)	n=119 (100.0%)	n=162 (100.0%)
1	121 (43.1%)	48 (40.3%)	73 (45.1%)
2	94 (33.5%)	37 (31.1%)	57 (35.2%)
3	40 (14.2%)	21 (17.7%)	19 (11.7%)
4 or more	26 (9.3%)	13 (10.9%)	13 (8.0%)
Gender of Respondent**	n=1,670 (100.0%)	n=582 (100.0%)	n=1,088 (100.0%)
Male	756 (45.3%)	293 (50.3%)	463 (42.6%)
Female	914 (54.7%)	289 (49.7%)	625 (57.4%)
Race	n=1,585 (100.0%)	n=555 (100.0%)	n=1,030 (100.0%)
White	1,132 (71.4%)	374 (67.4%)	758 (73.6%)
Hispanic	201 (12.7%)	83 (15.0%)	118 (11.5%)
African American	158 (10.0%)	75 (13.5%)	83 (8.1%)
Asian	26 (1.6%)	6 (1.1%)	20 (1.9%)
Native American Indian	23 (1.5%)	6 (1.1%)	17 (1.7%)
Other	45 (2.8%)	11 (2.0%)	34 (3.3%)
Hispanic Origin*	n=1,603 (100.0%)	n= 554 (100.0%)	n= 1,049 (100.0%)
Yes	228 (14.2%)	95 (17.2%)	133 (12.7%)
No	1,375 (85.8%)	459 (82.9%)	916 (87.3%)

Note: * p < 0.05, ** p < 0.01, two-tailed test. There were statistically significant differences between players and non-players regarding the distribution by number of children under 18 living in household, gender, and 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[2]	n=108 (100.0%)	n=31 (100.0%)	n=77 (100.0%)
Less than High School	5 (4.6%)	0 (0.0%)	5 (6.5%)
High School Graduate/GED	38 (35.2%)	10 (32.2%)	28 (36.4%)
Some College, no degree	27 (25.0%)	10 (32.3%)	17 (22.1%)
College Degree	30 (27.8%)	10 (32.3%)	20 (26.0%)
Graduate/Professional Degree	8 (7.4%)	1 (3.2%)	7 (9.1%)
Occupation	n=1,119 (100.0%)	n=409 (100.0%)	n=710 (100.0%)
Professional Specialty	380 (34.0%)	117 (28.6%)	263 (37.0%)
Executive, Administrative, and Managerial	187 (16.7%)	70 (17.1%)	117 (16.5%)
Sales	110 (9.8%)	41 (10.0%)	69 (9.7%)
Service	108 (9.7%)	31 (7.6%)	77 (10.9%)
Administrative Support, Clerical	104 (9.3%)	43 (10.5%)	61 (8.6%)
Technicians and Related Support	81 (7.2%)	38 (9.3%)	43 (6.1%)
Machine Operators, Assemblers, and Inspectors	29 (2.6%)	15 (3.7%)	14 (2.0%)
Private Household	25 (2.2%)	8 (2.0%)	17 (2.4%)
Transportation and Material Moving	22 (2.0%)	12 (2.9%)	10 (1.4%)
Equipment Handlers, Cleaners, Helpers, and Laborers	19 (1.7%)	7 (1.7%)	12 (1.7%)
Farming, Forestry, Fishing	17 (1.5%)	6 (1.5%)	11 (1.6%)
Protective Service	16 (1.4%)	10 (2.4%)	6 (0.9%)
Armed Forces	14 (1.3%)	8 (2.0%)	6 (0.9%)
Precision Productions, Craft, and Repair	7 (0.6%)	3 (0.7%)	4 (0.6%)

[2] Only those respondents who indicated that they were enrolled in school as full-time or part-time student were asked the question on education in the 2016 survey. We reported the percentage played and median dollars spent by education in the table. However, readers are cautioned that the number of responses in some sub-categories was too small (five or fewer) to provide statistically meaningful information.

▪ Table 2 shows that thirty-five percent (35.0) of the survey respondents reported having participated in at least one of the Texas Lottery games in 2016. The 6.3 percentage point increase in the participation rate over the previous year was statistically significant.

▪ There were statistically significant differences between past-year players and non-players of Texas Lottery games in 2016 with regard to employment status, home ownership, age, number of children under 18 living in household, gender, and Hispanic origin.[10]

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[10] 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-

- The difference between past-year players and non-players by unemployment status was statistically significant in 2016. Among the past-year players, 52.7 percent were employed. Only 1.9 percent of the respondents were unemployed or looking for work. About the same proportions of the past-year players and non-players were not in the labor force (6.2 percent and 6.4 percent, respectively). Among the non-players, about half (48.7 percent) were retired. In comparison, a lower proportion (39.2 percent) of the past-year players were retired.

- In terms of owning or renting their home, similar proportions of the past-year players (80.7 percent) and non-players (76.4 percent) indicated they owned their homes. Likewise, about the same proportions of the past-year players and non-players rented their homes (17.0 percent and 18.0 percent, respectively).

- A lower proportion of the past-year players were aged 65 and over as compared to the non-players (36.7 percent and 51.0 percent, respectively). The respondents aged between 45 and 64 constituted 38.8 percent of the past-year players, whereas only 28.9 percent of the non-players fell into this age range. A higher proportion among the players (24.6 percent) than non-players (20.1 percent) belonged to the younger age cohort of 44 and below. The average age among the players was 56.4 years, which was also higher than the 61.2 years for the non-players. (Note: average ages are not shown in Table 2.)

- Among the 119 past-year players who indicated having children under 18 living in the household, about two-fifths (40.3 percent) had one child. Another thirty percent (31.1) had two children in the household. By comparison, among the non-players who had children under 18 living in the household, 45.1 percent had one child and 35.2 percent had two children.

- Of the past-year players, 50.3 percent were male while 49.7 percent were female. Although slightly more men than women were past-year players of the Texas Lottery games in 2016, more female respondents than male respondents were non-players (57.4 percent and 42.6 percent, respectively).

- Among the past-year players, 17.2 percent were of Hispanic origin. The proportion of the respondents with Hispanic origin among the past-year players was higher than the proportion among the non-players (12.7 percent).

- The demographic factors of income, marital status, children under 18 living in household, race, and occupation were not statistically significant in the 2016 report.

- In terms of income, a higher proportion of the past-year players (42.2 percent) than the non-players (40.1 percent) had a household annual income of $75,000 or higher. Conversely, among those respondents who had a household annual income of below $30,000, a slightly lower proportion were past-year players (20.3 percent) than non-players (22.0 percent).

players" refers to those respondents who indicated not playing any Texas Lottery games or add-on features in the past one year.

- More than sixty percent (62.2) of the past-year players of the Texas Lottery games in 2016 were married. Among the non-players, 58.6 percent indicated they were married.

- A lower proportion of the past-year players (67.4 percent) than non-players (73.6 percent) were White (non-Hispanic) in the 2016 survey. The reverse was true for African Americans: 13.5 percent were players and 8.1 percent were non-players.

- The three largest occupational categories in 2016 were: "professional specialty" (34.0 percent), "executive, administrative, and managerial occupations" (16.7 percent), and "sales" (9.8 percent). Together, they constituted sixty percent (60.5) of all the respondents by occupation. The occupational category of "professional specialty" constituted 28.6 percent of the past-year players, while the category of "executive, administrative, and managerial occupations" made up another 17.1 percent.

Game Findings

1. Any Game Results

Figure 1. Percentage of Respondents Playing Any Lottery Game
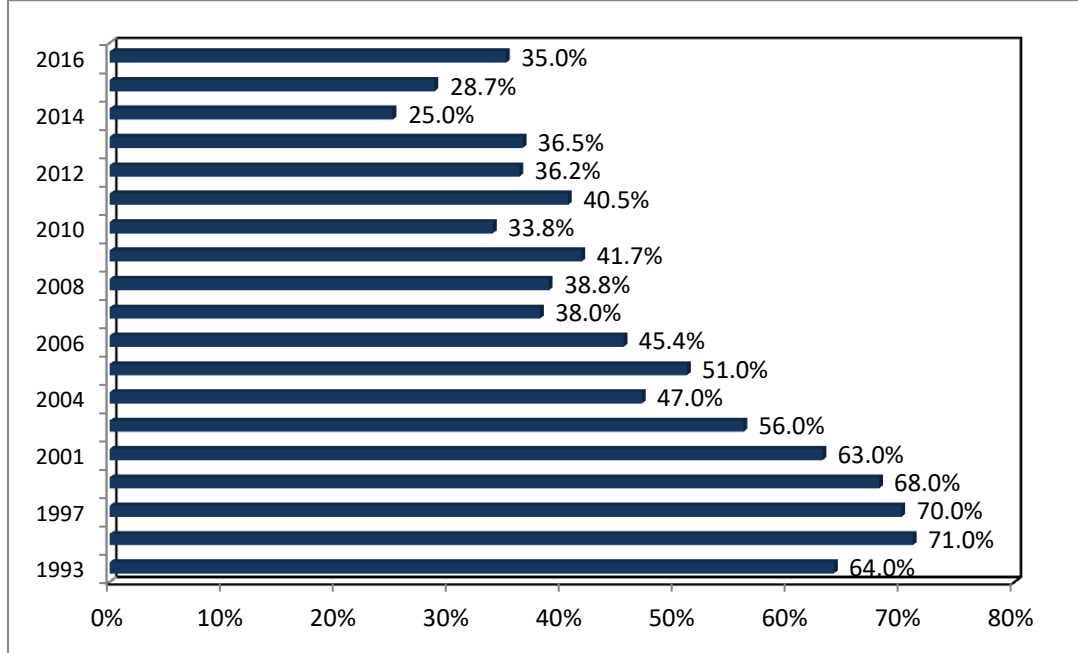
Sources: 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, and 2016 HSPA/HCPP survey data, 2006 University of North Texas (UNT) survey reports and survey reports from 1993-2005.

Figure 1 shows the past-year Texas Lottery participation rates over time for those playing any Texas Lottery game beginning with the agency's first survey conducted in 1993. The Texas Lottery participation rate in 2016 was 35.0 percent, which was 6.3 percentage points higher than in 2015. The increase in the participation rate was statistically significant, and its magnitude was larger than the one recorded in the previous year. In contrast to the overall downward trend in the Texas Lottery participation rates in the last two decades, there was a noticeable gain of 10 percentage points in the participation rates over the past two years.

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

Year	Percentage Played	Median Dollars Spent
2016[1] (overall N = 1,685)	35.0 (n=589)	$13.00
2015 (overall N = 1,979)	28.7 (n=568)	$10.00
2014 (overall N = 1,701)	25.0 (n=425)	12.00
Demographic Factors 2016		
Education[2]		
Less than high school diploma	--[3]	--
High school diploma (n=38)	26.3 (n=10)	15.50
Some college (n=27)	37.0 (n=10)	18.00
College degree (n=30)	33.3 (n=10)	18.00
Graduate degree	--	--
Income		
Under $12,000 (n=62)	33.9 (n=21)	20.00
$12,000 to $19,999 (n=51)	43.1 (n= 22)	14.50
$20,000 to $29,999 (n=61)	44.2 (n=27)	26.00
$30,000 to $39,999 (n=69)	39.1 (n=27)	24.00
$40,000 to $49,999 (n=70)	41.4 (n=29)	12.00
$50,000 to $59,999 (n=76)	39.5 (n=30)	15.00
$60,000 to $74,999 (n=94)	46.8 (n=44)	9.00
$75,000 to $100,000 (n=117)	45.3 (n=53)	20.00
More than $100,000 (n=218)	42.7 (n=93)	10.00
Race		
White (n=1,132)	33.0 (n=374)	10.00
African American (n=158)	47.5 (n=75)	17.00
Hispanic (n=201)	41.3 (n=83)	22.00
Asian (n=26)	23.1 (n=6)	86.50
Native American Indian (n=23)	26.1 (n=6)	49.00
Other (n=45)	24.4 (n=11)	13.00
Hispanic Origin*		
Yes (n=228)	41.7 (n=95)	24.00
No (n=1,375)	33.4 (n=459)	10.00
Gender**		
Female (n=914)	31.6 (n=289)	12.00
Male (n=756)	38.8 (n=293)	16.00

Note: Percentages are within category; overall N's and n's are the numbers reported for all respondents in Table 2.

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

Demographic Factors 2016	Percentage Played	Median Dollars Spent
Age**		
18 to 24 (n=61)	21.3 (n=13)	3.00
25 to 34 (n=107)	46.7 (n=50)	24.50
35 to 44 (n=120)	43.3 (n=52)	17.50
45 to 54 (n=148)	47.3 (n=70)	13.50
55 to 64 (n=284)	39.4 (n=112)	11.00
65 or older (n=612)	28.1 (n=172)	13.00
Employment Status***		
Employed full/part time (n=735)	41.5 (n=305)	16.00
Unemployed (n=63)	17.5 (n=11)	--
Retired (n=749)	30.3 (n= 227)	11.00

Note: * p < 0.05, ** p < 0.01, *** 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.

[1] The increase in the participation rates from 2015 to 2016 was statistically significant.

[2] Only those respondents who indicated that they were enrolled in school as full-time or part-time student were asked the question on education in the 2016 survey. We reported the percentage played and median dollar spent by education in the table but no statistical tests were conducted on them.

[3] There were only five or fewer respondents in this sub-category and therefore it was not reported. The reporting rule was used for all subsequent tables in the report unless otherwise stated.

Table 3 shows that there were significant differences among the respondents who had played any game in the demographic categories of Hispanic origin, gender, age and employment status. In terms of Hispanic origin, respondents who identify themselves as Hispanic had a higher participation rate of 41.7 percent compared to those who were not Hispanic (33.4 percent). With regard to gender, the participation rate was higher among male respondents (38.8 percent) compared to female respondents (31.6 percent). In terms of age, the participation rate was highest for respondents in the 45 to 54 age cohort (47.3 percent) while the participation rate was lowest for respondents in the 18 to 24 age cohort (21.3 percent). Lastly, respondents who were employed full/part time and retired had higher participation rates (41.5 percent and 30.3 percent, respectively) compared to those who were unemployed (17.5 percent).

The participation rates in the demographic categories of income and race were found not to be statistically significant.

Table 4. Participation and Dollars Spent by Lottery Sales District

Lottery Sales District	2016 Percent Playing Any Game	2015 Percent Playing Any Game	Percentage Change from 2015	2016 Average Amount Spent Per Month among Past-Year Players	2016 Median Amount Spent Per Month among Past-Year Players
Austin	36.0 (n=45)	35.4 (n=29)	0.6	$8.78	$13.00
Dallas North	29.6 (n=40)	27.2 (n=31)	2.4	10.00	16.50
Dallas South*	42.9 (n=33)	28.3 (n=28)	14.6	11.19	10.00
El Paso	43.2 (n=16)	47.1 (n=16)	-3.9	27.68	20.50
Fort Worth	45.7 (n=43)	43.2 (n=41)	2.5	41.71	20.00
Houston East**	45.9 (n=39)	27.7 (n=33)	18.2	18.41	20.00
Houston Northwest	27.0 (n=30)	25.2 (n=40)	1.8	6.81	7.50
Houston Southwest**	42.9 (n=45)	25.1 (n=52)	17.8	35.27	10.00
Lubbock	29.1 (n=32)	24.7 (n=21)	4.4	7.46	10.00
McAllen	42.3 (n=33)	43.5 (n=20)	-1.2	26.60	24.00
San Antonio	39.0 (n=57)	43.5 (n=47)	-4.5	12.43	8.00
Tyler	28.2 (n=40)	28.7 (n=29)	-0.5	7.79	10.00
Waco	31.7 (n=32)	32.6 (n=29)	-0.9	25.44	18.00

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

- Table 4 shows that, among the 13 lottery sales districts, Houston East had the highest participation rate (45.9 percent) in any Texas Lottery game in 2016. The lottery sales districts of Fort Worth and El Paso had the second- and third-highest participation rates of 45.7 percent and 43.2 percent, respectively. By contrast, the Houston Northwest sales district experienced the lowest participation rate of 27.0 percent in 2016. The Tyler and Lubbock lottery sales districts also recorded low participation rates of 28.2 percent and 29.1 percent, respectively.

- The differences in participation rates between 2015 and 2016 were statistically significant for the lottery sales districts of Dallas South, Houston East, and Houston Southwest. These three

lottery sales districts logged double-digit increases in participation rates in 2016: Houston East (18.2 percentage points), Houston Southwest (17.8 percentage points), and Dallas South (14.6 percentage points). Compared to 2015, the San Antonio and El Paso sales districts experienced the greatest declines in participation rates of 4.5 percentage points and 3.9 percentage points, respectively.

▪ The two lottery sales districts with the highest average monthly amounts spent per player in 2016 were Fort Worth ($41.71) and Houston Southwest ($35.27). In contrast, the lottery sales districts of Houston Northwest ($6.81) and Lubbock ($7.46) had the lowest average monthly amounts spent per player in 2016.

▪ The two lottery sales districts with the highest median monthly amounts spent per player were McAllen ($24.00) and El Paso ($20.50). Two lottery sales districts had single-digit median monthly amounts spent per player for 2016: Houston Northwest ($7.50) and San Antonio ($8.00).

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

Texas Lottery Game/Feature	2016 Number and Percent Playing the Game (n=589)	2015 Number and Percent Playing the Game (n=568)	Change in Percentage from 2015
Lotto Texas	360 (61.1%)	177 (31.2%)	29.9%
Mega Millions	355 (60.3%)	165 (29.0%)	31.3%
Powerball	333 (56.5%)	114 (20.1%)	36.4%
Texas Lottery Scratch Games	254 (43.1%)	236 (41.5%)	1.6%
Pick 3 Day	117 (19.9%)	28 (4.9%)	15.0%
Megaplier Feature with Mega Millions	99 (16.8%)	56 (9.9%)	6.9%
Cash Five	93 (15.8%)	22 (3.9%)	11.9%
Power Play Feature with Powerball	65 (11.0%)	28 (4.9%)	6.1%
Texas Two Step	59 (10.0%)	22 (3.9%)	6.1%
Extra! Feature with Lotto Texas	49 (8.3%)	30 (5.3%)	3.0%
All or Nothing	22 (3.7%)	9 (1.6%)	2.1%
Sum It Up Feature with Pick 3 Day	16 (2.7%)	9 (1.6%)	1.1%
Daily 4 Day	9 (1.5%)	7 (1.2%)	0.3%
Pick 3 Night	8 (1.4%)	17 (3.0%)	-1.6%
Sum It Up Feature with Pick 3 Night	5 (0.9%)	9 (1.6%)	-0.7%
Daily 4 Night	4 (0.7%)	4 (0.7%)	0.0%
Sum It Up Feature with Daily 4 Day	3 (0.5%)	2 (0.4%)	0.1%
Sum It Up Feature with Daily 4 Night	2 (0.3%)	1 (0.2%)	0.1%

Note: Games are shown in decreasing order of popularity based on 2016 percentages.

In contrast to 2015, Lotto Texas was the most popular Texas Lottery game in 2016: 61.1 percent of past-year lottery players had played this game, as shown in Table 5. The second-most popular choice among lottery players was Mega Millions, at 60.3 percent. Powerball was popular as well and more than half of past-year lottery players played this game (56.5 percent). A total of five games had a double-digit increase in their respective participation rate from 2015 to 2016. Powerball had the biggest participation rate increase from 2015 to 2016 (an increase of 36.4 percentage points), followed by Mega Millions and Lotto Texas (an increase of 31.3 percentage points and 29.9 percentage points, respectively).[11]

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 seven games/add-on features with a participation rate of 15 percent or higher in 2016: Lotto Texas, Mega Millions, Powerball, Texas Lottery scratch games, Pick 3 Day, Megaplier feature with Mega Millions and Cash Five.

