Demographic Survey of Texas Lottery Players 2020

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EXECUTIVE SUMMARY

The Texas Lottery Commission 2020 Demographic Study of Texas Lottery Players surveyed a total of 1,687 Texas residents aged 18 years and older between August and September 2020. The survey respondents included both past-year players (those who played any Texas Lottery game in the past year) and non-players (those 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 2020 was 45.2 percent, which was 3.2 percentage points higher than the rate of 42.0 percent in 2018, but this increase was not statistically significant.[1]

In contrast to the overall downward trend in Texas Lottery participation rates in the last two decades, there was a noticeable gain of 16.5 percentage points in the participation rates over the past four years. There were statistically significant differences between the samples of past-year players and non-players of Texas Lottery games in 2020 with regard to income, employment status, homeownership, children under 18 living in the household, gender, and Hispanic origin. Among past-year players, differences in the percent playing any game were statistically significant based on the players' income, Hispanic origin, gender, and employment status (see Table 3). Respondents were allowed to select multiple categories for race and ethnicity and those who identified with Hispanic and/ or Asian or Pacific Islander had statistically significant differences compared to those who did not identify as Hispanic and/ or Asian or Pacific Islander.

Among the individual games and add-on features, Lotto Texas was the most popular game in terms of participation in 2020, with a participation rate of 74.7 percent. The second- and third-most popular games in 2020 were Texas Lottery Scratch games (70.4 percent) and Pick 3 (60.7 percent).[2] In comparison to 2018, a total of four games recorded a double-digit increase in their respective participation rates in 2020. They were Pick 3 (an increase of 19.1 percentage points), Cash Five (14.0 percentage points), Texas Two-Step (11.3 percentage points), and Daily 4 (10.6 percentage points). The FIREBALL Feature with Daily 4 had the highest frequency of purchase among those playing at least once a week (36.0 percent) among past-year players. Consistent with the findings in 2018, most 2020 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 2020 were McAllen (58.6 percent) and Tyler (33.3 percent). The lottery sales district with the largest participation rate increase for 2020 was San Antonio (13.5 percentage points). By contrast, the Tyler sales district experienced the greatest decline in the participation rate, 13.4 percentage points. The differences in the participation rates between 2018 and 2020 were statistically significant for the lottery sales districts of Fort Worth, Houston Northwest, Houston West, and Tyler.

[1] All statistical tests yield a margin of error of less than +/- 2.4 percent at the 95 percent confidence level.
[2] 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 2020.

Highlights

The following are some key findings of the 2020 survey on participation rates and personal expenditures in Texas Lottery games and add-on features (see Table 1):

- Consistent with the 2018 survey, Lotto Texas remains the most popular game according to the participation rate (74.7 percent) among all games and add-on features in 2020.
- Pick 3 became the third-most popular game by participation (60.7 percent), with an increase of 19.1 percentage points in its participation rate from 2018 to 2020.
- Of all the Texas Lottery games and features in 2020, the FIREBALL Feature with Pick 3 had the highest average spent per play of $24.82 by past-year players.
- FIREBALL Feature with Daily 4 had the highest average number of times played per week (2.79 times) and Daily 4 had the highest average number of times played per month (5.17 times) among all games and features by past-year players in 2020.
- McAllen had the highest participation rate (58.6 percent) in any Texas Lottery game in 2020. The lottery sales districts of Waco and Houston East had the second- and third-highest participation rates of 52.8 percent and 52.7 percent, respectively.
- Two lottery sales districts logged double-digit increases in participation rates in 2020. They are San Antonio (13.5 percentage points) and Dallas South (10.7 percentage points).

A brief summary of participation rates by games and add-on features is given below.[3,4]

Lotto Texas: A total of 74.7 percent of past-year players reported playing Lotto Texas in this year's survey. Among them, 27.4 percent purchased Lotto Texas tickets at least once a week. Another 30.5 percent played the game at least once a month. On average, Lotto Texas players spent an average of $13.75 per play.

Texas Lottery Scratch Tickets: A total of 70.4 percent of the respondents reported they purchased Texas Lottery scratch tickets in 2020. Nearly three-tenths (29.4 percent) of the respondents who bought scratch tickets reported that they purchased them at least once a week. Another 28.9 percent purchased tickets at least once a month. The past-year players of Texas Lottery scratch games spent an average of $17.45 per play.

Mega Millions: A total of 56.8 percent of past-year lottery players reported having played Mega Millions in 2020. Slightly more than one-fifth (23.3 percent) of the respondents reported that they purchased Mega Millions tickets at least once a week, while 27.3 percent of the respondents purchased the tickets at least once a month. Mega Millions players spent an average of $13.12 per play.

Powerball: A total of 51.0 percent of past-year lottery players reported they played Powerball. Slightly more than one-fifth (21.3 percent) of the respondents who purchased Powerball tickets purchased them at least once a week. Another 27.0 percent purchased Powerball tickets at least once a month. Powerball players spent an average of $13.63 per play.

Pick 3: A total of 60.7 percent of past-year lottery players played Pick 3 in 2020. One-quarter (25.5 percent) of the respondents who purchased Pick 3 tickets bought them at least once a week, and another 25.9 percent of the respondents purchased them at least once a month. On average, Pick 3 players spent $13.39 per play.

Cash Five: A total of 35.8 percent of past-year lottery players played Cash Five in 2020. Among these past-year players, 21.6 purchased Cash Five tickets at least once a week, whereas 29.7 percent purchased tickets at least once a month. Cash Five players spent an average of $16.27 per play.

Megaplier Feature with Mega Millions: A total of 25.8 percent of past-year lottery players included Megaplier in their Mega Millions play. Among them, 23.4 percent reported having purchased the add-on feature at least once a week. Another 30.0 percent purchased the tickets at least once a month. Megaplier players spent an average of $19.63 per play.

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

[4] Note: All or Nothing, Daily 4, and the FIREBALL Feature with Daily 4 had a very low participation rates (13.6 percent, 13.8 percent, and 9.8 percent, respectively). Consistent with previous years, we did not include statistical analyses for All or Nothing, Daily 4, or the FIREBALL Feature with Daily 4 because the number of respondents who played this game was too small to provide any statistically meaningful information.

Power Play Feature with Powerball: A total of 24.1 percent of past-year lottery players reported including Power Play with their Powerball ticket purchases. Thirty percent (30.4) of the respondents that purchased the Power Play feature with Powerball purchased it at least once a week. Another 23.9 percent purchased it at least once a month. On average, Power Play players spent $16.79 per play.

Extra! Feature with Lotto Texas: A total of 26.9 percent of past-year lottery players reported they had selected the Extra! feature with their Lotto Texas tickets. Among these players, 30.7 percent purchased the Extra! feature at least once a week and another 29.3 percent purchased the add-on feature at least once a month. On average, the players who purchased the Extra! feature spent $18.35 per play.

FIREBALL Feature with Pick 3: A total of 27.4 percent of past-year lottery players reported they selected the FIREBALL feature with Pick 3. Nearly three-tenths (28.2 percent) of the respondents purchased the FIREBALL feature with Pick 3 at least once a week. Another 34.5 percent purchased the add-on feature at least once a month. The player who purchased the FIREBALL feature with Pick 3 spent an average of $24.82 per play.

Texas Two Step: A total of 24.0 percent of past-year lottery players played Texas Two Step in 2020. Twenty-eight percent (28.4) of Texas Two Step players purchased tickets for the game at least once a week. Another 26.8 percent purchased the tickets at least once a month. The players of Texas Two Step spent an average of $17.26 per play.

All or Nothing: A total of 13.6 percent of past-year lottery players responded that they had played All or Nothing. About a third (31.7 percent) of All or Nothing players purchased tickets for the game at least once a week. Another 35.6 percent purchased the tickets at least once a month. The players of All or Nothing spent an average of $20.97 per play.

Daily 4: A total of 13.8 percent of past-year lottery players stated they played Daily 4 in 2020. More than one-third (35.2 percent) of the respondents who purchased Daily 4 tickets bought them at least once a week, whereas another 31.4 percent of the respondents purchased them at least once a month. On average, Daily 4 players spent $20.32 per play.

FIREBALL Feature with Daily 4: A total of 9.8 percent of past-year lottery players reported they added the FIREBALL feature to their purchases of Daily 4. Thirty-six percent (36.0) of the respondents purchased the FIREBALL Feature with Daily 4 at least once a week. Two-fifths (41.3 percent) of the respondents purchased them at least once a month. The players of the FIREBALL Feature with Daily 4 tickets spent an average of $20.76 per play.

Table 1
Demographic Survey – Highlights of Key Findings

Game/Feature[1]	2020 Participation Rate	Change in Rate from 2018	Frequency of Purchase		Average Number of Times Played (Past-year Players)		Average Spent Per Play	Page Results Begin
			At Least Once a Week	At Least Once a Month	Per Week	Per Month		
Lotto Texas	74.7%^	3.5%	27.4%	30.5%	1.75	4.03	$13.75	25
Texas Lottery Scratch Games	70.4%	5.7%	29.4%	28.9%	2.01	4.80	$17.45	32
Mega Millions	56.8%	-3.8%	23.3%	27.3%	1.77	3.58	$13.12	39
Powerball	51.0%	-5.4%	21.3%	27.0%	1.77	3.64	$13.63	46
Pick 3	60.7%	19.1%^	25.5%	25.9%	2.05	4.76	$13.39	53
Cash Five	35.8%	14.0%	21.6%	29.7%	1.96	3.91	$16.27	60
Megaplier Feature with Mega Millions	25.8%	4.3%	23.4%	30.0%	2.08	3.72	$19.63	67
Power Play Feature with Powerball	24.1%	6.2%	30.4%	23.9%	2.27	3.60	$16.79	74
Extra! Feature with Lotto Texas	26.9%	9.3%	30.7%	29.3%	2.02	3.89	$18.35	80
FIREBALL Feature with Pick 3	27.4%	--	28.2%	34.5%	1.97	4.30	$24.82^	86
Texas Two Step	24.0%	11.3%	28.4%	26.8%	2.20	4.49	$17.26	92
All or Nothing	13.6%	8.4%	31.7%	35.6%	2.78	4.70	$20.97	98
Daily 4	13.8%	10.6%	35.2%	31.4%	2.69	5.17^	$20.32	101
FIREBALL Feature with Daily 4	9.8%	--	36.0%^	41.3%^	2.79^	5.11	$20.76	104

[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 2018 to 2020

In addition to the basic results that ensured continuity of information and presentation with prior survey reports, the 2020 report also provides statistical tests of **differences in lottery participation from 2018 to 2020**. The report highlights these differences for general participation rates and the individual lottery games separately.

Comparing the 2020 survey results with those from 2018, we found that there were statistically significant increases in the percentage playing any game between 2018 and 2020 for the following individual games: Pick 3 (19.1 percentage points), Cash Five (14.0 percentage points), Texas Two Step (11.3 percentage points), Daily 4 (10.6 percentage points), Extra! Feature with Lotto Texas (9.3 percentage points), All or Nothing (8.4 percentage points), Power Play Feature with Powerball (6.2 percentage points), and Texas Lottery scratch games (5.7 percentage points.[5] With respect to the lottery sales districts, the increases in participation rates between 2018 and 2020 were statistically significant for Fort Worth (0.3 percentage points).

[5] The FIREBALL Feature with Pick 3 and Daily 4 were also significant but could not be compared to 2018 because the feature was not in the previous study.

I. INTRODUCTION AND METHOD OF ANALYSIS

A survey of a random sample of adult Texas residents aged 18 and older was conducted between August and September of 2020. 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 (the Hobby School) (https://uh.edu/hobby/). The individuals who worked on this study are listed in alphabetical order:

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Francisco Cantu
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Similar to past surveys, 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.[6] Additionally, a web-based (online) sampling method was used in the 2020 survey because it allowed us to target respondents based on their responses to demographic questions and ensure the representativeness of the sample.

The RDD method is used because it offers advantages over the use of existing telephone lists that might come from telephone or cross-reference directories. Specifically, the RDD method ensures the following:

- The conceptual frame and sampling frame match.
- Unlisted telephone numbers are included in the sample.
- The sampling frame is current, thus maximizing the probability that new residents are included.

The web-based (online) survey method is used because it offers several benefits over traditional survey approaches (e.g., telephone or mail) that include lower costs, the ability to implement reminders, faster data collection, and features that help to improve the survey experience for respondents and researchers.[7] This survey method also allows us to reach a wide array of individuals and target populations based on area and demographics much faster and more cost-effectively than traditional methods.[8]

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

[7] Dillman, D. A., J. D. Smyth, and L. M. Christian. (2009). Mail and Internet Surveys: The Tailored Design Method. 3rd Ed. New York: John Wiley and Sons. Israel, G. D. (2011). "Strategies for Obtaining Survey Responses for Extension Clients: Exploring the role of E-Mail Requests." Journal of Extension [Online], 49(3): 1-6. Available at http://www.joe.org/joe/2011june/a7.php. Monroe, M. C. and D. C. Adams. (2012). "Increasing Response Rates to Web-Based Surveys." Journal of Extension [Online], 50(6): 6-7.

[8] Comley, P. and J. Beaumont. (2011). "Online Market Research: Methods, Benefits and Issues." Journal of Direct, Data and Digital Marketing Practice, 12(4): 315-327.

With the Hobby School's survey operations under a rebuilding phase since 2018, the Hobby School entrusted a qualified survey company, Customer Research International (CRI) (http://www.cri-research.com/), to conduct the data collection. Established in 1994, CRI has conducted research projects for a wide range of clients, including state and municipal entities, universities, media outlets, political pollsters, public policy scientists, retail corporations, high tech companies, and more. As part of the 2020 Texas lottery survey, the CRI fielded 1,089 telephone interviews and 611 online surveys (a total of 1,700 interviews). Of these, ten respondents answered, "Don't know" and three 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 respondents were excluded from the analyses reported below. This process resulted in **a total of 1,687 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 August 24 and September 15, 2020.

Note that in some cases, the subset samples are small which can create high volatility in some results in those categories. Although the subset proportions are an approximation of the overall population, the relatively small size of subsets can allow outliers to bias results when using the mean. We, therefore, alert the reader to the influence of outliers throughout the report.

CRI entrusted by the Hobby School leverages 700 U.S. based Computer Assisted Telephone Interviewing (CATI) stations, innovative sampling designs, multi-modal quantitative and qualitative data collection services, and tenured project managers to serve a variety of opinion research data collection needs. Therefore, CRI can ensure the standard survey administration and management protocols, include the following:

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

CRI utilizes Logit's[9] online panels that are sourced from a wide variety of both online and offline channels, designed to reach as many panelists as possible. Logit's network of panel partners is fully vetted MRIA Gold Seal members that are selected based on the specific targets needed and on the basis of any specific client requirements. To recruit panelists, CRI uses telephone interviews, panelist referrals, organizational referrals and partnerships, on-location recruiting, and advertising using both online and offline media channels. CRI has two proprietary panels and access to a large network of preferred and trusted panel partners. Panelists are double opted-in and are regularly re-screened to ensure high accuracy in profiling.[10]

For general population studies, a pre-profiled sample is used for targeting. Census-based quotas are implemented to ensure that the data collected is representative of the target population. CRI has

[9] https://logitgroup.com/panel-sourcing/

[10] Once a panelist has registered via the online form, they receive a confirmation message. The panelist must then confirm their email and click on a link to confirm their willingness to participate in future studies.

access to respondent's basic demographic profiling (i.e. age, gender, region, ethnicity, and also detailed pre-screening, or consumer behavior).

As an MRIA Gold seal member, Logit has several on-line quality control processes in place including:

- Eliminating speedsters, cheaters, and flat-liners.
- Tracking geo-location, to ensure respondents are who they say they are.
- Flagging fraudulent behavior based on straight-lining checks (e.g., over-use of "Don't Know" or entering the same response at a bank of questions), completion length (anything less than 30-40% of the median length), and red herring statements to ensure the respondent is engaged (e.g., detecting any gibberish, illogical responses) across all online research projects.
- Removing offenders from the data and flags them accordingly with partners.
- Ensuring that third party suppliers have a verification method in place including digital fingerprinting, True Sample, etc.[11]

The Texas Lottery Commission provided a survey instrument designed to collect demographic data on adult Texans. The survey included past-year players and non-players and measured lottery participation rates, the frequency of lottery participation, and lottery spending patterns. The 2020 survey instrument used by the Hobby School was similar to those used in past years except that questions about some specific games, such as Sum It Up! Feature with Pick 3 and Sum It Up! Feature with Daily 4, were removed.

With regard to the sample, the survey has included cell phone and landline 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 53 percent.[12] The trend implies that sample bias in standard RDD polling could be a major issue in the field. Furthermore, while previous studies have shown response rates for online surveys to be lower than traditional methods, more recent studies have shown that improved techniques and advanced survey platforms have increased response rates for web-based surveys than some telephone surveys. For example, being able to send out reminders more frequently, being able to control the length of the survey, and allowing for individuals to take surveys at their own pace has more benefits than traditional survey approaches and have shown to improve online survey response rates by a large percentage.[13]

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[11] Digital fingerprinting is a process to restrict fraudulent respondent data. A number of different factors are utilized including IP address, OS, browser type, country of origin and MAC address to create a unique profile which is then utilized for de-duping and validation across all projects.

[12] Blumberg, Stephen J. and Julian V. Luke. 2017. "Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, January-June 2017." Division of Health Interview Statistics, National Center for Health Statistics.

[13] Monroe, M. C. and D. C. Adams. (2012). "Increasing Response Rates to Web-Based Surveys." *Journal of Extension [Online],* 50(6): 6-7.

To address this potential problem, the survey included not only the standard RDD sample but also a cell phone sample and a web-based (online) sample. The data included in this report were based on 355 (20.9 percent) completed interviews on landlines, 734 (43.2 percent) completed interviews on cell phones, and 611 (35.9 percent) interviews completed online.

Lastly, with regard to the methods of analysis, this study employed not only descriptive analyses but also cross-tabulation analyses to examine whether there are significant differences in behavioral patterns of playing the Texas Lottery games among people with different demographic characteristics.

II. SAMPLE CHARACTERISTICS[14]

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

- Education,
- Income,
- Race/ethnicity of the respondent,
- Hispanic origin,[15]
- Gender of the respondent,
- Age of respondent, and
- Employment status.

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 conducted a statistical 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 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. The level of statistical significance (denoted by a *p* value) refers to the probability that what is observed differs from the null hypothesis of no relation or no difference. In the classical tradition, a *p* value of 0.05 indicates that in 100 repeated samples, the value realized would fall within a given interval in 95 out of 100 samples. Extending this relation, a *p* value of 0.01 means that the result would fall within a pre-specified interval in 99 out of 100 samples.

[14] Note that the discrepancies between total sample size and various variables are due to respondents either refusing to answer or responding they did not know.
[15] 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=1,687)	Past-Year Players (n=763)	Non-Players (n=924)
Year[16]			
2020	n=1,687 (100.0%)	n= 763 (45.2%)	n= 924(54.8%)
2018	1,691 (100.0%)	711 (42.0%)	980 (58.0%)
2016	1,685 (100.0%)	589 (35.0%)	1,096 (65.0%)
Income*	n=1,435 (100.0%)	n=690 (100.0%)	n=745 (100.0%)
Less than $12,000	134 (9.3%)	55 (8.0%)	79 (10.6%)
Between $12,000 and $19,999	129 (9.0%)	53 (7.7%)	76 (10.2%)
Between $20,000 and $29,999	149 (10.4%)	67 (9.7%)	82 (11.0%)
Between $30,000 and $39,999	144 (10.0%)	74 (10.7%)	70 (9.4%)
Between $40,000 and $49,999	101 (7.0%)	49 (7.1%)	52 (7.0%)
Between $50,000 and $59,999	120 (8.4%)	58 (8.4%)	62 (8.3%)
Between $60,000 and $74,999	126 (8.8%)	64 (9.3%)	62 (8.3%)
Between $75,000 and $100,000	154 (10.7%)	84 (12.2%)	70 (9.4%)
More than $100,000	378 (26.3%)	186 (27.0)	192 (25.8%)
Employment Status***	n=1,654 (100.0%)	n=754 (100.0%)	n=900 (100.0%)
Employed Full-time	701 (42.4%)	360 (47.8%)	341 (37.9%)
Employed Part-time	169 (10.2%)	75 (10.0%)	94 (10.4%)
Unemployed/Looking for Work	196 (11.9%)	83 (11.0%)	113 (12.6%)
Not in Labor Force	148 (9.0%)	66 (8.8%)	82 (9.1%)
Retired	440 (26.6%)	170 (22.6%)	270 (30.0%)
Own or Rent Home*	n=1,627 (100.0%)	n=738 (100.0%)	n=889 (100.0%)
Own	1,031 (63.4%)	487 (70.0%)	544 (61.2%)
Rent	525 (32.3%)	222 (30.1%)	303 (34.1%)
Occupied without Payment	71 (4.4%)	29 (3.9%)	42 (4.7%)
Age of Respondent	n=1,631 (100.0%)	n=744 (100.0%)	n=887 (100.0%)
18 to 24	198 (12.1%)	74 (10.0%)	124 (14.0%)
25 to 34	238 (14.6%)	101 (13.6%)	137 (15.5%)
35 to 44	243 (14.9%)	143 (19.2%)	100 (11.3%)
45 to 54	265 (16.3%)	141 (19.0%)	124 (14.0%)
55 to 64	250 (15.3%)	129 (17.3%)	121 (13.6%)
65 and over	437 (26.8%)	156 (21.0%)	281 (31.7%)

Note: * $p < 0.5$, ** $p < 0.01$, *** $p < 0.001$, two-tailed test. There were statistically significant differences between players and non-players regarding the distribution by income, employment status, and own or rent home

[16] There was slight increase in the proportion of respondents who reported that they participated in any of the Texas Lottery games during the past year in 2020 from those who reported that they participated in 2018. The difference was statistically significant at the 0.10, not 0.05, level.

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

Demographic Factors	Number and Percentage Responding		
	All (n=1,687)	Past-Year Players (n=763)	Non-Players (n=924)
Marital Status	n=1,650 (100.0%)	n=747 (100.0%)	n=903 (100.0%)
Married	812 (49.2%)	385 (51.5%)	427 (47.3%)
Widowed	154 (9.3%)	51 (6.8%)	103 (11.4%)
Divorced	179 (10.9%)	86 (11.5%)	93 (10.3%)
Separated	44 (2.7%)	22 (3.0%)	22 (2.4%)
Never Married	461 (27.9%)	203 (27.2%)	258 (28.6%)
Children under 18 Living in the Household***	n=1,626 (100.0%)	n=736 (100.0%)	n=890 (100.0%)
Yes	513 (31.5%)	263 (35.7%)	250 (28.1%)
No	1,113 (68.5)	473 (64.3%)	640 (71.9%)
Number of Children under 18 Living in the Household	n=513 (100.0%)	n=263 (100.0%)	n=250 (100.0%)
1	238 (46.4%)	131 (49.8%)	107 (42.8%)
2	167 (32.6%)	79 (30.0%)	88 (35.2%)
3	60 (11.7%)	30 (12.0%)	30 (12.0%)
4 or more	48 (9.4%)	23 (8.7%)	9 (3.6%)
Gender of Respondent**	n=1,672 (100.0%)	n=755 (100.0%)	n=917 (100.0%)
Male	758 (45.3%)	369 (48.9%)	389 (42.4%)
Female	910 (54.4%)	384 (50.9%)	526 (57.4%)
Prefer to self-describe	4 (0.2%)	2 (0.3%)	2 (0.2%)
Race	n=1,630 (100.0%)	n=736 (100.0%)	n=894 (100.0%)
White or Anglo	875 (53.7%)	381 (51.8%)	494 (55.3%)
Black or African American	240 (14.7%)	117 (15.9%)	123 (13.8%)
Hispanic	333 (20.4%)	163 (22.1%)	170 (19.0%)
Asian or Pacific Islander	47 (2.9%)	16 (2.2%)	31 (3.5%)
Native American or Alaskan	24 (1.5%)	11 (1.5%)	13 (1.5%)
Other	42 (2.6%)	13 (1.8%)	29 (3.2%)
Two or More	69 (4.2%)	35 (4.8%)	34 (3.8%)

Note: * $p < 0.5$, ** $p < 0.01$,*** $p < 0.001$, two-tailed test. There was a statistically significant difference between players and non-players regarding the distribution by children under 18 living in the household and gender of the respondents.

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

Demographic Factors	Number and Percentage Responding		
	All (n=1,687)	Past-Year Players (n=763)	Non-Players (n=924)
Hispanic Origin*	n=1,630 (100.0%)	n=733 (100.0%)	n=897 (100.0%)
Yes	438 (26.9%)	215 (29.3%)	223 (24.9%)
No	1,192 (73.1%)	518 (70.7%)	674 (75.1%)
Education	n=1,668 (100.0%)	n=757 (100.0%)	n=911 (100.0%)
Less than High School	75 (4.5%)	24 (3.2%)	51 (5.6%)
High School Graduate/GED	366 (21.9%)	162 (21.4%)	204 (22.4%)
Some College, no degree	415 (24.9%)	206 (27.2%)	209 (22.9%)
College Degree	470 (28.2%)	227 (30.0%)	243 (26.7%)
Graduate/Professional Degree	342 (20.5%)	138 (18.2%)	204 (22.4%)
Occupation	n=794 (100.0%)	n=395 (100.0%)	n=399 (100.0%)
Executive, Administrative, and Managerial	174 (21.9%)	90 (22.8%)	84 (21.1%)
Professional Specialty	199 (25.1%)	101 (25.6%)	98 (24.6%)
Technicians and Related Support	73 (9.2%)	35 (8.9%)	38 (9.5%)
Sales	90 (11.3%)	46 (11.6%)	44 (11.0%)
Administrative Support, Clerical	52 (6.6%)	27 (6.8%)	25 (6.3%)
Private Household	8 (1.0%)	4 (1.0%)	4 (1.0%)
Protective Service	12 (1.5%)	7 (1.8%)	5 (1.3%)
Service	55 (6.9%)	21 (5.3%)	34 (8.5%)
Precision Productions, Craft, and Repair	11 (1.4%)	8 (2.0%)	3 (0.8%)
Machine Operators, Assemblers, and Inspectors	22 (2.8%)	9 (2.3%)	13 (3.3%)
Transportation and Material Moving	25 (3.2%)	14 (3.5%)	11 (2.8%)
Equipment Handlers, Cleaners, Helpers, and Laborers	14 (1.8%)	6 (1.5%)	8 (2.0%)
Farming, Forestry, Fishing	1 (0.1%)	0 (0.0%)	1 (0.3%)
Armed Forces	5 (0.6%)	2 (0.5%)	3 (0.8%)
Education Instruction and Library	53 (6.7%)	25 (6.3%)	28 (7.0%)

Note: * $p < 0.5$, ** $p < 0.01$, *** $p < 0.001$, two tailed test. There was not a statistically significant difference between players and non-players regarding by respondents' occupation.

Table 2 shows that 45.2 of the survey respondents reported having participated in at least one of the Texas Lottery games in 2020, which is 3.2 percentage points higher than the participation rate in 2018 but was not statistically significant.

- There were statistically significant differences between past-year players and non-players of Texas Lottery games in 2020 with regard to income, employment status, homeownership, children under 18 living in the household, gender, and Hispanic Origin.[17]

- The difference between past-year players and non-players by income was statistically significant in 2020. Among the past-year players, 48.5 percent had annual household income more than $60,000. By contrast, among the non-players, only 43.5 percent had annual household income more than $60,000.

- The difference between past-year players and non-players by unemployment status was statistically significant in 2020. Among the past-year players, 57.8 percent were employed either full-time or part-time and only 11.0 percent were unemployed or looking for work. Nearly the same proportions of the past-year players and non-players were not in the labor force (8.8 percent and 9.1 percent, respectively). Among the non-players, nearly one-third (30.0 percent) were retired. By contrast, a lower proportion (22.6 percent) of the past-year players were retired.

- In terms of homeownership, a higher proportion of past-year players (70.0 percent) indicated they owned their homes compared to non-players (61.2 percent). On the other hand, a higher proportion (34.1 percent) of non-players rented their homes compared to past-year players (30.1 percent).

- There was a statistically significant difference between past-year players and non-players in terms of having children under 18 living in the household. Among the past-year players, 35.7 percent reported having children under 18 living in their households. By contrast, only 28.1 percent of non-players had children under 18 living in their households. However, there was no statistically significant difference in the number of children under 18 living in the household between past-year players and non-players.

- Of the past-year players, 48.9 percent were male, whereas 50.9 percent were female, and less than one percent preferred to self-describe their gender identity. Like past-year players of the Texas Lottery games in 2020, more female respondents than male respondents were non-players (57.4 percent and 42.4 percent, respectively).

- Among the past-year players, 29.3 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 (24.9 percent). The difference between past-year players and non-players by Hispanic Origin was statistically significant.

- More than half (51.5 percent) of past-year players were married, whereas only 47.3 percent of non-players indicated that they were married. Overall, there was no statistically significant difference between past-year players and non-players in terms of marital status.

- A higher proportion of non-players (55.3 percent) were White (non-Hispanic) than past-year players (51.8 percent) in the 2020 survey. By contrast, a higher proportion of past-year players

[17] 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 year. The term “non-players” refers to those respondents who indicated not playing any Texas Lottery games or add-on features in the past year.

were Hispanic or African American (22.1 percent and 15.9 percent, respectively) than non-players (19.0 percent and 13.8 percent, respectively). Though, there was no statistically significant difference between past-year players and non-players in terms of race or ethnic composition.