Less detailed statistical analyses were provided for the mid-range games/add-on features of participation rates below 15 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.

The format of the individual game table "Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics" changed in the 2016 report. Consistent with the table format in the reports of 2014 and earlier years, this year's table presented the "Percentage Played Game Among Past-Year Players" (which compared the proportions played and not played) instead of the "Number and Percent Playing the Game" in the table of the 2015 survey due to the change in the survey instrument last year.

With regard to the demographic factor of education, due to an error in the data collection, instead of all respondents, only those respondents who indicated that they were enrolled in school as full-time or part-time student were asked the question on education level in the 2016 survey. Because of the small numbers of respondents in this demographic category, we only reported the descriptive statistics in the tables but no statistical tests were conducted on them. We have included footnotes in all the relevant tables to remind the readers about this discrepancy in the data.

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[11] The much higher participation rates for some of the individual games this year relative to last year could be attributed to the filtering out of non-players for the individual game questions in the 2015 survey instrument. The filter question was not used in the 2016 survey instrument. As a result, the participation rates of the individual games in this year's report were more consistent with the participation rates in the 2014 report as well as reports from earlier years.

2. Lotto Texas Results

Figure 2. Percentage of Past-Year Players Playing Lotto Texas
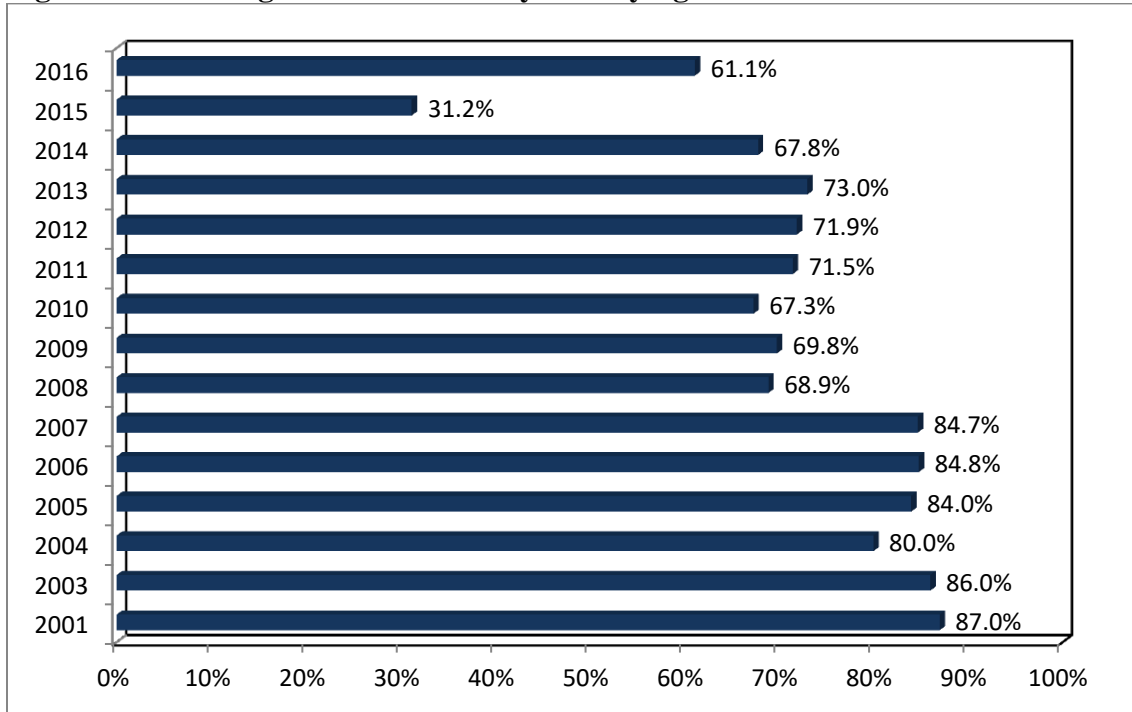
Sources: HSPA/HCPP 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015 and 2016 survey data and additional survey reports 2001-2006.

Figure 2 shows that 61.1 percent of past-year players bought Lotto Teas tickets in 2016. The participation rate was 29.9 percentage points higher than in 2015 (31.2 percent).[12]

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[12] Note that the large difference in the participation rates between 2015 and 2016 could be partly due to the filtering out of non-players for the individual game questions in the 2015 survey instrument.
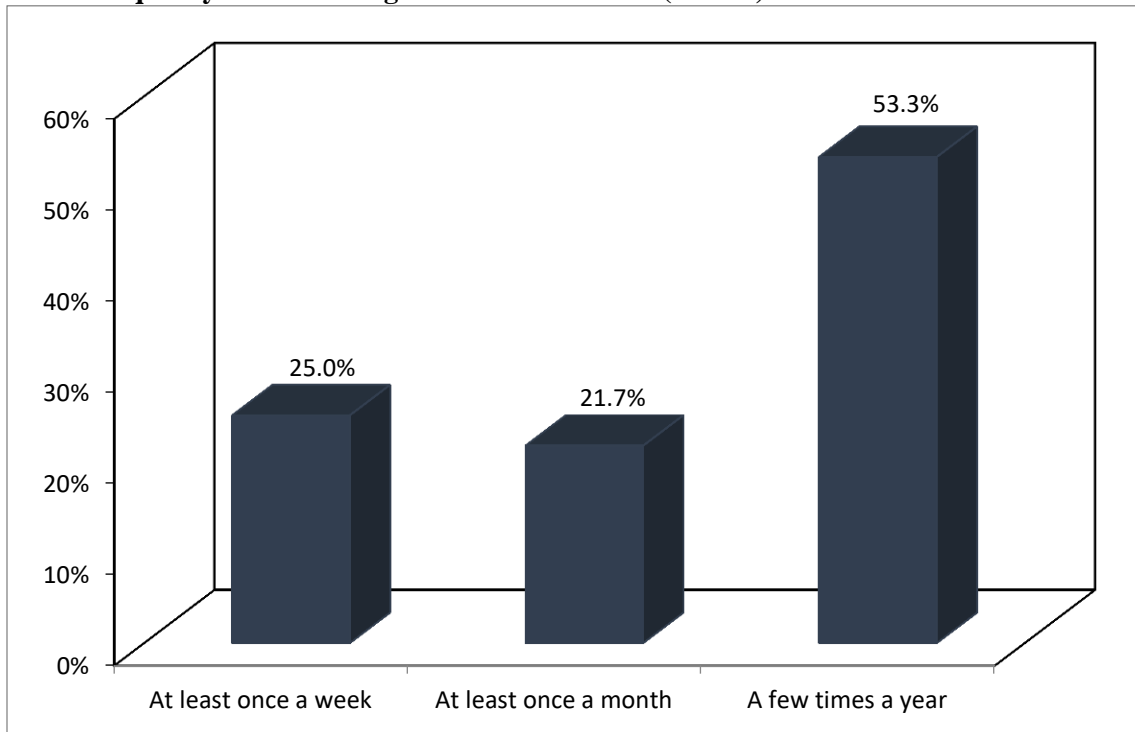
Figure 3. Frequency of Purchasing Lotto Texas Tickets (n=360)

Figure 3 shows that 25.0 percent of the respondents that purchased Lotto Texas tickets purchased them at least once a week, while 21.7 percent bought the tickets at least once a month. And 53.3 percent of the respondents reported having purchased Lotto Texas tickets a few times a year. The monthly and yearly frequencies of purchasing were higher than those reported in 2015 (19.2 percent, and 39.6 percent, respectively).

Table 6. Average Number of Times Played Lotto Texas

Played Lotto Texas	Average Number of Times Played	
	2016	**2015**
Per week for weekly past-year players	1.57	1.51
Per month for monthly past-year players[13]	3.90	3.64
Per year for yearly past-year players[14]	22.09	27.79

As shown in Table 6, weekly players of Lotto Texas bought the game 1.57 times per week. Monthly players did so 3.90 times per month on average. Yearly players bought the game 22.09 times per year on average. Yearly players of Lotto Texas reported playing nearly six (5.7) times less frequently this year compared to last year.

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[13] The average number of times played per month excludes the respondents who reported having played more than 30 times a month. If those respondent are included, the average number of times played is 4.37 times per month.

[14] The average number of times played per year excludes the respondents who reported having played more than 300 times a year. If those respondents are included, the average number of times played is 23.24 times per year.

Note that weekly, monthly, and yearly rates are distinct from each other. These responses were recorded as follows: respondents who reported playing weekly were not asked if they played monthly or yearly and respondents who reported playing monthly were not asked if they played weekly or yearly. Finally, respondents who reported playing yearly were not asked if they played weekly or monthly.[15]

Table 7. Dollars Spent on Lotto Texas

Lotto Texas	Dollars Spent	
	2016	**2015**
Average spent per play	$8.59	$6.52
Average spent per month (mean)	16.60	21.82
Average spent per month (median)	5.00	10.00

As presented in Table 7, Lotto Texas players spent an average of $8.59 per play, which was $2.07 more than in 2015. Those who reported playing the game on a monthly or more frequent basis spent an average of $16.60 per month. Half of the respondents were likely to spend $5.00 or more a month on playing Lotto Texas.

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[15] We follow this coding method for each game/feature regarding average time played.

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

Lotto Texas	Percentage Played Game Among Past Year Players	Median Dollars Spent
Year*		
2016 (N = 589)	61.1 (n=360)	$5.00
2015 (N = 568)	31.2 (n=177)	5.00
2016 Demographics		
Education[1]		
Less than high school diploma	--	--
High school diploma (n=8)	62.5 (n=5)	5.00
Some college (n=9)	55.6 (n=5)	5.00
College degree (n=10)	40.0 (n=4)	22.50
Graduate degree	--	--
Income		
Less than $12,000 (n=16)	62.5 (n=10)	10.00
$12,000 to $19,999 (n=20)	75.0 (n=15)	10.00
$20,000 to $29,999 (n=26)	57.7 (n=15)	10.00
$30,000 to $39,999 (n=23)	78.3 (n=18)	7.00
$40,000 to $49,999 (n=29)	69.0 (n=20)	8.00
$50,000 to $50,999 (n=28)	64.3 (n=18)	4.50
$60,000 to $74,999 (n=42)	59.5 (n=25)	5.00
$75,000 to $100,000 (n=53)	49.1 (n=26)	5.00
More than $100,000 (n=91)	71.4 (n=65)	5.00
Race		
White (n=355)	65.1 (n=231)	5.00
African American (n=71)	60.6 (n=43)	5.00
Hispanic (n=75)	68.0 (n=51)	8.00
Asian	--	--
Native American Indian	--	--
Other (n=11)	81.8 (n=9)	1.00
Hispanic Origin		
Yes (n=86)	68.6 (n=59)	8.00
No (n=435)	65.1 (n=283)	5.00
Gender		
Female (n=269)	65.8 (n=177)	5.00
Male (n=278)	65.1 (n=181)	5.00

Note: Percentages are within category; overall N's are the numbers of past-year players for all games; overall n's are the numbers of all respondents in the category.

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

Age**		
18 to 24 (n=11)	54.6 (n=6)	--
25 to 34 (n=47)	40.4 (n=19)	15.00
35 to 44 (n=52)	55.8 (n=29)	3.00
45 to 54 (n=67)	71.6 (n=48)	5.00
55 to 64 (n=109)	67.0 (n=73)	5.00
65 or older (n=156)	69.9 (n=109)	5.00
Employment Status		
Employed full/part time (n=289)	65.4 (n=189)	5.00
Unemployed	--	--
Retired (n=207)	68.6 (n=142)	5.00

Note: ** $p < 0.01$, *** $p < 0.001$, two-tailed test.

[1] Only those respondents who indicated that they were enrolled in school as full-time or part-time student were asked the question on education in the 2016 survey. We report the percentage played and median dollar spent by education in the table. However, it should be cautioned that the number of responses in many sub-categories was too small (five or fewer) to provide statistically meaningful information.

Table 8 shows an increase of 29.9 percentage points in the participation rate for Lotto Texas between 2016 (61.1 percent) and 2015 (31.2 percent). The difference in the percentage of respondents playing Lotto Texas between 2015 and 2016 was statistically significant.

- There was a statistically significant difference between the Lotto Texas past-year players and non-players by age. Participation rates for the Lotto Texas game were high among players across many age groups. It was highest for the age group of 45 to 54 (at 71.6 percent). Similarly, the participation rates were also high for the age groups of 55 to 64, and for those that were 65 and older (67.0 percent and 69.9 percent, respectively). The 25 to 34 age cohort had the highest median dollars spent of $15.00 on playing Lotto Texas in 2016.

- The present survey did not find any statistically significant differences between past-year players who played Lotto Texas in 2016 and those who did not for the demographic factors of income, race, Hispanic origin, gender, and employment status.

- Participation rates for the Lotto Texas game were similar among men and women (65.1 percent and 65.8 percent, respectively). Likewise, there were no notable differences in the participation rates for the Lotto Texas game between those of Hispanic origin (68.6 percent) and non-Hispanic origin (65.1 percent), and between those that were employed full/part time and retired (65.4 percent and 68.6 percent, respectively).
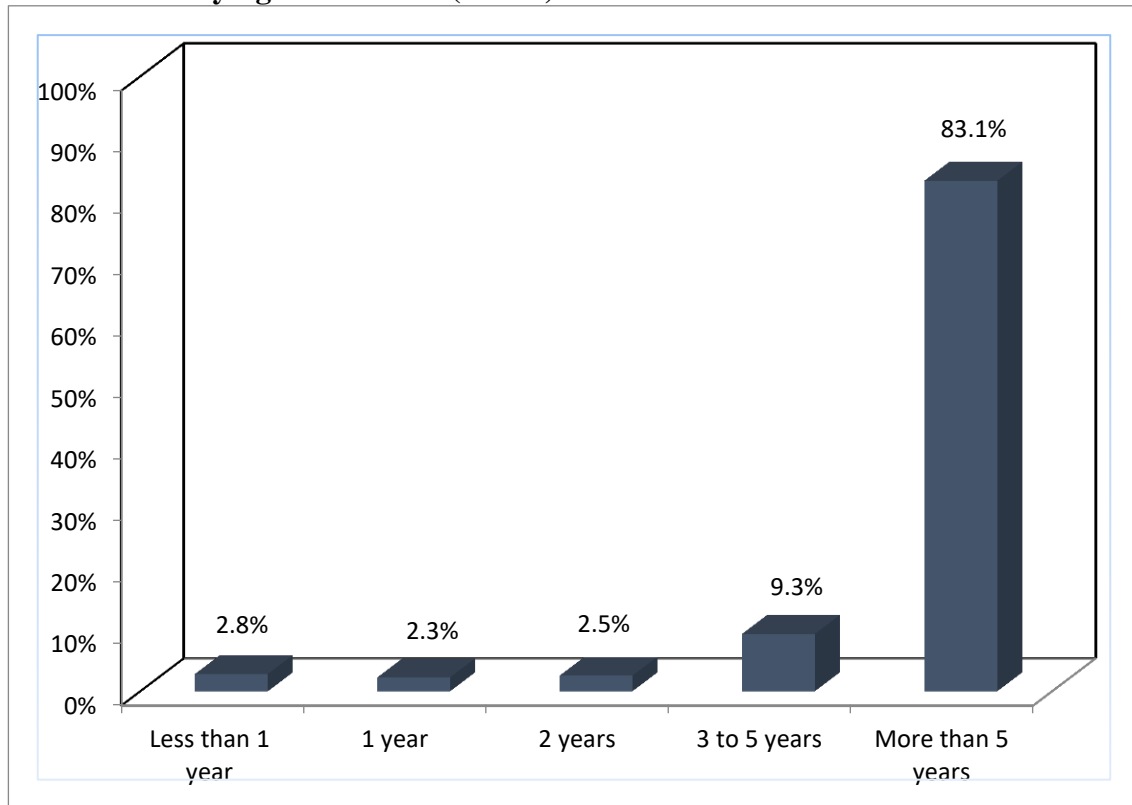
Figure 4. Years Playing Lotto Texas (n=354)

Figure 4 shows that 83.1 percent of the respondents who played Lotto Texas in the past year reported playing it for more than five years. This rate was 6.7 percentage points higher than in 2015. Nine percent (9.3) of the respondents reported having played Lotto Texas for three to five years. The corresponding figure was 9.8 percent in 2015.

3. Mega Millions Results

**Figure 5. Percentage of Past-Year Players Playing Mega Millions**
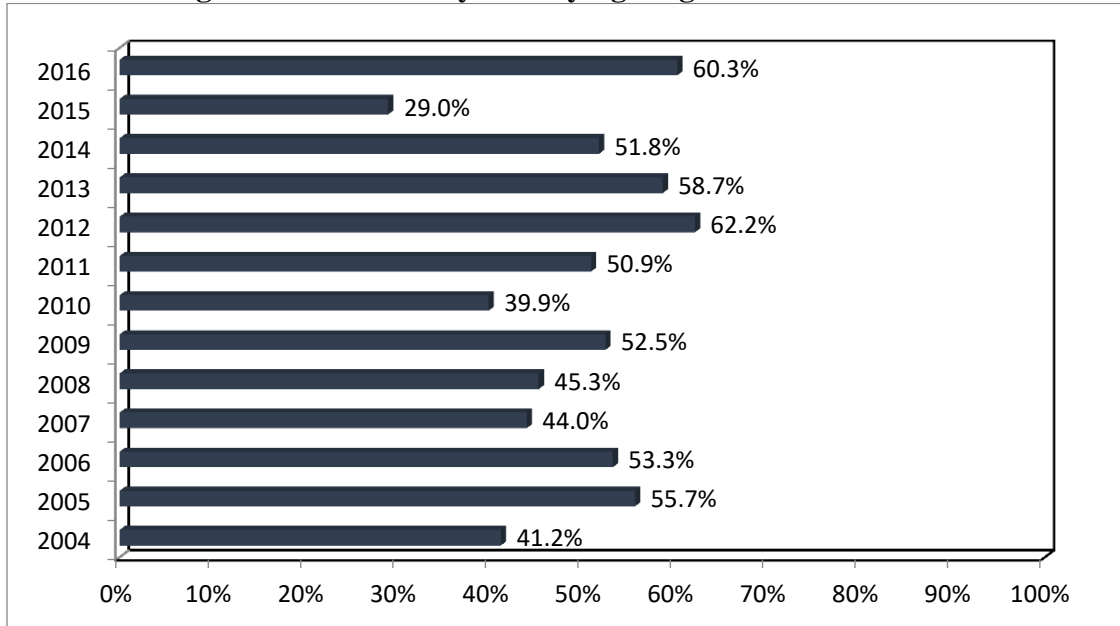
Sources: HSPA/HCPP 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015 and 2016 survey data and additional survey reports 2004-2006.

Figure 5 shows that 60.3 percent of the past-year players played Mega Millions in 2016, an increase of 31.3 percentage points compared to the participation rate in 2015.[16,17]

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[16] Note that the large difference in the participation rates between 2015 and 2016 could be partly due to the filtering out of non-players for the individual game questions in the 2015 survey instrument.

[17] The 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 6. Frequency of Purchasing Mega Millions Tickets (n=355)
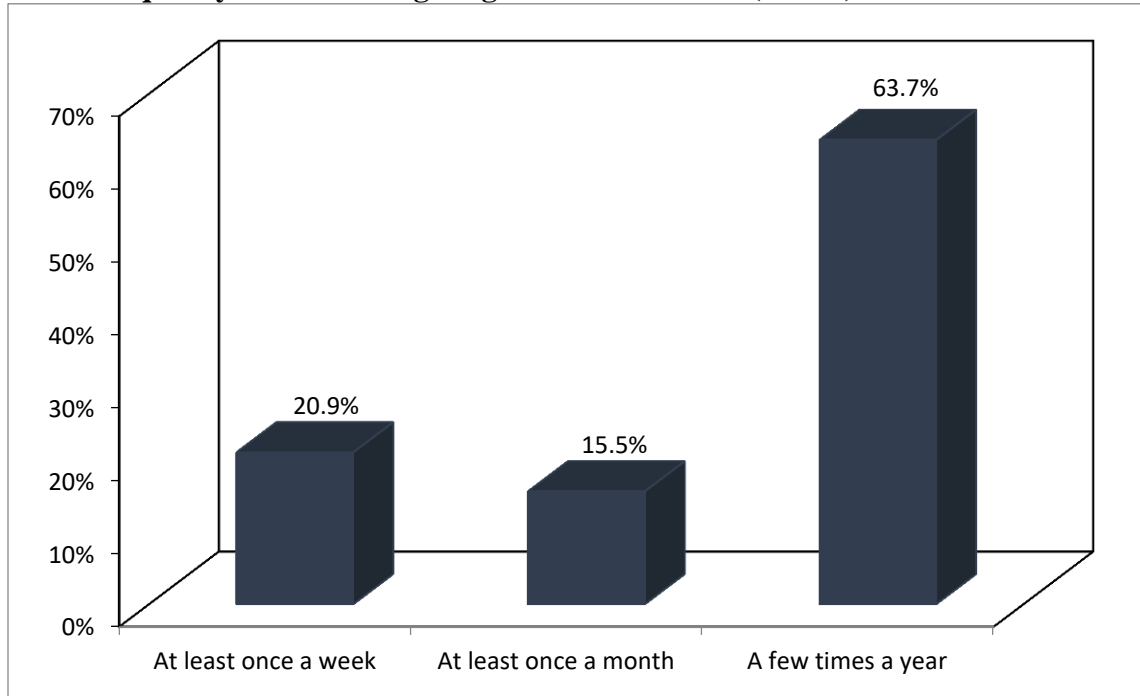
As shown in Figure 6, 63.7 percent of survey respondents reported buying Mega Millions tickets a few times a year, an increase of 24.3 percentage points from 2015. Twenty-one percent (20.9) of survey respondents reported they purchased Mega Millions tickets at least once a week, and 15.5 percent did so at least once a month. The weekly and monthly frequencies of purchasing were lower than those reported in 2015 (32.1 percent and 28.5 percent, respectively).

Table 9. Average Number of Times Played Mega Millions

Played Mega Millions	Average Number of Times Played	
	2016	**2015**
Per week for weekly past-year players [18]	1.61	1.32
Per month for monthly past-year players [19]	3.67	3.62
Per year for yearly past-year players	19.57	21.78

Table 9 shows that the weekly players of Mega Millions played the game an average number of 1.61 times per week. Monthly players did so 3.67 times per month on average, and yearly players averaged 19.57 times per year.

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[18] The average number of times played per week excludes a respondent who reported having played more than 7 times a week. If the respondent is included, the average number of times played is 1.76 times per week.

[19] The average number of times played per month excludes a single respondent who reported having played more than 30 times a month. If the respondent is included, the average number of times played is 3.94 times per month.

Table 10. Dollars Spent on Mega Millions

Mega Millions	Dollars Spent	
	2016	**2015**
Average spent per play	$7.17	$8.55
Average spent per month (mean)	10.53	16.67
Average spent per month (median)	5.00	8.00

Table 10 shows that Mega Millions players spent an average of $7.17 per play in 2016, which was $1.38 lower than the average spent per play in 2015 ($8.55). Those who reported playing the game on a monthly or more frequent basis spent an average of $10.53, which was $6.14 lower than in 2015. Half of the respondents spent $5.00 or more a month on purchasing Mega Millions tickets in 2016.

Table 11. Mega Millions: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics

Mega Millions	Percentage Played Game Among Past Year Players	Median Dollars Spent
Year***		
2016 (N = 589)	60.3 (n=355)	$4.00
2015 (N = 568)	29.0 (n=165)	6.00
2016 Demographics		
Education[1]		
Less than high school diploma	--	--
High school diploma (n=9)	33.3 (n=3)	20.00
Some college (n=9)	33.3 (n=3)	--
College degree (n=10)	70.0 (n=7)	--
Graduate degree (n=1)	100.0 (n=1)	10.00
Income		
Less than $12,000 (n=18)	66.7 (n=12)	4.50
$12,000 to $19,999 (n=20)	40.0 (n=8)	--
$20,000 to $29,999 (n=26)	61.5 (n=16)	3.00
$30,000 to $39,999 (n=26)	69.2 (n=18)	5.00
$40,000 to $49,999 (n=27)	48.2 (n=13)	2.00
$50,000 to $59,999 (n=29)	79.3 (n=23)	1.00
$60,000 to $74,999 (n=42)	69.1 (n=29)	2.00
$75,000 to $100,000 (n=52)	51.9 (n=27)	5.00
More than $100,000 (n=87)	65.5 (n=57)	5.00
Race		
White (n=349)	64.5 (n=225)	3.00
African American (n=70)	64.3 (n=45)	4.00
Hispanic (n=74)	60.8 (n=45)	8.00
Asian	--	--
Native American Indian	--	--
Other (n=10)	70.0 (n=7)	4.00
Hispanic Origin		
Yes (n=85)	61.2 (n=52)	10.00
No (n=430)	65.1 (n=280)	3.00
Gender		
Female (n=264)	60.6 (n=160)	4.00
Male (n=277)	68.6 (n=190)	4.00

Note: Percentages are within category; overall N's are the numbers of past-year players for all games; overall n's are the numbers of all respondents in the category.

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

Age**		
18 to 24	--	--
25 to 34 (n=48)	45.8 (n=22)	3.00
35 to 44 (n=52)	67.3 (n=35)	5.00
45 to 54 (n=67)	65.7 (n=44)	5.00
55 to 64 (n=104)	62.5 (n=65)	2.00
65 or older (n=156)	69.2 (n=108)	5.00
Employment Status		
Employed full/part time (n=291)	63.9 (n=186)	4.00
Unemployed (n=11)	72.7 (n=8)	--
Retired (n=202)	65.8 (n=133)	4.00

Note: ** $p < 0.01$, *** $p < 0.001$, two-tailed test.
[1] Only those respondents who indicated that they were enrolled in school as full-time or part-time students were asked the question on education in the 2016 survey. We report the percentage played and median dollar spent by education in the table. However, readers are cautioned that the number of responses in many sub-categories was too small (five or fewer) to provide statistically meaningful information.

As shown in Table 11, there was an increase of 31.3 percentage points in the participation rate for Mega Millions between 2016 (60.3 percent) and 2015 (29.0 percent). The difference in the percentage of respondents playing Mega Millions between 2015 and 2016 was statistically significant.

▪ The difference between the Mega Millions past-year players and non-players was statistically significant by age. Participation rates for the Mega Millions game were high among players for most age groups. Those of the age group of 65 and older had the highest participation rate of 69.2 percent. On the other hand, the younger age cohort of 25 to 34 had the lowest participation rate of 45.8 percent in 2016.

▪ There were no statistically significant differences between past-year players who played Mega Millions in 2016 and those who did not for the demographic factors of income, race, Hispanic origin, gender, and employment status..

▪ The participation rate for the Mega Millions game was higher for men than women in 2016 (68.6 percent and 60.6 percent, respectively). Among the race groups, the participation rates among White, African American, and Hispanic respondents were 64.5 percent, 64.3 percent and 60.8 percent, respectively.

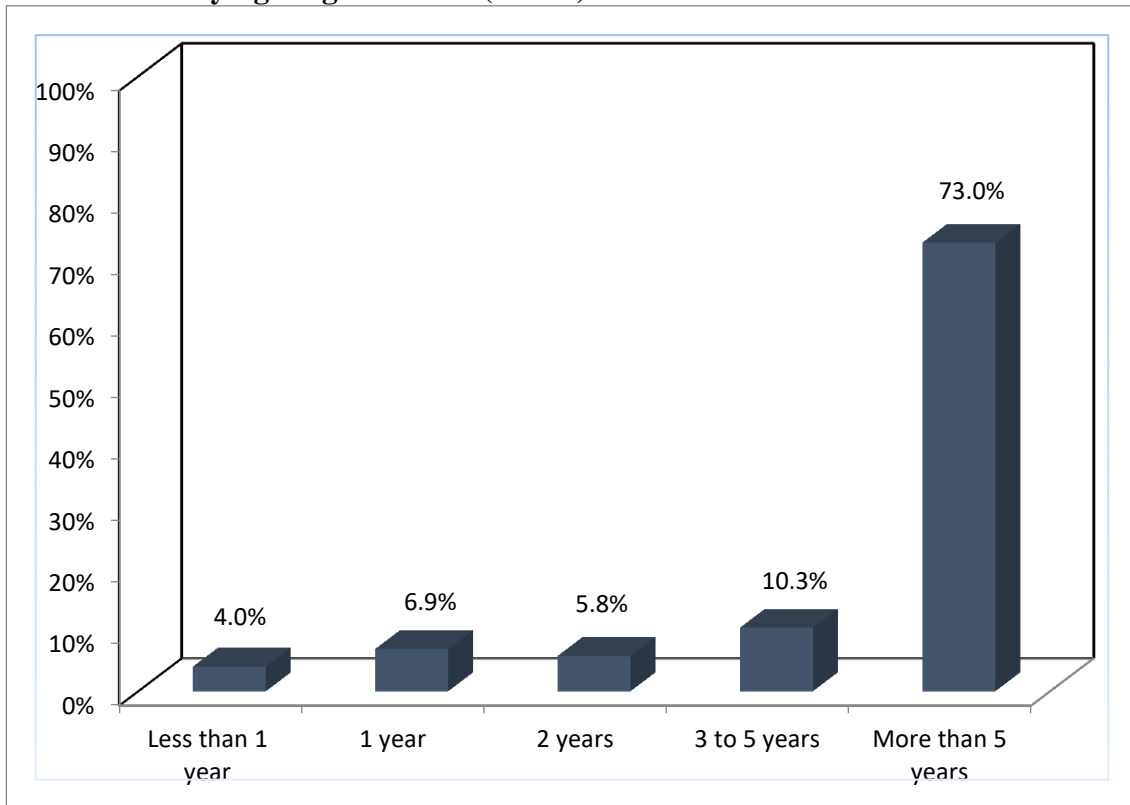**Figure 7. Years Playing Mega Millions (n=348)**

Figure 7 shows that 73.0 percent of the respondents reported that they had been playing Mega Millions for more than five years. Ten percent (10.3) of the respondents reported having played Mega Millions for three to five years. Another 10.9 percent of the respondents had played the game for one year or less.

4. Powerball Results

Figure 8. Percentage of Past-Year Players Playing Powerball
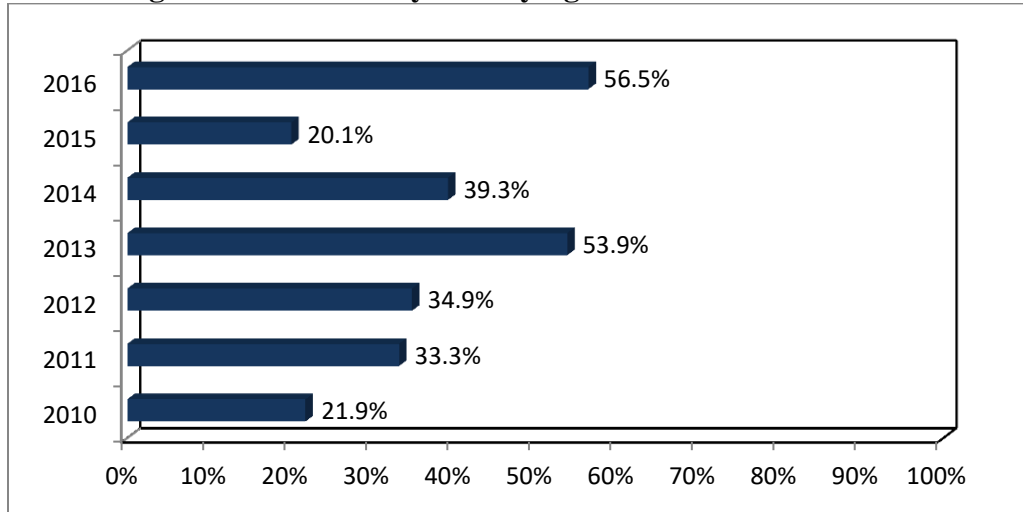
Sources: HSPA/HCPP 2010, 2011, 2012, 2013, 2014, 2015 and 2016 survey data.

Figure 8 indicates that more than half (56.5 percent) of the past-year lottery players reported that they played the Powerball game. The 2016 participation rate was 36.4 percentage points higher than the one recorded in 2015 (20.1 percent).[20]

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[20] Note that the large difference in the participation rates between 2015 and 2016 could be partly due to the filtering out of non-players for the individual game questions in the 2015 survey instrument.
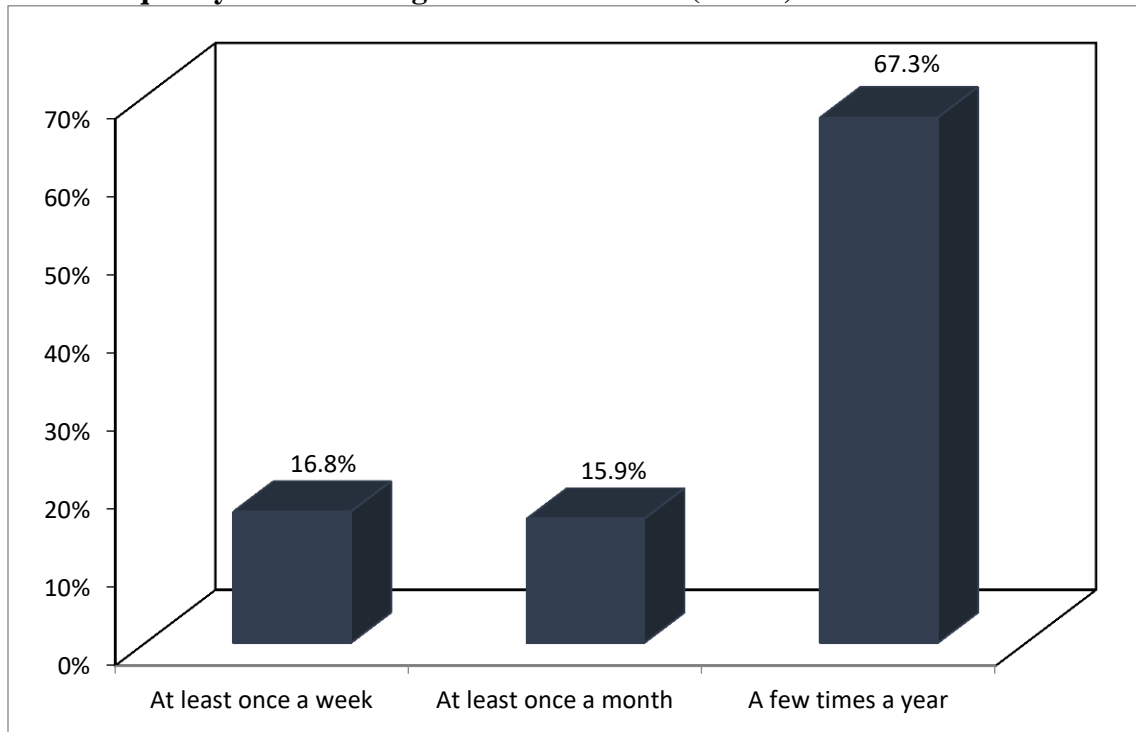
Figure 9. Frequency of Purchasing Powerball Tickets (n=333)

Figure 9 shows that 16.8 percent of the respondents who purchased Powerball tickets purchased them at least once a week. Another 15.9 percent purchased the tickets at least once a month. About two-thirds (67.3) of the remaining respondents reported having bought Powerball tickets a few times a year, an increase of 20.8 percentage points from 2015 (46.5 percent).

Table 12. Average Number of Times Played Powerball

Played Powerball	Average Number of Times Played	
	2016	**2015**
Per week for weekly past-year players[21]	1.50	1.23
Per month for monthly past-year players[22]	3.76	3.05
Per year for yearly past-year players	18.07	23.79

As shown in Table 12, weekly players of Powerball played the game an average number of 1.5 times per week. Monthly players did so 3.76 times per month on average. Yearly players bought the tickets 18.07 times per year on average, which was 5.72 times lower than the corresponding value for 2015.

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[21] The average number of times played per week excludes a respondent who reported having played more than 7 times a week. If the respondent is included, the average number of times played is 1.60 times per week.

[22] The average number of times played per month excludes a respondent who reported having played more than 30 times a month. If the respondent is included, the average number of times played is 4.37 times per month.

Table 13. Dollars Spent on Powerball

Powerball	Dollars Spent	
	2016	**2015**
Average spent per play	$7.95	$7.57
Average spent per month (mean)	11.29	19.73
Average spent per month (median)	5.00	9.00

Table 13 shows that Powerball players spent an average of $7.95 per play in 2016. Those who reported playing the game on a monthly or more frequent basis spent an average of $11.29 per month, which was $8.44 less than in 2015. Half of the respondents were likely to spend $5.00 or more a month on Powerball, which was lower than the median value in 2015 ($9.00).

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

Powerball	Percentage Played Game Among Past Year Players	Median Dollars Spent
Year***		
2016 (N = 589)	56.5 (n=333)	$4.00
2015 (N = 568)	20.1 (n=114)	$5.00
2016 Demographics		
Education[1]		
Less than high school diploma	--	--
High school diploma (n=8)	62.5 (n=5)	5.00
Some college (n=9)	33.3 (n=3)	8.00
College degree (n=10)	20.0 (n=2)	10.00
Graduate degree (n=1)	100.0 (n=1)	10.00
Income		
Less than $12,000 (n=16)	56.3 (n=9)	10.00
$12,000 to $19,999 (n=19)	63.2 (n=12)	5.00
$20,000 to $29,999 (n=26)	50.0 (n=13)	--
$30,000 to $39,999 (n=22)	68.2 (n=15)	2.00
$40,000 to $49,999 (n=27)	55.6 (n=15)	6.00
$50,000 to $50,999 (n=28)	64.3 (n=18)	2.00
$60,000 to $74,999 (n=41)	68.3 (n=28)	3.00
$75,000 to $100,000 (n=51)	56.9 (n=29)	8.00
More than $100,000 (n=85)	64.7 (n=55)	4.00
Race		
White (n=343)	61.5 (n=211)	2.00
African American (n=69)	60.9 (n=42)	4.00
Hispanic (n=70)	60.0 (n=42)	8.00
Asian	--	--
Native American Indian (n=6)	100.0 (n=6)	12.50
Other (n=9)	77.8 (n=7)	2.00
Hispanic Origin		
Yes (n=81)	60.5 (n=49)	6.00
No (n=421)	62.7 (n=264)	3.00
Gender**		
Female (n=258)	56.6 (n=146)	3.00
Male (n=268)	68.3 (n=183)	4.00

Note: Percentages are within category; overall N's are the numbers of past-year players for all games; overall n's are the numbers of all respondents in the category.