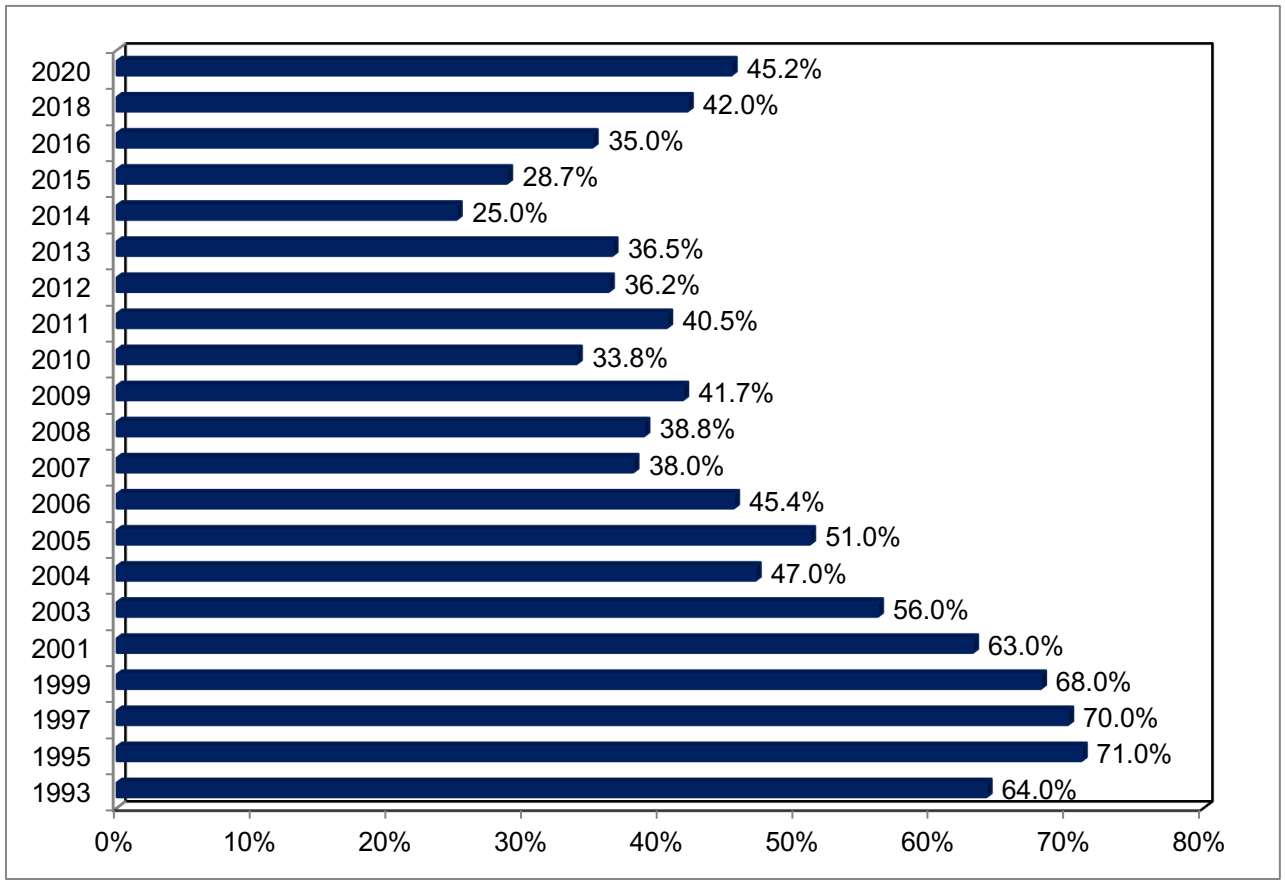
- Among the past-year players, the three largest occupational categories in 2020 were: “professional specialty” (25.6 percent), “executive, administrative, and managerial occupations” (22.8 percent), and “sales” (11.6 percent). Together, they constituted 60.0 percent of all respondents by occupation. The results were similar to the findings of the 2018 report. In general, there was no statistically significant difference between past-year players and non-players in terms of occupation.

- The demographic factors of age, marital status, number of children under 18 living in the household, race, education, and occupation were not statistically significant when it came to the difference between past-year players and non-players in the 2020 report.

III. GAME FINDINGS

IIIa. ANY GAME RESULTS

Figure 1
Percentage of Respondents Playing Any Lottery Game



Sources: 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2018, and 2020 Hobby School 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 overtime for those playing any Texas Lottery game beginning with the agency's first survey conducted in 1993. The Texas Lottery participation rate in 2020 was 45.2 percent, which was 3.2 percentage points higher than in 2018. The increase in the participation rate was not statistically significant, and its magnitude was smaller than 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 about 16.5 percentage points in the participation rates over the past four years.

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

Year	Percentage Played	Median Dollars Spent
2020[1] (overall N = 1,687)	45.2 (n=763)	$36.00
2018 (overall N = 1,691)	42.0 (n=711)	25.00
2016 (overall N = 1,685)	35.0 (n=589)	13.00
2015 (overall N = 1,979)	28.7 (n=568)	10.00
Demographic Factors 2020		
Education		
Less than high school diploma (n=75)	32.0 (n=24)	59.50
High school diploma (n=366)	44.3 (n=162)	40.00
Some college (n=415)	49.6 (n=206)	28.00
College degree (n=470)	48.3 (n=227)	34.00
Graduate degree (n=342)	40.4 (n=138)	49.00
Income*		
Less than $12,000 (n=134)	41.0 (n=55)	35.00
$12,000 to $19,999 (n=129)	41.1 (n=53)	42.00
$20,000 to $29,999 (n=149)	45.0 (n=67)	42.00
$30,000 to $39,999 (n=144)	51.4 (n=74)	32.50
$40,000 to $49,999 (n=101)	48.5 (n=49)	35.00
$50,000 to $59,999 (n=120)	48.3 (n=58)	54.00
$60,000 to $74,999 (n=126)	50.8 (n=64)	31.00
$75,000 to $100,000 (n=154)	54.6 (n=84)	34.00
More than $100,000 (n=378)	49.2 (n=186)	35.00
Race		
White or Anglo (n=875)	43.5 (n=381)	34.00
Black or African American (n=240)	48.8 (n=117)	35.00
Hispanic (n=333)	49.0 (n=163)	47.00
Asian or Pacific Islander (n=47)	34.0 (n=16)	27.50
Native American or Alaskan (n=24)	45.8 (n=11)	30.00
Other (n=42)	31.0 (n=13)	32.00
Two or More (n=69)	50.7 (n=35)	35.00

Note: Percentages are within a category; overall N's and n's are the numbers reported for all respondents in Table 3.

Table 3 (continued)

Demographic Factors 2020	Percentage Played	Median Dollars Spent
Hispanic Origin*		
Yes (n=438)	49.1 (n=215)	46.00
No (n=1,192)	43.5 (n=518)	34.00
Gender**		
Female (n=910)	42.2 (n=384)	30.50
Male (n=758)	48.7 (n=369)	40.00
Prefer to Self-Describe (n=4)	50.0 (n=2)	--[18]
Age		
18 to 24 (n=198)	37.4 (n=74)	25.50
25 to 34 (n=238)	42.4 (n=101)	30.00
35 to 44 (n=243)	58.9 (n=143)	60.00
45 to 54 (n=265)	53.2 (n=141)	32.00
55 to 64 (n=250)	51.6 (n=129)	48.00
65 or older (n=437)	35.7 (n=156)	33.50
Employment Status***		
Employed full/part time (n=870)	50.0 (n=435)	36.00
Unemployed (n=196)	42.4 (n=83)	40.00
Retired (n=440)	38.6 (n=170)	36.00

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. The significance notations refer only to the "percentage played" column and indicate whether there are statistically significant differences in the percentage playing any lottery game among different categories of each demographic factor.

[1] The increase in the participation rate from 2018 to 2020 was statistically significant only at the 90% confidence level, not the 95% confidence level that is used throughout the report.

Table 3 shows that there were significant differences among the respondents who had played any Texas Lottery game in the demographic characteristics of income, gender, Hispanic origin, and employment status. Concerning income, the participation rate was higher among those who had annual household incomes between $75,000 and $100,000 (54.6 percent) compared to female respondents (42.2 percent), while those with the lowest participation rate were those who had annual household incomes of $12,000 and $19,999 or less than $12,000 (41.1 percent and 41.0 percent, respectively). In terms of age, the participation rate was the highest for respondents in the 35 to 44 age cohort (58.9 percent), while the participation rate was the lowest for respondents in the 18 to 24 age cohort (37.4 percent). Those who identified as having Hispanic origin had higher participation rates (49.1 percent) compared to those who did not identify as Hispanic (43.5 percent). Lastly, respondents who were employed either full-time or part-time and unemployed had higher participation rates (50.0 percent and 42.4 percent, respectively) compared to those who were retired (38.6 percent).

[18] There were only five or fewer respondents in this sub-category and therefore it is not reported. This reporting rule is used for median dollars spent by demographics in all subsequent tables.

On the other hand, there was no statistically significant difference between past-year players and non-players in terms of education, race, and age.

Table 4
Participation and Dollars Spent by Lottery Sales District

Lottery Sales District	2020 Percent Playing Any Game	2018 Percent Playing Any Game	Percentage Change from 2018	2020 Average Amount Spent Per Month among Past-Year Players	2020 Median Amount Spent Per Month among Past-Year Players
Austin	47.1 (n=63)	43.0 (n=55)	4.1	$39.31	$20.00
Dallas North	47.7 (n=73)	37.8 (n=57)	9.9	60.87	40.00
Dallas South	45.4 (n=59)	34.7 (n=33)	10.7	64.18	33.00
El Paso	41.7 (n=15)	48.7 (n=19)	-7.0	82.93	40.00
Fort Worth*	39.5 (n=43)	39.2 (n=38)	0.3	44.79	24.00
Houston East	52.7 (n=39)	42.9 (n=48)	9.8	63.71	40.50
Houston Northwest*	40.5 (n=45)	44.0 (n=62)	-3.5	45.95	30.00
Houston Southwest	44.6 (n=70)	45.1 (n=65)	-0.5	47.52	35.00
Houston West**[19]	38.6 (n=69)	--	--	43.44	20.00
Lubbock	45.7 (n=37)	39.2 (n=49)	6.5	43.15	35.00
McAllen	58.6 (n=65)	50.0 (n=58)	8.6	81.60	56.00
San Antonio	48.8 (n=83)	35.3 (n=54)	13.5	45.27	30.00
Tyler**	33.3 (n=33)	46.7 (n=63)	-13.4	49.86	19.00
Waco	52.8 (n=57)	51.9 (n=54)	0.9	53.18	34.00

Note: * p < 0.05, ** p < 0.01, *** p < 0.001, two-tailed test. The letter "n" denotes the number of respondents who played any Texas Lottery game. The average and median amount spent per month only includes those who spent $1.00 or more.

- Table 4 shows that, among the 13 lottery sales districts, McAllen had the highest participation rate (58.6 percent) in any Texas Lottery game in 2020. The lottery sales districts of Waco and Houston East had the second- and third-highest participation rates of 52.8 percent and 52.7 percent, respectively. By contrast, the Tyler sales district experienced the lowest participation

[19] This sales district was not included in the 2018 report.

rate of 33.3 percent in 2020. The Fort Worth and Houston West sales districts also recorded low participation rates of 39.5 percent and 38.6 percent, respectively.

- Overall, the participation rates in most sales districts in 2020 increased compared to those in 2018. Specifically, two lottery sales districts logged double-digit increases in the participation rate in 2018: Dallas South (10.7 percentage points) and San Antonio (13.5 percentage points). The differences in the participation rates between 2018 and 2020 were statistically significant for the lottery sales districts of Fort Worth, Houston Northwest, Houston West, and Tyler. While the majority of sales districts had an increase in the participation rates in 2020, the El Paso, Houston Northwest, Houston Southwest, and Tyler sales districts experienced a decline in the participation rates of 7.0 percentage points, 3.5 percentage points, 0.5 percentage points, and 13.4 percentage points, respectively.

- The three lottery sales districts with the highest average monthly amounts spent per player in 2020 were El Paso ($82.93), McAllen ($81.60), and Dallas South ($64.18). By contrast, the lottery sales districts of Houston West ($43.44), Lubbock ($43.15), and Austin ($39.31) had the lowest average monthly amounts spent per player in 2020. Overall, the average monthly amounts spent per player in all lottery sales districts, apart from Fort Worth and McAllen, in 2020 were lower than those in 2018.

- The four lottery sales districts with the highest median monthly amounts spent per player were McAllen ($56.00), Houston East ($40.50), Dallas North ($40.00), and El Paso ($40.00). By contrast, the lottery sales districts of Fort Worth ($24.00), Austin ($20.00), Houston West ($20.00), and Tyler ($19.00) had the lowest median monthly amounts spent per player in 2020. It was noted that the median monthly amounts spent per player in the ten lottery sales districts in 2020 were higher than those in 2018.

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

Texas Lottery Game/Feature	2020 Number and Percent Playing the Game (n=763)	2018 Number and Percent Playing the Game (n=711)	Change in Percentage from 2018
Lotto Texas	570 (74.7%)	506 (71.2%)	3.5%
Texas Lottery Scratch Games	537 (70.4%)	460 (64.7%)	5.7%
Pick 3	463 (60.7%)	296 (41.6%)	19.1%
Mega Millions	433 (56.8%)	431 (60.6%)	-3.8%
Powerball	389 (51.0%)	401 (56.4%)	-5.4%
Cash Five	273 (35.8%)	155 (21.8%)	14.0%
FIREBALL Feature with Pick 3	209 (27.4%)	--	--
Extra! Feature with Lotto Texas	205 (26.9%)	125 (17.6%)	9.3%
Megaplier Feature with Mega Millions	197 (25.8%)	153 (21.5%)	4.3%
Power Play Feature with Powerball	184 (24.1%)	127 (17.9%)	6.2%
Texas Two Step	183 (24.0%)	90 (12.7%)	11.3%
Daily 4	105 (13.8%)	23 (3.2%)	10.6%
All or Nothing	104 (13.6%)	37 (5.2%)	8.4%
FIREBALL Feature with Daily 4	75 (9.8%)	--	--

Note: Games are shown in decreasing order of popularity based on 2020 percentages.

Similar to 2018, Lotto Texas was the most popular Texas Lottery game in 2020: 74.7 percent of past-year lottery players played this game, as shown in Table 5. Texas Lottery scratch games remained the second-most popular choice among lottery players at 70.4 percent, followed by Pick 3 which moved from the fifth position in 2018 to the third-most popular choice at 60.7 percent. A total of four games had a double-digit increase in their respective participation rates from 2018 to 2020. Pick 3 had the biggest increase in the participation rate from 2018 to 2020 (an increase of 19.1 percentage points), followed by Cash Five (an increase of 14.0 percentage points), Texas Two Step (an increase of 11.3 percentage points), and Daily 4 (an increase of 10.6 percentage points).

Notes on the report formats for the individual game results

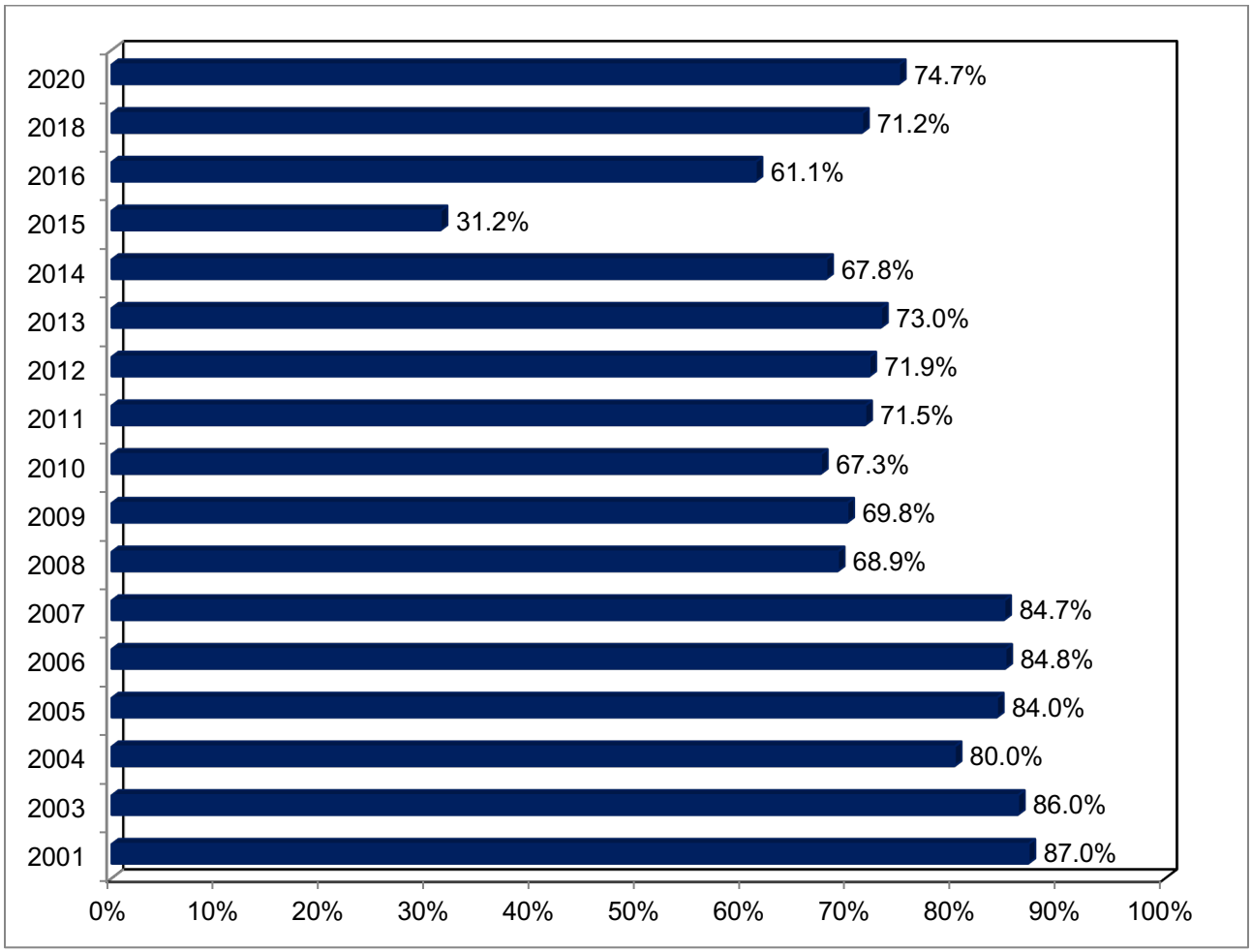
The following sections present the individual game results, from the most popular game and add-on feature to the least popular game and add-on feature. Detailed statistical analyses were presented for the eleven games/add-on features with a participation rate of 15 percent or higher in 2020: Lotto Texas, Texas Lottery scratch games, Mega Millions, Powerball, Pick 3, Cash Five, Megaplier Feature with Mega Millions, Power Play Feature with Powerball, Extra! Feature with Lotto Texas, the FIREBALL Feature with Pick 3, and Texas Two Step.

Less detailed statistical analyses were provided for the mid-range games and add-on features with participation rates below 15 percent and higher than three percent. We did not include analyses for individual games and add-on features with participation rates below three percent 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" followed the 2018 report. Consistent with the table format in the reports of 2014 and earlier years, this year's tables present the "Percentage Played Game Among Past-Year Players," which compared the proportions played and not played. Since the 2015 survey used a different survey instrument, the tables in the 2015 report used the "Number and Percent Playing the Game" rather than "Percentage Played Game Among Past Year Players"

IIIb. LOTTO TEXAS RESULTS

Figure 2
Percentage of Past-Year Players Playing Lotto Texas



Sources: Hobby School 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2018, and 2020 survey data and additional survey reports 2001-2006.

Figure 2 shows that 74.7 percent of past-year players bought Lotto Texas tickets in 2020. The participation rate was 3.5 percentage points higher than in 2018 (71.2 percent).

Figure 3
Frequency of Purchasing Lotto Texas Tickets
(n=570)

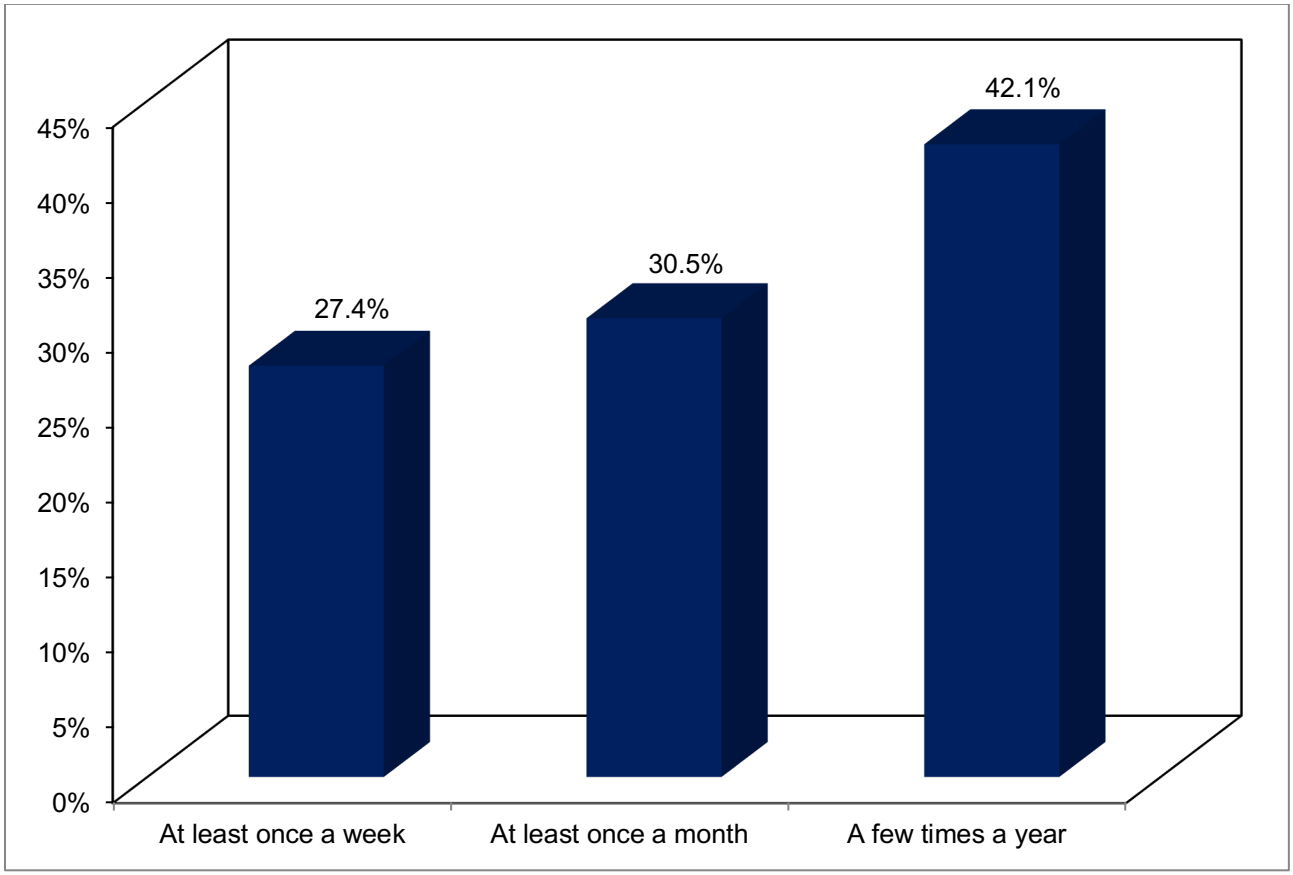


Figure 3 shows that 27.4 percent of the respondents that purchased Lotto Texas tickets purchased them at least once a week, while 30.5 percent bought tickets at least once a month. Additionally, 42.1 percent of the respondents reported having purchased Lotto Texas tickets a few times a year. The weekly and monthly frequencies of purchasing were higher than those reported in 2018 (27.1 percent and 25.1 percent, respectively).

Table 6
Average Number of Times Played Lotto Texas

Played Lotto Texas	Average Number of Times Played	
	2020	2018
Per week for weekly past-year players[20]	1.75	1.56
Per month for monthly past-year players[21]	4.03	3.80
Per year for yearly past-year players[22]	23.46	23.09

As shown in Table 6, weekly players of Lotto Texas bought the game 1.75 times per week. Monthly players did so 4.03 times per month on average. Yearly players bought the game 23.5 times per year on average. Yearly players of Lotto Texas reported playing one time slightly more frequently this year compared to 2018.

[20] The average number of times played per week excludes the respondents who reported having played more than 7 times a week. If those respondent are included, the average number of times played is 2.05 times per week.
[21] 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 4.44 times per month.
[22] 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 25.61 times per year.

Table 7
Dollars Spent on Lotto Texas

Lotto Texas	Dollars Spent	
	2020	2018
Average spent per play[23]	$13.75	$8.70
Average spent per month (mean)[24]	24.02	21.67
Average spent per month (median)[25]	10.00	10.00

As presented in Table 7, Lotto Texas players spent an average of $13.75 per play, which was larger than the average spent per play in 2018. Those who reported playing the game on a monthly or more frequent basis spent an average of $24.02 per month. Half of all respondents were likely to spend $10.00 or more a month on playing Lotto Texas. The mean expenditures on Lotto Texas in 2020 were higher than those in 2018.

[23] The average spent per play excludes a respondent who reported having spent more than $400 per play. If this respondent is included, the average spent per play is $15.62.
[24] The average spent per month (mean) excludes respondents who reported having spent more than $500 a month. If the respondents are included, the average spent per month (mean) is $36.17.
[25] The median spent per month excludes respondents who reported having spent more than $500 a month. If the respondents are included, the median spent per month is still $10.00.

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		
2020 (N = 763)	74.7 (n=570)	$10.00
2018 (N = 711)	71.2 (n=506)	5.00
2020 Demographics		
Education		
Less than high school diploma (n=24)	83.3 (n=20)	20.00
High school diploma (n=151)	80.1 (n=121)	10.00
Some college (n=195)	79.0 (n=154)	12.00
College degree (n=220)	74.6 (n=164)	10.00
Graduate degree (n=134)	80.6 (n=108)	11.00
Income		
Less than $12,000 (n=48)	81.3 (n=39)	16.00
$12,000 to $19,999 (n=52)	78.9 (n=41)	20.00
$20,000 to $29,999 (n=65)	80.0 (n=52)	10.00
$30,000 to $39,999 (n=67)	73.1 (n=43)	12.00
$40,000 to $49,999 (n=49)	65.3 (n=32)	17.50
$50,000 to $50,999 (n=58)	81.0 (n=47)	10.00
$60,000 to $74,999 (n=63)	81.0 (n=51)	10.00
$75,000 to $100,000 (n=81)	82.7 (n=67)	10.00
More than $100,000 (n=178)	78.7 (n=140)	10.00
Race		
White (n=367)	79.0 (n=290)	10.00
African American (n=112)	83.9 (n=94)	10.00
Hispanic (n=155)	76.1 (n=118)	10.00
Asian (n=14)	64.3 (n=9)	15.00
Native American (n=9)	55.6 (n=5)	--
Other (n=13)	76.9 (n=10)	6.00
Two or More (n=35)	80.0 (n=28)	15.00

Note: Percentages are within a category; overall N's are the numbers of past-year players for all games; overall n's are the numbers of all respondents in each category. The average and median amount spent per month only includes those who spent $1.00 or more.

Table 8 (continued)

Hispanic Origin		
Yes (n=496)	77.9 (n=162)	10.00
No (n=208)	78.8 (n=391)	10.00
Gender		
Female (n=356)	81.2 (n=289)	10.00
Male (n=363)	75.5 (n=274)	10.00
Prefer to Self-Describe (n=2)	50.0 (n=1)	--
Age		
18 to 24 (n=66)	69.7 (n=46)	10.00
25 to 34 (n=95)	74.7 (n=71)	12.00
35 to 44 (n=141)	80.9 (n=114)	14.50
45 to 54 (n=135)	80.7 (n=109)	10.00
55 to 64 (n=125)	84.8 (n=106)	15.00
65 or older (n=148)	74.3 (n=110)	10.00
Employment Status		
Employed full/part time (n=419)	77.3 (n=324)	10.00
Unemployed (n=79)	87.3 (n=69)	11.00
Retired (n=163)	76.1 (n=124)	12.00

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

Table 8 shows an increase of 3.5 percentage points in the participation rate for Lotto Texas between 2020 (74.7 percent) and 2018 (71.2 percent). The difference in the percentage of respondents playing Lotto Texas between 2018 and 2020 was not statistically significant.

- The survey did not find any statistically significant differences between past-year players who played Lotto Texas and those who did not in 2020 in terms of the demographic factors of education, income, race, Hispanic origin, gender, age, and employment status.

Figure 4
Years Playing Lotto Texas
(n=551)

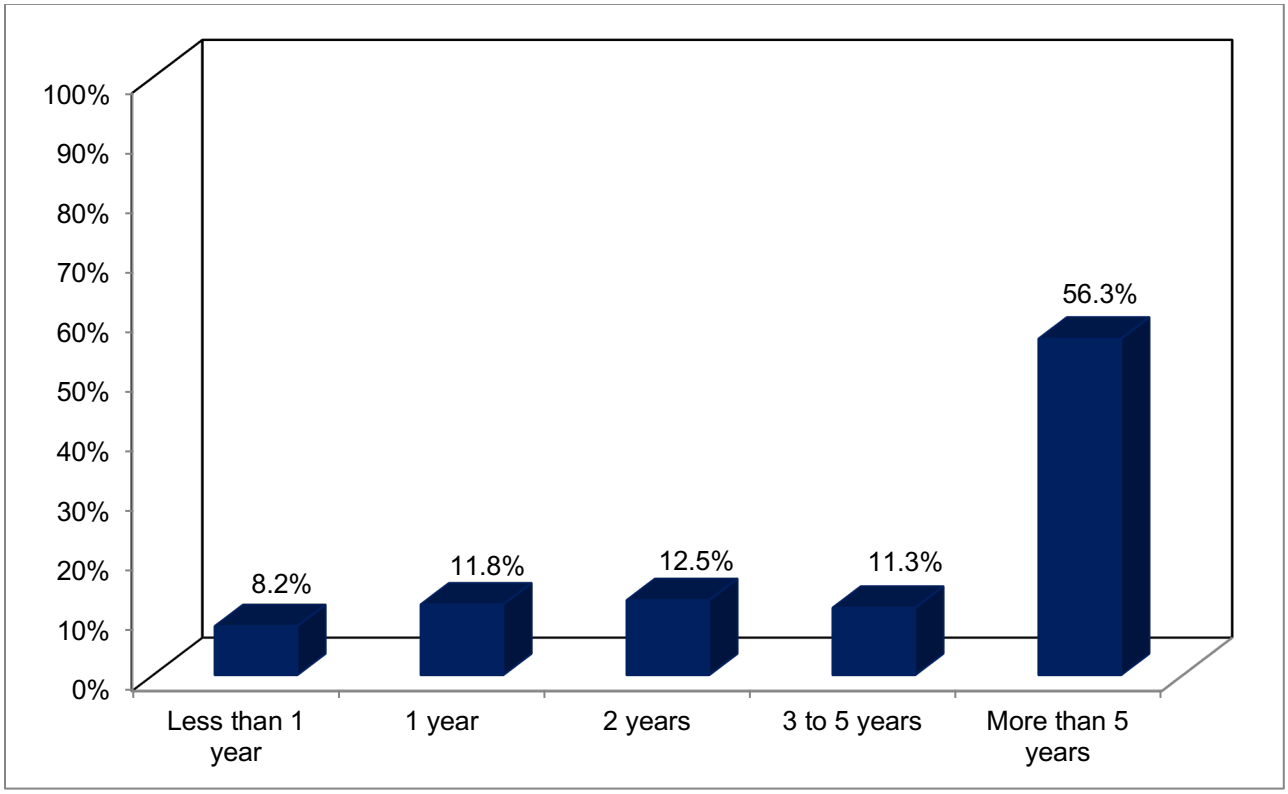
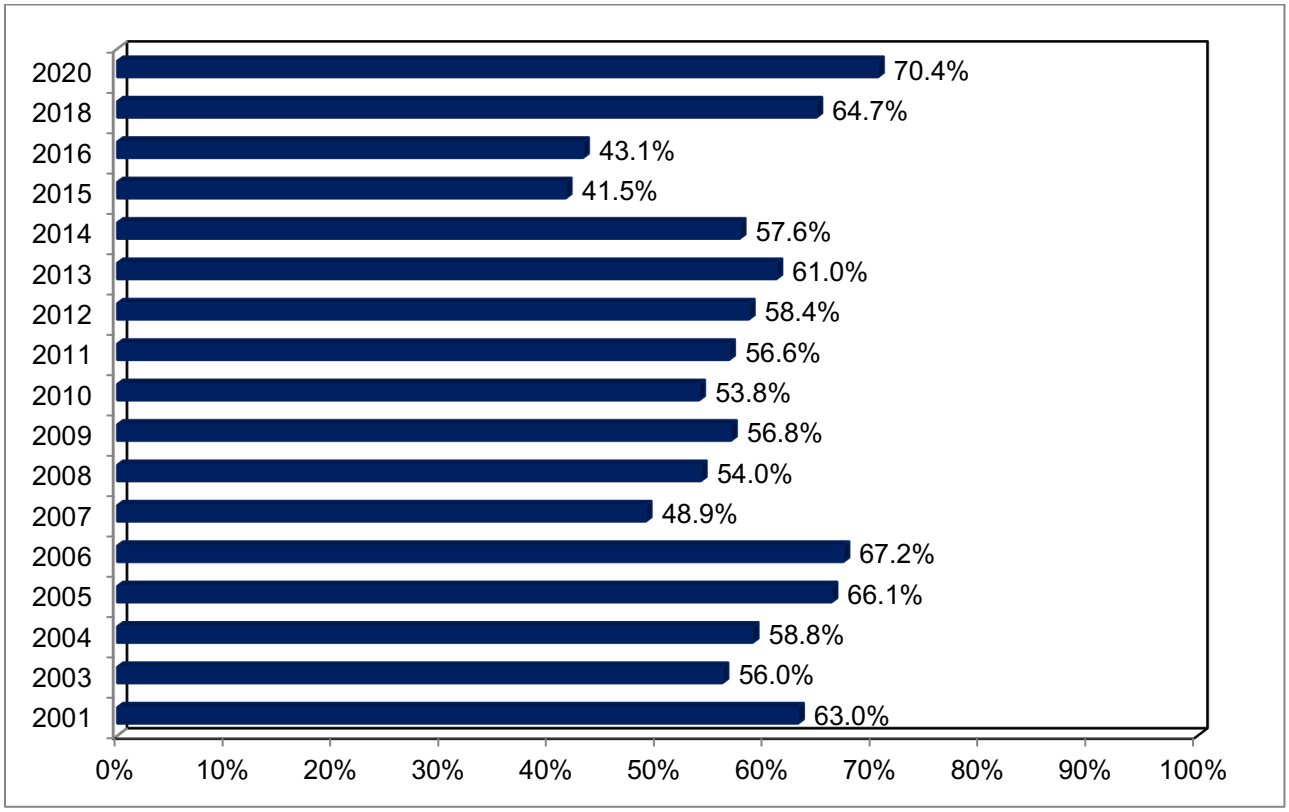


Figure 4 shows that 56.3 percent of the respondents who played Lotto Texas in the past year reported playing it for more than five years. This rate was 15.6 percentage points lower than that in 2018. About eleven percent (11.3) of the respondents reported having played Lotto Texas for three to five years compared to10.4 percent in 2018.

IIIc. TEXAS LOTTERY SCRATCH GAMES RESULTS

Figure 5
Percentage of Past-Year Players Playing Texas Lottery Scratch Games



Sources: Hobby School 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2018, and 2020 survey data and additional survey reports 2001-2006.

As shown in Figure 5, 70.4 percent of past-year players bought Texas Lottery scratch tickets in 2020. The participation rate was significantly higher than 64.7 percent in 2018.

Figure 6
Frequency of Purchasing Texas Lottery Scratch Tickets
(n=537)

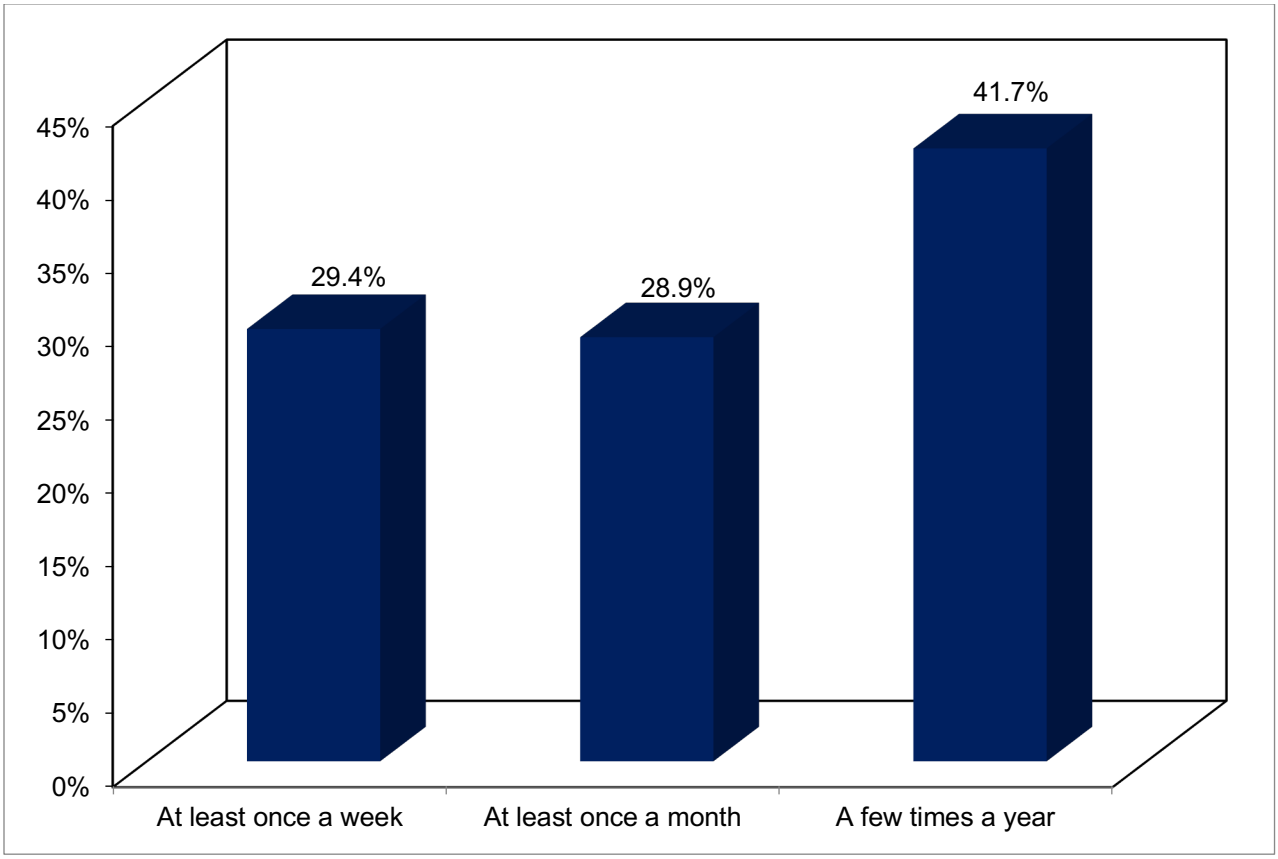


Figure 6 shows that 29.4 percent of respondents purchased Texas Lottery scratch tickets at least once a week. Another 28.9 percent purchased the tickets at least once a month and 41.7 percent reported purchasing tickets a few times a year. Percentages of those purchasing Texas Lottery scratch tickets monthly in 2020 were higher than those in 2018.

Table 9
Average Number of Times Played Texas Lottery Scratch Games

Played Texas Lottery Scratch Games	Average Number of Times Played	
	2020	2018
Per week for weekly past-year players[26]	2.01	2.03
Per month for monthly past-year players[27]	4.80	5.25
Per year for yearly past-year players[28]	21.69	26.46

Table 9 demonstrates that the weekly past-year players of the Texas Lottery scratch games played an average number of 2.01 times per week in 2020. Monthly players played an average number of 4.80 times per month, whereas yearly players played an average of 21.69 times per year.

Table 10
Dollars Spent on Texas Lottery Scratch Tickets

Texas Lottery Scratch Tickets	Dollars Spent	
	2020	2018
Average spent per play[29]	$17.45	$13.85
Average spent per month (mean)[30]	34.12	31.57
Average spent per month (median)[31]	15.00	13.00

Texas Lottery scratch game players spent an average of $17.45 per play in 2020 compared to $13.85 reported in 2018 (Table 10). Those who played on a monthly or more frequent basis spent an average of $3.60 more than the amount reported in 2018. Half of the past-year players of the Texas Lottery scratch games spent $15.00 or more per month in 2020.

[26] 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 2.16 times per week.
[27] 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 5.19 times per month.
[28] The average number of times played per year excludes the respondents who reported having played 300 times or more a year. If those respondents are included, the average number of times played is 28.67 times per year.
[29] The average spent per play excludes the respondents who reported having spent $400 or more per play. If those respondents are included, the average spent per play is $21.51.
[30] The average spent per month (mean) excludes the respondents who reported having spent $500 or more a month. If those respondents are included, the average spent per month (mean) is $64.52.
[31] The average spent per month (median) excludes the respondents who reported having spent $500 or more a month. If those respondents are included, the average spent per month (median) is $16.00.

Table 11
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*		
2020 (N = 763)	70.4 (n=537)	$15.50
2018 (N = 711)	64.7 (n=460)	10.00
2020 Demographics		
Education		
Less than high school diploma (n=21)	81.0 (n=17)	30.00
High school diploma (n=151)	76.8 (n=116)	20.00
Some college (n=191)	77.5 (n=148)	15.00
College degree (n=218)	71.1 (n=155)	15.00
Graduate degree (n=134)	73.1 (n=98)	12.00
Income**		
Less than $12,000 (n=44)	79.6 (n=35)	20.00
$12,000 to $19,999 (n=47)	87.2 (n=41)	20.00
$20,000 to $29,999 (n=63)	74.6 (n=47)	15.50
$30,000 to $39,999 (n=69)	81.2 (n=56)	10.00
$40,000 to $49,999 (n=49)	77.6 (n=38)	20.00
$50,000 to $59,999 (n=57)	84.2 (n=48)	16.00
$60,000 to $74,999 (n=61)	65.6 (n=40)	20.00
$75,000 to $100,000 (n=82)	75.6 (n=62)	10.00
More than $100,000 (n=178)	68.0 (n=121)	12.00
Race		
White (n=366)	72.7 (n=266)	15.00
African American (n=110)	74.6 (n=82)	18.00
Hispanic (n=149)	81.9 (n=122)	20.00
Asian (n=14)	71.4 (n=10)	40.00
Native American (n=11)	63.6 (n=7)	--
Other (n=13)	61.5 (n=8)	10.00
Two or More (n=31)	80.7 (n=25)	15.00

Note: Percentages are within a 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. The average and median amount spent per month only includes those who spent $1.00 or more.

Table 11 (continued)

Hispanic Origin*		
Yes (n=201)	80.1 (n=161)	20.00
No (n=492)	72.0 (n=354)	15.00
Gender*		
Female (n=355)	78.6 (n=279)	18.00
Male (n=355)	70.4 (n=250)	15.00
Prefer to Self-Describe (n=2)	50.0 (n=1)	--
Age***		
18 to 24 (n=64)	84.4 (n=54)	15.00
25 to 34 (n=91)	76.9 (n=70)	15.00
35 to 44 (n=138)	85.5 (n=118)	18.00
45 to 54 (n=133)	75.9 (n=101)	15.00
55 to 64 (n=124)	67.7 (n=84)	20.00
65 or older (n=150)	65.3 (n=98)	12.00
Employment Status		
Employed full/part time (n=411)	75.7 (n=311)	20.00
Unemployed (n=78)	75.6 (n=59)	15.00
Retired (n=164)	68.9 (n=113)	10.00

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

As shown in Table 11, there was an increase of 5.7 percentage points in the participation rate for Texas Lottery scratch games between 2018 and 2020 (64.7 percent and 70.4 percent, respectively). The difference in the percentage of respondents playing Texas Lottery scratch games between 2018 and 2020 was statistically significant.

- The difference between the Texas Lottery scratch games past-year players and non-players was statistically significant by income level. The participation rate was the highest among players with annual household income between $12,000 and $19,999 (87.2 percent), closely followed by those with annual household income between $30,00 and $39,999 and $50,000 and $59,999 (81.2 percent and 84.2 percent, respectively). Those with the highest median dollars spent of $20.00 on playing the Texas Lottery scratch games in 2020 were among those who had annual household incomes less than $12,000, between $12,000 and $12,999, between $40,000 and $49,999, and between $60,000 and $74,999.

- There was no statistically significant difference between Texas Lottery scratch game past-year players and non-players by race and ethnicity, with exception of those identifying as Hispanic/Latino(a).

- There was a statistically significant difference between the Texas Lottery scratch games' past-year players and non-players of Hispanic origin. The participation rate of the Texas Lottery scratch games for players of Hispanic origin (80.1 percent) was higher than non-Hispanics (72.0 percent).

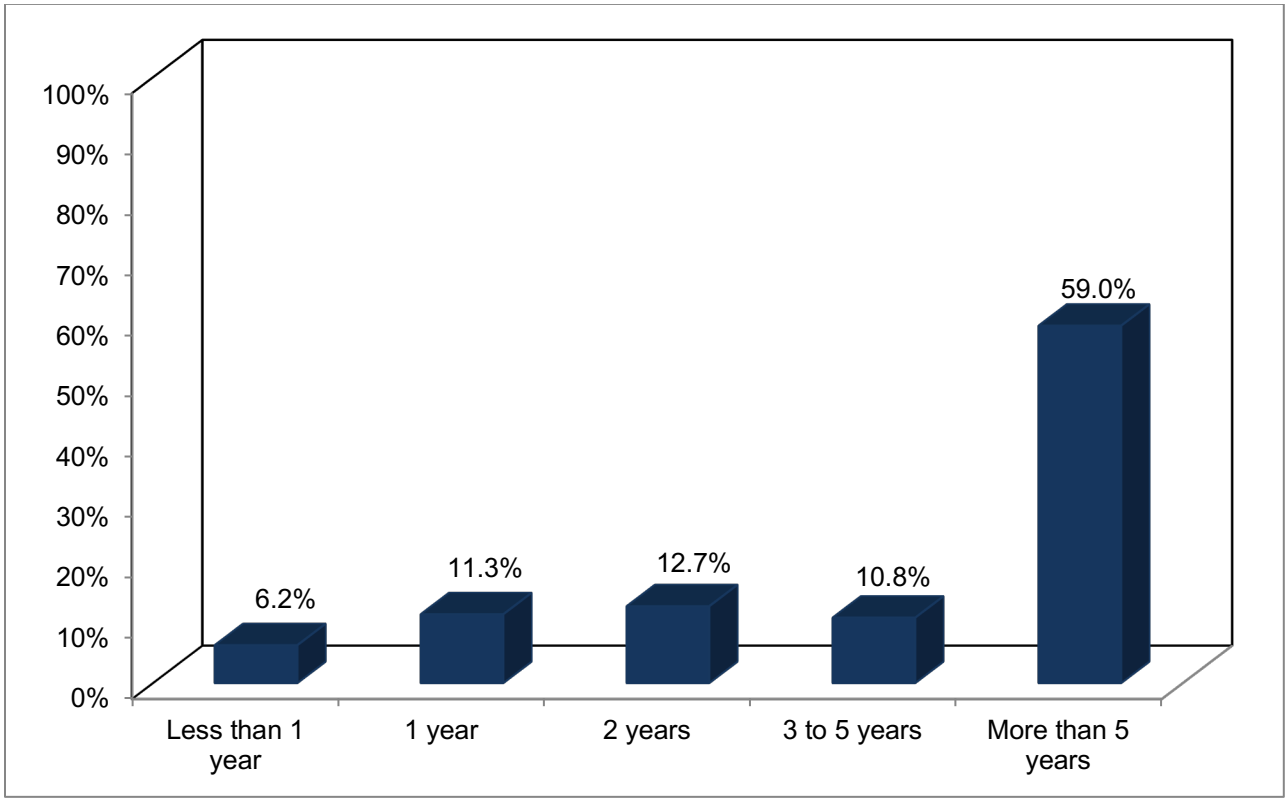
- There was a statistically significant difference between the Texas Lottery scratch games' past-year players and non-players by gender. The highest participation rates and median dollars spent

on the Texas Lottery scratch games were among female players (78.6 percent and $18.00, respectively).

- There was a statistically significant difference between the Texas Lottery scratch games' past-year players and non-players by age. The participation rates for the Texas Lottery scratch games were high among players across many age groups. It was the highest for the age group of 35 to 44 (at 85.5 percent), followed by the age group of 18 to 24 (84.4 percent). The highest median dollars spent on playing the Texas Lottery scratch games in 2020 were those in the 55 to 64 age range (at $20.00).

- There were no statistically significant differences between past-year players who played Texas Lottery scratch games and those who did not in 2020 with regard to the demographic factors of education, race, and employment status.

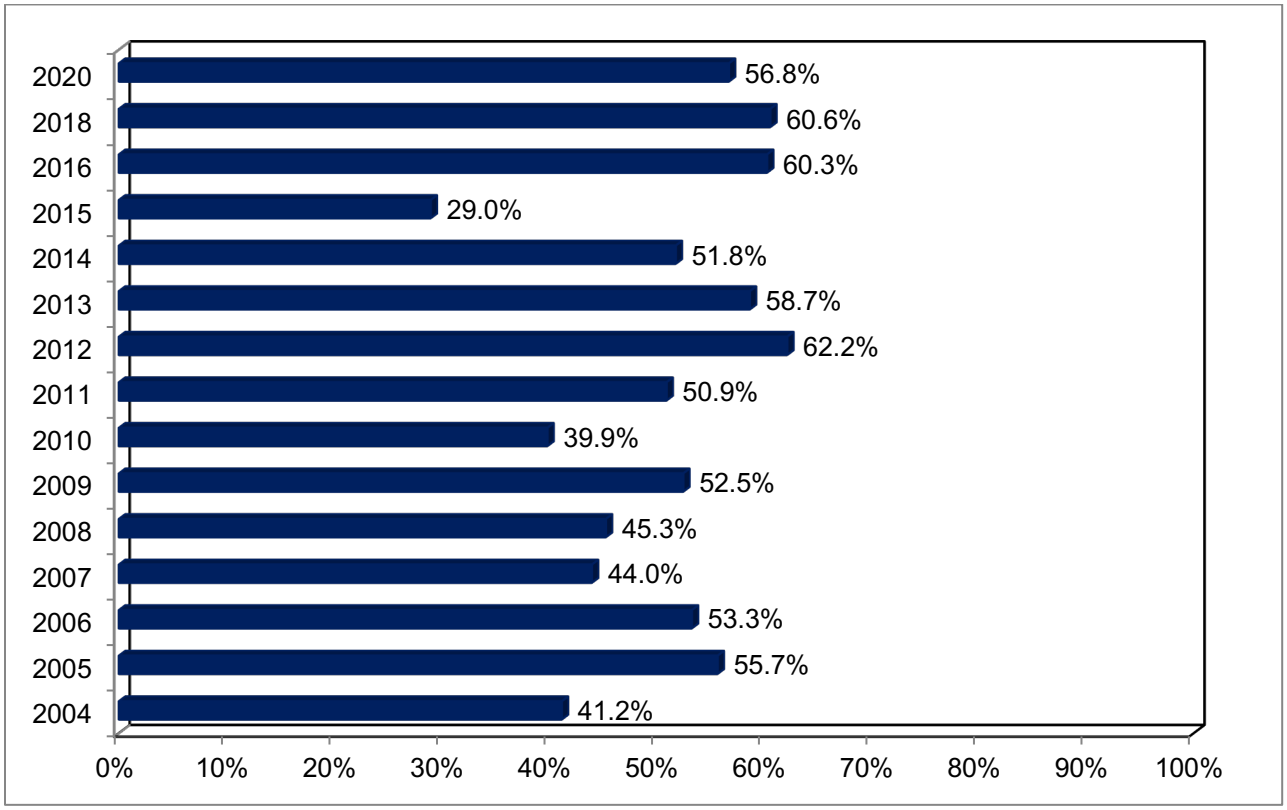
Figure 7
Years Playing Texas Lottery Scratch Games
(n=529)



As shown in Figure 7, a high proportion (59.0 percent) of the respondents who played Texas Lottery scratch games reported playing them for more than 5 years. However, the percentage was still lower than that in 2018 (76.2 percent). Only 17.5 percent of the respondents reported having played Texas Lottery scratch games for just one year or less.

IIId. MEGA MILLIONS RESULTS

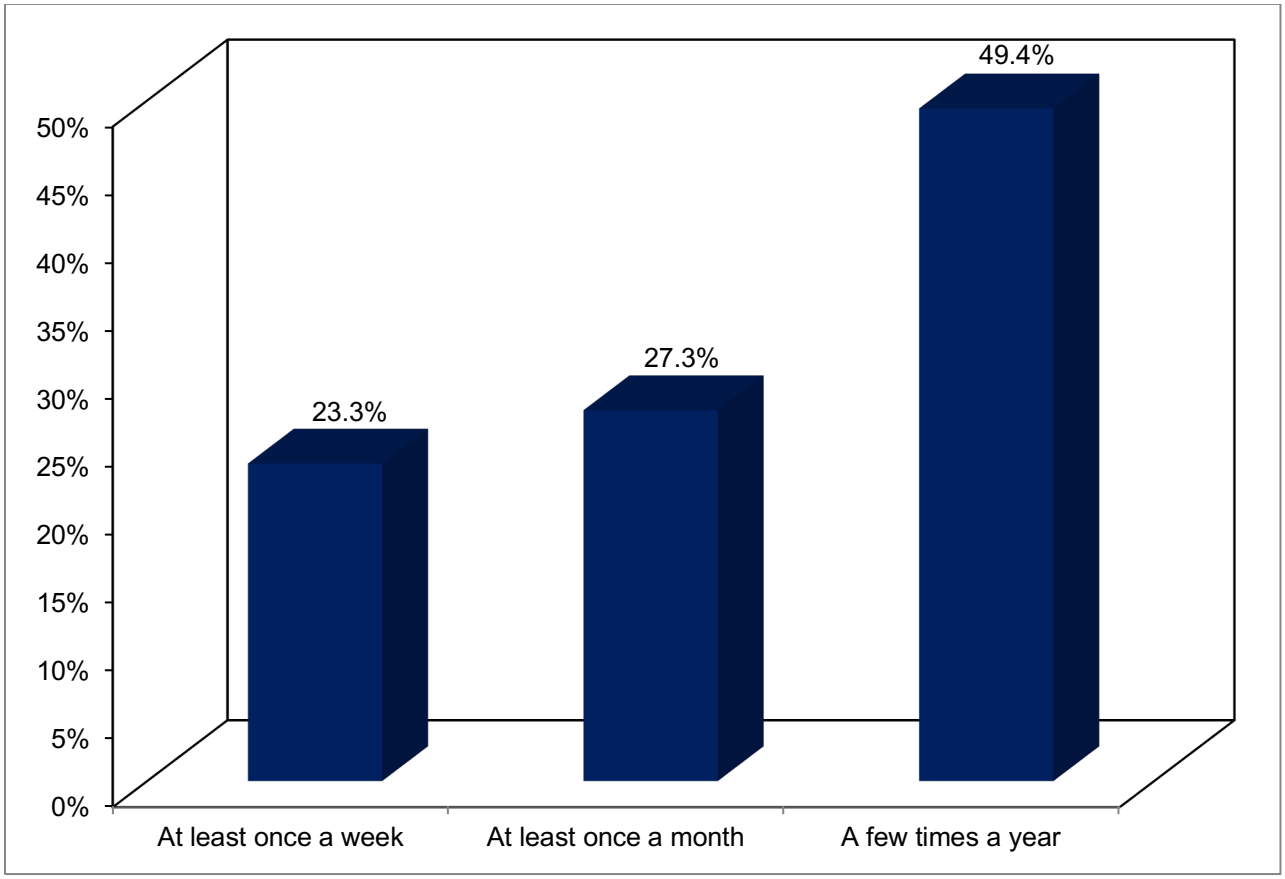
Figure 8
Percentage of Past-Year Players Playing Mega Millions



Sources: Hobby School 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2018, and 2020 survey data and additional survey reports 2004-2006.

Figure 8 shows that 56.8 percent of the past-year players played Mega Millions in 2020, which was a decrease from the participation rate in 2018 (60.6 percent).

Figure 9
Frequency of Purchasing Mega Millions Tickets
(n=433)



As shown in Figure 9, 49.4 percent of survey respondents reported buying Mega Millions tickets a few times a year, a decrease of 6.5 percentage points from 2018. Besides, 23.3 percent of the respondents reported that they purchased Mega Millions tickets at least once a week and 27.3 percent did so at least once a month. The weekly and monthly frequencies of purchasing was higher than that reported in 2018 (20.4 percent and 23.7 percent, respectively).

Table 12
Average Number of Times Played Mega Millions

Played Mega Millions	Average Number of Times Played	
	2020	2018
Per week for weekly past-year players	1.77	1.38
Per month for monthly past-year players[32]	3.58	3.13
Per year for yearly past-year players [33]	20.85	19.50

Table 12 shows that weekly players of Mega Millions played the game an average of 1.77 times per week. Monthly players did so 3.58 times per month on average, and yearly players averaged 20.85 times per year.

Table 13
Dollars Spent on Mega Millions

Mega Millions	Dollars Spent	
	2020	2018
Average spent per play[34]	$13.12	$9.21
Average spent per month (mean)[35]	24.39	15.39
Average spent per month (median)[36]	10.00	8.00

Table 13 shows that Mega Millions players spent an average of $13.12 per play in 2020, which was $3.91 higher than the average spent per play in 2018 ($9.21). Those who reported playing the game on a monthly or more frequent basis spent an average of $24.39, which was $9.00 higher than in 2018. Half of the respondents spent $10.00 or more a month on purchasing Mega Millions tickets in 2020. The mean and median expenditures on Mega Millions in 2020 are higher than those in 2018.

[32] The average number of times played per month excludes respondents who reported having played more than 30 times a month. If the respondents are included, the average number of times played is 3.78 times per month.
[33] The average number of times played per year excludes respondents who reported having played more than 300 times a year. If the respondents are included, the average number of times played is 22.67 times per year.
[34] The average spent per play excludes the respondents who reported having spent $400 or more per play. If those respondents are included, the average spent per play is $20.43.
[35] The average spent per month (mean) excludes the respondents who reported having spent $500 or more a month. If those respondents are included, the average spent per month (mean) is $40.14.
[36] The average spent per month (median) excludes the respondents who reported having spent $500 or more a month. If those respondents are included, the average spent per month (median) is still $10.00.

Table 14
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		
2020 (N = 763)	56.8 (n=433)	$10.00
2018 (N = 711)	60.6 (n=431)	5.00
2020 Demographics		
Education*		
Less than high school diploma (n=23)	43.5 (n=10)	13.00
High school diploma (n=143)	55.9 (n=80)	10.00
Some college (n=193)	59.1 (n=114)	10.00
College degree (n=213)	62.4 (n=133)	10.00
Graduate degree (n=130)	70.8 (n=92)	10.00
Income***		
Less than $12,000 (n=48)	39.6 (n=19)	16.00
$12,000 to $19,999 (n=52)	50.0 (n=26)	13.50
$20,000 to $29,999 (n=62)	64.5 (n=40)	9.00
$30,000 to $39,999 (n=64)	53.1 (n=34)	8.00
$40,000 to $49,999 (n=48)	62.5 (n=30)	10.00
$50,000 to $59,999 (n=55)	58.2 (n=32)	10.00
$60,000 to $74,999 (n=58)	50.0 (n=29)	6.00
$75,000 to $100,000 (n=82)	70.7 (n=58)	12.00
More than $100,000 (n=173)	78.0 (n=135)	10.00
Race		
White (n=354)	63.8 (n=226)	10.00
African American (n=109)	62.4 (n=68)	9.00
Hispanic (n=147)	57.8 (n=85)	9.00
Asian (n=15)	60.0 (n=9)	15.00
Native American (n=10)	70.0 (n=7)	10.00
Other (n=13)	76.9 (n=10)	6.00
Two or More (n=33)	48.5 (n=16)	20.00

Note: Percentages are within a 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. The average and median amount spent per month only includes those who spent $1.00 or more.

Table 14 (continued)

Hispanic Origin		
Yes (n=197)	58.9 (n=116)	10.00
No (n=483)	62.5 (n=302)	10.00
Gender		
Female (n=346)	59.3 (n=205)	10.00
Male (n=351)	63.5 (n=223)	10.00
Prefer to Self-Describe (n=2)	50.0 (n=1)	--
Age		
18 to 24 (n=69)	42.0 (n=29)	10.00
25 to 34 (n=89)	61.8 (n=55)	9.50
35 to 44 (n=136)	69.9 (n=95)	10.00
45 to 54 (n=129)	67.4 (n=87)	10.00
55 to 64 (n=118)	63.6 (n=75)	10.00
65 or older (n=148)	55.4 (n=82)	10.00
Employment Status**		
Employed full/part time (n=408)	66.7 (n=272)	10.00
Unemployed (n=75)	65.3 (n=49)	10.00
Retired (n=160)	52.5 (n=84)	10.00

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

As shown in Table 14, there were similar participation rates for Mega Millions in 2018 (60.6 percent) and 2020 (56.8 percent). The difference in the percentage of respondents playing Mega Millions between 2018 and 2020 was not statistically significant.

- The difference between the Mega Millions past-year players and non-players was statistically significant by education. The participation rate was the highest among players with a graduate degree (70.8 percent), followed by those with a college degree (62.4 percent). In addition, players with less than a high school diploma had the highest median dollars spent on Mega Millions of $13.00.

- The difference between the Mega Millions past-year players and non-players was statistically significant by income. The participation rate was the highest among players with annual household income between $75,000 and $100,000, followed by those with an annual household income of more than $100,000 (70.7 percent and 78.0 percent, respectively).

- The difference between the Mega Millions past-year players and non-players was statistically significant by employment status. The participation rates for the Mega Millions game were highest among players who were employed either part-time or full-time (66.7 percent), closely followed by those who were unemployed (65.3 percent). By contrast, those who were retired had the lowest participation rate of 52.5 percent. The median dollars spent of $10.00 on Mega Millions was the same across all employment statuses.

- There were no statistically significant differences between past-year players who played Mega Millions and those who did not in 2020 in terms of the demographic factors of race, Hispanic origin, gender, and age.