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

Age		
18 to 24	--	--
25 to 34 (n=47)	68.1 (n=32)	5.00
35 to 44 (n=49)	63.3 (n=31)	4.00
45 to 54 (n=65)	64.6 (n=42)	5.00
55 to 64 (n=102)	62.8 (n=64)	2.00
65 or older (n=153)	57.5 (n=88)	3.00
Employment Status		
Employed full/part time (n=283)	65.4 (n=185)	5.00
Unemployed (n=11)	72.7 (n=8)	--
Retired (n=196)	60.2 (n=118)	2.00

Note: ** p <0.01, *** p < 0.001, two-tailed test.

[1] Only those respondents who indicated that they were enrolled in school as full-time or part-time student were asked the question on education in the 2016 survey. We report the percentage played and median dollar spent by education in the table. However, readers are cautioned that the number of responses in many sub-categories was too small (five or fewer) to provide statistically meaningful information.

Table 14 shows an increase of 36.4 percentage points in the participation rate for Powerball between 2016 (56.5 percent) and 2015 (20.1 percent). The difference in the percentage of respondents playing Powerball between 2015 and 2016 was statistically significant.

▪ There was a statistically significant difference between the Powerball past-year players and non-players by gender. The participation rate for the Powerball game was higher for men than women (68.3 percent and 56.6 percent, respectively). Male and female past-year players of the Powerball game had median dollars spent per month of $4.00 and $3.00, respectively, in 2016.

▪ The present survey did not find any statistically significant differences between past-year players who played Powerball in 2016 and those who did not for the demographic factors of income, race, Hispanic origin, age, and employment status..

▪ Participation rates for the Powerball game were slightly different between those of Hispanic origin (60.5 percent) and non-Hispanic origin (62.7 percent), and between those who were employed full/part time and retired (65.4 percent and 60.2 percent, respectively). Participation rates for the Powerball game were high (above 50 percent) among respondents of all income groups in 2016.
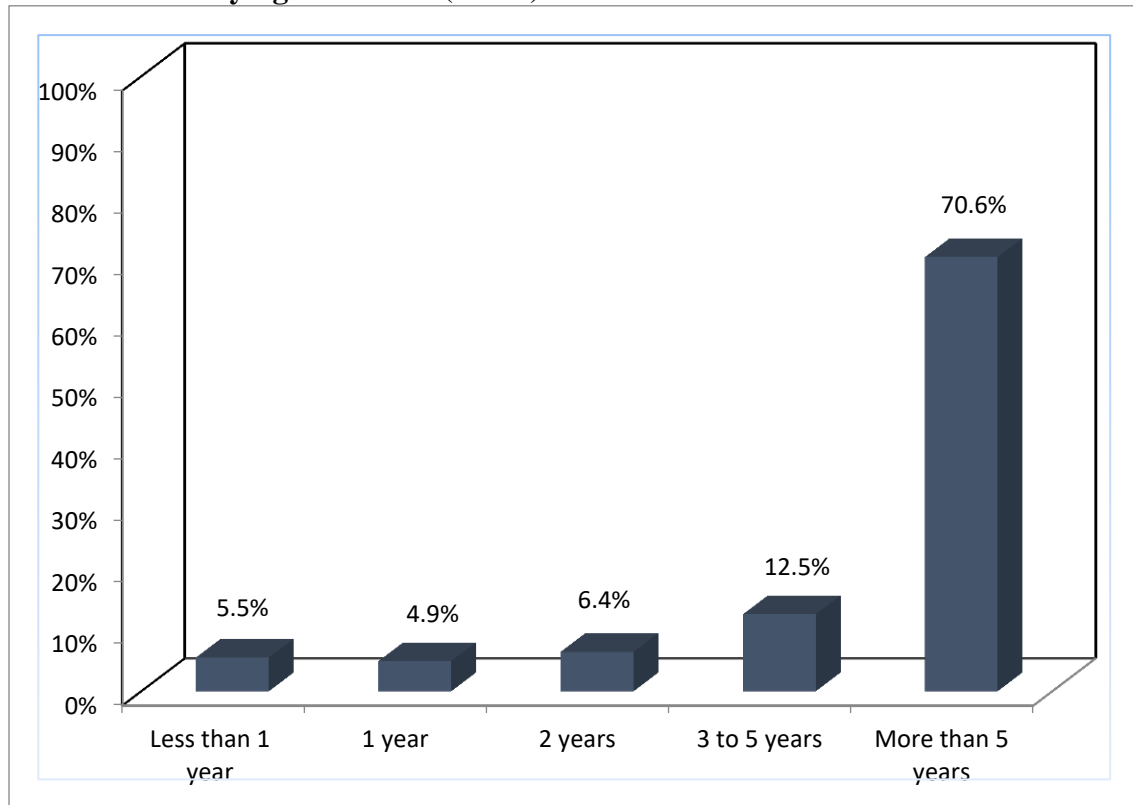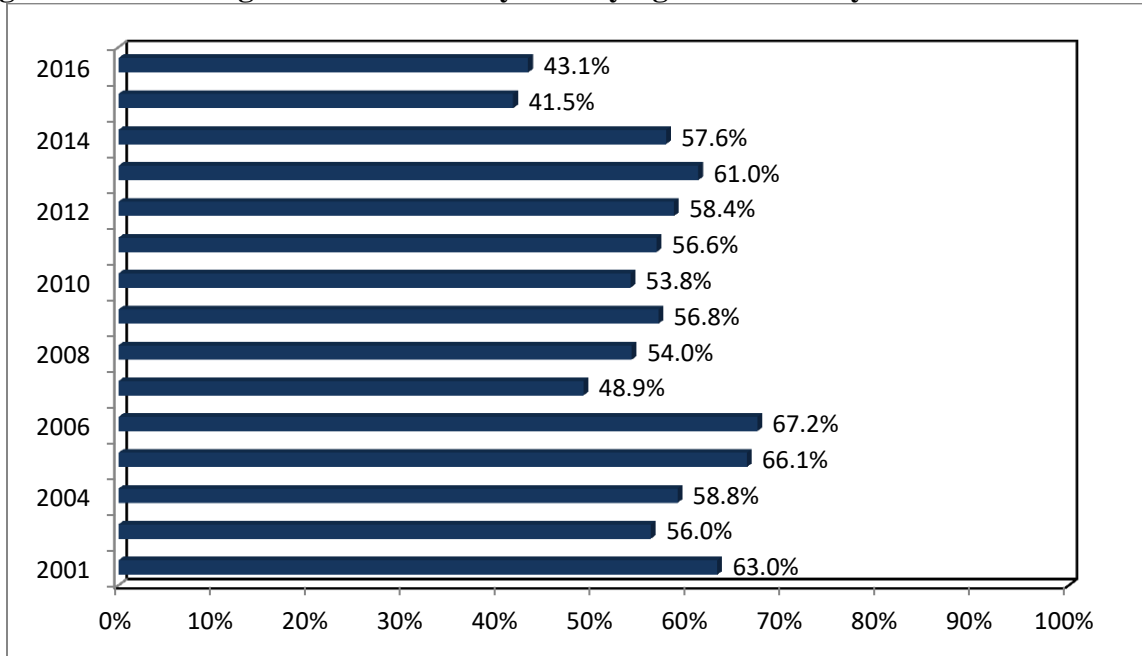
Figure 10. Years Playing Powerball (n=327)

Figure 10 illustrates that 70.6 percent of the respondents indicated that they had played Powerball for more than five years, a slight increase of 1.8 percentage points compared to the previous year. A total of 12.5 percent of the respondents reported having played Powerball for three to five years, which was 2.2 percentage points lower than in 2015.

5. Texas Lottery Scratch Games Results

Figure 11. Percentage of Past-Year Players Playing Texas Lottery Scratch Games

2016	43.1%
	41.5%
2014	57.6%
	61.0%
2012	58.4%
	56.6%
2010	53.8%
	56.8%
2008	54.0%
	48.9%
2006	67.2%
	66.1%
2004	58.8%
	56.0%
2001	63.0%

Sources: HSPA/HCPP 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015 and 2016 survey data and additional survey reports 2001-2006.

As shown in Figure 11, 43.1 percent of the past-year players bought Texas Lottery scratch tickets in 2016. The participation rate was slightly higher than the 41.5 percent of last year.

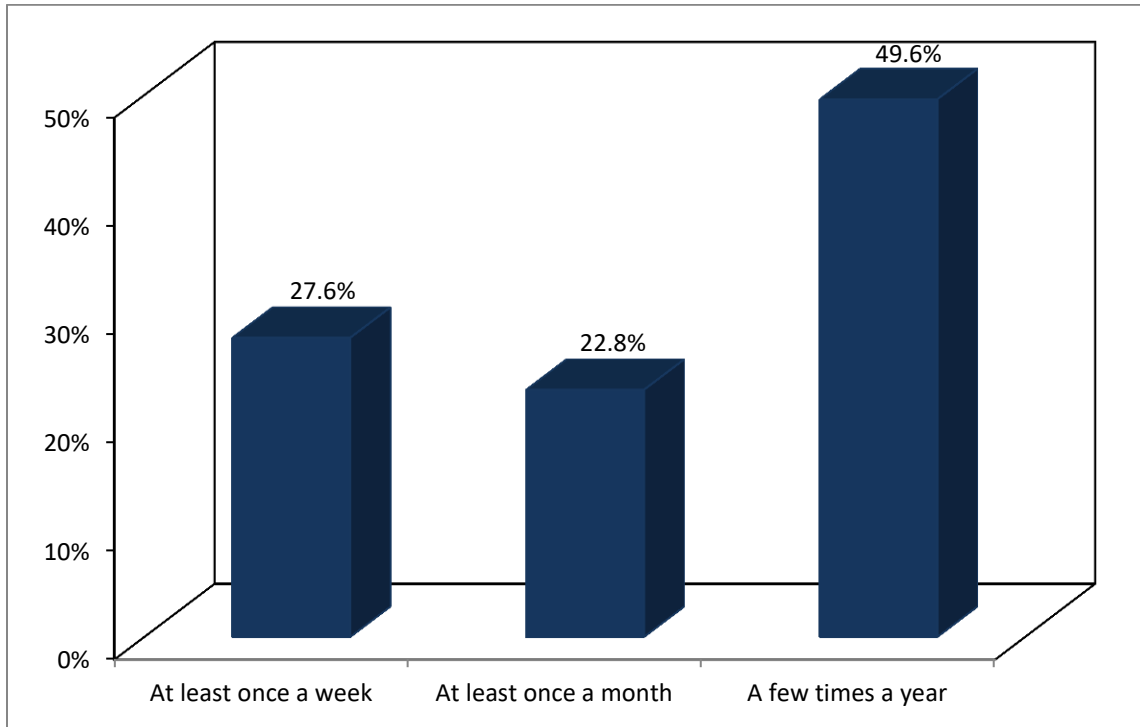**Figure 12. Frequency of Purchasing Texas Lottery Scratch Tickets (n=254)**

Figure 12 shows that 27.6 percent of respondents purchased Texas Lottery scratch tickets at least once a week. Another 22.8 percent purchased the tickets at least once a month and half (49.6 percent) reported purchasing tickets a few times a year.

Table 15. Average Number of Times Played Texas Lottery Scratch Games

Played Texas Lottery Scratch Games	Average Number of Times Played	
	2016	2015
Per week for weekly past-year players[23]	2.00	1.56
Per month for monthly past-year players[24]	5.57	7.19
Per year for yearly past-year players[25]	28.15	23.57

Table 15 shows that the weekly past-year players of the Texas Lottery scratch games played an average number of 2.00 times per week in 2016. Monthly players played an average number of 5.57 times per month. The yearly players played an average number of 28.15 times per year.

Table 16. Dollars Spent on Texas Lottery Scratch Tickets

Texas Lottery Scratch Tickets	Dollars Spent	
	2016	2015
Average spent per play	$10.85	$11.66
Average spent per month (mean)	33.03	29.79
Average spent per month (median)	8.00	18.00

Texas Lottery scratch game players spent an average of $10.85 per play in 2016 as compared to the $11.66 reported in 2015 (Table 16). Those who played on a monthly or more frequent basis spent an average of $3.24 more than in the previous year. Half of the respondents spent $8.00 or more per month on the game in 2016.

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[23] The average number of times played per week excludes a respondent who reported having played more than 7 times a week. If the respondent is included, the average number of times played is 2.17 times per week.

[24] The average number of times played per month excludes a respondent who reported having played more than 30 times a month. If the respondent is included, the average number of times played is 6.11 times per month.

[25] The average number of times played per year excludes respondents who reported having played 300 times or more a year. If those respondents are included, the average number of times played is 37.67 times per year.

Table 17. Texas Lottery Scratch Games: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics

Texas Lottery Scratch Games	Percentage Played Game Among Past Year Players	Median Dollars Spent
Year		
2016 (N = 589)	43.1 (n=254)	$5.00
2015 (N = 568)	41.5 (n=236)	10.00
2016 Demographics		
Education[1]		
Less than high school diploma	--	--
High school diploma (n=9)	66.7 (n=6)	5.00
Some college (n=10)	50.0 (n=5)	10.00
College degree (n=10)	40.0 (n=4)	2.50
Graduate degree	--	--
Income		
Less than $12,000 (n=15)	60.0 (n=9)	20.00
$12,000 to $19,999 (n=21)	52.4 (n=11)	5.00
$20,000 to $29,999 (n=25)	44.0 (n=11)	3.00
$30,000 to $39,999 (n=25)	60.0 (n=15)	10.00
$40,000 to $49,999 (n=29)	31.0 (n=9)	5.00
$50,000 to $59,999 (n=30)	53.3 (n=16)	2.00
$60,000 to $74,999 (n=43)	44.2 (n=19)	4.00
$75,000 to $100,000 (n=51)	49.0 (n=25)	5.00
More than $100,000 (n=85)	37.7 (n=32)	5.00
Race		
White (n=345)	43.5 (n=150)	5.00
African American (n=72)	61.1 (n=44)	5.00
Hispanic (n=74)	52.7 (n=39)	10.00
Asian	--	--
Native American Indian	--	--
Other	--	--
Hispanic Origin		
Yes (n=85)	51.8 (n=44)	11.00
No (n=425)	46.1 (n=196)	5.00
Gender*		
Female (n=259)	52.9 (n=137)	5.00
Male (n=273)	42.1 (n=115)	5.00

Note: Percentages are within category; overall N's are the numbers of past-year players for all games; overall n's are the numbers of all respondents in the category.

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

|		
Age		
18 to 24 (n=12)	50.0 (n=6)	2.50
25 to 34 (n=47)	57.5 (n=27)	12.00
35 to 44 (n=51)	52.9 (n=27)	10.00
45 to 54 (n=65)	41.5 (n=27)	2.00
55 to 64 (n=105)	49.5 (n=52)	4.00
65 or older (n=158)	43.7 (n=69)	5.00
Employment Status		
Employed full/part time (n=288)	48.6 (n=140)	5.00
Unemployed	--	--
Retired (n=199)	46.7 (n=93)	5.00

Note: * $p < 0.05$, two-tailed test.

[1] Only those respondents who indicated that they were enrolled in school as full-time or part-time student were asked the question on education in the 2016 survey. We report the percentage played and median dollar spent by education in the table. However, readers are cautioned that the number of responses in many sub-categories was too small (five or fewer) to provide statistically meaningful information.

As shown in Table 17, there was a slight increase of 1.6 percentage points in the participation rates for Texas Lottery scratch games between 2016 and 2015 (43.1 percent and 41.5 percent, respectively). The difference, however, was not statistically significant.

▪ There was a statistically significant difference between the Texas Lottery scratch games past-year players and non-players by gender. The participation rate for the Texas Lottery scratch games was much higher for female than male players (52.9 percent and 42.1 percent, respectively). Both the female and male past-year players of the Texas Lottery scratch games had a median dollar spent per month of $5.00 in 2016.

▪ There were no statistically significant differences between past-year players who played Texas Lottery scratch games in 2016 and those who did not for the demographic factors of income, race, Hispanic origin, age, and employment status.

▪ The participation rate for the Texas Lottery scratch games was higher for respondents of Hispanic origin (51.8 percent) than for those of non-Hispanic origin (46.1 percent). About similar participation rates were found among those who were employed full/part time and retired (48.6 percent and 46.7 percent, respectively). Participation rates for the Texas Lottery scratch games were higher among the younger age cohorts than the older age cohorts in 2016.

Figure 13. Years Playing Texas Lottery Scratch Games (n=249)
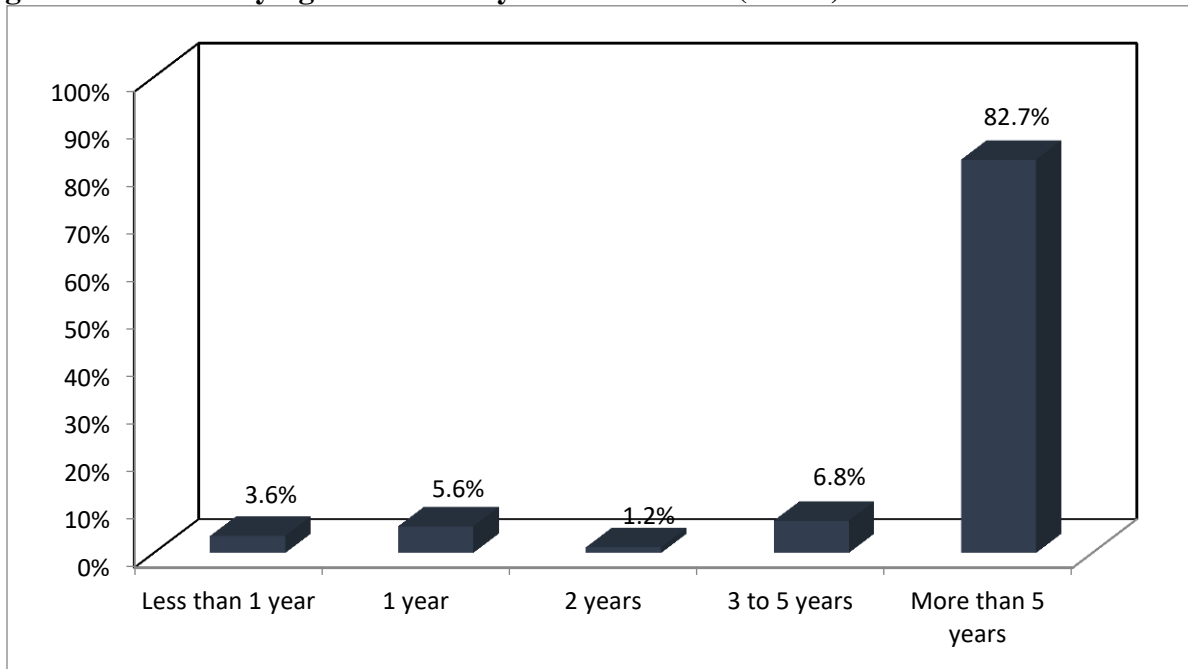
Similar to 2015, a high proportion (82.7 percent) of the respondents who played Texas Lottery scratch games reported playing them for more than 5 years. Only 9.2 percent of the respondents reported having played Texas Lottery scratch games for just one year or less (Figure 13).

6. Pick 3 Day Results

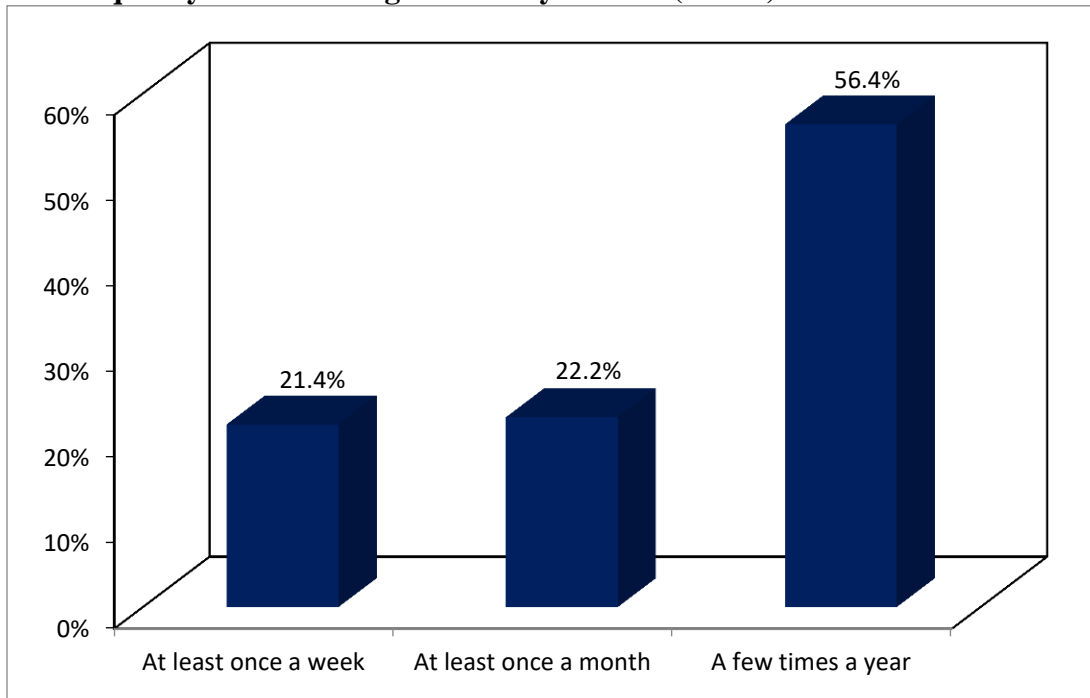**Figure 14. Percentage of Past-Year Players Playing Pick 3 Day**
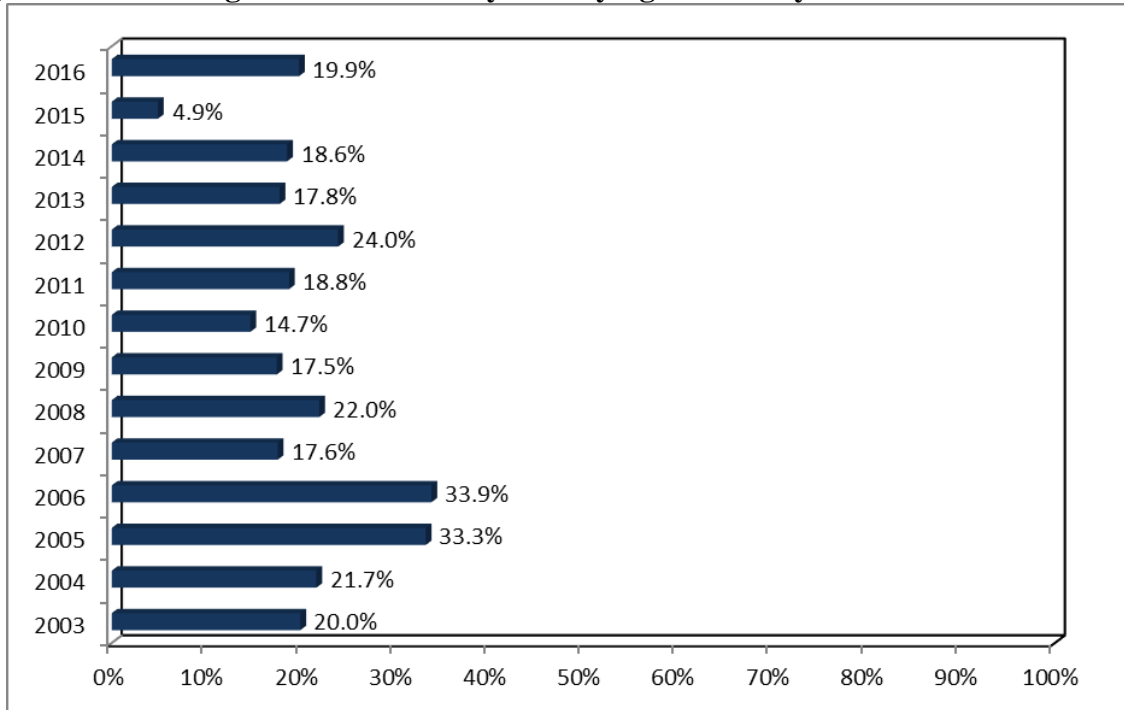
Sources: HSPA/HCPP 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015 and 2016 survey data and additional survey reports 2003-2006.

Figure 14 shows that 19.9 percent of lottery players played Pick 3 Day in 2016, an increase of 15 percentage points over the previous year.[26]

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[26] Note that the large difference in the participation rates between 2015 and 2016 could be partly due to the filtering out of non-players for the individual game questions in the 2015 survey instrument.

Figure 15. Frequency of Purchasing Pick 3 Day Tickets (n=117)

As shown in Figure 15, 21.4 percent of the past-year players that bought Pick 3 Day tickets purchased them at least once a week. Another 22.2 percent bought tickets at least once a month. More than half (56.4 percent) of the respondents purchased the tickets only a few times a year, which was t 28.6 percentage points higher than the previous year.

Table 18. Average Number of Times Played Pick 3 Day

Played Pick 3 Day	Average Number of Times Played	
	2016	**2015**
Per week for weekly past-year players	2.09	2.47
Per month for monthly past-year players[27]	4.18	4.79
Per year for yearly past-year players	19.52	32.12

Table 18 shows that weekly players of Pick 3 Day played this game an average number of 2.09 times per week, monthly players an average number of 4.18 times per month, and yearly players an average of 19.52 times. The 2016 average of the weekly players was slightly less than the previous year's average (2.09 and 2.47, respectively), and the 2016 average for monthly players was lower than the 2015 average (4.18 and 4.79, respectively). In addition, the 2016 average for yearly players was lower than the 2015 average (19.52 and 32.12, respectively).

Table 19. Dollars Spent on Pick 3 Day

Pick 3 Day	Dollars Spent	
	2016	**2015**
Average spent per play	$13.93	$7.88
Average spent per month (mean)[28]	16.35	26.81
Average spent per month (median)[29]	5.50	10.00

As shown in Table 19, Pick 3 Day players spent an average of $13.93 per play in 2016, which was $6.05 higher than the previous year. Those who reported playing the game on a monthly basis spent an average of $16.35 per month, or $10.46 less than in 2015. Half of the respondents were likely to spend $5.50 or more a month on playing Pick 3 Day in 2016.

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[27] The average number of times played per month excludesrespondents who reported having played more than 30 times a month. If those respondent are included, the average number of times played is 4.72 times per month.

[28] The average spent per month (mean) excludes respondents who reported having spent $600 or more a month. If those respondents are included, the average spent per month (mean) is $31.33.

[29] The average spent per month (median) excludes respondents who reported having spent $600 or more a month. If those respondents are included, the average spent per month (median) is $6.00.

Table 20. Pick 3 Day: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics

Pick 3 Day	Percentage Played Game Among Past Year Players	Median Dollars Spent
Year***		
2016 (N = 589)	19.9 (n=117)	$5.00
2015 (N = 568)	4.9 (n=28)	5.00
2016 Demographics		
Education[1]		
Less than high school diploma	--	--
High school diploma (n=9)	22.2 (n=2)	5.00
Some college (n=9)	44.4 (n=4)	5.00
College degree (n=9)	22.2 (n=2)	--
Graduate degree	--	--
Income		
Less than $12,000 (n=16)	37.5 (n=6)	13.50
$12,000 to $19,999	--	--
$20,000 to $29,999 (n=27)	22.2 (n=6)	11.50
$30,000 to $39,999 (n=23)	30.4 (n=7)	5.00
$40,000 to $49,999 (n=28)	25.0 (n=7)	0.00
$50,000 to $59,999	--	--
$60,000 to $74,999 (n=41)	17.1 (n=7)	2.00
$75,000 to $100,000 (n=50)	22.0 (n=11)	10.00
More than $100,000 (n=85)	20.0 (n=17)	5.00
Race***		
White (n=337)	13.4 (n=45)	5.00
African American (n=70)	37.1 (n=26)	3.00
Hispanic (n=71)	38.0 (n=27)	10.00
Asian	--	--
Native American Indian	--	--
Other	--	--
Hispanic Origin**		
Yes (n=84)	36.9 (n=31)	10.00
No (n=414)	18.4 (n=76)	3.50
Gender		
Female (n=254)	22.8 (n=58)	5.00
Male (n=266)	20.7 (n=55)	5.00

Note: Percentages are within category; overall N's are the numbers of past-year players for all games; overall n's are the numbers of all respondents in the category.

Table 20. Pick 3 Day: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics (continued)

Age*		
18 to 24	--	--
25 to 34 (n=47)	31.9 (n=15)	10.00
35 to 44 (n=48)	25.0 (n=12)	5.00
45 to 54 (n=63)	23.8 (n=15)	5.00
55 to 64 (n=100)	13.0 (n=13)	5.00
65 or older (n=152)	18.4 (n=28)	5.00
Employment Status		
Employed full/part time (n=277)	20.6 (n=57)	5.00
Unemployed	--	--
Retired (n=193)	21.8 (n=42)	4.00

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, two-tailed test.

[1] Only those respondents who indicated that they were enrolled in school as full-time or part-time students were asked the question on education in the 2016 survey. We report the percentage played and median dollar spent by education in the table. However, readers are cautioned that the number of responses in many sub-categories was too small (five or fewer) to provide statistically meaningful information.

Table 20 shows an increase of 15 percentage points in the participation rate for Pick 3 Day between 2016 (19.9 percent) and 2015 (4.9 percent). The difference in the percentage of respondents playing Pick 3 Day between 2015 and 2016 was statistically significant.

- There was a statistically significant difference between the Pick 3 Day past-year players and non-players by race in 2016. The participation rates for the Pick 3 Day game for White, African American, and Hispanic were 13.4 percent, 37.1 percent and 38.0 percent, respectively. Hispanics had the highest median dollars spent ($10.00) playing Pick 3 Day in 2016.

- Likewise, there was a statistically significant difference between the Pick 3 Day past-year players and non-players by Hispanic origin. Those of Hispanic origin had a much higher participation rate than their non-Hispanic counterparts in 2016 (36.9 percent and 18.4 percent, respectively).

- The present survey did not find any statistically significant differences between past-year players who played Pick 3 Day in 2016 and those who did not for the demographic factors of income, gender, and employment status.

Figure 16. Years Playing Pick 3 Day (n=109)
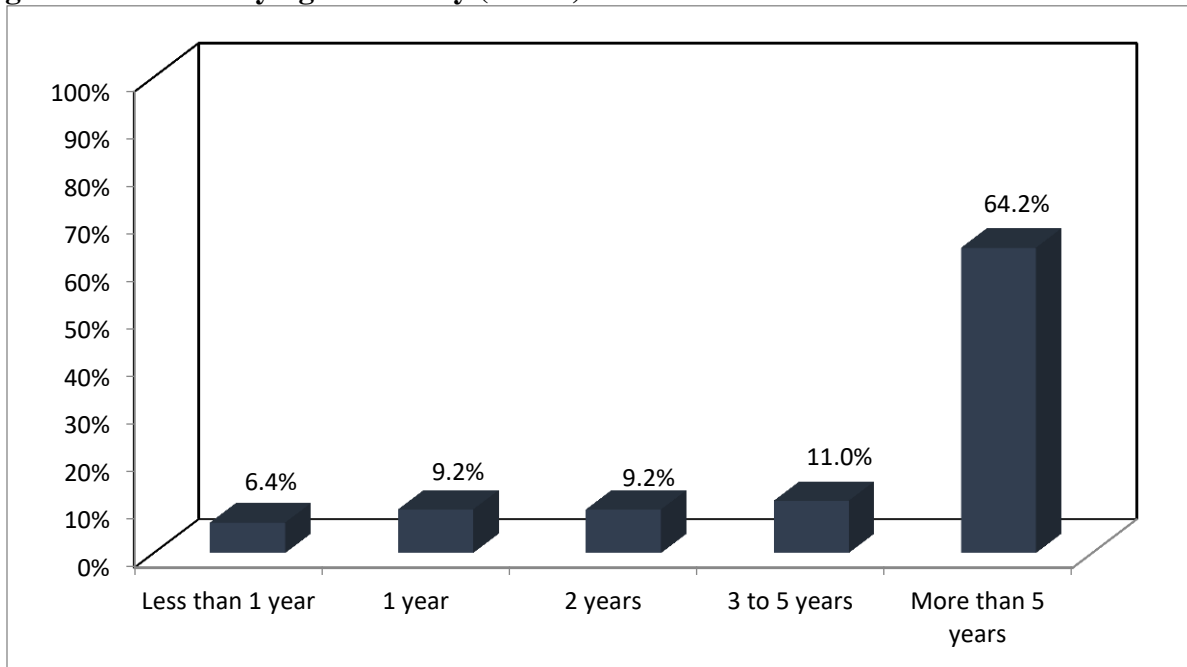
As seen in Figure 16, almost two-thirds (64.2 percent) of the respondents who played Pick 3 Day reported playing it for more than five years. The proportion was virtually identical to the 64.3 percent reported in the 2015 survey. Sixteen percent (15.6) of the respondents reported playing Pick 3 Day for less than two years.

7. Megaplier Feature with Mega Millions Results

Figure 17. Percentage of Past-Year Players Purchasing Megaplier Feature with Mega Millions Tickets
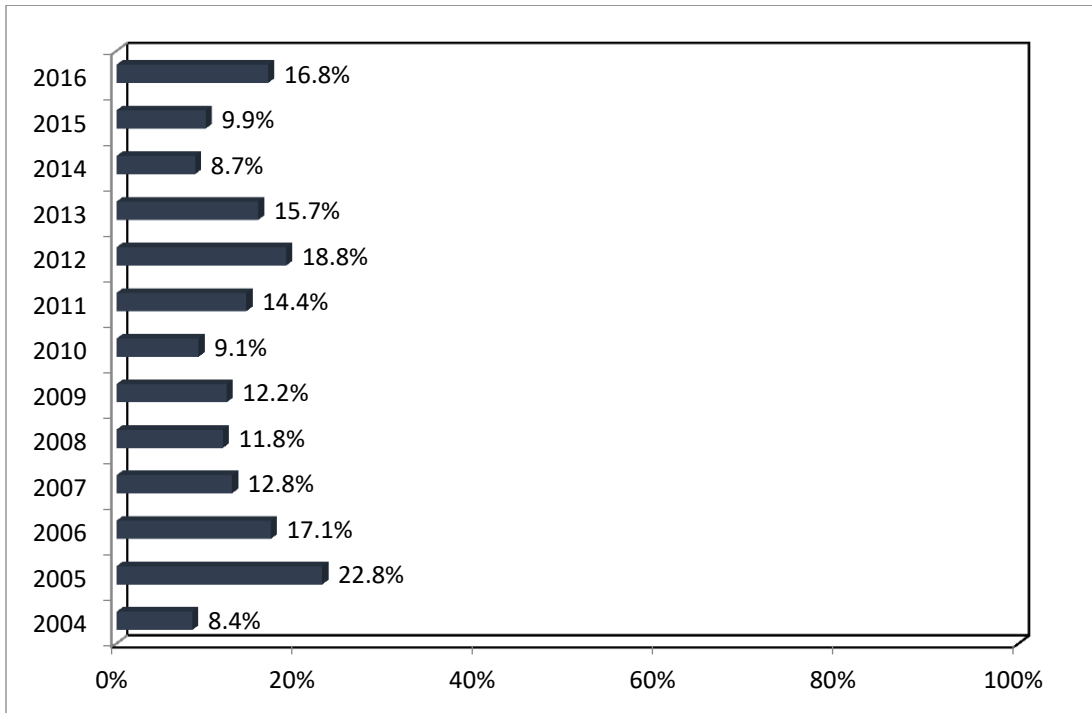
Sources: HSPA/HCPP 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015 and 2016 survey
data and additional survey reports 2004-2006.

As seen in Figure 17, 16.8 percent of the past-year players purchased Megaplier, the Mega Millions add-on feature, in 2016. This rate was 6.9 percentage points higher than in 2015.

Figure 18. Frequency of Purchasing Megaplier Feature with Mega Millions Tickets (n=99)
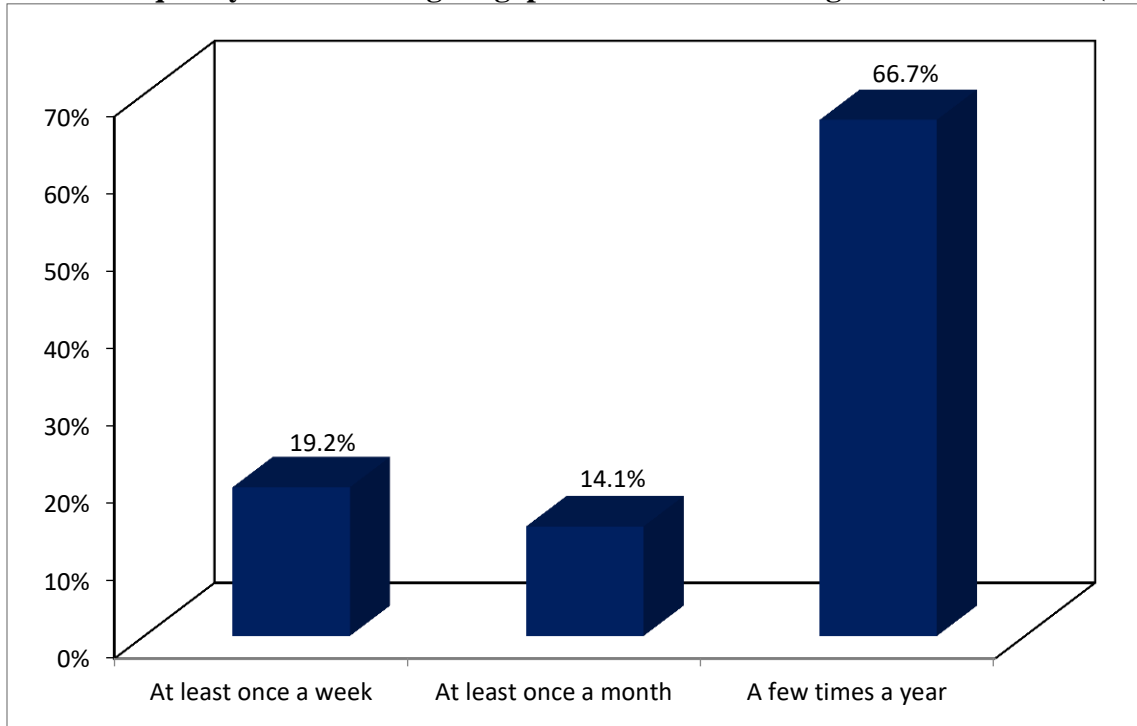

Figure 18 shows that two thirds (66.7 percent) of respondents who purchased Megaplier with their Mega Millions tickets in 2016 reported that they did so a few times a year, while 19.2 percent picked the feature at least once a week. Another 4.1 percent purchased the feature at least once a month.

Table 21. Average Number of Times Purchased Megaplier Feature with Mega Millions

Purchased Megaplier Feature with Mega Millions	Average Number of Times Purchased	
	2016	**2015**
Per week for weekly past-year players	1.56	1.35
Per month for monthly past-year players	3.51	4.15
Per year for yearly past-year players	17.89	17.34

As shown in Table 21, the weekly players who added the Megaplier feature to their Mega Millions purchase chose the feature an average number of 1.56 times per week. The monthly players did so 3.51 times per month on average. The yearly players added the feature 17.89 times per year on average in 2016.