Figure 10
Years Playing Mega Millions
(n=427)

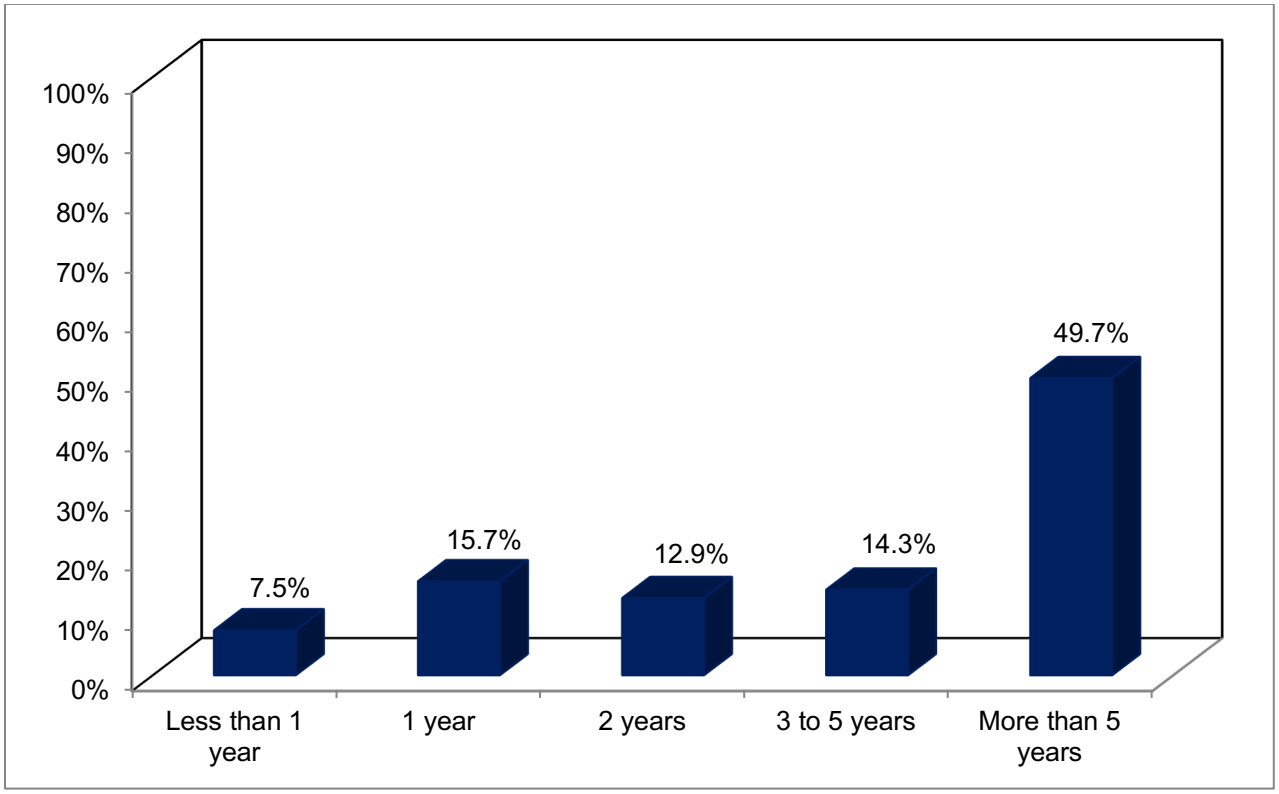
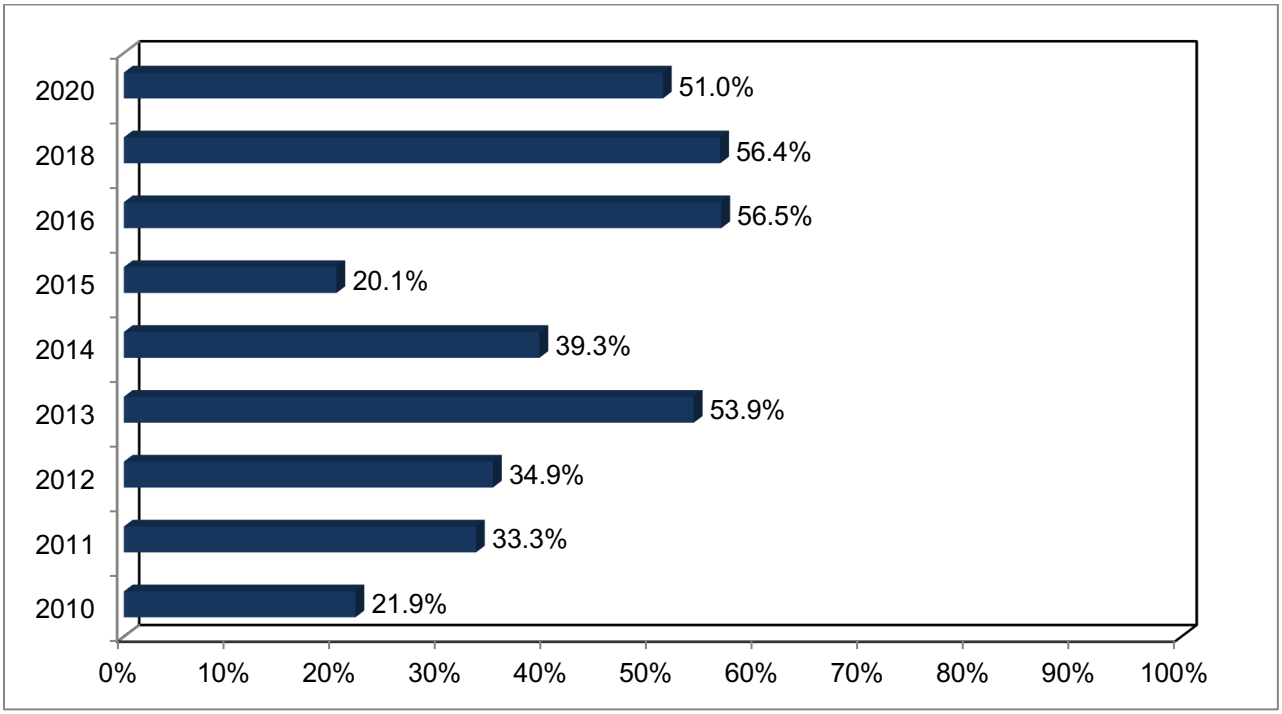


Figure 10 shows that 49.7 percent of the respondents reported that they had been playing Mega Millions for more than five years. Moreover, 14.3 percent of the respondents reported having played Mega Millions for three to five years. Another 23.2 percent of the respondents had played the game for one year or less.

IIIe. POWERBALL RESULTS

Figure 11
Percentage of Past-Year Players Playing Powerball



Sources: Hobby School 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2018, and 2020 survey data.

Figure 11 indicates that more than half (51.0 percent) of past-year players reported that they played the Powerball game in 2020. The participation rate was 5.4 percentage points less than that recorded in 2018 (56.4 percent).

Figure 12
Frequency of Purchasing Powerball Tickets
(n=389)

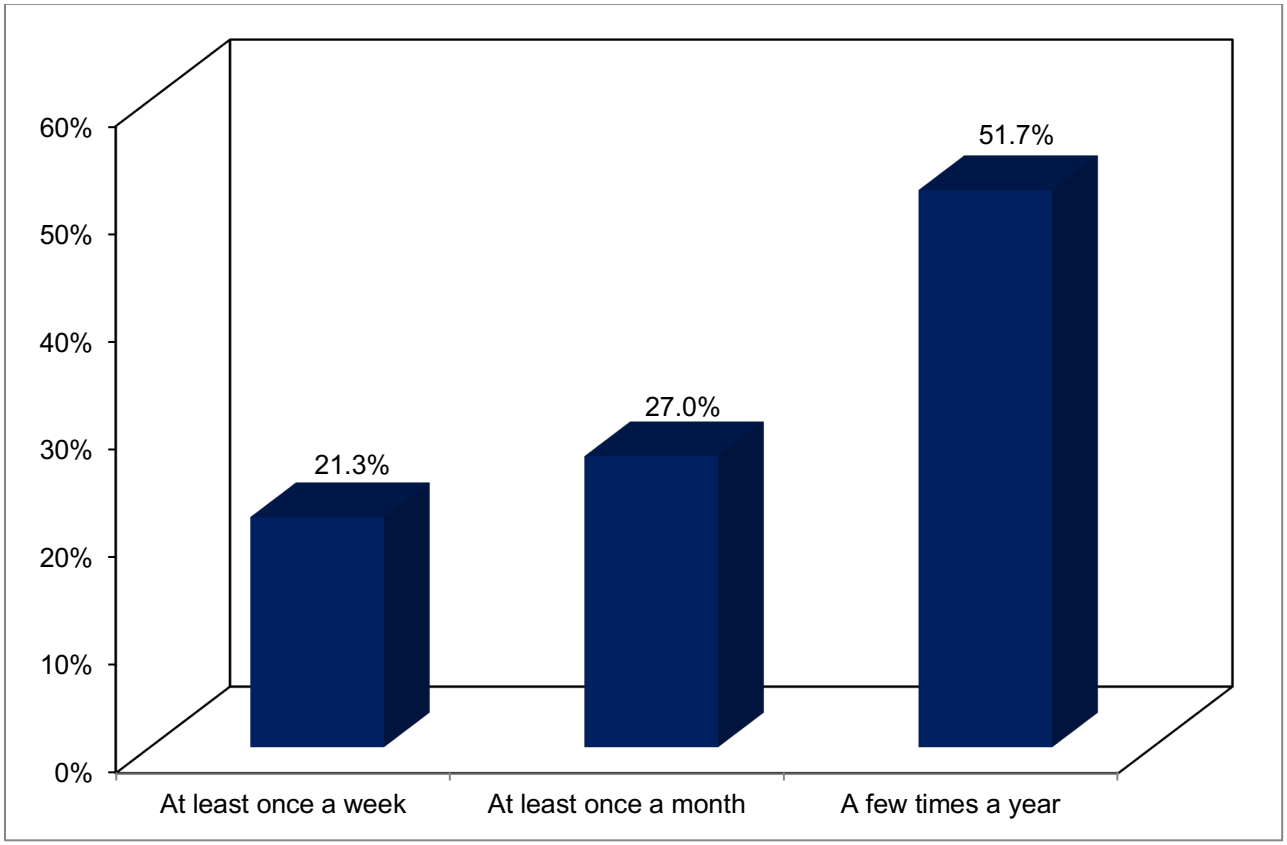


Figure 12 reveals that 21.3 percent of the respondents who purchased Powerball tickets purchased them at least once a week. Another 27.0 percent purchased the tickets at least once a month, which was higher than reported in 2018 (24.9 percent). More than half (51.7 percent) of the respondents reported having bought Powerball tickets a few times a year.

Table 15
Average Number of Times Played Powerball

Played Powerball	Average Number of Times Played	
	2020	2018
Per week for weekly past-year players	1.77	1.35
Per month for monthly past-year players[37]	3.64	2.99
Per year for yearly past-year players[38]	20.31	20.59

As shown in Table 15, weekly players of Powerball played the game with an average number of 1.77 times per week. Monthly players did so 3.64 times per month on average. Yearly players bought the tickets 20.31 times per year on average, which was 0.28 times less than in 2018.

Table 16
Dollars Spent on Powerball

Powerball	Dollars Spent	
		2018
Average spent per play[39]	$13.63	$8.28
Average spent per month (mean)[40]	20.98	15.77
Average spent per month (median)[41]	10.00	9.00

Table 16 demonstrates that Powerball players spent an average of $13.63 per play in 2020. Those who reported playing the game on a monthly or more frequent basis spent an average of $20.98 per month, which was $5.21 higher than that in 2018. Half of the respondents were likely to spend $10.00 or more a month on Powerball, which was higher than the median value in 2018 ($9.00).

[37] The average number of times played per month excludes respondents who reported having played more than 30 times a month. If the respondents are included, the average number of times played is 3.87 times per month.
[38] The average number of times played per year excludes a respondent who reported having played 365 times in a year. If the respondent is included, the average number of times played is 21.30 times per year.
[39] The average spent per play excludes respondents who reported having spent more than $400 per play. If those respondents are included, the average spent per month (mean) is $19.40.
[40] The average spent per month (mean) excludes respondents who reported having spent more than $500 a month. If these respondents are included, the average spent per month (mean) is $62.79.
[41] The average spent per month (median) excludes respondents who reported having spent more than $500 a month. If these respondents are included, the average spent per month (median) is still $10.00.

Table 17
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*		
2020 (N = 763)	51.0 (n=389)	$10.00
2018 (N = 711)	56.4 (n=401)	5.00
2020 Demographics		
Education*		
Less than high school diploma (n=23)	47.8 (n=11)	24.00
High school diploma (n=143)	52.5 (n=75)	10.00
Some college (n=190)	52.6 (n=100)	6.00
College degree (n=214)	53.7 (n=115)	10.00
Graduate degree (n=130)	66.2 (n=86)	15.00
Income**		
Less than $12,000 (n=46)	47.8 (n=22)	12.00
$12,000 to $19,999 (n=49)	55.1 (n=27)	11.00
$20,000 to $29,999 (n=62)	46.8 (n=18)	10.00
$30,000 to $39,999 (n=66)	59.1 (n=39)	6.00
$40,000 to $49,999 (n=49)	44.9 (n=22)	6.00
$50,000 to $50,999 (n=56)	50.0 (n=28)	5.50
$60,000 to $74,999 (n=56)	50.0 (n=28)	10.00
$75,000 to $100,000 (n=79)	59.5 (n=47)	12.00
More than $100,000 (n=175)	65.7 (n=115)	11.00
Race		
White (n=357)	55.5 (n=198)	10.00
African American (n=107)	64.5 (n=69)	6.00
Hispanic (n=148)	53.4 (n=79)	9.00
Asian (n=15)	26.7 (n=4)	--
Native American (n=10)	70.0 (n=7)	10.00
Other (n=13)	61.5 (n=8)	6.50
Two or More (n=29)	41.4 (n=12)	14.00

Note: Percentages are within a 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. The average and median amount spent per month only includes those who spent $1.00 or more.

Table 17 (continued)

Hispanic Origin		
Yes (n=196)	50.5 (n=99)	10.00
No (n=481)	56.8 (n=273)	10.00
Gender		
Female (n=343)	53.1 (n=182)	8.00
Male (n=352)	57.7 (n=203)	10.00
Prefer to Self-Describe (n=2)	50.0 (n=1)	--
Age*		
18 to 24 (n=65)	38.5 (n=25)	10.00
25 to 34 (n=89)	46.1 (n=41)	10.00
35 to 44 (n=136)	64.0 (n=87)	10.00
45 to 54 (n=129)	58.9 (n=76)	10.00
55 to 64 (n=120)	53.3 (n=64)	11.00
65 or older (n=149)	59.1 (n=88)	10.00
Employment Status		
Employed full/part time (n=405)	57.8 (n=234)	10.00
Unemployed (n=74)	55.4 (n=41)	12.00
Retired (n=162)	53.7 (n=87)	10.00

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

Table 17 shows that there was a statistically significant difference in the participation rate for Powerball between 2018 (56.4 percent) and 2020 (51.0 percent). The median dollars spent playing Powerball tickets in 2020 ($10.00) doubled the median dollars spent in 2018 ($5.00).

- The difference between Powerball past-year players and non-players was statistically significant by education. The participation rate was the highest among players with a graduate degree (66.2 percent), followed by those with a college degree (53.7 percent). In addition, players with less than a high school diploma had the highest median dollars spent on Powerball tickets of $24.00.

- There was a statistically significant difference between the Powerball past-year players and non-players by income level. The participation rate for the Powerball game was the highest for players with an annual household income of more than $100,000 (65.7 percent), between $75,000 and $100,000 (59.5 percent), followed by those with annual household income between $30,000 and $39,999 (59.1 percent). By contrast, the Powerball past-year players with annual household income less than $12,000 and between $75,000 and $100,000 had the highest median dollars spent per month of $12.00.

- There was a statistically significant difference between the Powerball past-year players and non-players by age. The participation rates for Powerball were high among players across many age groups. It was the highest for the age group of 35 to 44 (64.0 percent), followed by those who are 65 years old and older (59.1 percent). The highest median dollars spent on playing Powerball tickets in 2020 were those in the 55 to 64 age range (at $11.00).

- The survey did not find any statistically significant differences between past-year players who played Powerball and those who did not in 2020 with regard to the demographic factors of race, Hispanic origin, and gender.

Figure 13
Years Playing Powerball
(n=384)

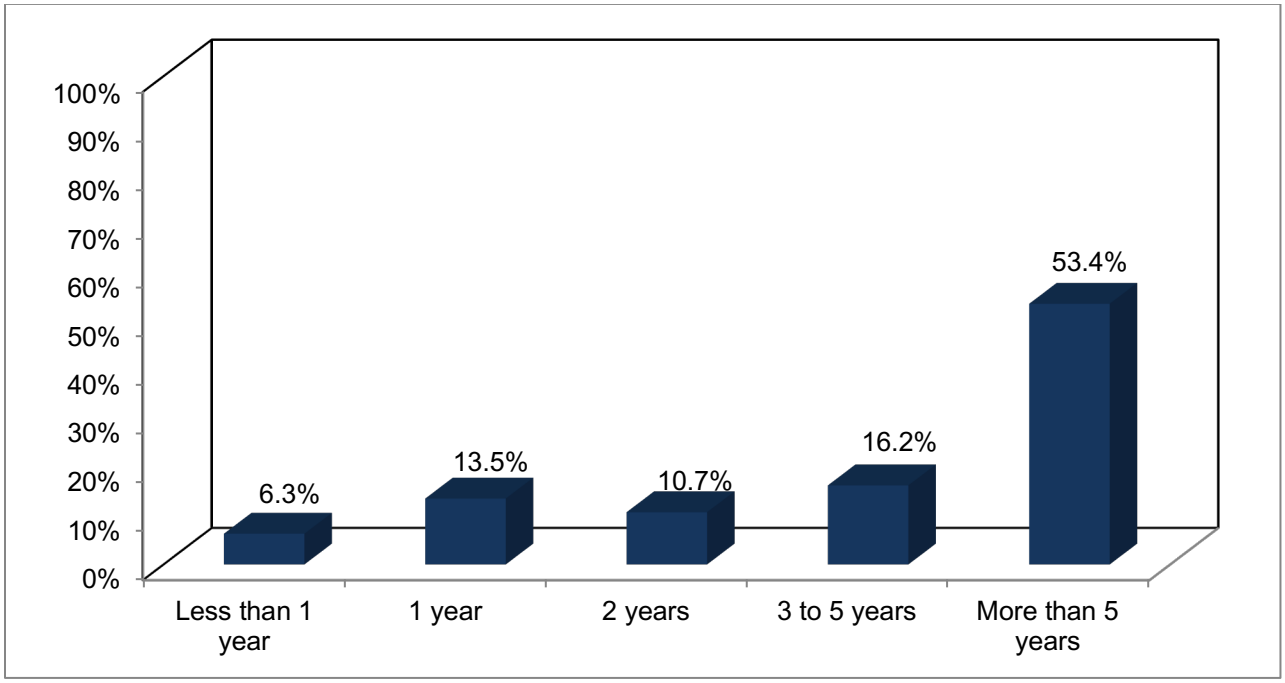
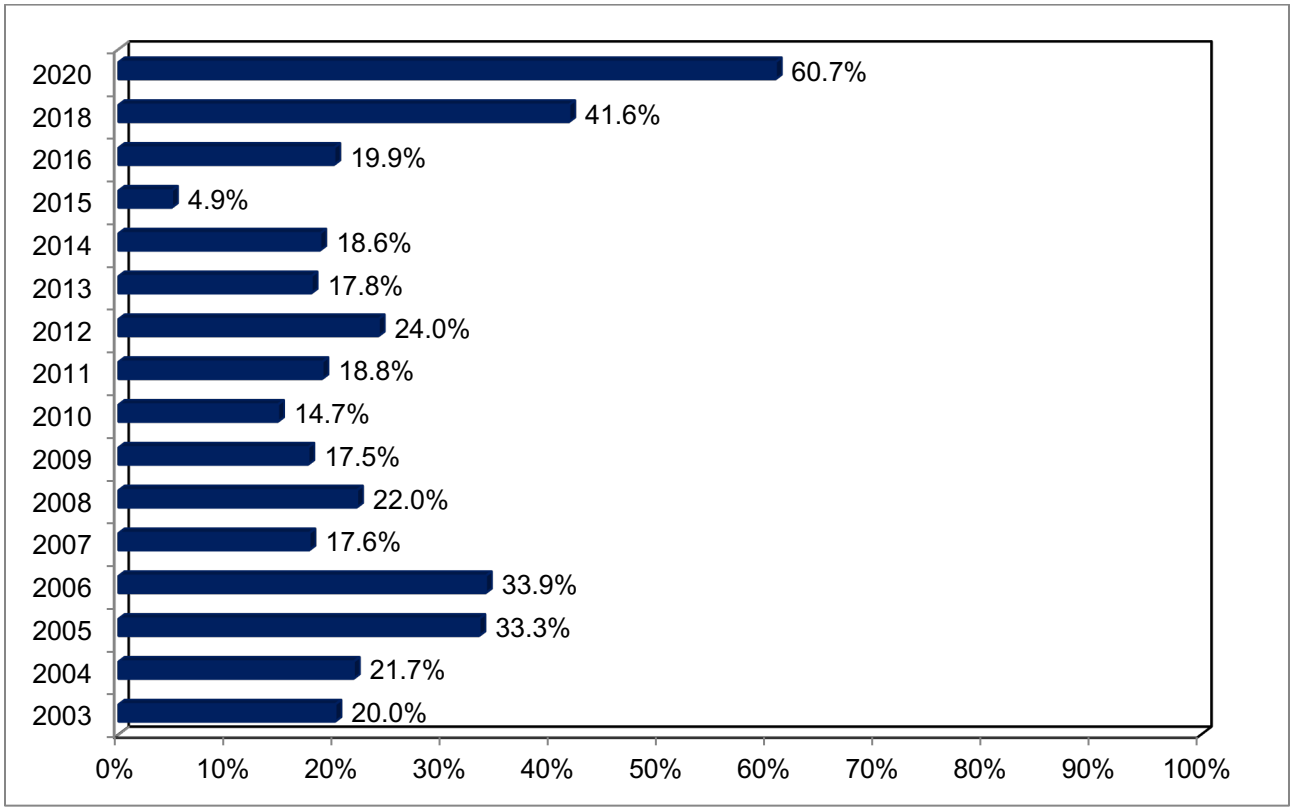


Figure 13 illustrates that 53.4 percent of the respondents indicated that they had played Powerball for more than five years, a significant decrease of 9 percentage points compared to 2018 (62.4 percent). A total of 16.2 percent of the respondents reported having played Powerball for three to five years, which was 0.8 percentage points higher than that reported in 2018 (15.4 percent). Nearly twenty percent (19.8) of respondents reported having played Powerball for one year or less.

IIIf. PICK 3 RESULTS

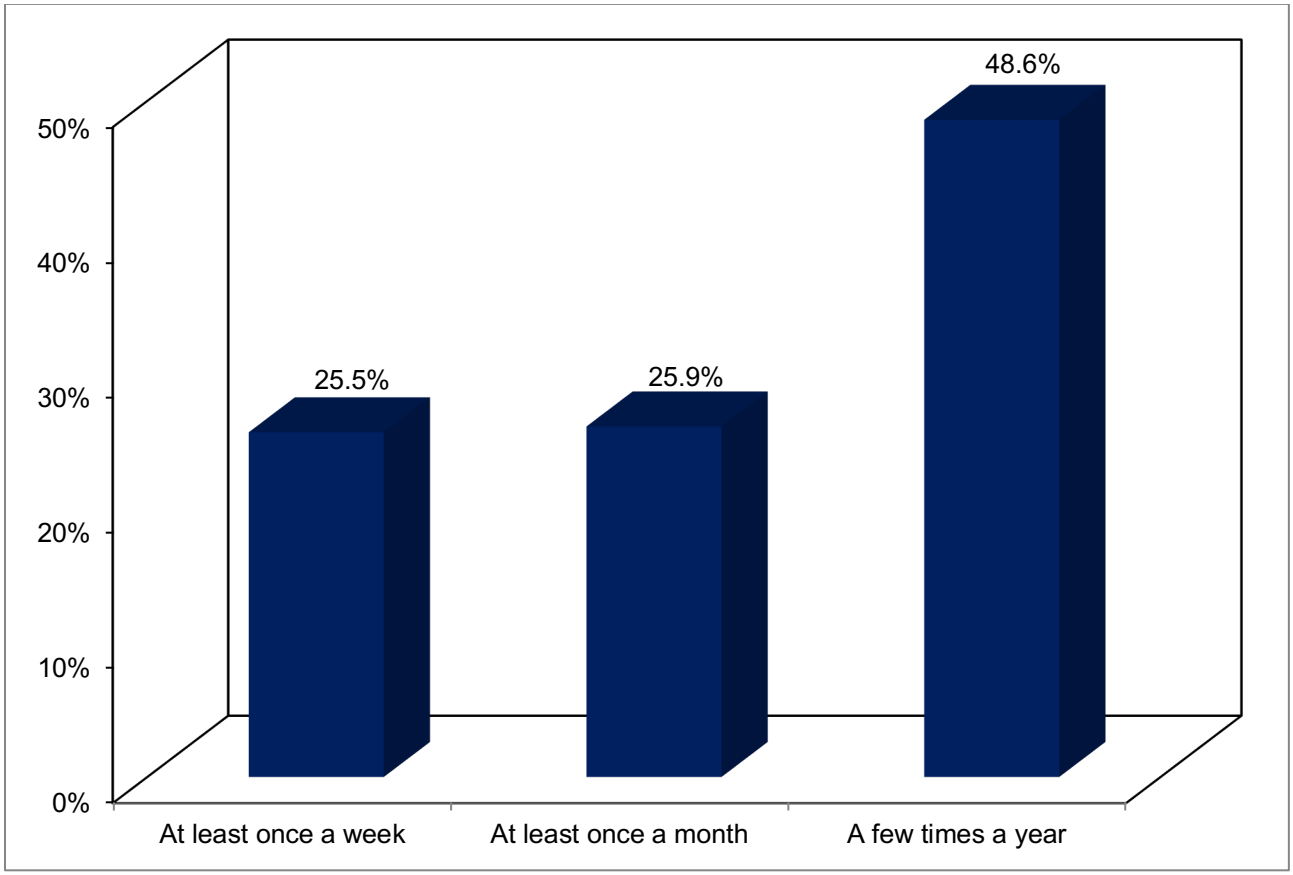
Figure 14
Percentage of Past-Year Players Playing Pick 3



Sources: Hobby School 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2018, and 2020 survey data and additional survey reports 2003-2006.

Figure 14 shows that 60.7 percent of lottery players played Pick 3 in 2020, a significant increase of 19.1 percentage points from 2018.

Figure 15
Frequency of Purchasing Pick 3 Tickets
(n=463)



As displayed in Figure 15, 25.5 percent of the past-year players that bought Pick 3 tickets purchased them at least once a week. Another 25.9 percent bought tickets at least once a month which is higher than that reported in 2018 (23.6 percent). Correspondingly, 48.6 percent of the respondents purchased the tickets only a few times a year.

Table 18
Average Number of Times Played Pick 3

Played Pick 3	Average Number of Times Played	
	2020	2018
Per week for weekly past-year players[42]	2.05	1.85
Per month for monthly past-year players[43]	4.76	4.88
Per year for yearly past-year players[44]	26.58	30.57

Table 18 reveals that weekly players of Pick 3 played this game an average of 2.05 times per week. In addition, monthly players reported an average number of 4.76 times per month, whereas yearly players had an average number of 26.58 times. The average for weekly players in 2020 was more than that in 2018 (2.05 and 1.85, respectively), but the average for monthly players in 2020 was slightly less than that in 2018 (4.76 and 4.88, respectively). Besides, the average for yearly players in 2020 was much lower than that in 2018 (26.58 and 30.57, respectively).

Table 19
Dollars Spent on Pick 3

Pick 3	Dollars Spent	
	2020	2018
Average spent per play	$13.39	$8.88
Average spent per month (mean)[45]	32.01	23.40
Average spent per month (median)[46]	15.00	10.00

As shown in Table 19, Pick 3 players spent an average of $13.39 per play in 2020, which was $4.51 more than that in 2018. Those who reported playing the game on a monthly basis spent an average of $32.01 per month, or $8.61 higher than that in 2018. Half of the respondents were likely to spend $15.00 or more a month on playing Pick 3 in 2020.

[42] The average number of times played per week excludes the respondents who reported having played more than 7 times a week. If those respondents are included, the average number of times played is 2.25 times per week.
[43] The average number of times played per month excludes the respondents who reported having played more than 30 times a month. If those respondents are included, the average number of times played is 5.35 times per month.
[44] The average number of times played per year excludes the respondents who reported having played more than 300 times a year. If those respondent are included, the average number of times played is 31.71 times per year.
[45] The average spent per month (mean) excludes a respondent who reported having spent $2,000 a month. If the respondent is included, the average spent per month (mean) is $37.54.
[46] The average spent per month (median) excludes the respondents who reported having spent $2,000 a month. If the respondent is included, the average spent per month (median) is still $15.00.

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

Pick 3	Percentage Played Game Among Past-Year Players	Median Dollars Spent
Year***		
2020 (N = 763)	60.7 (n=463)	$15.00
2018 (N = 711)	41.6 (n=296)	6.00
2020 Demographics		
Education		
Less than high school diploma (n=24)	54.2 (n=13)	15.00
High school diploma (n=160)	61.3 (n=98)	20.00
Some college (n=210)	59.1 (n=124)	12.00
College degree (n=221)	59.3 (n=131)	15.00
Graduate degree (n=139)	68.4 (n=95)	15.00
Income		
Less than $12,000 (n=55)	63.6 (n=35)	15.00
$12,000 to $19,999 (n=54)	66.7 (n=36)	20.00
$20,000 to $29,999 (n=67)	53.7 (n=36)	10.00
$30,000 to $39,999 (n=73)	64.4 (n=47)	20.00
$40,000 to $49,999 (n=50)	66.0 (n=33)	20.00
$50,000 to $59,999 (n=58)	65.5 (n=38)	20.00
$60,000 to $74,999 (n=62)	59.7 (n=37)	17.50
$75,000 to $100,000 (n=84)	63.1 (n=53)	12.00
More than $100,000 (n=184)	62.0 (n=114)	13.00
Race		
White (n=379)	55.7 (n=211)	15.00
African American (n=117)	73.5 (n=86)	15.50
Hispanic (n=163)	66.3 (n=108)	15.00
Asian (n=14)	78.6 (n=11)	27.50
Native American (n=11)	63.6 (n=7)	7.50
Other (n=13)	38.5 (n=5)	--
Two or More (n=36)	61.1 (n=22)	18.00

Note: Percentages are within a 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. The average and median amount spent per month only includes those who spent $1.00 or more.