Table 22. Dollars Spent on Megaplier Feature with Mega Millions

Megaplier Feature with Mega Millions	Dollars Spent	
	2016	**2015**
Average spent per play	$7.79	$6.31
Average spent per month (mean)[30]	6.86	7.26
Average spent per month (median)	3.00	4.00

The respondents who purchased the Megaplier feature with Mega Millions spent an average of $7.79 per play (Table 22). Those who reported adding the feature on a monthly or more frequent basis spent an average of $6.86 per month, as compared to $7.26 in 2015. In 2016, half of the respondents were likely to spend $3.00 or more a month on Megaplier.

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[30] The average spent per month (mean) excludes a respondent who reported having spent more than $400 a month. If the respondent is included, the average spent per month (mean) is $12.29.

Table 23. Megaplier Feature with Mega Millions: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics

Megaplier Feature with Mega Millions	Percentage Played Game Among Past Year Players	Median Dollars Spent
Year***		
2016 (N = 589)	16.8 (n= 99)	$1.00
2015 (N = 568)	9.9 (n= 56)	2.50
2016 Demographics		
Education[1]		
Less than high school diploma	--	--
High school diploma (n=8)	12.5 (n=1)	4.00
Some college (n=9)	33.3 (n=3)	--
College degree (n=9)	22.2 (n=2)	3.00
Graduate degree	--	--
Income*		
Less than $12,000	--	--
$12,000 to $19,999	--	--
$20,000 to $29,999	--	--
$30,000 to $39,999	--	--
$40,000 to $49,999	--	--
$50,000 to $59,999 (n=28)	25.0 (n=7)	--
$60,000 to $74,999 (n=38)	26.3 (n=10)	6.00
$75,000 to $100,000 (n=49)	16.3 (n=8)	--
More than $100,000 (n=81)	21.0 (n=17)	2.00
Race		
White (n=326)	19.0 (n=62)	1.00
African American (n=66)	10.6 (n=7)	--
Hispanic (n=66)	24.2 (n=16)	2.00
Asian	--	--
Native American Indian	--	--
Other	--	--
Hispanic Origin		
Yes (n=77)	24.7 (n=19)	4.00
No (n=399)	17.8 (n=71)	1.00
Gender*		
Female (n=237)	15.6 (n=37)	--
Male (n=262)	23.7 (n=62)	1.00

Note: Percentages are within category; overall N's are the numbers of past-year players for all games; overall n's are the numbers of all respondents in the category.

Table 23. Megaplier Feature with Mega Millions: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics (continued)

| Age		
18 to 24	--	--
25 to 34 (n=46)	17.4 (n=8)	2.00
35 to 44 (n=46)	21.7 (n=10)	1.00
45 to 54 (n=64)	21.9 (n=14)	1.50
55 to 64 (n=98)	18.4 (n=18)	1.50
65 or older (n=144)	18.1 (n=26)	1.00
Employment Status		
Employed full/part time (n=274)	22.3 (n=61)	1.00
Unemployed	--	--
Retired (n=180)	17.8 (n=32)	0.50

Note: *$p < 0.05$, *** $p < 0.001$, two-tailed test.

[1] Only those respondents who indicated that they were enrolled in school as full-time or part-time students were asked the question on education in the 2016 survey. We report the percentage played and median dollar spent by education in the table. However, readers are cautioned that the number of responses in many sub-categories was too small (five or fewer) to provide statistically meaningful information.

As Table 23 indicates, there was an increase of 6.9 percentage points in the participation rates for the Megaplier add-on feature to Mega Millions between 2016 (16.8 percent) and 2015 (9.9 percent). The difference was statistically significant.

- There was a statistically significant difference between the Megaplier feature with Mega Millions past-year players and non-players by Income in 2016. The participation rate for those in the income bracket of $60,000 to $74,999 was the highest, at 26.3 percent. Respondents with income of more than $100,000 had a participation rate of 21.0 percent in 2016.

- There was a statistically significant difference between the Megaplier feature with Mega Millions past-year players and non-players by gender. The participation rate for the add-on feature was much higher for men than women (23.7 percent and 15.6 percent, respectively).

- The present survey did not find any statistically significant differences between past-year players who played the Megaplier feature with Mega Millions in 2016 and those who did not for the demographic factors of race, Hispanic origin, age, and, employment status.

Figure 19. Years Purchasing Megaplier Feature with Mega Millions Tickets (n=92)
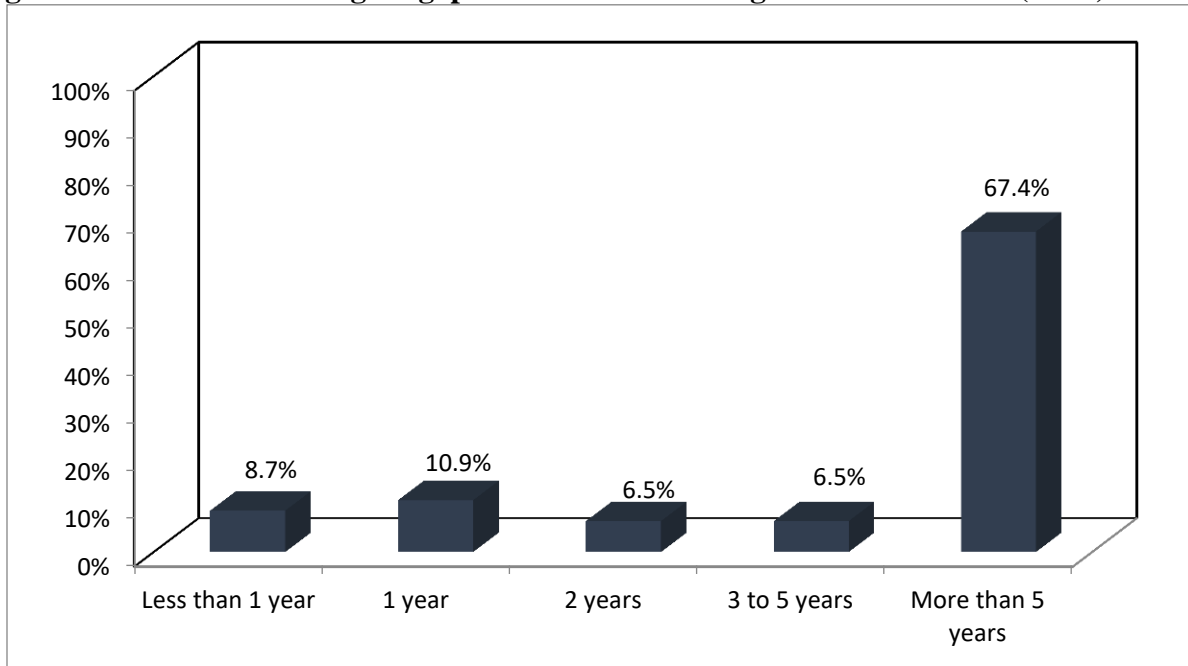
As shown in Figure 19, 67.4 percent of the respondents who added Megaplier to their purchase of Mega Millions tickets had done so for more than five years. A total of 19.6 percent of the players reported adding the feature for less than two years.

8. Cash Five Results

Figure 20. Percentage of Past-Year Players Playing Cash Five
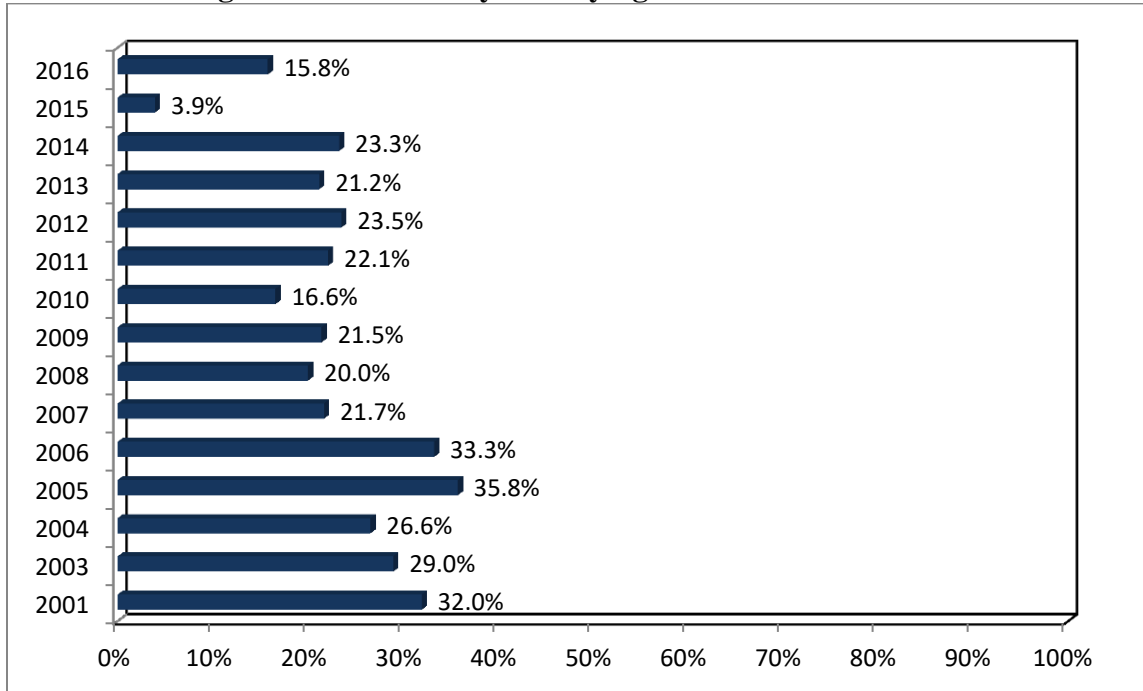
Sources: HSPA/HCPP 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015 and 2016 survey data
and additional survey reports 2001-2006.

Figure 20 shows that 15.8 percent of the lottery games past-year players reported playing Cash Five in 2016. This participation rate was 11.9 percentage points higher than in 2015.[31]

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[31] Note that the large difference in the participation rates between 2015 and 2016 could be partly due to the filtering out of non-players for the individual game questions in the 2015 survey instrument.

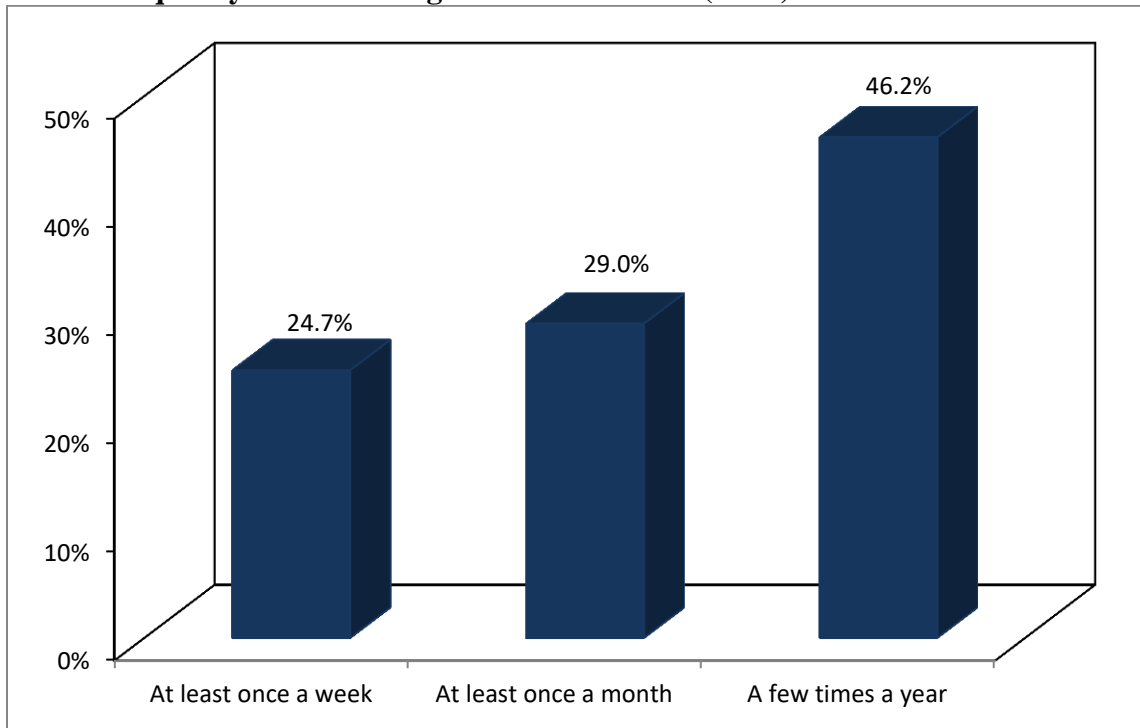**Figure 21. Frequency of Purchasing Cash Five Tickets (n=93)**

Figure 21 illustrates that one quarter (24.7 percent) of the respondents that purchased Cash Five tickets bought them at least once a week, and 29.0 percent purchased the tickets at least once a month. Forty-six percent (46.2) did so just a few times a year.

Table 24. Average Number of Times Played Cash Five

Played Cash Five	Average Number of Times Played	
	2016	**2015**
Per week for weekly past-year players[32]	1.94	2.77
Per month for monthly past-year players	5.00	9.18
Per year for yearly past-year players[33]	16.18	22.79

As shown in Table 24, weekly players of Cash Five played an average number of 1.94 times per week. Monthly players played this game 5.00 times per month on average. Yearly players played this game 16.18 times per year on average.

Table 25. Dollars Spent on Cash Five

Cash Five	Dollars Spent	
	2016	**2015**
Average spent per play	$8.04	$4.35
Average spent per month (mean)	11.12	25.85
Average spent per month (median)	5.00	12.50

As reported in Table 25, Cash Five players spent an average of $8.04 per play. Those who reported playing the game at a monthly or more frequent basis spent an average of $11.12 per month. Half of the respondents were likely to spend $5.00 or more a month on playing Cash Five.

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[32] The average number of times played per week excludes a respondent who reported having played more than 7 times a week. If the respondent is included, the average number of times played is 2.13 times per week.

[33] The average number of times played per year excludes respondents who reported having played more than 300 times a year. If those respondents are included, the average number of times played is 31.26 times per year.

Table 26 Cash Five: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics

Cash Five	Percentage Played Game Among Past Year Players	Median Dollars Spent
Year***		
2016 (N = 589)	15.8 (n=93)	$5.00
2015 (N = 568)	3.9 (n=22)	9.00
2016 Demographics		
Education[1]		
Less than high school diploma	--	--
High school diploma (n=9)	33.3 (n=3)	5.00
Some college (n=9)	11.1 (n=1)	--
College degree (n=10)	30.0 (n=3)	--
Graduate degree	--	--
Income*		
Less than $12,000	--	--
$12,000 to $19,999	--	--
$20,000 to $29,999 (n=26)	34.6 (n=9)	5.00
$30,000 to $39,999 (n=24)	25.0 (n=6)	6.50
$40,000 to $49,999 (n=28)	28.6 (n=8)	15.00
$50,000 to $59,999	--	--
$60,000 to $74,999	--	--
$75,000 to $100,000 (n=50)	14.0 (n=7)	15.00
More than $100,000 (n=85)	12.9 (n=11)	5.00
Race***		
White (n=337)	12.2 (n=41)	5.00
African American (n=71)	26.8 (n=19)	5.00
Hispanic (n=69)	31.9 (n=22)	5.50
Asian	--	--
Native American Indian	--	--
Other	--	--
Hispanic Origin**		
Yes (n=81)	30.9 (n=25)	5.00
No (n=414)	15.2 (n=63)	5.00
Gender*		
Female (n=254)	21.7 (n=55)	5.00
Male (n=266)	13.9 (n=37)	5.00

Note: Percentages are within category; overall N's are the numbers of past-year players for all games; overall n's are the numbers of all respondents in the category.

Table 26 Cash Five: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics (continued)

Age		
18 to 24	--	--
25 to 34 (n=47)	21.3 (n=10)	5.00
35 to 44 (n=49)	14.3 (n=7)	5.00
45 to 54 (n=64)	14.1 (n=9)	2.00
55 to 64 (n=102)	13.8 (n=14)	5.00
65 or older (n=149)	7.5 (n=26)	5.00
Employment Status		
Employed full/part time (n=282)	18.1 (n=51)	5.00
Unemployed	--	--
Retired (n=189)	18.5 (n=35)	5.00

Note: * $p<0.05$, ** $p<0.01$, *** $p < 0.001$, two-tailed test.

[1] Only those respondents who indicated that they were enrolled in school as full-time or part-time students were asked the question on education in the 2016 survey. We report the percentage played and median dollar spent by education in the table. However, readers are cautioned that the number of responses in many sub-categories was too small (five or fewer) to provide statistically meaningful information.

As Table 26 indicates, there was a substantial increase of 11.9 percentage points in the participation rates for the Cash Five game between 2016 (15.8 percent) and 2015 (3.9 percent). The difference was statistically significant.

▪ There was a statistically significant difference between the Cash Five games past-year players and non-players by income. In general, respondents with incomes of $75,000 or more had lower participation rates in Cash Five than those with lower incomes in 2016.

▪ There were statistically significant differences between the Cash Five games past-year players and non-players by race and Hispanic origin. The participation rates for the Cash Five game for White, African American, and Hispanic respondents were 12.2 percent, 26.8 percent and 31.9 percent, respectively. Respondents of non-Hispanic origin had a lower participation rate than those of Hispanic origin (15.2 percent and 30.9 percent, respectively).

▪ There was also a statistically significant difference between the Cash Five past-year players and non-players by gender. Women had a higher participation rate in Cash Five than men in 2016 (21.7 percent and 13.9 percent, respectively).

▪ There were no statistically significant differences between past-year players who played Cash Five in 2016 and those who did not for the demographic factors of age and employment status..

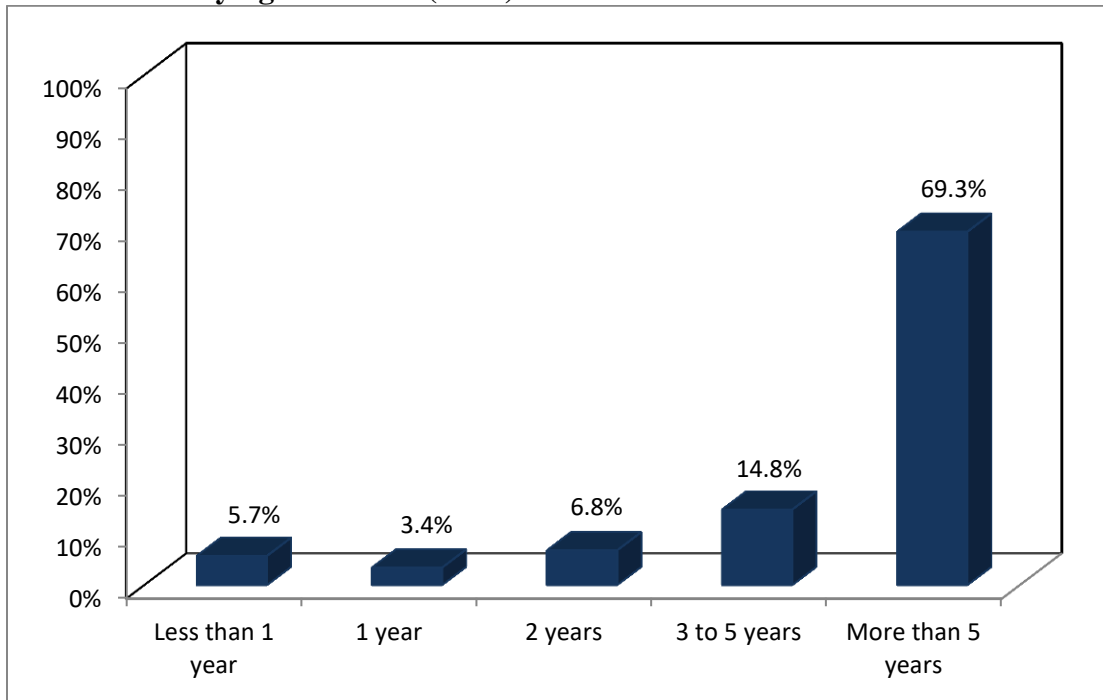**Figure 22. Years Playing Cash Five (n=88)**

Figure 22 shows that 69.3 percent of the respondents who played Cash Five during the past year reported having played it for more than five years. Another 9.1 percent had played Cash Five for less than two years.