Table 20 (continued)

Hispanic Origin		
Yes (n=215)	66.1 (n=142)	15.00
No (n=515)	59.6 (n=307)	15.00
Gender		
Female (n=382)	64.7 (n=247)	15.00
Male (n=367)	58.0 (n=213)	16.00
Prefer to Self-Describe (n=2)	--	--
Age***		
18 to 24 (n=75)	76.0 (n=57)	15.00
25 to 34 (n=101)	68.3 (n=69)	20.00
35 to 44 (n=143)	69.2 (n=99)	20.00
45 to 54 (n=140)	59.3 (n=83)	15.00
55 to 64 (n=129)	55.0 (n=71)	12.00
65 or older (n=152)	52.6 (n=80)	12.50
Employment Status**		
Employed full/part time (n=434)	64.3 (n=279)	15.00
Unemployed (n=84)	67.9 (n=57)	16.00
Retired (n=167)	50.3 (n=84)	15.00

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

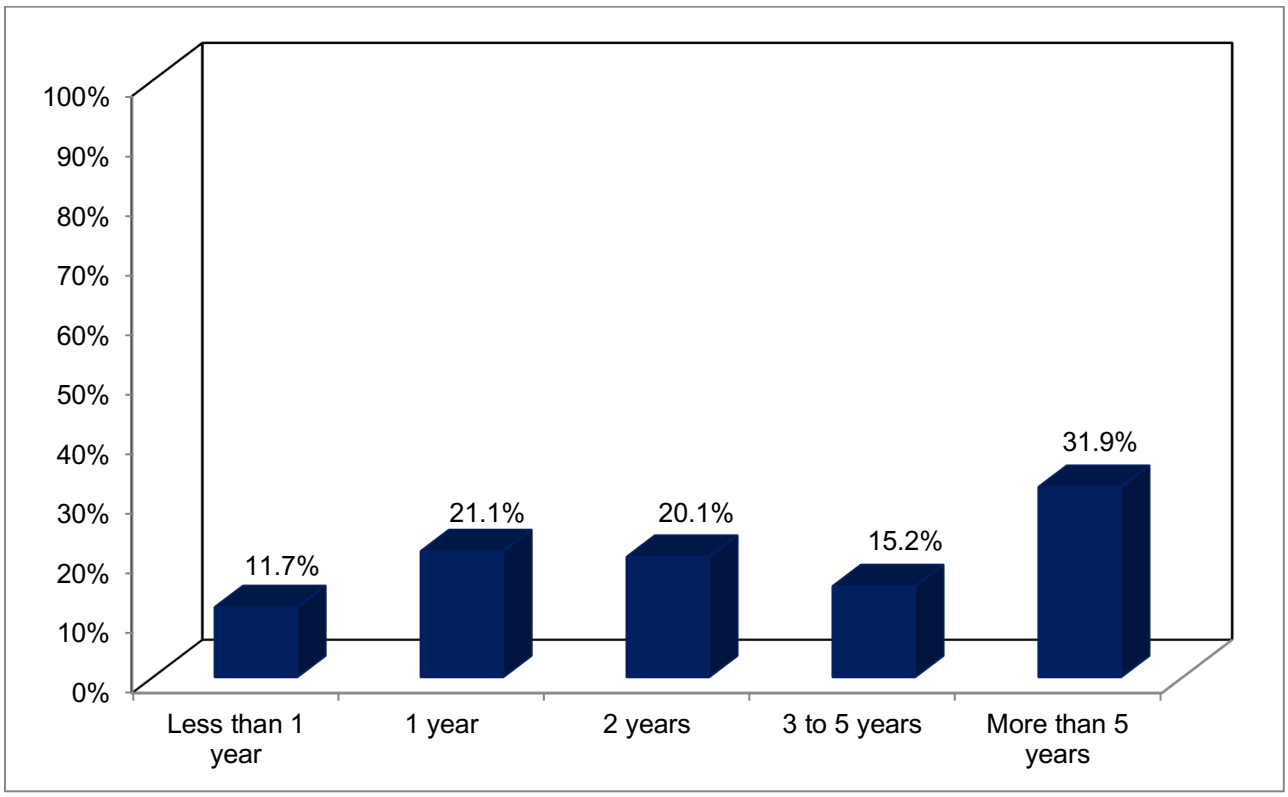
Table 20 shows an increase of 19.1 percentage points in the participation rate for Pick 3 between 2018 (21.7 percent) and 2020 (60.7 percent). The difference in the percentage of playing Pick 3 between 2018 and 2020 was statistically significant.

- There was a statistically significant difference between the Pick 3 past-year players and non-players by age. The participation rates for Pick 3 were high among players across many age groups. It was the highest for the age group of 18 to 24 (76.0 percent), followed by those who are aged between 35 and 44 and 25 and 34 (69.2 percent and 68.3 percent, respectively). The highest median dollars spent on playing Pick 3 in 2020 were those in the 25 to 34 and 35 to 44 age ranges (at $20.00).

- Likewise, the difference between the Pick 3 past-year players and non-players was statistically significant by employment status. The highest participation rate and median dollars spent for Pick 3 were among unemployed players (67.9 percent and $16.00, respectively). By contrast, those who were retired had the lowest participation rate of 50.3 percent.

- The survey did not find any statistically significant differences between past-year players who played Pick 3 and those who did not in 2020 for the demographic factors of education, income, race, Hispanic origin, and gender.

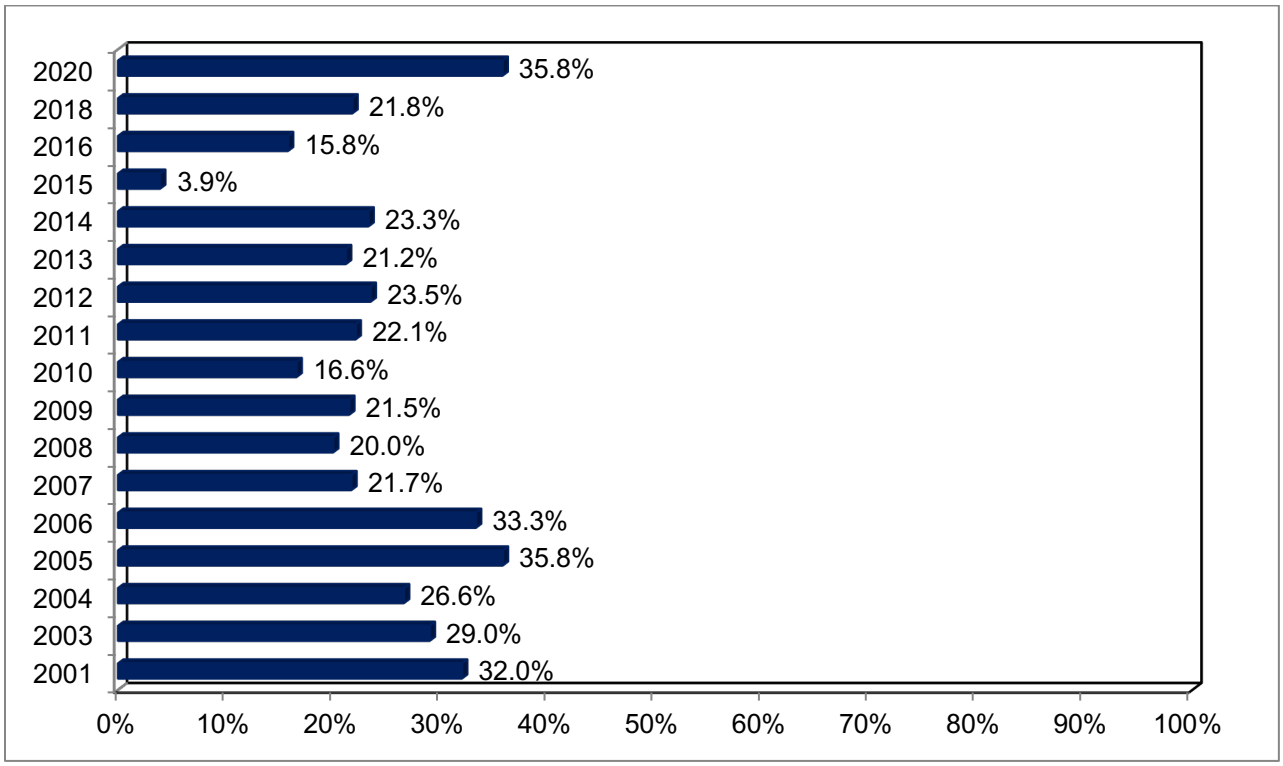
Figure 16
Years Playing Pick 3
(n=427)



As displayed in Figure 16, almost one-third (31.9 percent) of the respondents who played Pick 3 reported playing it for more than five years. The proportion was 16.1 percentage points lower than that reported in 2018 (48.0 percent). Another 32.8 percent of the respondents reported playing Pick 3 for just one year or less.

IIIg. CASH FIVE RESULTS

Figure 17
Percentage of Past-Year Players Playing Cash Five



Sources: Hobby School 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2018, and 2020 survey data and additional survey reports 2001-2006.

Figure 17 reveals that 35.8 percent of the lottery games past-year players reported playing Cash Five in 2020. This participation rate was 14.0 percentage points higher than that in 2018.

Figure 18
Frequency of Purchasing Cash Five Tickets
(n=273)

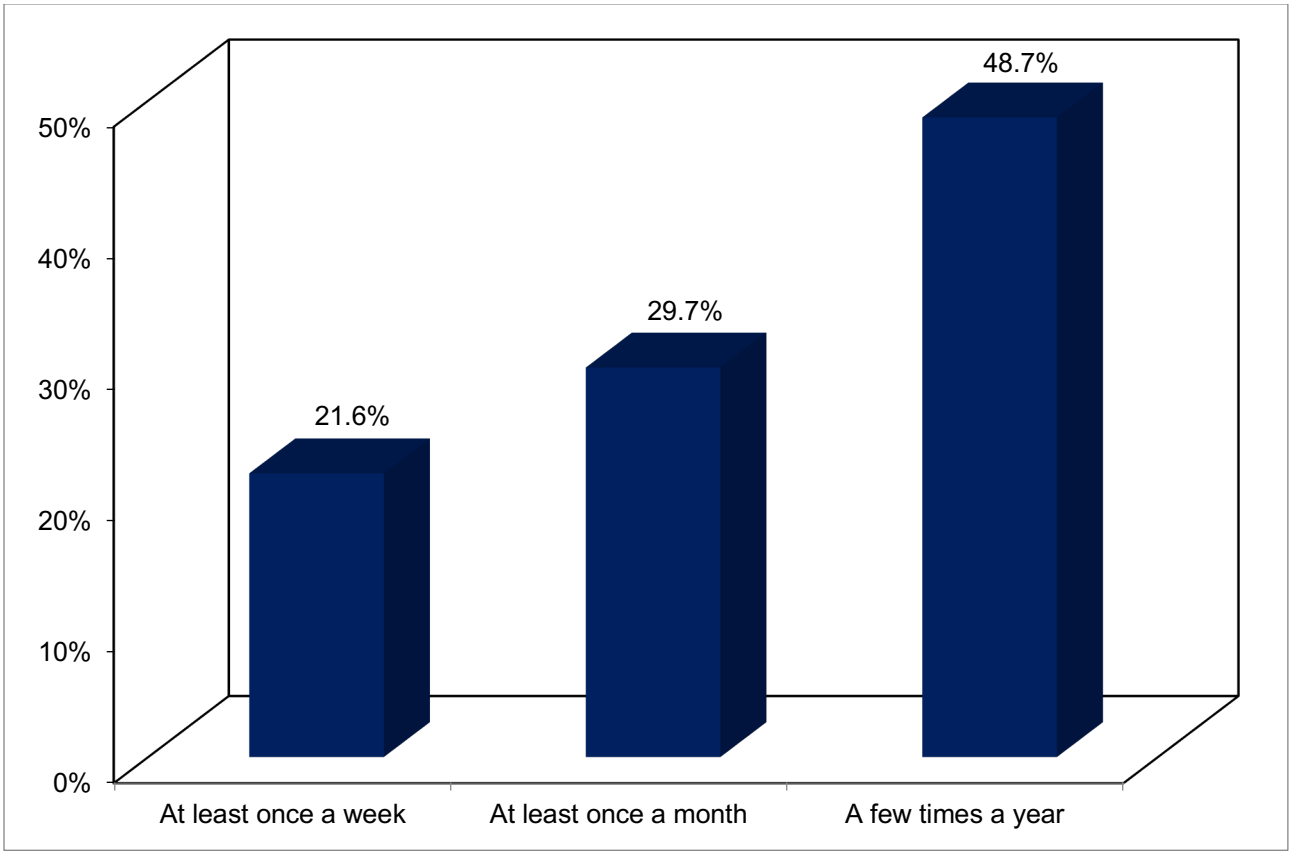


Figure 18 illustrates that 21.6 percent of the respondents purchased Cash Five tickets at least once a week, and 29.7 percent purchased the tickets at least once a month. Additionally, 48.7 percent did so just a few times a year.

Table 21
Average Number of Times Played Cash Five

Played Cash Five	Average Number of Times Played	
	2020	2018
Per week for weekly past-year players[47]	1.96	1.79
Per month for monthly past-year players[48]	3.91	3.92
Per year for yearly past-year players[49]	18.73	24.83

As shown in Table 21, weekly players of Cash Five played an average number of 1.96 times per week in 2020. Monthly players played this game 3.91 times per month on average in 2020. Yearly players played this game 18.73 times per year on average in 2020.

Table 22
Dollars Spent on Cash Five

Cash Five	Dollars Spent	
	2020	2018
Average spent per play	$16.27	$11.14
Average spent per month (mean)	26.86	17.58
Average spent per month (median)	10.00	10.00

As reported in Table 22, Cash Five players spent an average of $16.27 per play in 2020. Those who reported playing the game on a monthly or more frequent basis spent an average of $26.86 per month in 2020. Half of the respondents were likely to spend $10.00 or more a month on playing Cash Five in 2020. The average amount spent on Cash Five per month in 2020 is $9.28 more than the average amount spent in 2018 ($17.58).

[47] The average number of times played per week excludes respondents who reported having played more than 7 times a week. If the respondents are included, the average number of times played is 2.12 times per week.
[48] The average number of times played per month excludes the respondents who reported having played more than 30 times a month. If those respondents are included, the average number of times played is 4.08 times per month.
[49] 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 21.52 times per year.

Table 23
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***		
2020 (N = 763)	35.8 (n=273)	$10.00
2018 (N = 711)	21.8 (n=155)	8.00
2020 Demographics		
Education		
Less than high school diploma (n=23)	30.4 (n=7)	30.00
High school diploma (n=153)	39.2 (n=60)	15.00
Some college (n=196)	33.2 (n=65)	10.00
College degree (n=217)	35.0 (n=76)	10.00
Graduate degree (n=135)	47.4 (n=64)	13.50
Income		
Less than $12,000 (n=49)	46.9 (n=23)	25.00
$12,000 to $19,999 (n=53)	39.6 (n=21)	20.00
$20,000 to $29,999 (n=63)	47.6 (n=30)	10.00
$30,000 to $39,999 (n=71)	40.9 (n=29)	10.00
$40,000 to $49,999 (n=50)	36.0 (n=18)	10.00
$50,000 to $59,999 (n=59)	45.8 (n=27)	10.00
$60,000 to $74,999 (n=62)	29.0 (n=18)	20.00
$75,000 to $100,000 (n=78)	33.3 (n=26)	15.00
More than $100,000 (n=176)	38.1 (n=67)	10.00
Race		
White (n=365)	34.8 (n=127)	10.00
African American (n=111)	43.2 (n=48)	8.00
Hispanic (n=156)	41.7 (n=65)	15.00
Asian (n=15)	53.3 (n=8)	--
Native American (n=9)	22.2 (n=2)	--
Other (n=13)	30.8 (n=4)	--
Two or More (n=34)	44.1 (n=15)	20.00

Note: Percentages are within a 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. The average and median amount spent per month only includes those who spent $1.00 or more.

Table 23 (continued)

Hispanic Origin		
Yes (n=207)	41.1 (n=85)	15.00
No (n=495)	36.4 (n=265)	10.00
Gender		
Female (n=362)	38.1 (n=138)	10.00
Male (n=357)	37.0 (n=132)	10.00
Prefer to Self-Describe (n=2)	50.0 (n=1)	--
Age***		
18 to 24 (n=67)	55.2 (n=37)	10.00
25 to 34 (n=95)	36.8 (n=35)	15.00
35 to 44 (n=140)	50.0 (n=70)	20.00
45 to 54 (n=136)	27.2 (n=37)	8.00
55 to 64 (n=124)	34.7 (n=43)	10.00
65 or older (n=149)	31.5 (n=47)	6.00
Employment Status		
Employed full/part time (n=413)	38.5 (n=159)	12.00
Unemployed (n=83)	45.8 (n=38)	9.00
Retired (n=166)	30.1 (n=50)	10.00

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

As indicated in Table 23, there was an increase of 14.0 percentage points in the participation rate for the Cash Five game between 2018 (21.8 percent) and 2020 (35.8 percent). The difference was statistically significant.

- Additionally, there was a statistically significant difference between the Cash Five past-year players and non-players by age. The participation rates for Cash Five were high among players across many age groups. It was the highest for the age group of 18 to 24 (55.2 percent), followed by those who are aged between 35 and 44 (50.0 percent). The highest median dollars spent on playing Cash Five in 2020 were those in the 35 to 44 age range (at $20.00).

- There were no statistically significant differences between past-year players who played Cash Five and those who did not in 2020 with regard to the demographic factors of education, income, race, Hispanic origin, gender, and employment status.

Figure 19

Years Playing Cash Five
(n=260)

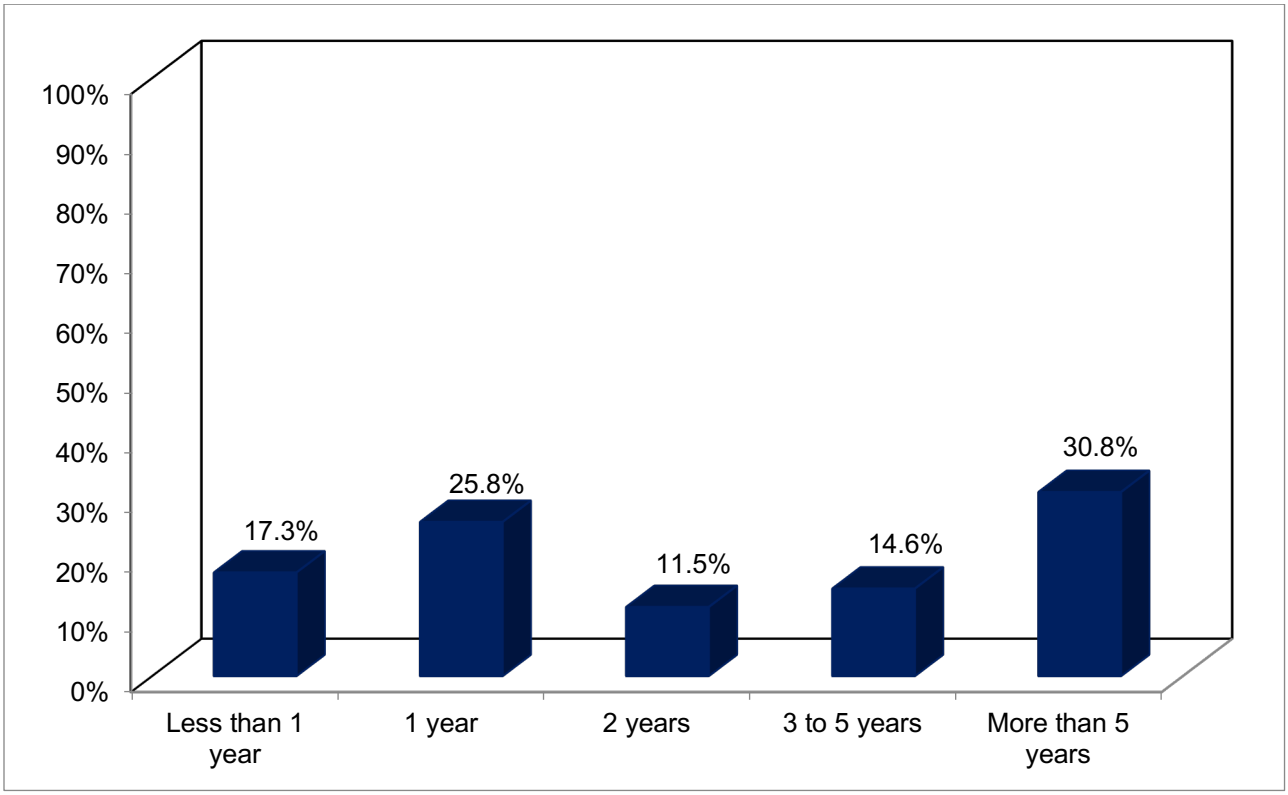
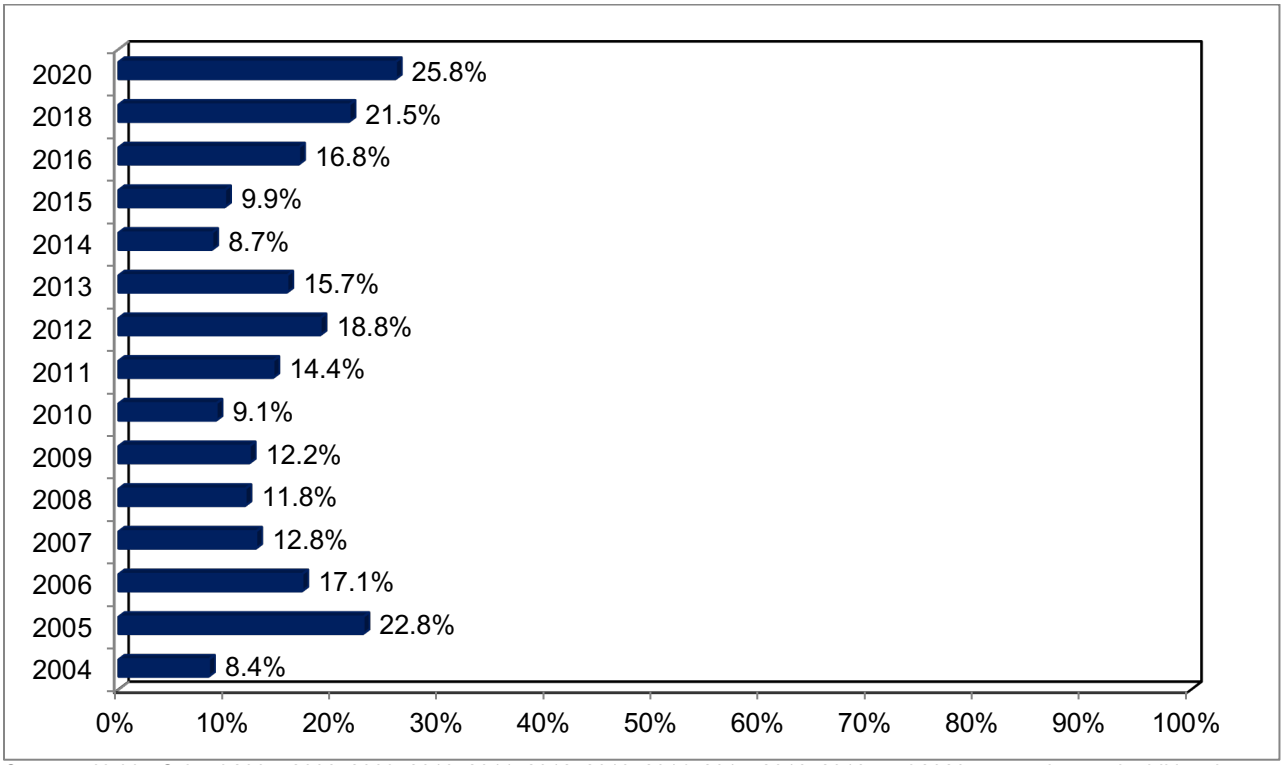


Figure 19 shows that 30.8 percent of the respondents who played Cash Five during the past year reported having played it for more than five years. Another 43.1 percent had played Cash Five for just one year or less.

IIIh. MEGAPLIER FEATURE WITH MEGA MILLIONS RESULTS

Figure 20
Percentage of Past-Year Players Purchasing Megaplier Feature with Mega Millions Tickets



Sources: Hobby School 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2018, and 2020 survey data and additional survey reports 2004-2006.

As seen in Figure 20, 25.8 percent of past-year players purchased Megaplier, the Mega Millions add-on feature, in 2020. This rate was 4.3 percentage points higher than that in 2018.

Figure 21
Frequency of Purchasing Megaplier Feature with Mega Millions Tickets
(n=197)

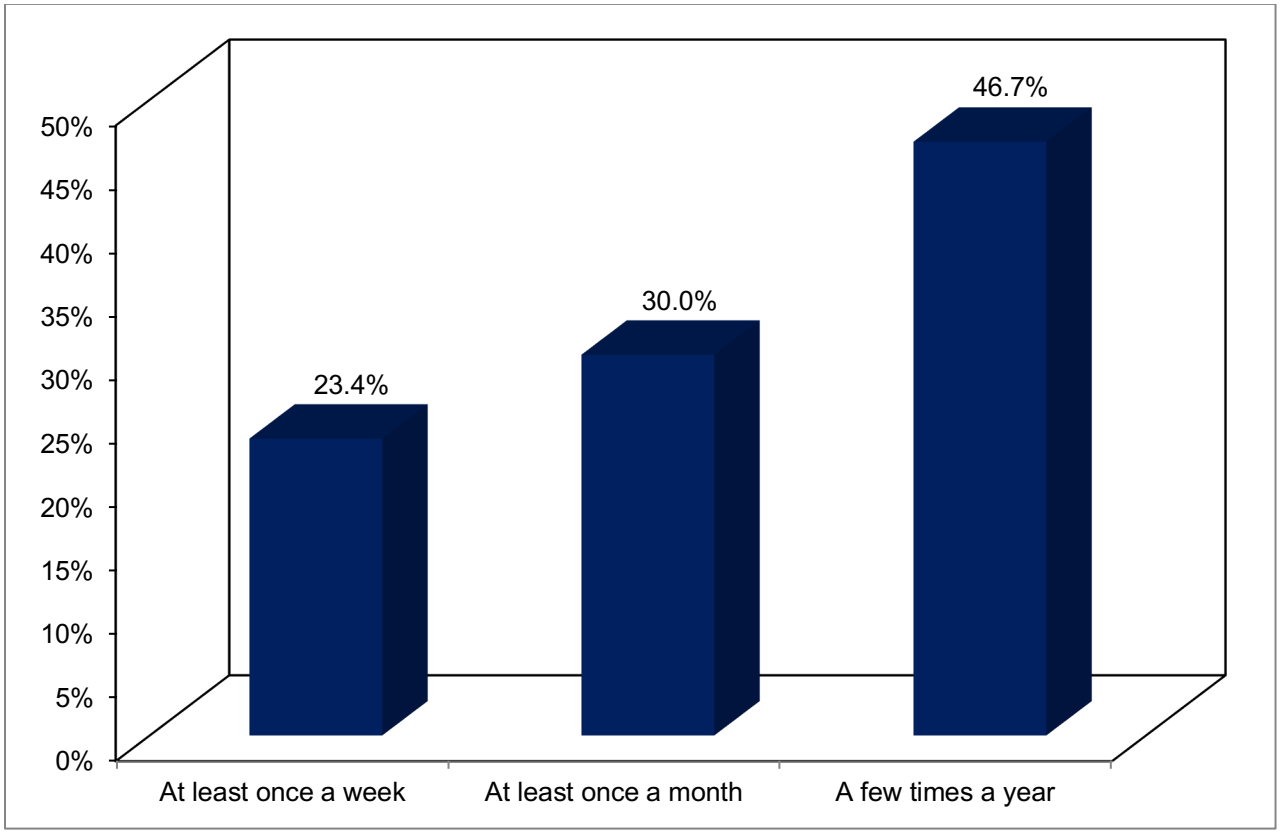


Figure 21 demonstrates that nearly half (46.7 percent) of respondents who purchased Megaplier with their Mega Millions tickets in 2020 reported that they did so a few times a year, while 23.4 percent picked the feature at least once a week. Furthermore, another 30.0 percent purchased the feature at least once a month.

Table 24
Average Number of Times Purchased Megaplier Feature with Mega Millions

Purchased Megaplier Feature with Mega Millions	Average Number of Times Purchased	
	2020	2018
Per week for weekly past-year players[50]	2.08	1.28
Per month for monthly past-year players[51]	3.72	3.19
Per year for yearly past-year players[52]	18.23	20.53

As shown in Table 24, the weekly players who added the Megaplier feature to their Mega Millions purchase chose the feature an average of 2.08 times per week in 2020. The monthly players did so 3.72 times per month on average in 2020. The yearly players added the feature 18.23 times per year on average in 2020.

Table 25
Dollars Spent on Megaplier Feature with Mega Millions

Megaplier Feature with Mega Millions	Dollars Spent	
	2020	2018
Average spent per play	$19.63	$9.46
Average spent per month (mean)[53]	24.37	11.23
Average spent per month (median)[54]	10.00	6.00

The respondents who purchased the Megaplier feature with Mega Millions spent an average of $19.63 per play in 2020 (Table 25). Those who reported adding the feature on a monthly or more frequent basis spent an average of $24.37 per month in 2020 as compared to $11.23 in 2018. Moreover, in 2020, half of the respondents were likely to spend $10.00 or more on Megaplier per month.

[50] The average number of times played per week excludes a respondents 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.
[51] The average number of times played per month excludes a respondent who reported having played more than 30 times a week. If the respondent is included, the average number of times played is 3.91 times per month.
[52] The average number of times played per year excludes a respondent who reported having played more than 300 times a year. If the respondent is included, the average number of times played is 20.16 times per year.
[53] The average spent per month (mean) excludes a respondent who reported having spent $800 a month. If the respondent is included, the average spent per month (mean) is $29.68.
[54] The average spent per month (median) excludes the respondents who reported having spent $800 a month. If the respondent is included, the average spent per month (median) is still $10.00.

Table 26
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		
2020 (N = 763)	25.8 (n=197)	$10.00
2018 (N = 711)	21.5 (n= 153)	4.00
2020 Demographics		
Education		
Less than high school diploma (n=10)	50.0 (n=5)	--
High school diploma (n=72)	50.0 (n=36)	15.00
Some college (n=103)	45.6 (n=47)	6.00
College degree (n=127)	40.9 (n=52)	5.50
Graduate degree (n=92)	58.7 (n=54)	12.00
Income		
Less than $12,000 (n=15)	40.0 (n=6)	--
$12,000 to $19,999 (n=25)	64.0 (n=16)	14.00
$20,000 to $29,999 (n=35)	60.0 (n=21)	6.50
$30,000 to $39,999 (n=31)	45.2 (n=14)	10.00
$40,000 to $49,999 (n=28)	46.4 (n=13)	7.00
$50,000 to $59,999 (n=30)	43.3 (n=13)	11.00
$60,000 to $74,999 (n=29)	44.8 (n=13)	6.00
$75,000 to $100,000 (n=56)	42.9 (n=24)	4.00
More than $100,000 (n=129)	50.4 (n=65)	12.00
Race		
White (n=215)	46.5 (n=100)	10.00
African American (n=62)	46.8 (n=29)	10.00
Hispanic (n=79)	49.4 (n=39)	12.00
Asian (n=9)	55.6 (n=5)	--
Native American (n=7)	57.1 (n=4)	--
Other (n=9)	33.3 (n=3)	--
Two or More (n=15)	66.7 (n=10)	13.00

Note: Percentages are within a 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. The average and median amount spent per month only includes those who spent $1.00 or more.