9. Power Play Feature with Powerball Results

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

Eleven percent (11.0) of the lottery past-year players reported that they added the Power Play feature to their Powerball purchases in 2016. This participation rate was 6.1 percentage points higher than the previous year.

Figure 23. Frequency of Purchasing Power Play Feature with Powerball Tickets (n=65)
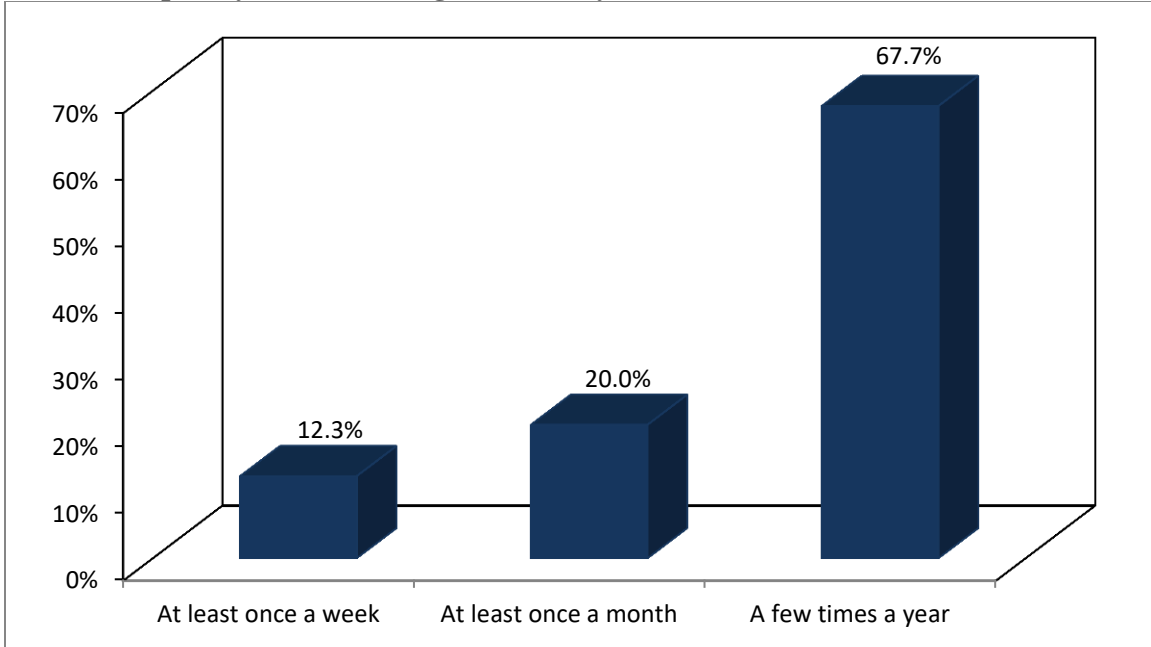
As shown in Figure 23, 12.3 percent of the respondents who added the Power Play feature to their Powerball ticket purchases did so at least once a week. Sixty-eight percent (67.7) of respondents purchased the feature a few times a year, an increase of 28.4 percentage points from last year. The remaining 20 percent added the feature at least once a month.

Table 27. Average Number of Times Purchased Power Play Feature with Powerball

Purchased Power Play Feature with Powerball	Average Number of Times Purchased	
	2016	**2015**
Per week for weekly past-year players	1.38	1.60
Per month for monthly past-year players	3.30	3.25
Per year for yearly past-year players	11.39	18.62

The data in Table 27 indicate that the weekly players of the Power Play add-on feature reported selecting this feature 1.38 times per week on average. Monthly players reported an average number of 3.30 times per month. Yearly players reported picking the feature an average number of 11.39 times per year, which was 7.23 times fewer than the corresponding figure in 2015 (18.62 times).

Table 28. Dollars Spent on Power Play Feature with Powerball

Power Play Feature with Powerball	Dollars Spent	
	2016	**2015**
Average spent per play	$6.73	$8.20
Average spent per month (mean)	9.74	9.74
Average spent per month (median)	2.00	6.00

Table 28 shows that the respondents selecting the add-on Power Play feature spent an average of $6.73 per play. Those who reported purchasing the feature on a monthly or more frequent basis spent an average of $9.74 per month. Half of respondents were likely to spend $2.00 or more a month on Power Play, which was substantially lower than the corresponding figure in year 2015 ($6.00).

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.

Figure 24. Years Purchasing Power Play Feature with Powerball Tickets (n=63)
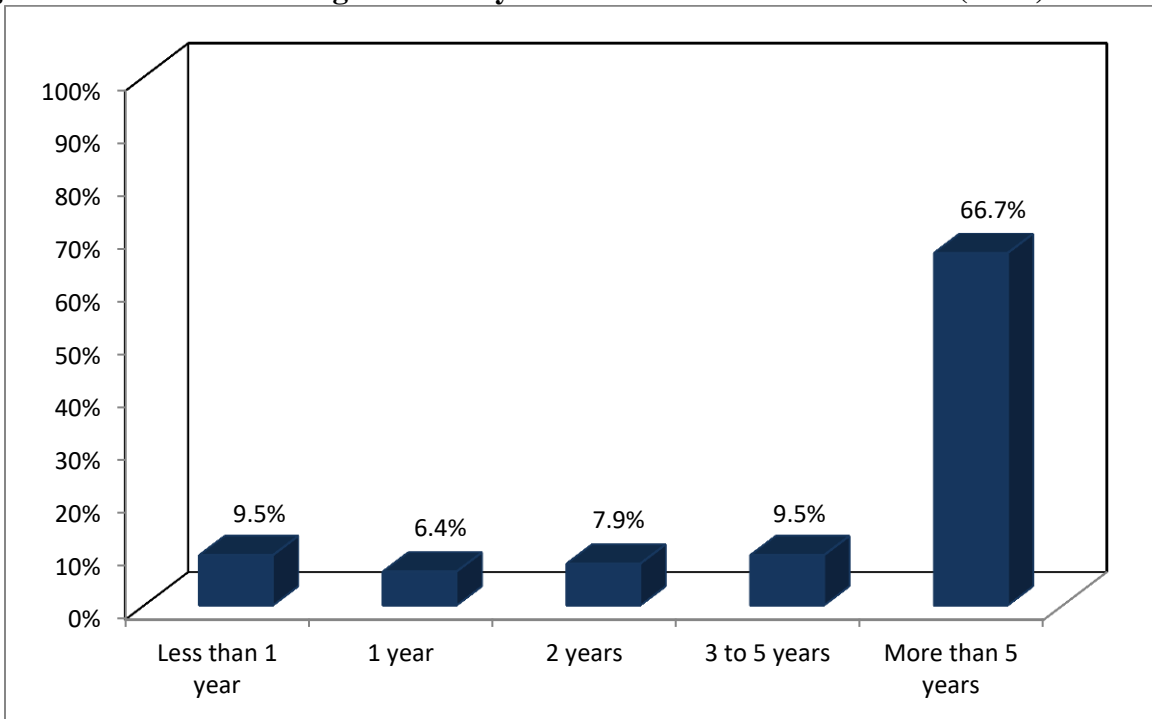
As seen in Figure 24, two-thirds (66.7 percent) of the respondents reported that they had purchased the Power Play feature for more than five years. Seventeen percent (17.4) of the respondents reported that they purchased the Power Play feature between for between 2 and 5 years. Conversely, only 15.9 percent of the respondents reported having purchased the Power Play feature for less than two years.

10. Texas Two Step Results

Percentage of Past-Year Players Playing Texas Two Step

Ten percent (10.2) of the lottery past-year players reported playing Texas Two Step in 2016. The participation rate was 6.3 percentage points higher than the rate recorded in 2015.

Figure 25. Frequency of Purchasing Texas Two Step Tickets (n=59)
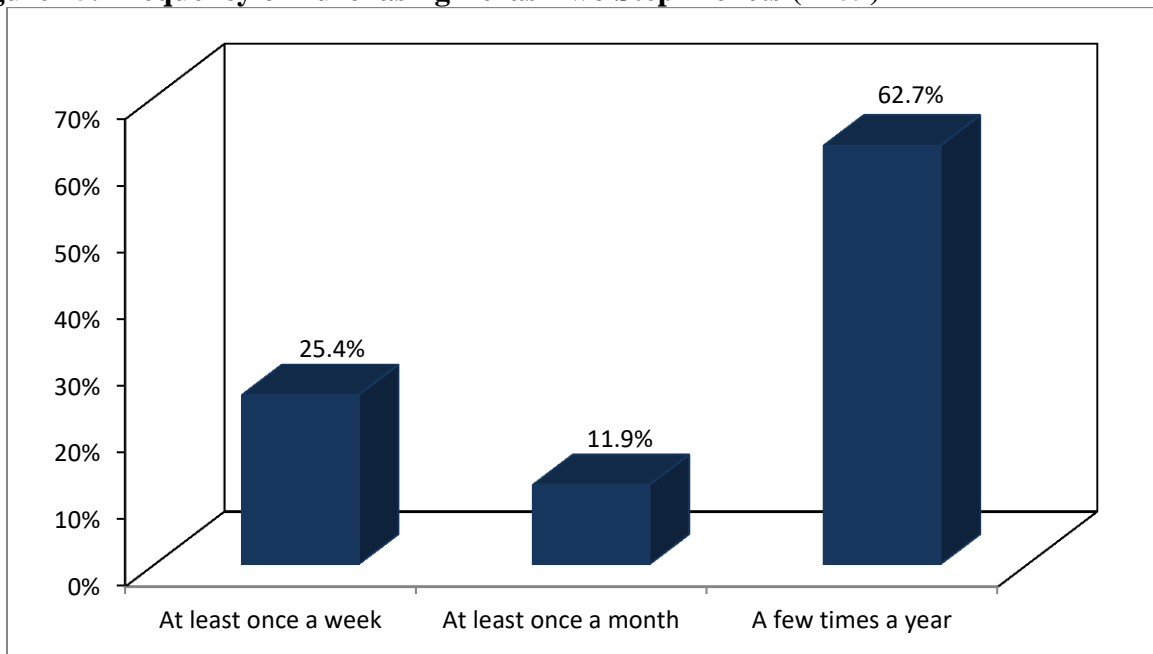
As seen in Figure 25, 25.4 percent of the Texas Two Step players purchased tickets for the game at least once a week. Another twelve percent (11.9) reported that they purchased tickets at least once a month. An additional 62.7 percent of the players purchased tickets a few times a year.

Table 29. Average Number of Times Played Texas Two Step

Played Texas Two Step	Average Number of Times Played	
	2016	2015
Per week for weekly past-year players[34]	1.37	1.69
Per month for monthly past-year players[35]	3.78	5.06
Per year for yearly past-year players	21.68	26.05

As shown in Table 29, weekly players of Texas Two Step played an average number of 1.37 times per week. Monthly players reported playing the game 3.78 times per month, and yearly players logged 21.68 times per year.

Table 30. Dollars Spent on Texas Two Step

Texas Two Step	Dollars Spent	
	2016	2015
Average spent per play	$13.47	$4.19
Average spent per month (mean)	28.50	20.22
Average spent per month (median)	5.00	8.00

Table 30 reveals that the respondents who played Texas Two Step spent an average of $13.47 per play in 2016, a significant increase from 2015 ($4.19). Those who reported playing the game on a monthly or more frequent basis spent an average of $28.50 per month. The median monthly expenditure for 2016 was $5.00, a decrease from the $8.00 monthly median in 2015.

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.

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[34] The average number of times played per week excludes a respondent who reported having played more than 7 times a week. If the respondent is included, the average number of times played is 2.04 times per week.

[35] The average number of times played per month excludes a respondent who reported having played more than 30 times a month. If the respondent is included, the average number of times played is 5.30 times per month.

Figure 26. Years Playing Texas Two Step (n=58)
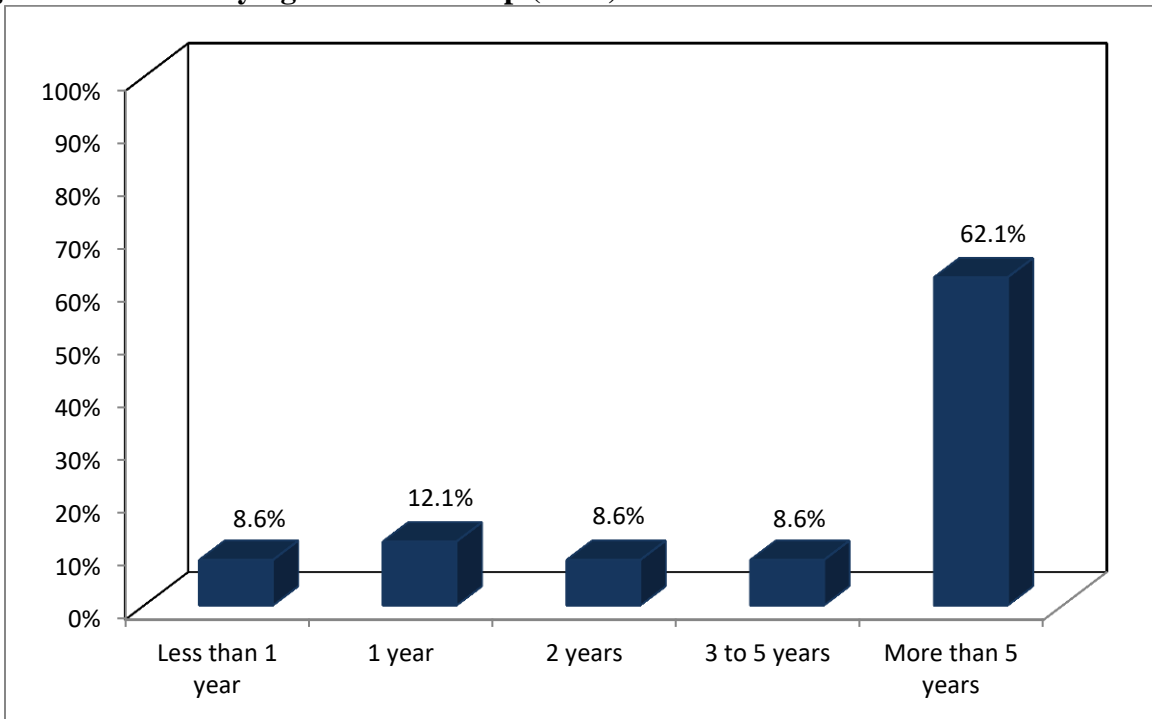
Figure 26 illustrates that 62.1 percent of the respondents reported that they had bought Texas Two Step for more than five years. A total of 20.7 percent of the respondents reported having played Texas Two Step for less than two years.

11. Lotto Texas Results

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

A total of eight percent (8.3) of the lottery past-year players reported purchasing the Extra! add-on feature with Lotto Texas, three percentage points higher than the previous year.

Figure 27. Frequency of Purchasing Extra! Feature with Lotto Texas Tickets (n=49)
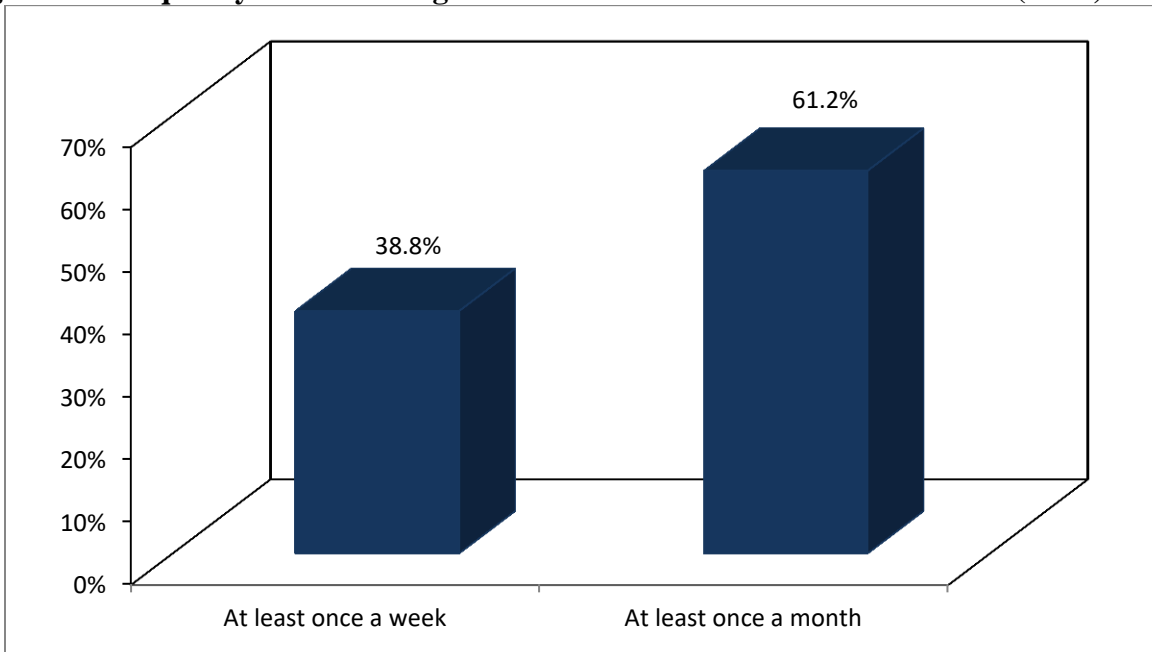
Figure 27 indicates that among those who purchased the Extra! feature with Lotto Texas, thirty-nine percent (38.8) did so at least once a week. The other sixty-one percent (61.2) purchased the feature at least once a month.

Table 31. Average Number of Times Purchased Extra! Feature with Lotto Texas

Purchased Extra! Feature with Lotto Texas	Average Number of Times Purchased	
	2016	**2015**
Per week for weekly past-year players	1.45	1.50
Per month for monthly past-year players[36]	3.56	3.37

As shown in Table 31, past-year players purchased the Extra! feature with Lotto Texas 1.45 times per week on average, and players picked the feature 3.56 times per month in 2016.

Table 32. Dollars Spent on Extra! Feature with Lotto Texas

Extra! Feature with Lotto Texas	Dollars Spent	
	2016	**2015**
Average spent per play	$9.12	$6.67
Average spent per month (mean)[37]	19.05	8.73
Average spent per month (median)[38]	5.00	5.00

Past-year players of the Extra! add-on feature spent an average of $9.12 per play, an increase of $2.45 from the previous year (Table 32). Those who reported adding the feature on a monthly or more frequent basis spent an average of $19.05 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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[36] The average number of times played per month excludes a respondent who reported having played more than 30 times a month. If the respondent is included, the average number of times played is 4.32 times per month.