Table 26 (continued)

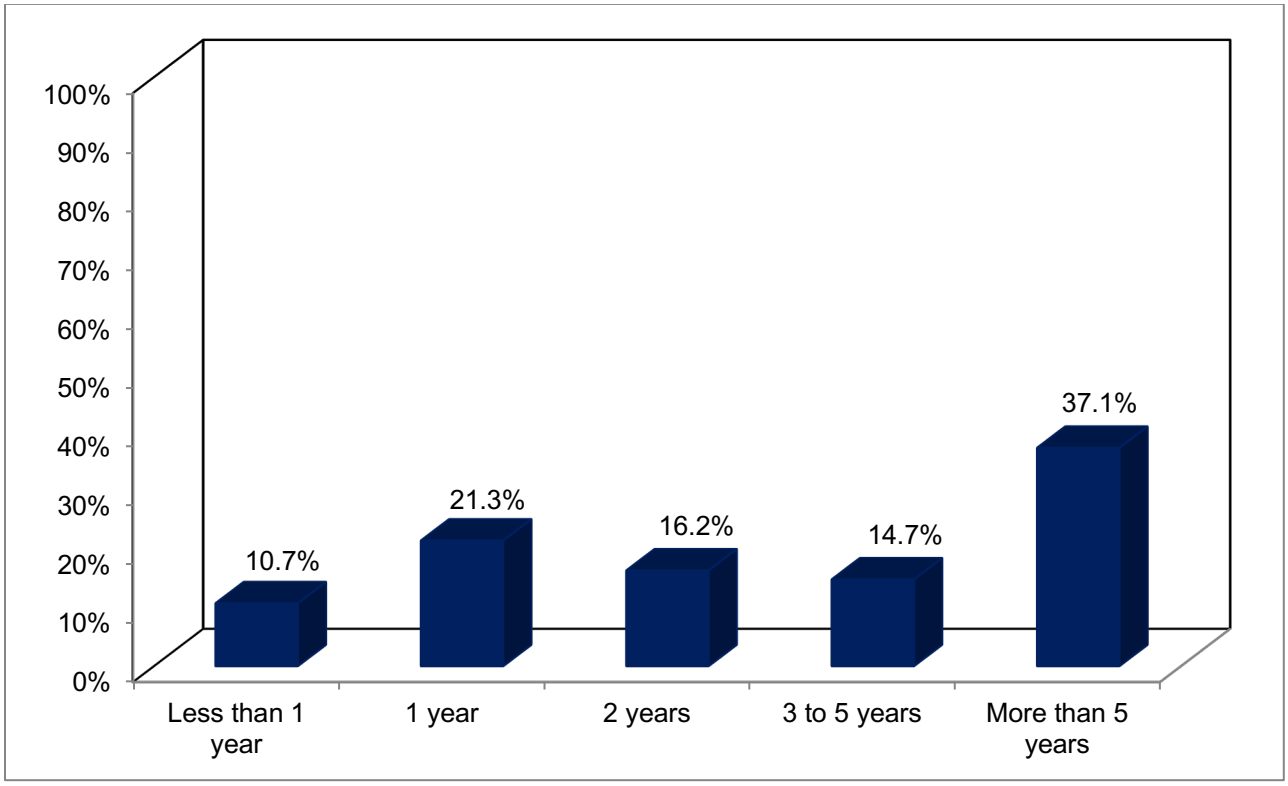
Hispanic Origin		
Yes (n=109)	55.1 (n=60)	10.00
No (n=284)	45.8 (n=130)	10.00
Gender		
Female (n=191)	46.1 (n=88)	8.00
Male (n=212)	49.5 (n=105)	10.00
Prefer to Self-Describe (n=1)	100.0 (n=1)	--
Age		
18 to 24 (n=25)	64.0 (n=16)	14.00
25 to 34 (n=51)	29.4 (n=15)	27.50
35 to 44 (n=89)	70.8 (n=63)	7.00
45 to 54 (n=83)	45.8 (n=38)	10.00
55 to 64 (n=70)	35.7 (n=25)	11.0
65 or older (n=80)	43.8 (n=35)	5.00
Employment Status		
Employed full/part time (n=259)	49.4 (n=128)	10.00
Unemployed (n=44)	52.3 (n=23)	9.50
Retired (n=81)	40.7 (n=33)	9.00

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

As shown in Table 26, there was an increase of 4.3 percentage points in the participation rate for the Megaplier add-on feature to Mega Millions between 2018 (21.5 percent) and 2020 (25.8 percent). The difference was not statistically significant.

- The survey did not find any statistically significant differences between past-year players who played the Megaplier feature with Mega Millions and those who did not in 2020 for the demographic factors of education, income, race, Hispanic origin, gender, age, and employment status.

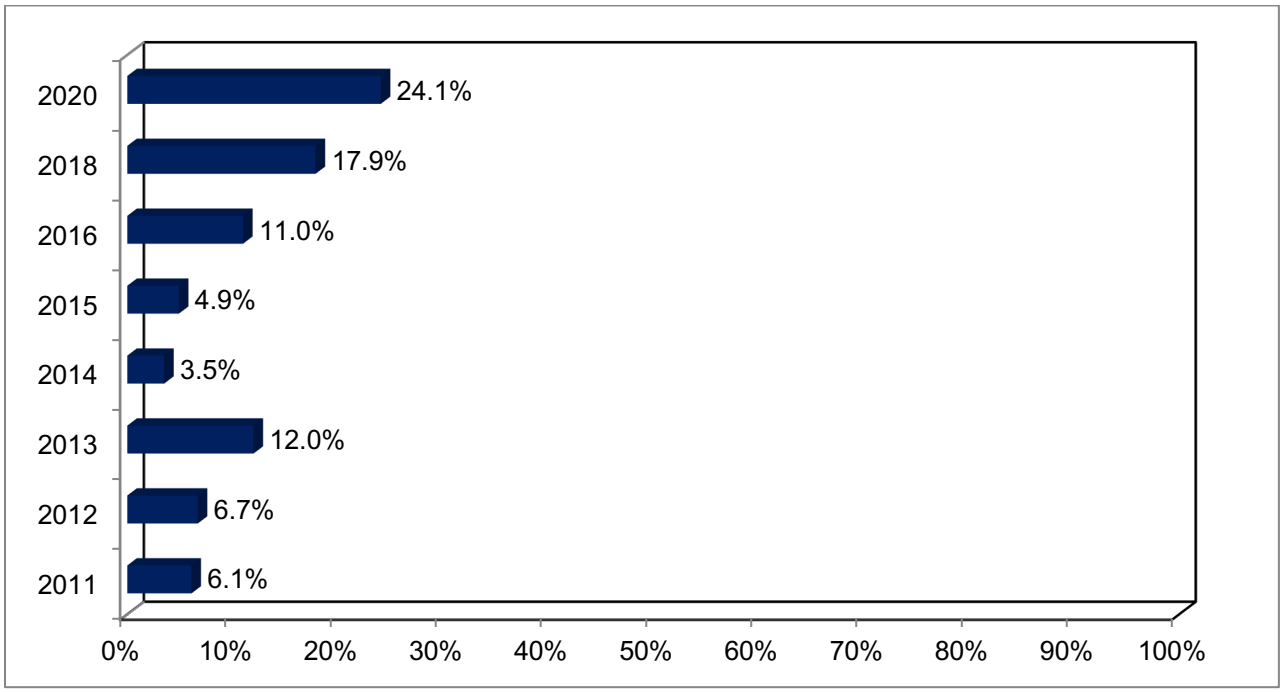
Figure 22
Years Purchasing Megaplier Feature with Mega Millions Tickets
(n=197)



As shown in Figure 22, 37.1 percent of the respondents who added Megaplier to their purchase of Mega Millions tickets had done so for more than five years. Besides, a total of 32.0 percent of the players reported adding the feature for just one year or less.

IIIi. POWER PLAY FEATURE WITH POWERBALL RESULTS

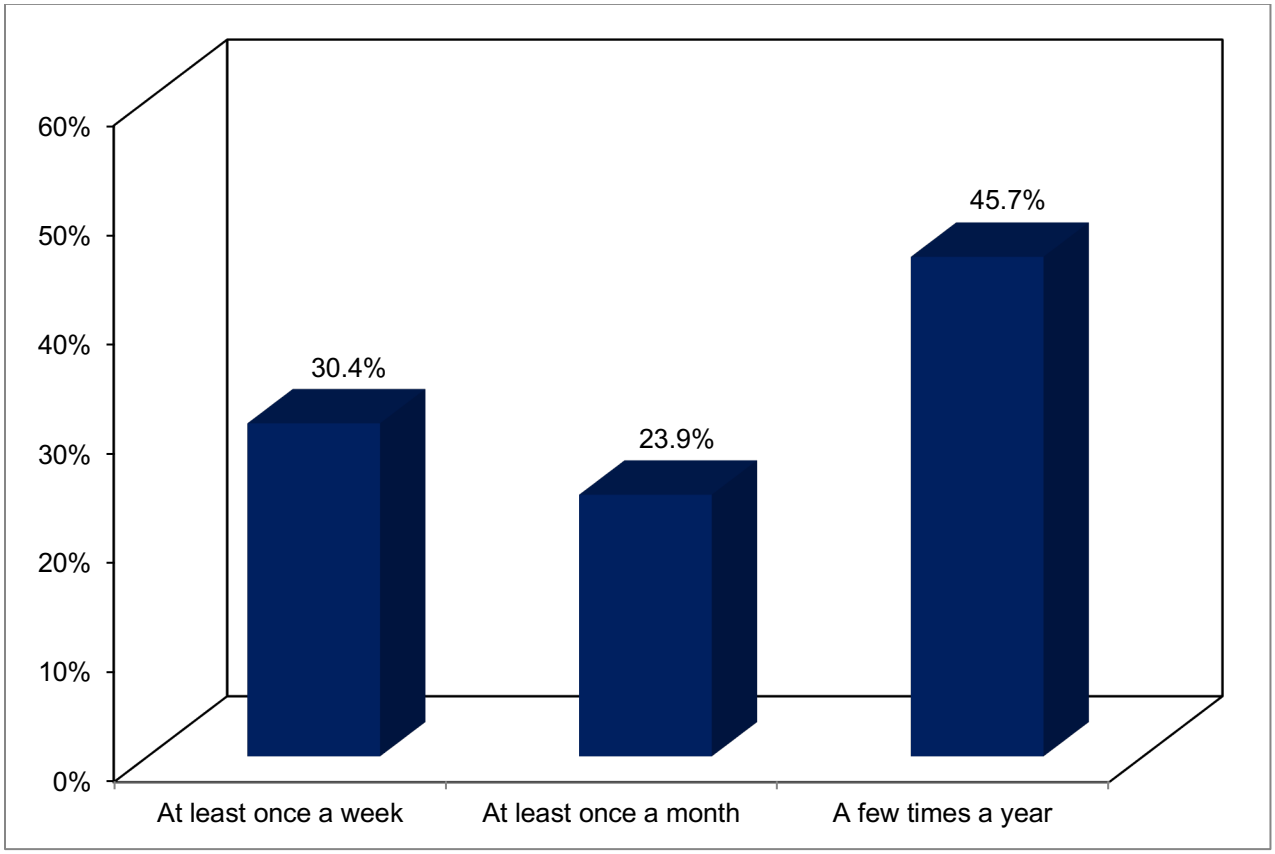
Figure 23
Percentage of Past-Year Players Purchasing Power Play Feature with Powerball



Sources: Hobby School 2011, 2012, 2013, 2014, 2015, 2016, 2018, and 2020 survey data and additional survey reports 2001-2006.

Twenty-four percent (24.1) of the lottery past-year players reported that they added the Power Play feature to their Powerball purchases in 2020. This participation rate was 6.2 percentage points higher than that in 2018 (17.9 percent). The difference was statistically significant.

Figure 24
Frequency of Purchasing Power Play Feature with Powerball Tickets (n=184)



As shown in Figure 23, 30.4 percent of the respondents who added the Power Play feature to their Powerball ticket purchases did so at least once a week. Besides, almost half (45.7 percent) of the respondents purchased the feature a few times a year, a decrease of 6.3 percentage points from 2018. The remaining 23.9 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	
	2020	2018
Per week for weekly past-year players	2.27	1.25
Per month for monthly past-year players[55]	3.60	3.42
Per year for yearly past-year players[56]	19.92	21.82

Table 27 indicates that the weekly players of the Power Play add-on feature reported selecting this feature 2.27 times per week on average in 2020. Monthly players reported an average number of 3.60 times per month in 2020. Yearly players reported picking the feature an average number of 19.92 times per year in 2020, which was 1.9 times less than the corresponding figure in 2018 (21.82 times).

Table 28
Dollars Spent on Power Play Feature with Powerball

Power Play Feature with Powerball	Dollars Spent	
	2020	2018
Average spent per play[57]	$16.79	$9.58
Average spent per month (mean)[58]	23.36	12.27
Average spent per month (median)[59]	10.00	8.00

Table 28 shows that the respondents selecting the add-on Power Play feature spent an average of $16.79 per play in 2020. Those who reported purchasing the feature on a monthly or more frequent basis spent an average of $23.36 per month in 2020. Half of the respondents were likely to spend $10.00 or more per month on Power Play, which was higher than the corresponding figure in 2018 ($8.00).

[55] The average number of times played per month excludes respondents who reported having played more than 30 times a week. If the respondents are included, the average number of times played is 5.43 times per month.
[56] The average number of times played per year excludes a respondent who reported having played 365 times a year. If the respondent is included, the average number of times played is 22.02 times per year.
[57] The average spent per play excludes respondents who reported having spent more than $400 per play. If those respondents are included, the average spent per month (mean) is $36.10.
[58] The average spent per month (mean) excludes a respondent who reported having spent $4,800 a month. If the respondent is included, the average spent per month (mean) is $57.73.
[59] The average spent per month (median) excludes the respondent who reported having spent $4,800 a month. If the respondent is included, the average spent per month (median) is still $10.00.

Table 29
Power Play Feature with Powerball: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics

Power Play Feature with Powerball	Percentage Played Game Among Past-Year Players	Median Dollars Spent
Year**		
2020 (N = 763)	24.1 (n=184)	$10.00
2018 (N = 711)	17.9 (n=127)	4.00
2020 Demographics		
Education		
Less than high school diploma (n=11)	54.6 (n=6)	--
High school diploma (n=67)	52.2 (n=35)	10.00
Some college (n=88)	54.6 (n=48)	5.00
College degree (n=109)	45.0 (n=49)	6.00
Graduate degree (n=83)	54.2 (n=45)	21.00
Income		
Less than $12,000 (n=19)	47.4 (n=9)	29.00
$12,000 to $19,999 (n=27)	63.0 (n=17)	12.00
$20,000 to $29,999 (n=27)	63.0 (n=17)	4.00
$30,000 to $39,999 (n=37)	40.5 (n=15)	4.50
$40,000 to $49,999 (n=17)	52.9 (n=9)	8.00
$50,000 to $59,999 (n=26)	57.7 (n=15)	5.00
$60,000 to $74,999 (n=26)	38.5 (n=10)	7.00
$75,000 to $100,000 (n=44)	47.7 (n=21)	10.00
More than $100,000 (n=108)	52.8 (n=57)	14.00
Race		
White (n=184)	52.2 (n=96)	10.00
African American (n=63)	46.0 (n=29)	8.00
Hispanic (n=73)	53.4 (n=39)	5.00
Asian (n=4)	75.0 (n=3)	--
Native American (n=7)	28.6 (n=2)	--
Other (n=7)	28.6 (n=2)	--
Two or More (n=11)	54.6 (n=6)	21.00

Note: Percentages are within a 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. The average and median amount spent per month only includes those who spent $1.00 or more.

Table 29 (continued)

Hispanic Origin		
Yes (n=92)	56.5 (n=52)	6.00
No (n=253)	49.0 (n=124)	10.00
Gender		
Female (n=168)	49.4 (n=83)	8.00
Male (n=188)	52.1 (n=98)	10.00
Prefer to Self-Describe (n=1)	100.0 (n=1)	--
Age***		
18 to 24 (n=24)	66.7 (n=16)	12.00
25 to 34 (n=38)	44.7 (n=17)	20.00
35 to 44 (n=83)	69.9 (n=58)	10.00
45 to 54 (n=72)	48.6 (n=35)	20.00
55 to 64 (n=57)	49.1 (n=28)	8.50
65 or older (n=79)	32.9 (n=26)	5.00
Employment Status*		
Employed full/part time (n=218)	53.2 (n=116)	10.00
Unemployed (n=40)	60.0 (n=24)	16.00
Retired (n=78)	38.5 (n=30)	5.50

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

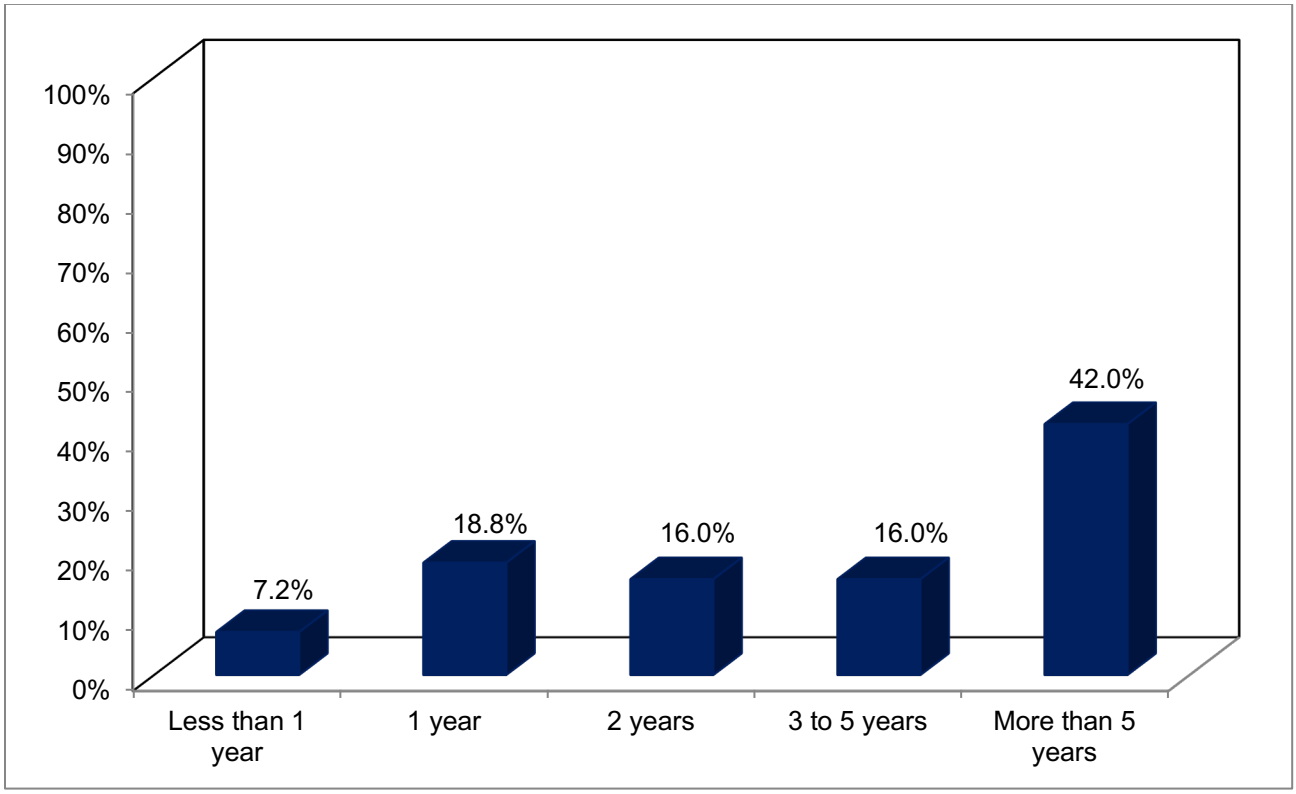
As shown in Table 29, there was an increase of 6.2 percentage points in the participation rate for the Power Play feature with Powerball between 2018 (17.9 percent) and 2020 (24.1 percent). The difference was statistically significant.

- There was a statistically significant difference between the Power Play feature with Powerball past-year players and non-players by age. The participation rates for the Power Play feature with Powerball tickets were high among players across many age groups. It was the highest for the age group of 35 to 44 (66.9 percent), followed by those who are aged between 18 and 24 (66.7 percent). The highest median dollars spent on playing the Power Play feature with Powerball in 2020 were those in the 25 to 34 and 45 to 54 age ranges (at $20.00).

- The difference between the Power Play feature with Powerball past-year players and non-players was statistically significant by employment status. The highest participation rate and median dollars spent for the Power Play feature with Powerball tickets were among unemployed players (60.0 percent and $16.00, respectively). Conversely, those who were retired had the lowest participation rate of 38.5 percent.

- The survey did not find any statistically significant differences between past-year players who played the Power play feature with Powerball and those who did not in 2020 for the demographic factors of education, income, race, Hispanic origin, and gender.

Figure 25
Years Purchasing Power Play Feature with Powerball Tickets
(n=181)



As seen in Figure 24, more than two-fifths (42.0 percent) of the respondents reported that they had purchased the Power Play feature with Powerball Tickets for more than five years. One-third (32.0 percent) of the respondents reported that they purchased the Power Play feature with Powerball tickets between 2 and 5 years. Furthermore, 26 percent of the respondents reported having purchased the Power Play feature with Powerball Tickets for just one year or less.

IIIj. EXTRA! FEATURE WITH LOTTO TEXAS RESULTS

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

A total of twenty-seven percent (26.9) of the lottery past-year players reported purchasing the Extra! Add-on feature with Lotto Texas, 9.3 percentage points higher than the corresponding figure in 2018.

Figure 26
Frequency of Purchasing Extra! Feature with Lotto Texas Tickets
(n=205)

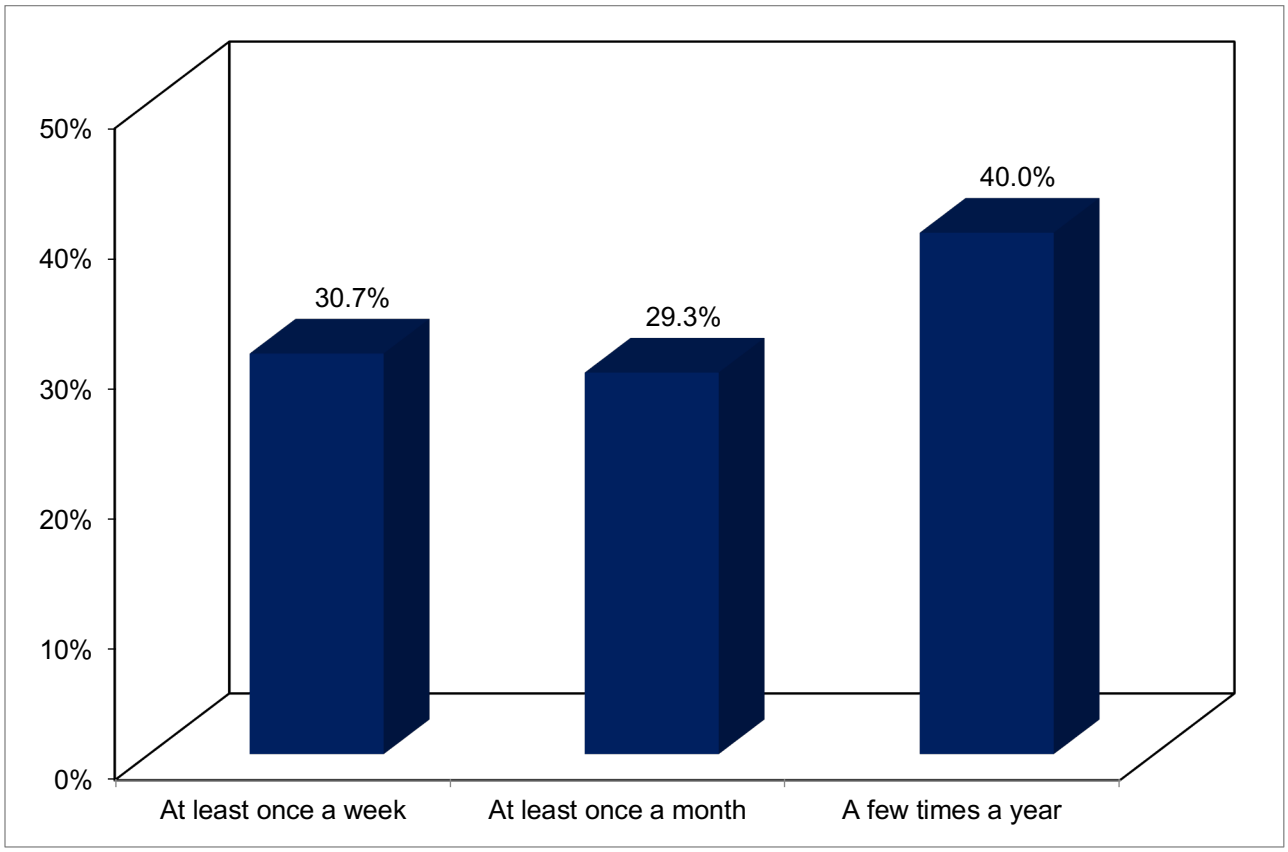


Figure 25 indicates that among those who purchased the Extra! feature with Lotto Texas, 30.7 percent did so at least once a week. Another 29.3 percent purchased the feature at least once a month. Furthermore, 40.0 percent bought the Extra! feature with Lotto Texas a few times a year.

Table 30
Average Number of Times Purchased Extra! Feature with Lotto Texas

Purchased Extra! Feature with Lotto Texas	Average Number of Times Purchased	
	2020	2018
Per week for weekly past-year players[60]	2.02	1.54
Per month for monthly past-year players[61]	3.89	4.04
Per year for yearly past-year players	18.83	25.69

As shown in Table 30, past-year players purchased the Extra! feature with Lotto Texas 2.02 times per week on average, and players picked the feature 3.89 times per month in 2020.

Table 31
Dollars Spent on Extra! Feature with Lotto Texas

Extra! Feature with Lotto Texas	Dollars Spent	
	2020	2018
Average spent per play[62]	$18.35	$7.12
Average spent per month (mean)[63]	23.93	14.78
Average spent per month (median)[64]	10.00	5.00

The past-year players of the Extra! add-on feature spent an average of $18.35 per play, a significant increase of $11.23 from 2018 (Table 31). Those who reported adding the feature on a monthly or more frequent basis spent an average of $23.93 per month. Half of the respondents were likely to spend $10.00 or more a month on the Extra! add-on feature which was double the amount from 2018 ($5.00).

[60] The average number of times played per week excludes respondents who reported having played more than 7 times a week. If the respondents are included, the average number of times played is 2.21 times per week.
[61] The average number of times played per month excludes a respondent who reported having played 40 times a month. If the respondent is included, the average number of times played is 4.11 times per month.
[62] The average spent per play excludes a respondent who reported having spent $1,000 per play. If this respondent is included, the average spent per play is $23.99.
[63] The average spent per month (mean) excludes a respondent who reported having spent $2,500 a month. If the respondent is included, the average spent per month (mean) is $39.21.
[64] The average spent per month (median) excludes the a respondent who reported having spent $2,500 a month. If the respondent is included, the average spent per month (median) is still $10.00.

Table 32
Extra! Feature with Lotto Texas: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics

Extra! Feature with Lotto Texas	Percentage Played Game Among Past-Year Players	Median Dollars Spent
Year***		
2020 (N = 763)	26.9 (n=205)	$10.00
2018 (N = 711)	17.6 (n=125)	5.00
2020 Demographics		
Education		
Less than high school diploma (n=19)	36.8 (n=7)	21.50
High school diploma (n=105)	37.1 (n=39)	10.00
Some college (n=134)	41.0 (n=55)	8.00
College degree (n=151)	33.1 (n=50)	11.00
Graduate degree (n=101)	52.5 (n=53)	10.00
Income		
Less than $12,000 (n=31)	32.3 (n=10)	25.00
$12,000 to $19,999 (n=38)	47.4 (n=18)	16.00
$20,000 to $29,999 (n=47)	48.9 (n=23)	9.50
$30,000 to $39,999 (n=46)	30.4 (n=14)	5.00
$40,000 to $49,999 (n=25)	52.0 (n=13)	10.00
$50,000 to $59,999 (n=40)	45.0 (n=18)	7.00
$60,000 to $74,999 (n=46)	34.8 (n=16)	7.50
$75,000 to $100,000 (n=60)	28.3 (n=17)	7.50
More than $100,000 (n=133)	48.1 (n=64)	10.00
Race		
White (n=263)	37.6 (n=99)	10.00
African American (n=83)	39.8 (n=33)	8.00
Hispanic (n=103)	41.8 (n=43)	10.00
Asian (n=10)	40.0 (n=4)	--
Native American (n=5)	80.0 (n=4)	--
Other (n=9)	44.4 (n=4)	--
Two or More (n=24)	41.7 (n=10)	16.00

Note: Percentages are within a 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. The average and median amount spent per month only includes those who spent $1.00 or more.

Table 32 (continued)

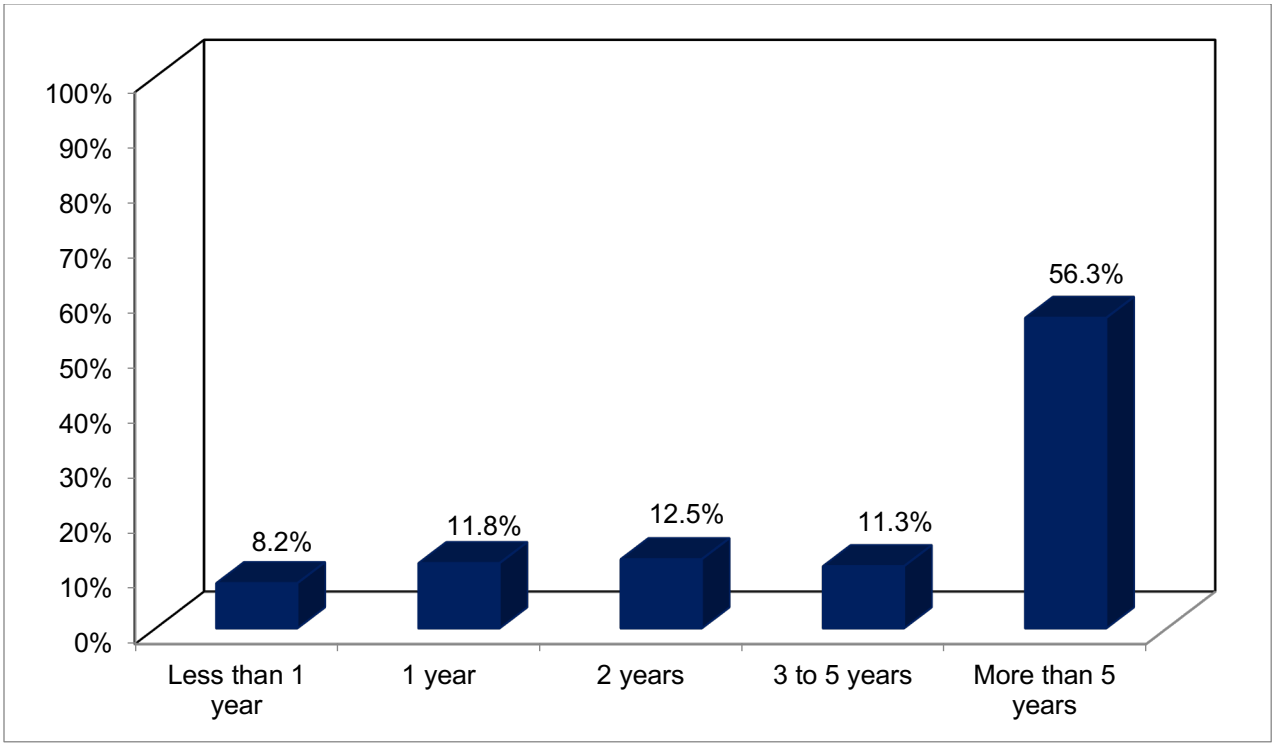
Hispanic Origin		
Yes (n=144)	41.7 (n=60)	12.00
No (n=351)	38.8 (n=136)	10.00
Gender		
Female (n=251)	37.9 (n=95)	8.00
Male (n=256)	42.2 (n=108)	10.00
Prefer to Self-Describe (n=1)	100.0 (n=1)	--
Age		
18 to 24 (n=43)	32.6 (n=14)	17.00
25 to 34 (n=59)	32.2 (n=19)	30.00
35 to 44 (n=102)	54.9 (n=56)	10.00
45 to 54 (n=100)	37.0 (n=37)	10.00
55 to 64 (n=94)	46.8 (n=44)	10.00
65 or older (n=101)	29.7 (n=30)	5.00
Employment Status		
Employed full/part time (n=295)	42.4 (n=125)	10.00
Unemployed (n=62)	46.8 (n=29)	12.00
Retired (n=116)	31.0 (n=36)	6.00

Note: ^ p < 0.10, * p<0.05, ** p < 0.01, *** p < 0.001, two-tailed test.

As shown in Table 32, there was an increase of 9.3 percentage points in the participation rate for the Extra! feature with Lotto Texas between 2018 (17.6 percent) and 2020 (26.9 percent). The difference was statistically significant.

- The survey did not find any statistically significant differences between past-year players who played the Extra! feature with Lotto Texas and those who did not in 2020 for the demographic factors of education, income, race, Hispanic origin, gender, age, and employment status.

Figure 27
Years Playing Extra! Feature with Lotto Texas
(n=551)



As seen in Figure 26, more than half (56.3 percent) of the respondents reported that they had purchased the Extra! feature with Lotto Texas for more than five years. Another 23.8 percent of the respondents reported that they purchased the Extra! feature with Lotto Texas between 2 and 5 years. Furthermore, there were 20.0 percent of the respondents who reported having purchased the Extra! feature with Lotto Texas for just one year or less.

IIIk. FIREBALL FEATURE WITH PICK 3 RESULTS

Percentage of Past-Year Players Purchasing FIREBALL Feature with Pick 3

Twenty-seven percent (27.4) of the lottery past-year players reported purchasing the FIREBALL Feature with Pick 3.

Figure 28
Frequency of Purchasing FIREBALL Feature with Pick 3
(n=209)

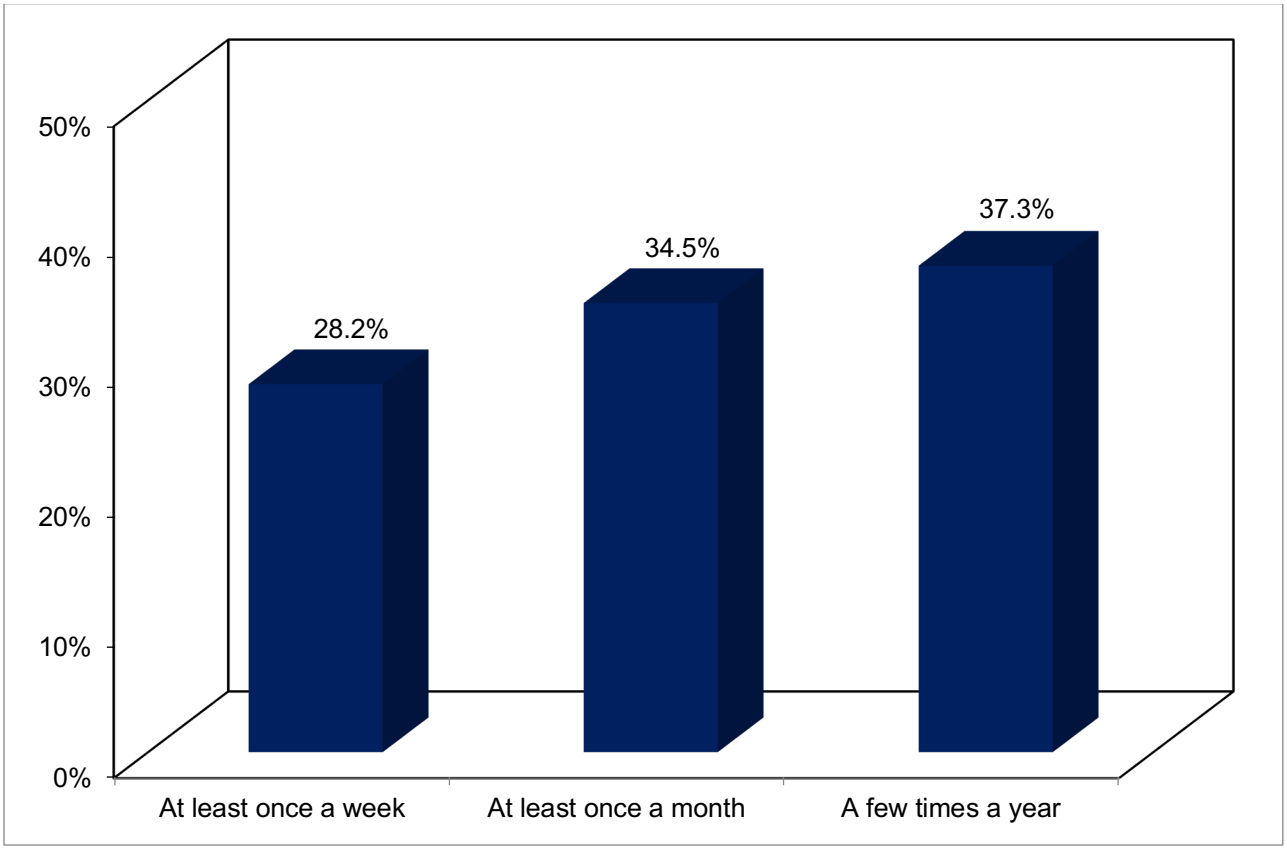


Figure 27 demonstrates that among those who purchased the FIREBALL Feature with Pick 3, 28.2 percent did so at least once a week. Another 34.5 percent purchased the FIREBALL Feature with Pick 3 at least once a month and 37.3 percent purchased the feature a few times a year.

Table 33
Average Number of Times Purchased FIREBALL Feature with Pick 3

Purchased FIREBALL Feature with Pick 3	Average Number of Times Purchased	
	2020	2018
Per week for weekly past-year players[65]	1.97	--
Per month for monthly past-year players[66]	4.30	--
Per year for yearly past-year players[67]	20.53	--

As shown in Table 33, past-year players purchased the FIREBALL Feature with Pick 3 1.97 times per week on average, and players picked the feature 4.30 times per month in 2020. Besides, yearly players purchased the feature with an average of 20.53 times per year in 2020.

Table 34
Dollars Spent on FIREBALL Feature with Pick 3

FIREBALL Feature with Pick 3	Dollars Spent	
	2020	2018
Average spent per play	$24.82	--
Average spent per month (mean)[68]	31.09	--
Average spent per month (median)[69]	13.00	--

Past-year players of the FIREBALL Feature with Pick 3 spent an average of $24.82 per play. Those who reported adding the feature on a monthly or more frequent basis spent an average of $31.09 per month. Besides, half of the respondents were likely to spend $13.00 or more a month on the FIREBALL Feature with Pick 3 in 2020.

[65] The average number of times played per week excludes the respondents who reported having played more than 7 times a week. If those respondents are included, the average number of times played is 2.45 times per week.
[66] The average number of times played per month excludes the respondents who reported having played more than 30 times a month. If those respondents are included, the average number of times played is 4.97 times per month.
[67] The average number of times played per year excludes a respondent who reported having played more than 300 times a year. If this respondent is included, the average number of times played is 22.66 times per year.
[68] The average spent per month (mean) excludes respondents who reported having spent more than $500 per month. If the respondents are included, the average spent per month (mean) is $38.37.
[69] The average spent per month (median) excludes respondents who reported having spent more than $500 per month. If the respondents are included, the average spent per month (median) is still $13.00.

Table 35
FIREBALL Feature with Pick 3: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics

FIREBALL Feature with Pick 3	Percentage Played Game Among Past-Year Players	Median Dollars Spent
Year		
2020 (N = 763)	27.4 (n=209)	$13.00
2020 Demographics		
Education*		
Less than high school diploma (n=13)	46.2 (n=6)	--
High school diploma (n=89)	43.8 (n=39)	20.00
Some college (n=113)	48.7 (n=55)	12.50
College degree (n=119)	46.2 (n=55)	12.00
Graduate degree (n=88)	61.4 (n=54)	12.00
Income		
Less than $12,000 (n=31)	58.1 (n=18)	20.00
$12,000 to $19,999 (n=35)	57.1 (n=20)	15.00
$20,000 to $29,999 (n=31)	51.6 (n=16)	6.50
$30,000 to $39,999 (n=45)	40.0 (n=18)	24.00
$40,000 to $49,999 (n=33)	57.6 (n=19)	15.00
$50,000 to $59,999 (n=35)	42.9 (n=15)	20.00
$60,000 to $74,999 (n=33)	45.5 (n=15)	15.00
$75,000 to $100,000 (n=48)	43.8 (n=21)	16.00
More than $100,000 (n=103)	56.3 (n=58)	12.00
Race		
White (n=193)	49.7 (n=96)	15.00
African American (n=76)	44.7 (n=34)	10.00
Hispanic (n=102)	51.0 (n=52)	10.00
Asian (n=10)	60.0 (n=6)	--
Native American (n=6)	16.7 (n=1)	--
Other (n=4)	75.0 (n=3)	--
Two or More (n=21)	66.7 (n=14)	20.00

Note: Percentages are within a 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. The average and median amount spent per month only includes those who spent $1.00 or more. This is a new feature and was not included in the 2018 report.

Table 35 (continued)

Hispanic Origin		
Yes (n=277)	47.3 (n=131)	10.00
No (n=134)	53.7 (n=72)	15.00
Gender		
Female (n=227)	48.0 (n=109)	10.00
Male (n=194)	51.0 (n=99)	18.00
Prefer to Self-Describe (n=0)	--	--
Age**		
18 to 24 (n=49)	44.9 (n=22)	15.00
25 to 34 (n=67)	61.2 (n=41)	16.00
35 to 44 (n=91)	64.8 (n=59)	12.50
45 to 54 (n=75)	41.3 (n=31)	15.00
55 to 64 (n=67)	40.3 (n=27)	10.00
65 or older (n=73)	39.7 (n=29)	9.50
Employment Status*		
Employed full/part time (n=256)	52.3 (n=134)	15.00
Unemployed (n=52)	50.0 (n=26)	15.00
Retired (n=77)	36.4 (n=28)	10.00

Note: ^ p<0.10, * p<0.05, ** p < 0.01, *** p < 0.001, two-tailed test.

Table 35 shows the participation rate for past-year players of the FIREBALL Feature with Pick 3 in 2020 was 27.4 percent with median dollars spent on the FIREBALL feature was $13.00.

- There was a statistically significant difference between the FIREBALL Feature with Pick 3 past-year players and non-players by education. The participation rate was the highest among players with a graduate degree (61.4 percent), followed by those with some college (48.7 percent). The players with a high school diploma had the highest median dollars spent on the FIREBALL Feature of $20.00.

- Furthermore, there was a statistically significant difference between the FIREBALL Feature with Pick 3 past-year players and non-players by age. The participation rate for the FIREBALL Feature with Pick 3 was highest among those in the age group of 35 to 44 (64.8 percent), followed by those in the 25 to 34 age cohort (61.2 percent). The highest median dollars spent on playing the FIREBALL Feature with Pick 3 tickets in 2020 were those in the 25 to 34 age range (at $16.00).

- There was a statistically significant difference between the past-year players and non-players of the FIREBALL Feature with Pick 3 by employment status. The highest participation rate for the FIREBALL Feature with Pick 3 tickets was among players who were employed either part-time or full-time (52.3 percent). The highest median dollars spent on the FIREBALL Feature with Pick 3 tickets were among players who were employed and unemployed (at $15.00 each). Conversely, those who were retired had the lowest participation rate of 36.4 percent.

- There were no statistically significant differences between past-year players who played the FIREBALL Feature with Pick 3 and those who did not in 2020 with regard to the demographic factors of income, race, Hispanic origin, and gender.

Figure 29
Years Playing FIREBALL Feature with Pick 3
(n=202)

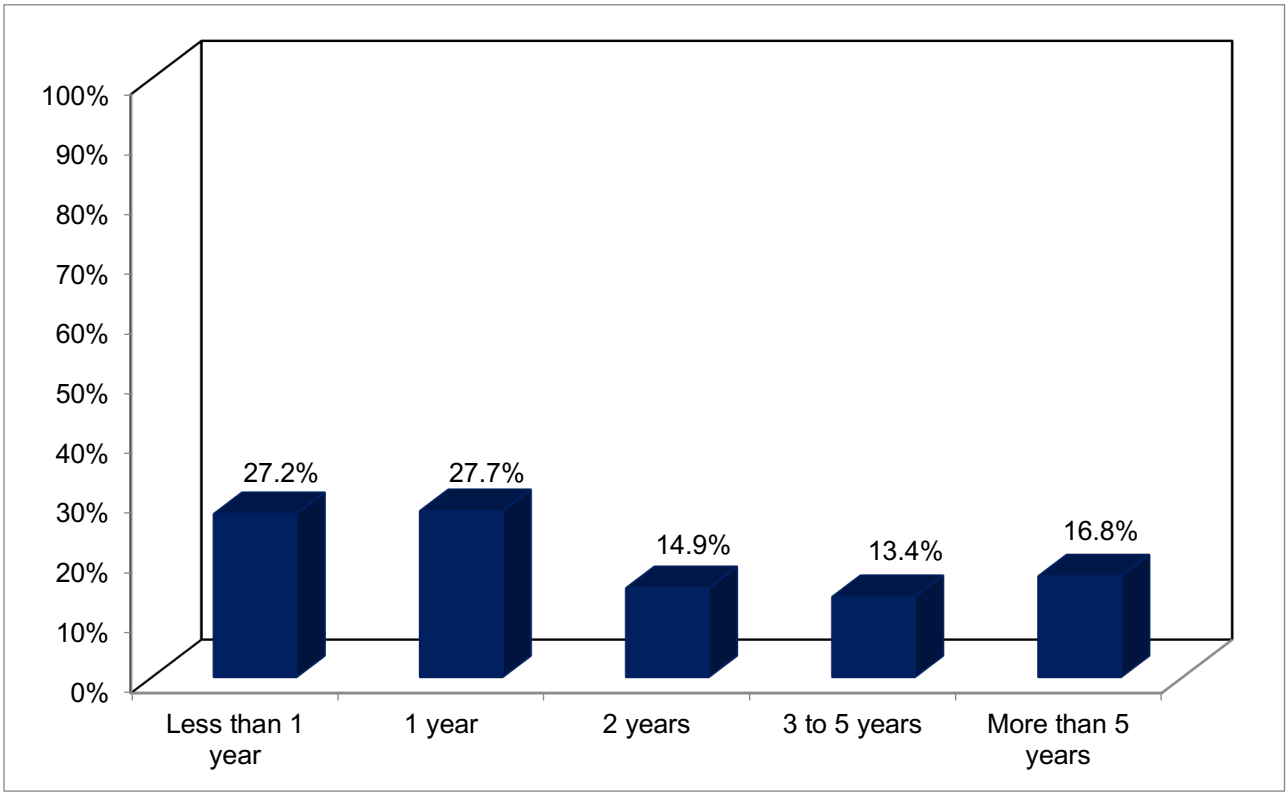


Figure 28 demonstrates that 16.8 percent of the respondents who played the FIREBALL Feature with Pick 3 during the past year reported having played it for more than five years. In addition, 54.9 percent had played the FIREBALL Feature with Pick 3 for just one year or less.[70]

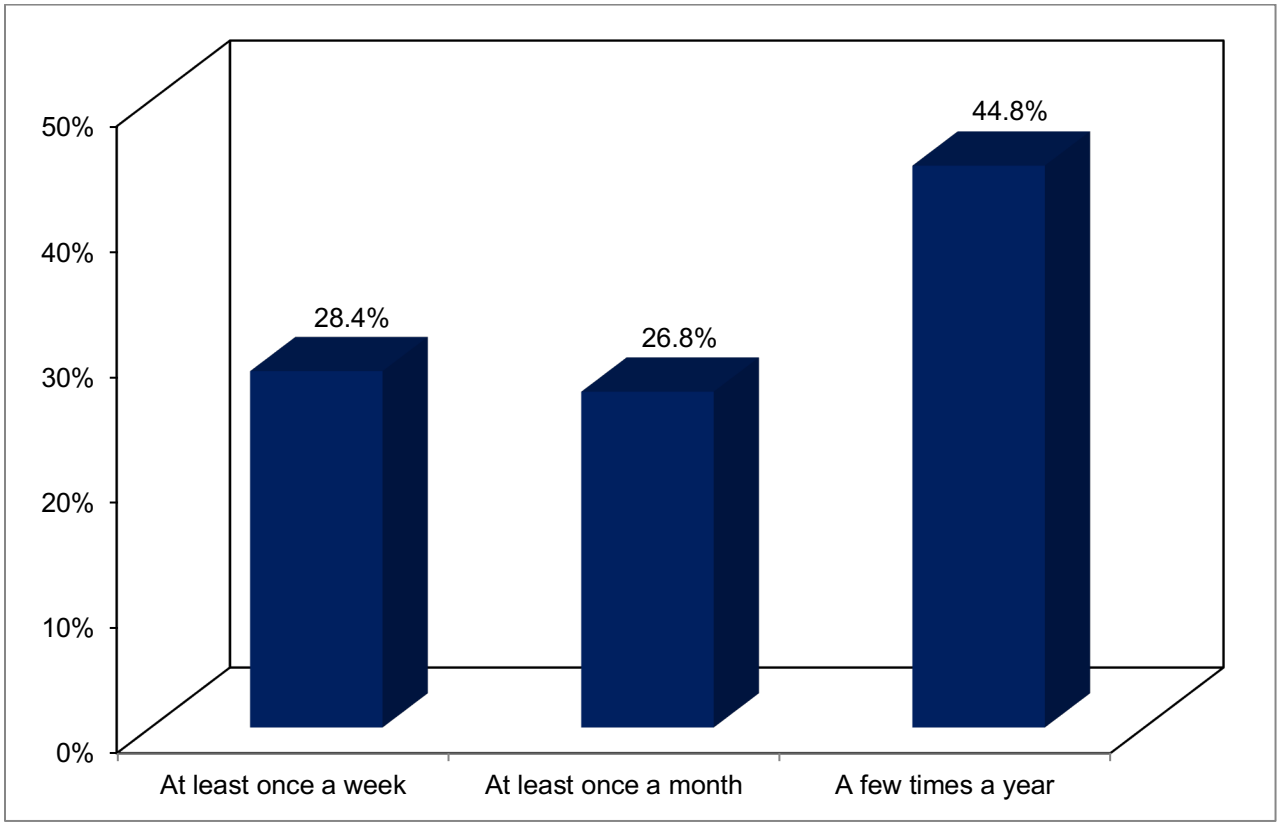
[70] The FIREBALL Feature with Pick 3 has only been offered less than 2 years; therefore, it is possible that players who reported playing 2 years or more could be associating this feature with the Sum it Up feature used in previous years. FIREBALL sales started in April 2019.

IIII. TEXAS TWO STEP RESULTS

Percentage of Past-Year Players Playing Texas Two Step

Twenty-four percent (24.0) of the lottery past-year players reported playing Texas Two Step in 2020. The participation rate was 11.3 percentage points higher than the rate recorded in 2018.

Figure 30
Frequency of Purchasing Texas Two Step Tickets
(n=183)



As seen in Figure 29, 28.4 percent of the Texas Two Step players purchased tickets for the game at least once a week. Another 26.8 percent reported that they purchased tickets at least once a month. An additional 44.8 percent of the players purchased tickets a few times a year.

Table 36
Average Number of Times Played Texas Two Step

Played Texas Two Step	Average Number of Times Played	
	2020	2018
Per week for weekly past-year players[71]	2.20	1.37
Per month for monthly past-year players[72]	4.49	4.11
Per year for yearly past-year players[73]	23.81	29.95

As shown in Table 36, weekly players of Texas Two Step played an average number of 2.20 times per week. Monthly players reported playing the game 4.49 times per month, whereas yearly players logged 23.81 times per year.

Table 37
Dollars Spent on Texas Two Step

Texas Two Step	Dollars Spent	
	2020	2018
Average spent per play	$17.26	$6.54
Average spent per month (mean)	22.47	21.78
Average spent per month (median)	10.00	8.00

Table 37 reveals that the respondents who played Texas Two Step spent an average of $17.26 per play in 2020, a significant increase from 2018 ($6.54). Those who reported playing the game on a monthly or more frequent basis spent an average of $22.47 per month. The median monthly expenditure for 2020 was $10.00, an increase from the $8.00 monthly median in 2018.

[71] The average number of times played per week excludes the respondents who reported having played more than 7 times a week. If those respondents are included, the average number of times played is 2.71 times per week.
[72] The average number of times played per month excludes the respondents who reported having played more than 30 times a month. If those respondents are included, the average number of times played is 5.18 times per month.
[73] The average number of times played per year excludes a respondent who reported having played 365 times a year. If the respondent is included, the average number of times played is 25.96 times per year.

Table 38
Texas Two Step: Lottery Play and Median Dollars Spent per Month by Past-Year Player Demographics

Texas Two Step	Percentage Played Game Among Past-Year Players	Median Dollars Spent
Year***		
2020 (N = 763)	24.0 (n=183)	$10.00
2018 (N = 711)	12.7 (n=90)	8.00
2020 Demographics		
Education**		
Less than high school diploma (n=22)	22.7 (n=5)	--
High school diploma (n=143)	20.3 (n=29)	10.00
Some college (n=188)	24.5 (n=46)	5.50
College degree (n=213)	24.4 (n=52)	12.00
Graduate degree (n=133)	38.4 (n=51)	10.00
Income		
Less than $12,000 (n=49)	26.5 (n=13)	--
$12,000 to $19,999 (n=48)	29.2 (n=14)	9.50
$20,000 to $29,999 (n=64)	26.6 (n=17)	8.00
$30,000 to $39,999 (n=67)	17.9 (n=12)	8.00
$40,000 to $49,999 (n=45)	26.7 (n=12)	10.00
$50,000 to $59,999 (n=57)	36.8 (n=21)	14.00
$60,000 to $74,999 (n=57)	15.8 (n=9)	--
$75,000 to $100,000 (n=79)	24.1 (n=19)	4.50
More than $100,000 (n=173)	31.8 (n=55)	10.00
Race		
White (n=356)	24.2 (n=86)	10.00
African American (n=106)	31.1 (n=33)	6.00
Hispanic (n=146)	30.1 (n=44)	8.00
Asian (n=15)	20.0 (n=3)	--
Native American (n=11)	18.2 (n=2)	--
Other (n=13)	7.7 (n=1)	--
Two or More (n=32)	28.1 (n=9)	22.0

Note: Percentages are within a 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. The average and median amount spent per month only includes those who spent $1.00 or more.

Table 38 (continued)

Hispanic Origin		
Yes (n=198)	29.8 (n=59)	9.00
No (n=481)	24.7 (n=119)	10.00
Gender		
Female (n=350)	26.0 (n=91)	8.00
Male (n=345)	26.4 (n=91)	10.00
Prefer to Self-Describe (n=2)	--	--
Age		
18 to 24 (n=66)	28.8 (n=19)	6.00
25 to 34 (n=88)	22.7 (n=20)	20.00
35 to 44 (n=133)	39.1 (n=52)	10.00
45 to 54 (n=129)	24.0 (n=31)	10.00
55 to 64 (n=12)	23.1 (n=28)	8.00
65 or older (n=148)	21.6 (n=32)	6.00
Employment Status		
Employed full/part time (n=404)	27.0 (n=109)	10.00
Unemployed (n=72)	36.1 (n=26)	5.00
Retired (n=161)	22.4 (n=36)	8.00

Note: * p<0.05, ** p < 0.01, *** p < 0.001, two-tailed test. This table was not included in the 2018 report because the numbers of respondents for the demographic sub-categories were too small to provide any statistically meaningful information.

Table 38 shows there was an increase of 11.3 percentage points in the participation rate for Texas Two Step between 2018 (12.7 percent) and 2020 (24.0 percent). The difference was statistically significant.

- There was a statistically significant difference between the Texas Two Step past-year players and non-players by education. The participation rate was the highest among players with a graduate degree (38.4 percent), followed by those with some college and a college degree (24.5 percent and 24.4 percent, respectively). The players with a college degree had the highest median dollars spent on Texas Two Step of $12.00.

- There were no statistically significant differences between past-year players who played the Texas Two Step and those who did not in 2020 with regard to the demographic factors of income, race, Hispanic origin, gender, age, and employment status.

Figure 31
Years Playing Texas Two Step
(n=183)

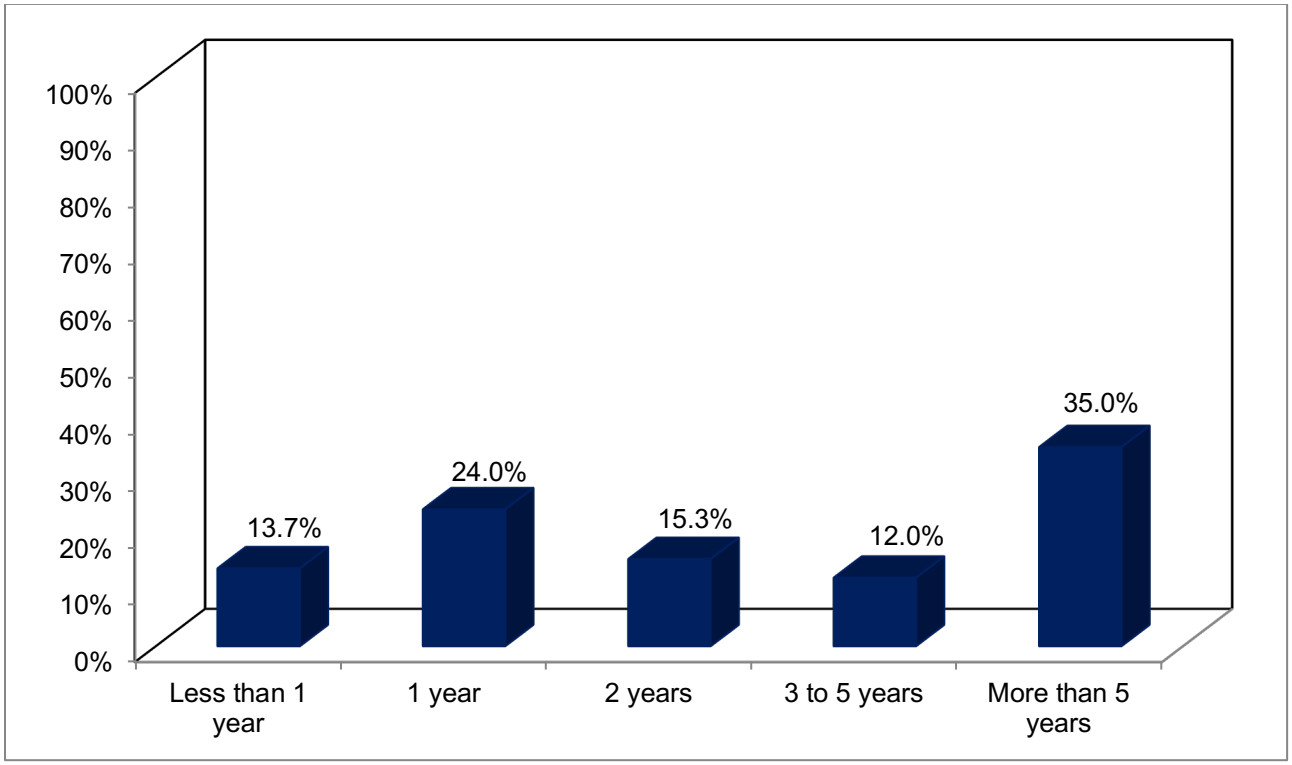


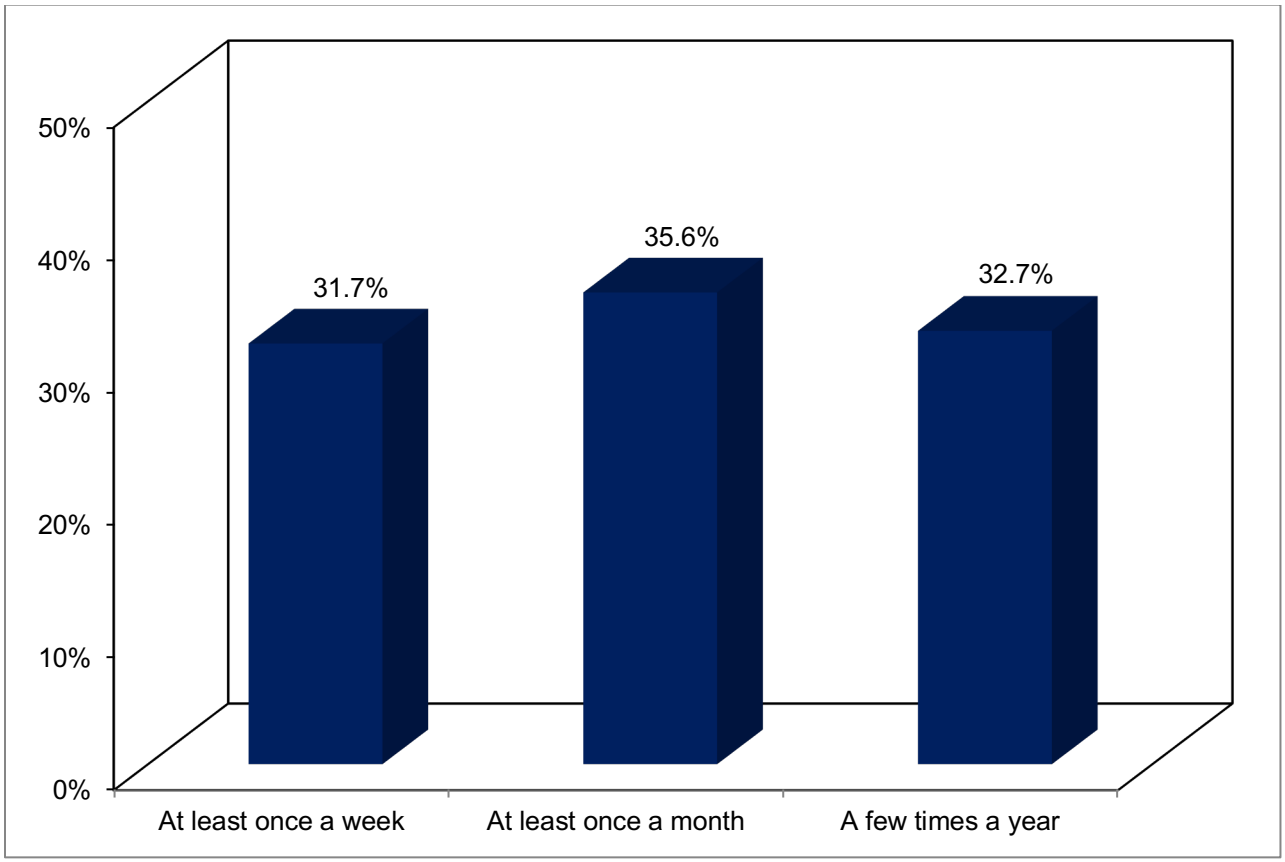
Figure 30 illustrates that 35.0 percent of the respondents reported that they had bought Texas Two Step for more than five years. A total of 37.7 percent of the respondents reported having played Texas Two Step for just one year or less.

IIIm. ALL OR NOTHING RESULTS

Percentage of Past-Year Players Purchasing All or Nothing

About fourteen percent (13.6) of the lottery past-year players reported playing the All or Nothing game, which was 8.4 percentage points higher than in 2018 (5.2 percent).

Figure 32
Frequency of Purchasing All or Nothing
(n=104)



As displayed in Figure 31, among those who purchased the All or Nothing game, 31.7 percent did so at least once a week, and 35.6 percent did so at least once a month. Another 32.7 percent reported playing the game a few times a year.