[37] The average spent per month (mean) excludes a respondent who reported having spent $450 a month. If the respondent is included, the average spent per month (mean) is $36.31.

[38] The average spent per month (median) excludes a respondent who reported having spent $450 a month. If the respondent is included, the average spent per month (median) is $6.50.

12. All or Nothing Results

Percentage of Past-Year Players Purchasing All or Nothing

A total of four percent (3.7) of the lottery past-year players reported playing the All or Nothing game, which was two percentage points higher than in 2015.

Figure 28. Frequency of Purchasing All or Nothing Tickets (n=22)
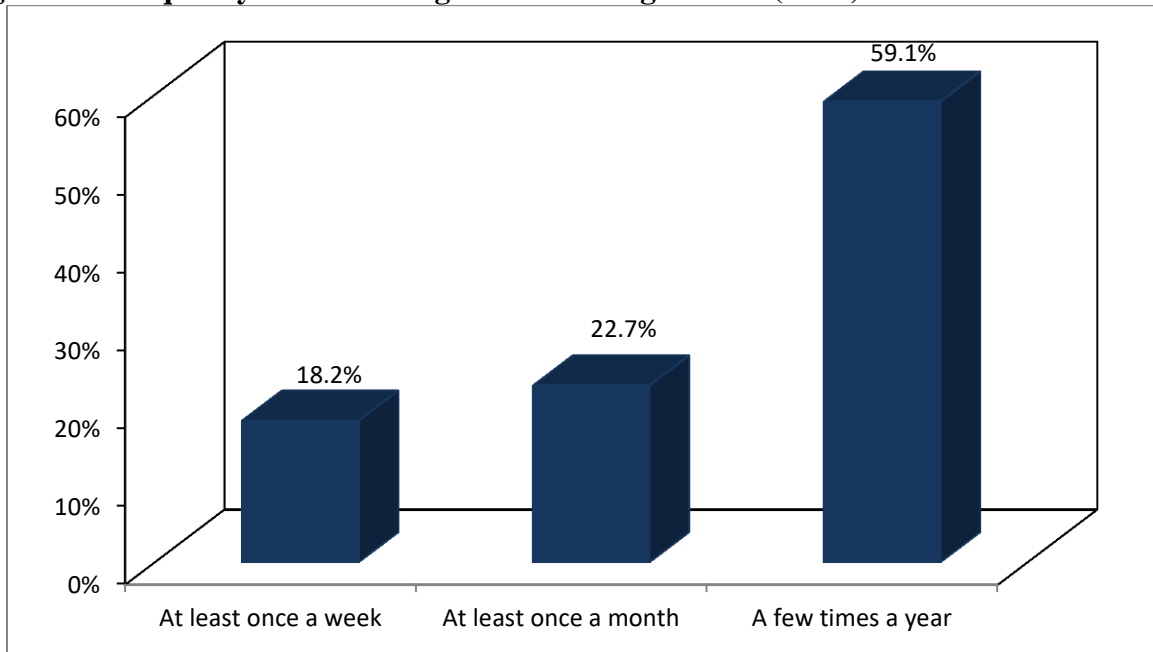
As seen in Figure 28, among those who purchased All or Nothing, 18.2 percent did so at least once a week, and 22.7 percent did so at least once a month. Another 59.1 percent reported playing the game a few times a year.

Table 33. Average Number of Times Played All or Nothing

	Average Number of Times Played	
Played All of Nothing	**2016**	**2015**
Per week for weekly past-year players	1.44	--
Per month for monthly past-year players	3.83	--
Per year for yearly past-year players	24.48	7.70

As shown in Table 33, past-year players purchased the All or Nothing game 1.44 times per week on average, while the monthly players picked the game 3.83 times per month. The yearly players picked the game 24.48 times per year.

Table 34. Dollars Spent on All or Nothing

	Dollars Spent	
All or Nothing	**2016**	**2015**
Average spent per play	$6.78	$4.86
Average spent per month (mean)	15.57	5.50
Average spent per month (median)	7.50	3.50

Past-year players of the All or Nothing game spent an average of $6.78 per play (Table 34). Those who reported playing on a monthly or more frequent basis spent an average of $15.57 per month. Half of the respondents were likely to spend $7.50 or more a month purchasing All or Nothing.

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 All or Nothing game.

13. Texas Triple Chance Results

Percentage of Past-Year Players Purchasing Texas Triple Chance

A total of three percent (3.1) of past-year lottery players reported playing the Texas Triple Chance game. This game was introduced in September 2015.

Figure 29. Frequency of Purchasing Texas Triple Chance Tickets (n=18)
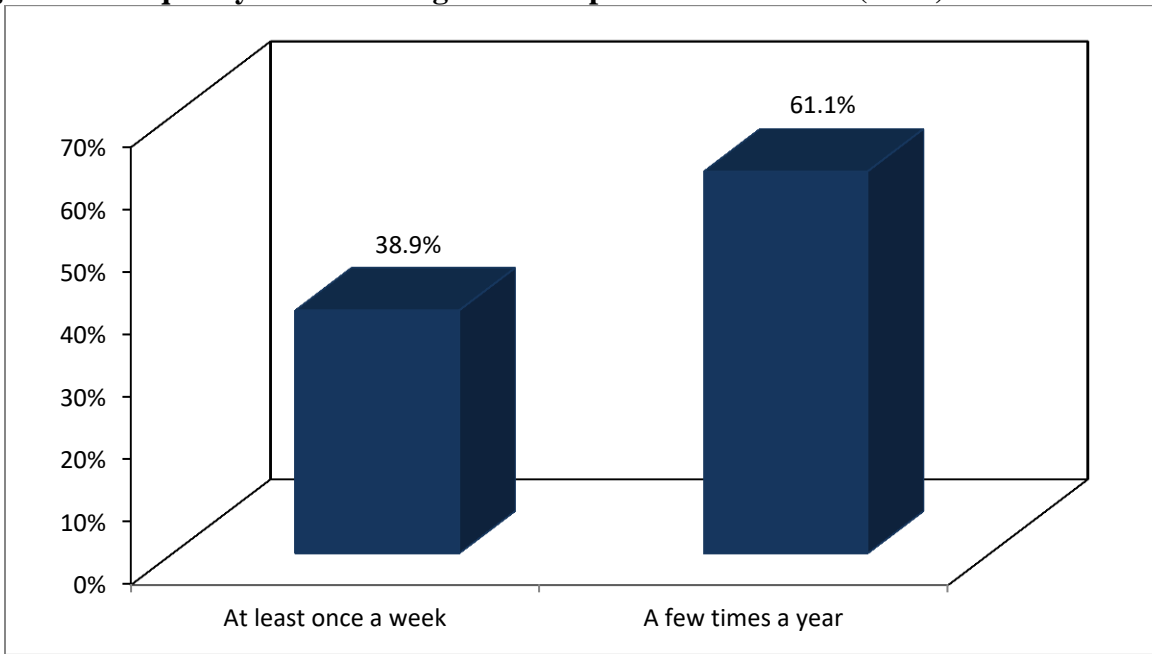
As seen in Figure 29, among those who purchased Texas Triple Chance, 38.9 percent of them did so at least once a week, whereas 61.1 percent played the game a few times a year.

Table 35. Average Number of Times Played Texas Triple Chance

Played Texas Triple Chance	Average Number of Times Played
	2016
Per week for weekly past-year players	1.67
Per month for monthly past-year players	5.20
Per year for yearly past-year players	28.78

As shown in Table 35, past-year players purchased the Texas Triple Chance game 1.67 times per week on average, while the monthly players averaged 5.20 times per month. The yearly players picked the game 28.78 times per year on average.

Table 36. Dollars Spent on Texas Triple Chance

Texas Triple Chance	Dollars Spent
	2016
Average spent per play	$12.61
Average spent per month (mean)	--
Average spent per month (median)	--

As shown in Table 36, the past-year players of the Texas Triple Chance game spent an average of $12.61 per play in 2016.

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 Texas Triple Chance game.

Conclusion

The Texas Lottery Commission 2016 Demographic Study of Texas Lottery Players surveyed a total of 1,685 Texas adults aged 18 years and older between June 14th and August 9th, 2016. The Texas Lottery participation rate for 2016 was 35.0 percent, which was 6.3 percentage points higher than the rate of 28.7 percent in 2015. The increase in the participation rate was statistically significant. In contrast to the overall downward trend in the Texas Lottery participation rates in the last two decades, there was a noticeable gain of 10 percentage points in the participation rates over the past two years (see Figure 1).

There were statistically significant differences between the samples of past-year players and non-players of Texas Lottery games in 2016 with regard to employment status, home ownership, age, number of children under 18 living in household, gender, and Hispanic origin (see Table 2). Among past-year players, differences in the percent playing any game were statistically significant based on the players' Hispanic origin, gender, age and employment status, but not for the other demographic factors (see Table 3).

Lotto Texas was the most popular game in terms of participation among all games/add-on features in 2016, with a participation rate of 61.1 percent. The second- and third-most popular games in 2016 were Mega Millions (60.3 percent) and Powerball (56.5 percent), respectively. Pick 3 Day, on the other hand, had the highest average expenditure per play of $13.93 by past-year players in 2016.

In comparison to 2015, a total of five games recorded a double-digit increase in their respective participation rate in 2016. They were Powerball (36.4 percentage point increase), Mega Millions (31.3 percentage points), Lotto Texas (29.9 percentage points), Pick 3 Day (15.0 percentage points) and Cash Five (11.9 percentage points) (see Table 1).[39]

Pick 3 Day had the highest average number of times played per week (2.09 times) among all games and features by past-year players in 2016. Texas Lottery scratch games had the highest average number of times played per month (5.57 times). Consistent with past years' findings, most 2016 past-year players had participated in Texas lottery games for more than five years.

Texas Triple Chance, a game that was introduced in September 2015, had the highest frequency of purchase for at least once a week (38.9 percent) among past-year players in 2016. The Extra! feature with Lotto Texas, on the other hand, topped the highest frequency of purchase for at least once a month (61.2 percent) among past-year players.

The lottery sales districts with the highest and the lowest participation rates in any Texas Lottery game in 2016 were Houston East (45.9 percent) and Houston Northwest (27.0 percent)

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[39] It is noted that there were large decreases in the participation rates in some of the individual games in the 2015 report. The large drops in participation rates in last year's report were partly due to the filtering out of non-players for the individual game questions in the 2015 survey instrument. Since the filter question was not used in the 2016 survey instrument, the participation rates in the individual games in this year's report were more consistent with the participation rates in the 2014 report as well as reports from earlier years.

(see Table 4). The lottery sales districts with the largest increases in participation rates for 2016 were Houston East (18.2 percentage points) and Houston Southwest (17.8 percentage points). In contrast, the San Antonio and El Paso sales districts had the greatest declines in participation rates: 4.5 percentage points and 3.9 percentage points, respectively. The differences in participation rates between 2015 and 2016 were statistically significant for the lottery sales districts of Dallas South, Houston East, and Houston Southwest.

Appendix

Table A. Descriptions of Texas Lottery Games and Add-on Features[40]

Texas Lottery Game and Add-on Feature	Description	Drawing Schedule
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
Texas Triple Chance™	The daily game where the player tries to match 3 or more numbers out of 10 numbers drawn. (The game began in September 2015.)	Monday - Saturday

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[40] 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.

Table B. Sample Population by Texas County[41] **(n=1,490)**

County	Count	Percentage	County	Count	Percentage
Anderson	6	0.40	Cooke	6	0.40
Andrews	2	0.13	Coryell	3	0.20
Angelina	10	0.67	Dallam	1	0.07
Archer	2	0.13	Dallas	115	7.72
Armstrong	1	0.07	Dawson	2	0.13
Atascosa	2	0.13	De Witt	2	0.13
Austin	16	1.07	Denton	33	2.21
Bandera	4	0.27	Dimmit	1	0.07
Bastrop	4	0.27	Duval	1	0.07
Bee	2	0.13	Ector	6	0.40
Bell	14	0.94	El Paso	31	2.08
Bexar	76	5.10	Ellis	6	0.40
Bosque	1	0.07	Fannin	3	0.20
Bowie	9	0.60	Fayette	1	0.07
Brazoria	24	1.61	Fort Bend	33	2.21
Brazos	17	1.14	Franklin	2	0.13
Brewster	2	0.13	Freestone	3	0.20
Brown	5	0.34	Galveston	20	1.34
Burnet	2	0.13	Gillespie	3	0.20
Caldwell	1	0.07	Goliad	1	0.07
Calhoun	2	0.13	Gonzales	1	0.07
Callahan	3	0.20	Gray	3	0.20
Cameron	14	0.94	Grayson	7	0.47
Camp	1	0.07	Gregg	7	0.47
Cass	2	0.13	Grimes	3	0.20
Castro	1	0.07	Guadalupe	21	1.41
Chambers	6	0.40	Hale	2	0.13
Cherokee	5	0.34	Hansford	1	0.07
Clay	2	0.13	Hardeman	1	0.07
Coleman	2	0.13	Hardin	6	0.40
Collin	44	2.95	Harris	198	13.29
Colorado	2	0.13	Harrison	6	0.40
Comal	10	0.67	Hays	14	0.94
Comanche	2	0.13	Henderson	13	0.87

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[41] The discrepancy between the sample in Table B (n=1,490) and the total sample (n=1,685) 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 161 out of 254 counties, 63.4 percent of the counties in Texas.

County	Count	Percentage
Hidalgo	16	1.07
Hill	5	0.34
Hockley	1	0.07
Hood	6	0.40
Hopkins	4	0.27
Houston	6	0.40
Howard	2	0.13
Hunt	7	0.47
Hutchinson	4	0.27
Jackson	1	0.07
Jasper	2	0.13
Jefferson	12	0.81
Jim Wells	2	0.13
Johnson	12	0.81
Kaufman	8	0.54
Kendall	6	0.40
Kerr	10	0.67
Kimble	1	0.07
Kinney	1	0.07
Lamar	5	0.34
Lamb	1	0.07
Lavaca	1	0.07
Leon	2	0.13
Liberty	5	0.34
Limestone	1	0.07
Live Oak	1	0.07
Llano	2	0.13
Lubbock	18	1.21
Martin	1	0.07
McClennan	14	0.94
Medina	5	0.34
Midland	10	0.67
Milam	4	0.27
Mills	3	0.20
Mitchell	1	0.07
Montague	2	0.13

County	Count	Percentage
Montgomery	25	1.68
Moore	1	0.07
Morris	1	0.07
Nacogdoches	3	0.20
Navarro	3	0.20
Nolan	1	0.07
Nueces	19	1.28
Orange	6	0.40
Palo Pinto	5	0.34
Panola	2	0.13
Parker	7	0.47
Pecos	2	0.13
Polk	5	0.34
Potter	12	0.81
Randall	7	0.47
Red River	1	0.07
Robertson	2	0.13
Rockwall	5	0.34
Runnels	1	0.07
Rusk	5	0.34
Sabine	2	0.13
San Jacinto	1	0.07
San Patricio	3	0.20
San Saba	5	0.34
Schleicher	1	0.07
Shelby	3	0.20
Sherman	2	0.13
Smith	16	1.07
Somervell	1	0.07
Starr	4	0.27
Sterling	1	0.07
Tarrant	109	7.32
Taylor	10	0.67
Terry	1	0.07
Titus	3	0.20
Tom Green	9	0.60

County	Count	Percentage
Travis	60	4.03
Trinity	1	0.07
Tyler	2	0.13
Upshur	3	0.20
Val Verde	3	0.20
Van Zandt	3	0.20
Victoria	10	0.67
Walker	6	0.40
Waller	1	0.07
Washington	9	0.60
Webb	5	0.34
Wharton	2	0.13
Wichita	10	0.67
Wilbarger	1	0.07
Willacy	2	0.13
Williamson	34	2.28
Wilson	5	0.34
Winkler	1	0.07
Wise	5	0.34
Wood	8	0.54
Young	1	0.07

Table C. Counties by Lottery Sales District

Austin District

(Counties)
Bastrop, Blanco, Brazos, Burleson, Caldwell, Fayette, Grimes, Hays, Lee, Travis, Washington, Williamson

Dallas North District

(Counties)
Collin, Cooke, Dallas, Denton, Fannin, Grayson, Hood, Hunt, Rockwall, Tarrant

Dallas South District

(Counties)
Dallas, Tarrant

El Paso District

(Counties)
Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, Pecos, Presidio, Reeves, Terrell, Ward, Winkler

Fort Worth District

(Counties)
Archer, Baylor, Clay, Cooke, Denton, Foard, Hardeman, Hood, Jack, Johnson, Montague, Palo Pinto, Parker, Tarrant, Throckmorton, Wichita, Wilbarger, Wise, Young

Houston East District

(Counties)
Chambers, Galveston, Hardin, Harris, Jasper, Jefferson, Liberty, Montgomery, Newton, Orange, San Jacinto

Houston Northwest District

(Counties)
Austin, Fort Bend, Harris, Liberty, Montgomery, San Jacinto, Walker, Waller

Houston Southwest District

(Counties)
Austin, Brazoria, Fort Bend, Galveston, Harris, Matagorda, Wharton

Lubbock District

(Counties)
Andrews, Armstrong, Bailey, Briscoe, Brown, Callahan, Carson, Castro, Childress, Cochran, Coke, Coleman, Collingsworth, Concho, Cottle, Crane, Crockett, Crosby, Dallam, Dawson, Deaf Smith, Dickens, Donley, Eastland, Ector, Fisher, Floyd, Gaines, Garza, Glasscock, Gray, Hale, Hall, Hansford, Haskell, Hemphill, Hockley, Howard, Hutchinson, Irion, Jones, Kimble, Knox, Lamb, Lipscomb, Lubbock, Lynn, Martin, McCulloch, Menard, Midland, Mitchell, Moore, Motley, Nolan, Ochiltree, Oldham, Parmer, Potter, Randall, Reagan, Roberts, Runnels, Schleicher, Scurry, Shackelford, Sherman, Stephens, Sterling, Stonewall, Sutton, Swisher, Taylor, Terry, Tom Green, Upton, Wheeler, Yoakum

McAllen District

(Counties)
Aransas, Bee, Bexar, Brooks, Calhoun, Cameron, Duval, Goliad, Hidalgo, Hill, Jackson, Jim Hogg, Jim Wells, Kleberg, La Salle, Live Oak, Nueces, Refugio, San Patricio, Starr, Victoria, Webb, Willacy, Zapata

San Antonio District

(Counties)
Atascosa, Bandera, Bexar, Caldwell, Colorado, Comal, De Witt, Dimmit, Edwards, Fayette, Frio, Gillespie, Gonzales, Guadalupe, Karnes, Kendall, Kerr, Kinney, La Salle, Lavaca, Maverick, McMullen, Medina, Real, Uvalde, Wilson, Zavala

Tyler District

(Counties)
Anderson, Angelina, Bowie, Camp, Cass, Cherokee, Dallas, Delta, Franklin, Freestone, Gregg, Harrison, Henderson, Hopkins, Houston, Hunt, Jasper, Kaufman, Lamar, Leon, Madison, Marion, Morris, Nacogdoches, Newton, Panola, Polk, Rains, Red River, Rusk, Sabine, San Augustine, Shelby, Smith, Titus, Trinity, Tyler, Upshur, Van Zandt, Wood

Waco District

(Counties)
Bell, Blanco, Bosque, Burnet, Cameron, Comanche, Coryell, Eastland, Ellis, Freestone, Hamilton, Hill, Hood, Johnson, Lampasas, Limestone, Llano, Mason, McLennan, Milam, Mills, Navarro, Robertson, San Saba, Somervell, Tarrant, Williamson