Table 39
Average Number of Times Played All or Nothing

Played All of Nothing	Average Number of Times Played	
	2020	2018
Per week for weekly past-year players	2.78	1.77
Per month for monthly past-year players[74]	4.70	4.29
Per year for yearly past-year players[75]	26.86	15.47

As shown in Table 39, past-year players purchased the All or Nothing game 2.78 times per week on average, while monthly players picked the game 4.70 times per month. Yearly players picked the game 26.86 times per year.

Table 40
Dollars Spent on All or Nothing

All or Nothing	Dollars Spent	
	2020	2018
Average spent per play	$20.97	$14.18
Average spent per month (mean)	24.89	23.24
Average spent per month (median)	10.00	12.50

Past-year players of the All or Nothing game spent an average of $20.97 per play (Table 40). Those who reported playing on a monthly or more frequent basis spent an average of $24.89 per month. Half of the respondents were likely to spend $10.00 or more a month purchasing the All or Nothing game.

Note: 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.

[74] The average number of times played per month excludes the respondents who reported having played more than 30 times a month. If those respondents are included, the average number of times played is 5.33 times per month.
[75] The average number of times played per year excludes a respondent who reported having 365 times a year. If this respondent is included, the average number of times played is 26.62 times per year.

Figure 33
Years Playing All or Nothing
(n=105)

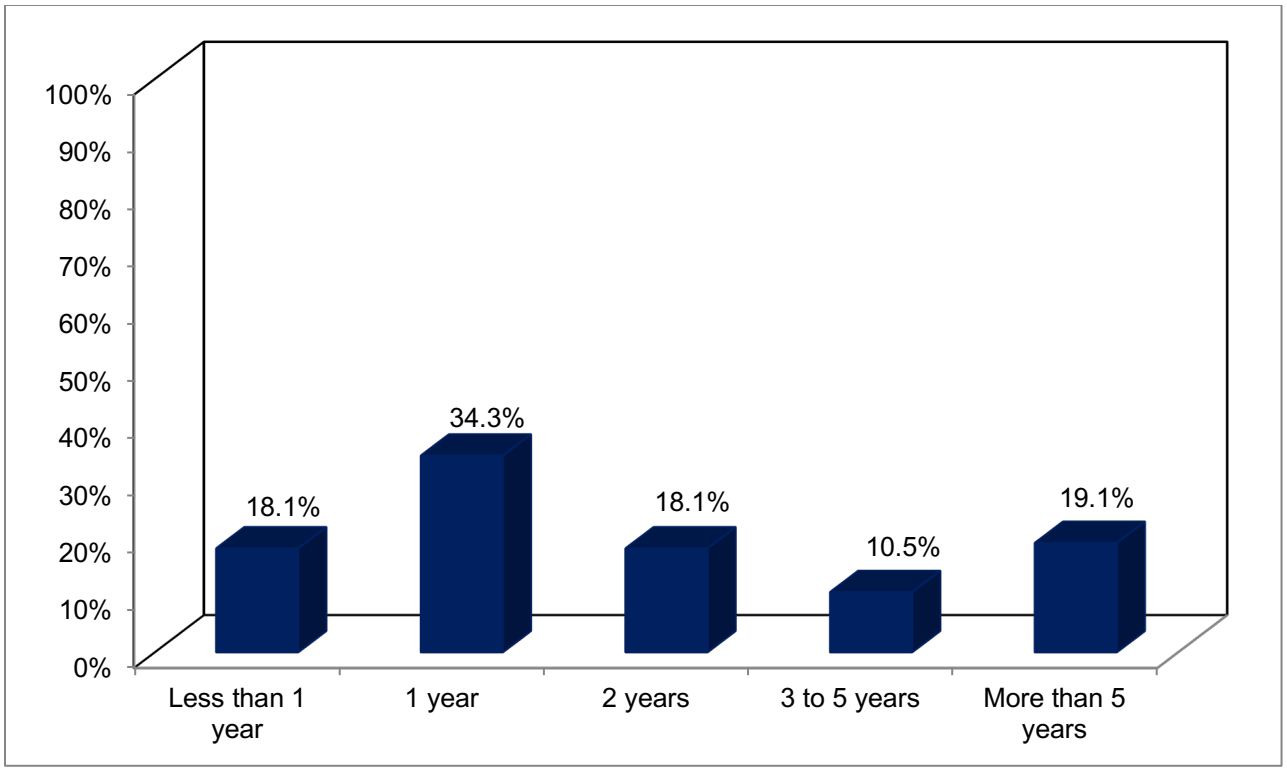


Figure 32 shows that 19.1 percent of the respondents who played the All or Nothing game during the past year reported having played it for more than five years. Another 52.4 percent had played the All or Nothing game for just one year or less.

IIIn. DAILY 4 RESULTS

Percentage of Past-Year Players Purchasing Daily 4

A total of 13.8 percent of the lottery past-year players reported purchasing the Daily 4 game, 10.6 percentage points higher than that recorded in 2018 (3.2 percent).

Figure 34
Frequency of Purchasing Daily 4
(n=105)

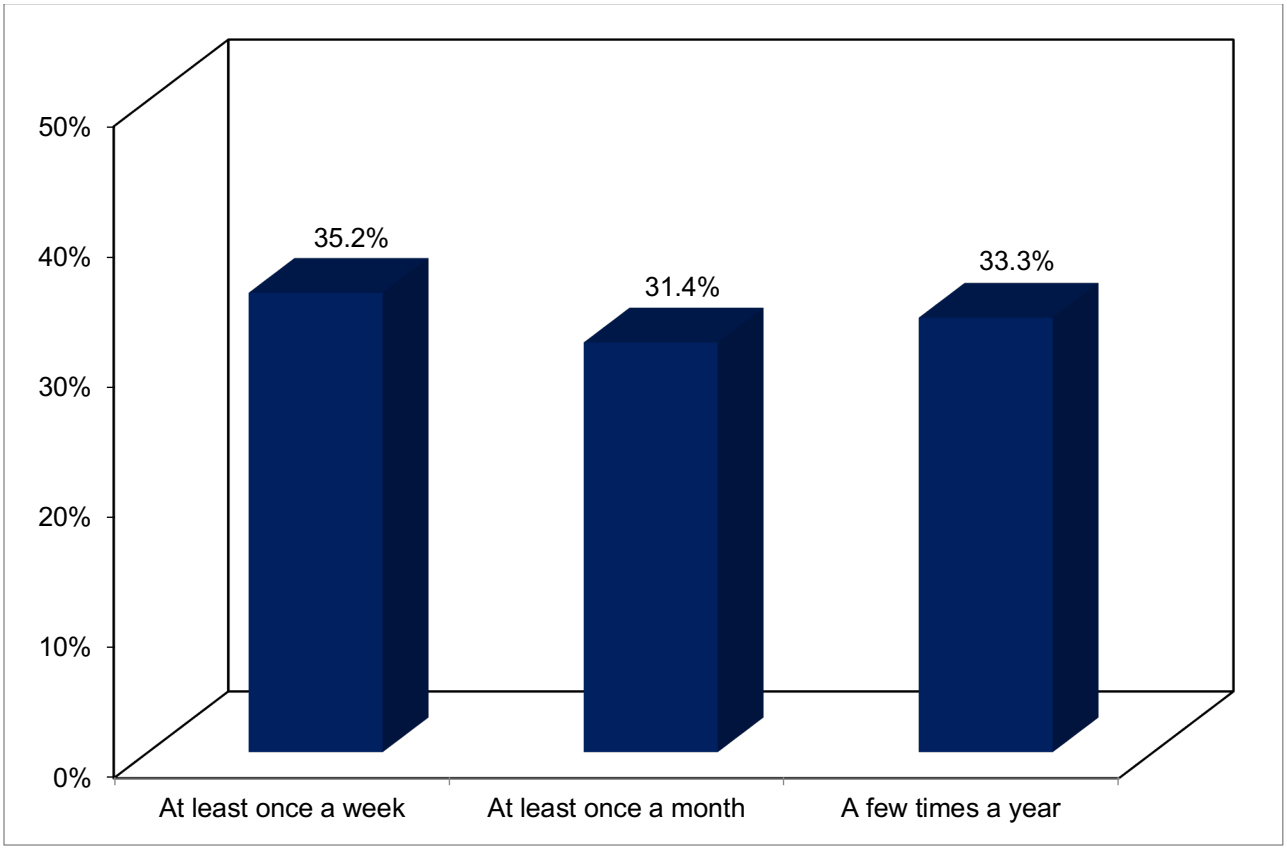


Figure 33 indicates that among those who purchased the Daily 4 game, 35.2 did so at least once a week. Another 31.4 percent purchased the Daily 4 game at least once a month. Moreover, 33.3 percent played the Daily 4 game a few times a year.

Table 41
Average Number of Times Purchased Daily 4

Purchased Daily 4	Average Number of Times Purchased	
	2020	2018
Per week for weekly past-year players[76]	2.69	2.00
Per month for monthly past-year players	5.17	6.21
Per year for yearly past-year players	17.86	22.95

As shown in Table 41, past-year players purchased the Daily 4 game 2.69 times per week on average, and players played the game 5.17 times per month in 2020. Besides, yearly players purchased the Daily 4 game an average of 17.86 times per year.

Table 42
Dollars Spent on Daily 4

Daily 4	Dollars Spent	
	2020	2018
Average spent per play	$20.32	$11.74
Average spent per month (mean)	24.77	47.47
Average spent per month (median)	10.00	20.00

As displayed in Table 42, past-year players of the Daily 4 game spent an average of $20.32 per play in 2020. Those who reported playing the Daily 4 game on a monthly or more frequent basis spent an average of $24.77 per month. In addition, half of the respondents were likely to spend $10.00 or more a month on the Daily 4 game.

Note: 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 Daily 4 game.

[76] The average number of times played per week excludes a respondent who reported having played more than 7 times a week. If this respondent is included, the average number of times played is 2.85 times per week.

Figure 35
Years Playing Daily 4
(n=99)

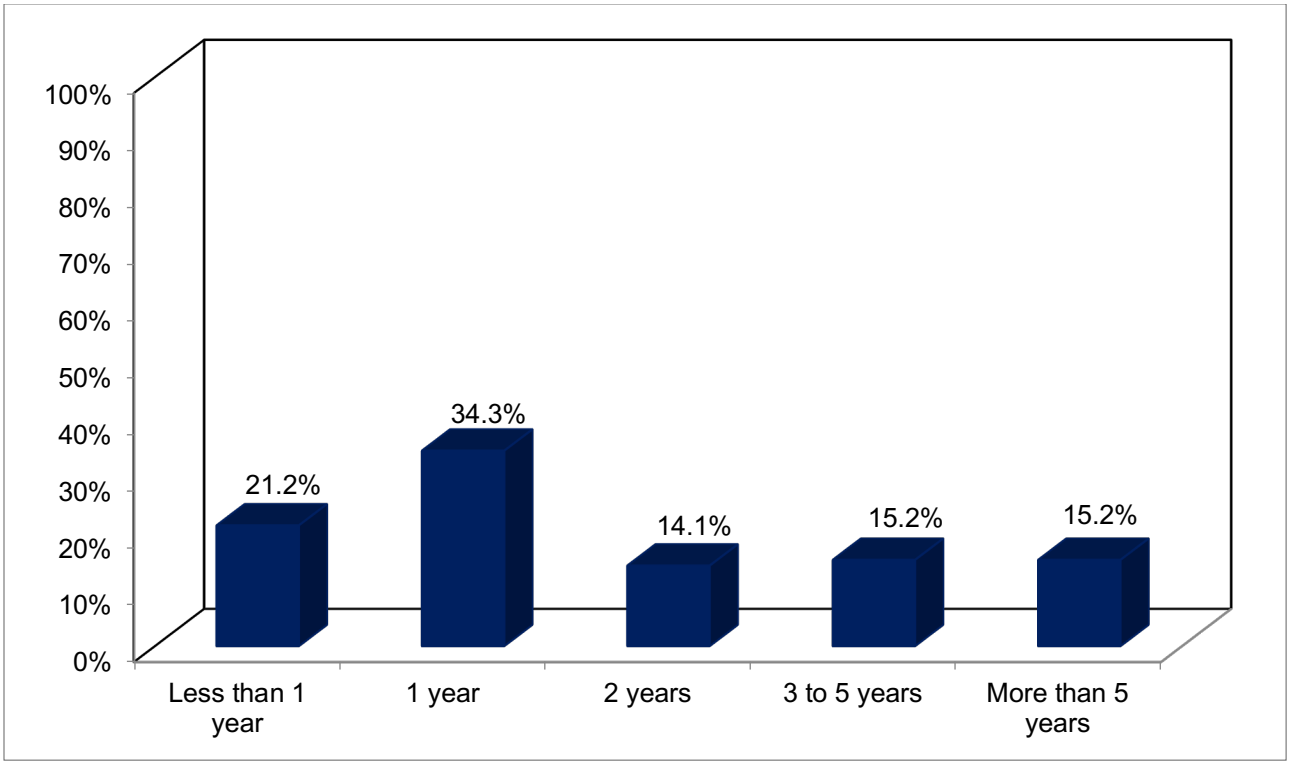


Figure 34 reveals that 15.2 percent of the respondents reported that they had bought the Daily 4 game for more than five years. A total of 55.5 percent of the respondents reported having played the Daily 4 game for just one year or less.

IIIo. FIREBALL FEATURE WITH DAILY 4 RESULTS

Percentage of Past-Year Players Purchasing FIREBALL Feature with Daily 4

Ten percent (9.8) of the lottery past-year players reported purchasing the FIREBALL Feature with Daily 4.

Figure 36
Frequency of Purchasing FIREBALL Feature with Daily 4
(n=75)

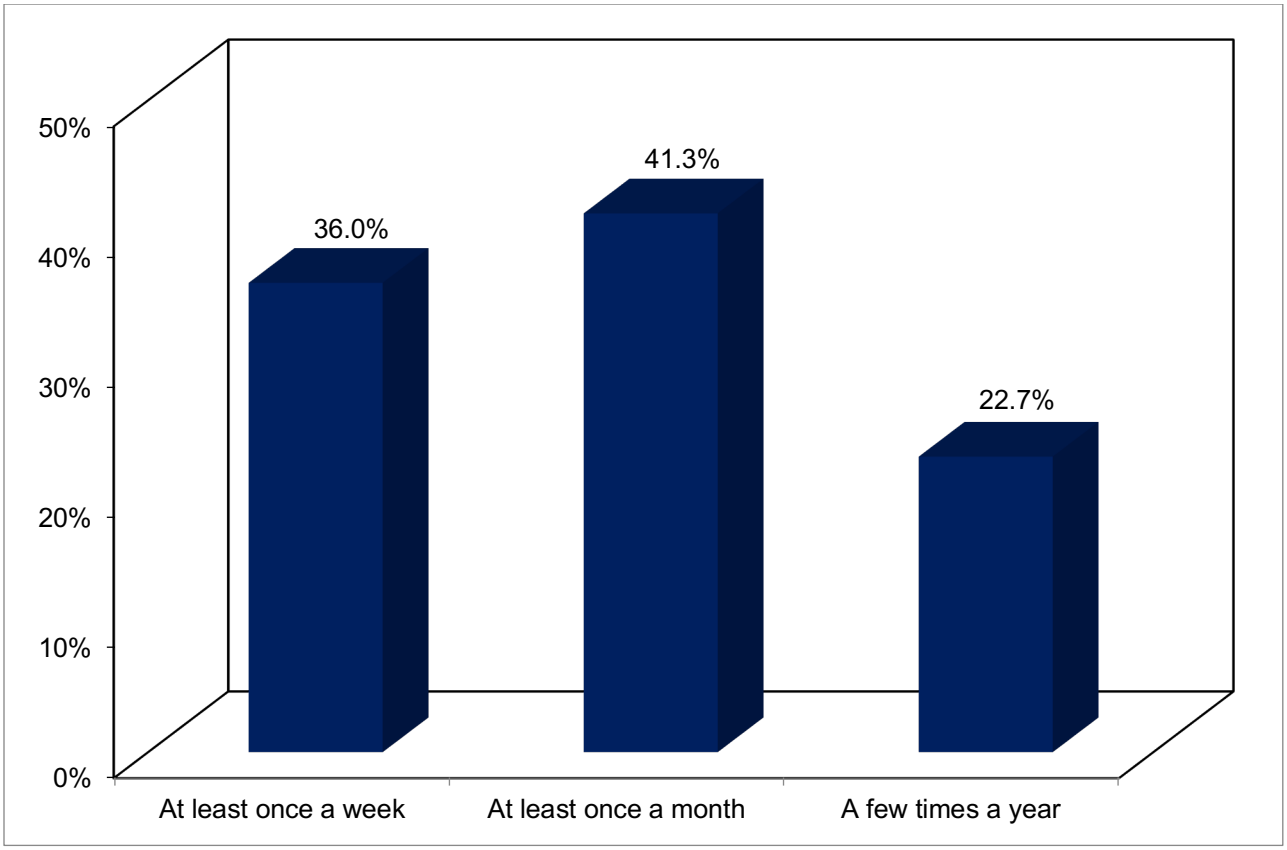


Figure 35 demonstrates that among those who purchased the FIREBALL Feature with Daily 4, 36.0 percent did so at least once a week. Another 41.3 percent purchased the FIREBALL Feature with Daily 4 at least once a month and 22.7 percent purchased the feature a few times a year.

Table 43
Average Number of Times Purchased FIREBALL Feature with Daily 4

Purchased FIREBALL Feature with Daily 4	Average Number of Times Purchased	
	2020	2018
Per week for weekly past-year players	2.79	--
Per month for monthly past-year players	5.11	--
Per year for yearly past-year players	15.17	--

As shown in Table 43, past-year players purchased the FIREBALL Feature with Daily 4 2.79 times per week on average, and players picked the feature 5.11 times per month in 2020. Besides, yearly players purchased the feature with an average of 15.17 times per year in 2020.

Table 44
Dollars Spent on FIREBALL Feature with Daily 4

FIREBALL Feature with Daily 4	Dollars Spent	
	2020	2018
Average spent per play	$20.76	--
Average spent per month (mean)	23.64	--
Average spent per month (median)	11.00	--

Past-year players of the FIREBALL Feature with Daily 4 spent an average of $20.76 per play. Those who reported adding the feature on a monthly or more frequent basis spent an average of $23.64 per month. Besides, half of the respondents were likely to spend $11.00 or more a month on the FIREBALL Feature with Daily 4 in 2020.

Note: 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 FIREBALL feature with Daily 4.

Figure 37

Years Playing FIREBALL Feature with Daily 4
(n=75)

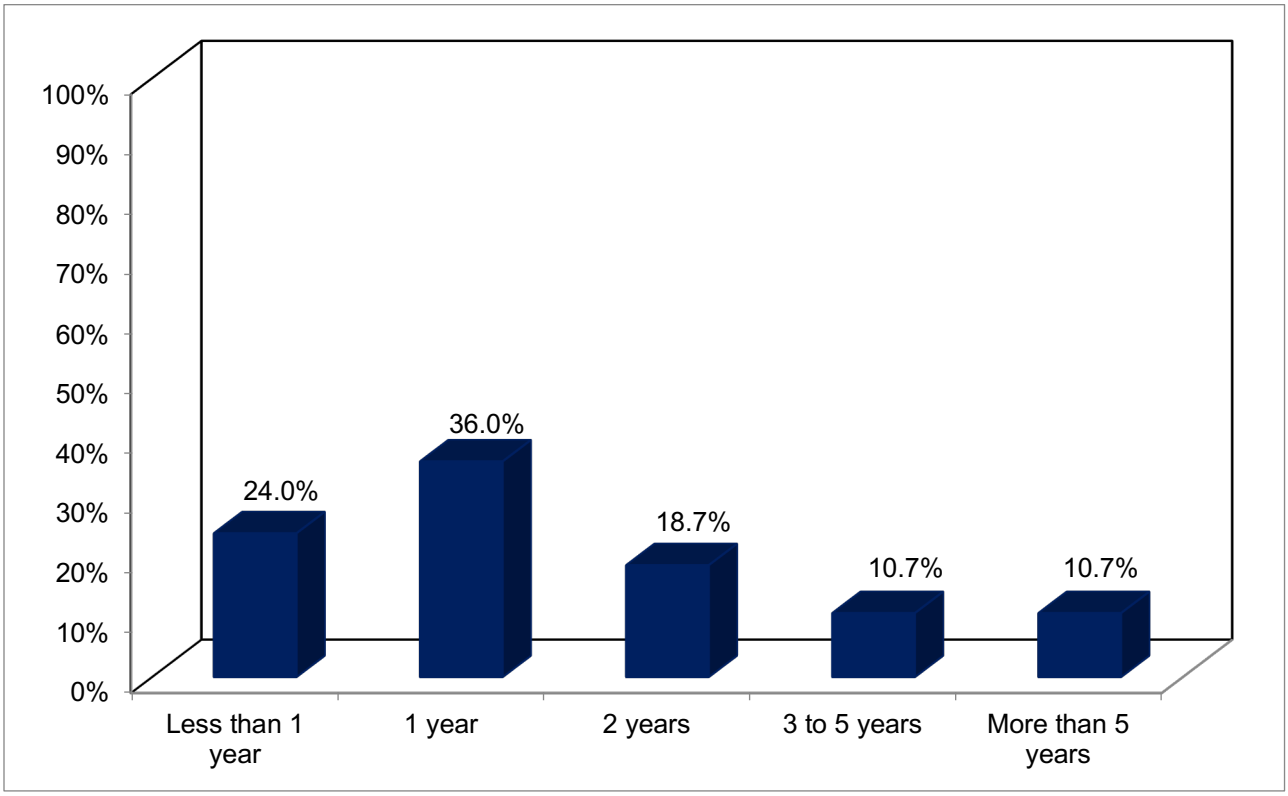


Figure 36 demonstrates that 10.7 percent of the respondents who played the FIREBALL Feature with Daily 4 during the past year reported having played it for more than five years. In addition, 60.0 percent had played the FIREBALL Feature with Daily 4 for just one year or less.

IV. SUMMARY

The Texas Lottery Commission 2020 Demographic Study of Texas Lottery Players surveyed a total of 1,687 Texas adults aged 18 years and older between August 24th and September 15th, 2020. The Texas Lottery participation rate for 2020 was 45.2 percent, which was 3.2 percentage points higher than the rate of 42.0 percent in 2018. The increase in the participation rate was not 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 16.5 percentage points in the participation rates over the past four years (see Figure 1).

There were statistically significant differences between the samples of past-year players and non-players of Texas Lottery games in 2020 with regard to income, employment status, homeownership, children under 18 living in the household, gender, and Hispanic origin (see Table 2). Among past-year players, the differences in the percentages of playing any game were statistically significant based on the players' income, Hispanic origin, gender, and employment status, but not for other demographic characteristics (see Table 3).

Lotto Texas was still the most popular game in terms of participation among all games and add-on features in 2020, with a participation rate of 74.7 percent. The second- and third-most popular games in 2020 were Texas Lottery scratch games (70.4 percent) and Pick 3 (60.7 percent), respectively. The FIREBALL Feature with Pick 3, on the other hand, had the highest average expenditure per play of $24.82 by past-year players in 2020.

In comparison to 2018, a total of four games recorded a double-digit increase in their participation rates in 2020. They were Pick 3 (19.1 percentage points), Cash Five (14.0 percentage points), Texas Two Step (11.3 percentage points), and Daily 4 (10.6 percentage points) (see Table 1).

The FIREBALL Feature with Daily 4 had the highest average number of times played per week (2.79 times) among all games and features among past-year players in 2020. On the other hand, Daily 4 had the highest average number of times played per month (5.17 times). The FIREBALL Feature with Daily 4 had the highest frequency of purchase for at least once a week and at least once a month (36.0 percent and 41.3 percent, respectively) among past-year players in 2020.

Consistent with the findings of the 2018 survey, most 2020 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 game in 2020 were McAllen (58.6 percent) and Tyler (33.3 percent), respectively (see Table 4). The lottery sales districts with the largest increases in the participation rates for 2020 were San Antonio (13.5 percentage points) and Dallas South (10.7 percentage points). By contrast, the Tyler and El Paso sales districts had the greatest declines in participation rates: 13.4 percentage points and 7.0 percentage points, respectively. The differences in the participation rates between 2018 and 2020 were statistically significant for the lottery sales districts of Fort Worth, Houston Northwest, Houston West, and Tyler, while the majority of sales districts had an increase in the Texas Lottery participation rate.

APPENDIX

Table A
Descriptions of Texas Lottery Games and Add-on Features[77]

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
FIREBALL®	The add-on feature for another way to win with Daily 4 or Pick 3.	Four times a day, Monday - Saturday
Scratch Tickets	Games in which the player scratches out portions of the ticket to reveal prize symbols.	
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 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 can increase non-jackpot prizes.	Wednesday and Saturday
All or Nothing™	The daily game where the player picks 12 numbers and may win the top prize by matching all 12 numbers or matching none of the numbers.	Four times a day, Monday - Saturday

[77] 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[78]
(n=1,653)

County	Count	Percentage
Anderson	3	0.18
Angelina	4	0.24
Aransas	1	0.06
Archer	1	0.06
Austin	4	0.24
Bandera	2	0.12
Bastrop	7	0.42
Baylor	1	0.06
Bee	1	0.06
Bell	24	1.45
Bexar	116	7.02
Blanco	2	0.12
Bowie	6	0.36
Brazoria	27	1.63
Brazos	11	0.67
Brooks	1	0.06
Brown	3	0.18
Burnet	3	0.18
Caldwell	1	0.06
Cameron	25	1.51
Cass	3	0.18
Castro	1	0.06
Chambers	3	0.18
Cherokee	2	0.12
Clay	1	0.12
Collin	44	2.66
Collingsworth	1	0.06
Colorado	1	0.06
Comal	9	0.54
Cooke	4	0.24

County	Count	Percentage
Coryell	6	0.36
Crane	1	0.06
Dallas	158	9.56
DeWitt	2	0.12
Deaf Smith	1	0.06
Delta	1	0.06
Denton	38	2.30
Dickens	2	0.12
Eastland	2	0.12
Ector	6	0.36
El Paso	32	1.94
Ellis	11	0.67
Erath	1	0.06
Falls	1	0.06
Fannin	2	0.12
Fisher	1	0.06
Foard	1	0.06
Fort Bend	54	3.27
Freestone	1	0.06
Galveston	29	1.75
Garza	1	0.06
Gillespie	1	0.06
Goliad	2	0.12
Gonzales	3	0.18
Gray	1	0.06
Grayson	8	0.48
Gregg	6	0.36
Grimes	2	0.12
Guadalupe	10	0.60
Hale	1	0.06

[78] The discrepancy between the sample in Table B (n=1,653) and the total sample (n=1,687) is due to respondents stating that they "did not know" or were "unsure" of their county of residence. In addition, some respondents refused to answer the question. The respondents came from 165 out of 254 counties, 65.0 percent of the counties in Texas.

County	Count	Percentage
Hamilton	1	0.06
Hansford	2	0.12
Hardeman	1	0.06
Hardin	4	0.24
Harris	329	19.90
Harrison	1	0.06
Hays	12	0.73
Henderson	3	0.18
Hidalgo	29	1.75
Hill	2	0.12
Hockley	3	0.18
Hood	2	0.12
Hopkins	2	0.12
Houston	4	0.24
Howard	2	0.12
Hudspeth	1	0.06
Hunt	4	0.24
Hutchinson	1	0.06
Jack	1	0.06
Jackson	1	0.06
Jefferson	11	0.67
Jim Wells	1	0.06
Johnson	11	0.67
Karnes	1	0.06
Kaufman	5	0.30
Kendall	7	0.42
Kerr	3	0.18
Kleberg	3	0.18
Lamar	4	0.24
Lampasas	1	0.06
Lee	1	0.06
Leon	3	0.18
Liberty	8	0.48
Limestone	4	0.24
Live Oak	1	0.06
Llano	3	0.18
Lubbock	8	0.48
Lynn	1	0.06
Mason	1	0.06
Matagorda	3	0.18

County	Count	Percentage
Maverick	2	0.12
McCulloch	1	0.06
McLennan	22	1.33
Medina	3	0.18
Midland	7	0.42
Milam	1	0.06
Mills	1	0.06
Montague	1	0.06
Montgomery	33	2.00
Moore	2	0.12
Morris	1	0.06
Motley	1	0.06
Nacogdoches	5	0.30
Navarro	5	0.30
Newton	1	0.06
Nueces	18	1.09
Orange	3	0.18
Palo Pinto	2	0.12
Panola	1	0.06
Parker	7	0.42
Pecos	1	0.06
Polk	3	0.18
Potter	6	0.36
Randall	7	0.42
Red River	1	0.06
Reeves	1	0.06
Rockwall	4	0.24
Rusk	3	0.18
San Augustine	1	0.06
San Jacinto	1	0.06
San Patricio	5	0.30
Scurry	1	0.06
Shackelford	1	0.06
Shelby	1	0.06
Smith	18	1.09
Starr	2	0.12
Stephens	1	0.06
Swisher	1	0.06
Tarrant	97	5.87
Taylor	8	0.48

County	Count	Percentage
Terry	1	0.06
Throckmorton	1	0.06
Titus	1	0.06
Tom Green	6	0.36
Travis	70	4.23
Trinity	1	0.06
Tyler	1	0.06
Upshur	2	0.12
Uvalde	2	0.12
Val Verde	3	0.18
Van Zandt	7	0.42
Victoria	4	0.24
Walker	8	0.48
Waller	4	0.24
Ward	1	0.06
Washington	2	0.12
Webb	14	0.85
Wharton	2	0.12
Wichita	10	0.60
Willacy	3	0.18
Williamson	34	2.06
Wilson	3	0.18
Wise	2	0.12
Wood	5	0.30
Young	3	0.18

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
Hunt
Rockwall
Dallas South District
(Counties)
Dallas
Tarrant
El Paso District
(Counties)
Brewster
Culberson
El Paso
Hudspeth
Jeff Davis
Loving
Pecos
Presidio
Reeves
Terrell
Ward
Winkler
Fort Worth District
(Counties)
Archer
Baylor
Clay
Foard

Hardeman
Jack
Montague
Palo Pinto
Parker
Tarrant
Throckmorton
Wichita
Wilbarger
Wise
Young
Houston East District
(Counties)
Chambers
Hardin
Harris
Jefferson
Liberty
Orange
Houston Northwest District
(Counties)
Harris
Montgomery
San Jacinto
Walker
Houston Southwest District
(Counties)
Brazoria
Harris
Galveston
Houston West District
(Counties)
Austin
Fort Bend
Harris
Matagorda
Waller
Wharton
Lubbock District
(Counties)
Andrews
Armstrong
Bailey
Borden
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
Hartley
Haskell
Hemphill
Hockley
Howard
Hutchinson
Irion
Jones
Kent
Kimble
King
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
Brooks
Calhoun
Cameron
Duval
Goliad
Hidalgo
Jackson
Jim Hogg
Jim Wells
Kenedy
Kleberg
Live Oak
Nueces
Refugio
San Patricio
Starr
Victoria
Webb
Willacy
Zapata
San Antonio District
(Counties)
Atascosa
Bandera

Bexar
Colorado
Comal
De Witt
Dimmit
Edwards
Frio
Gillespie
Gonzales
Guadalupe
Karnes
Kendall
Kerr
Kinney
La Salle
Lavaca
Maverick
McMullen
Medina
Real
Uvalde
Val Verde
Wilson
Zavala
Tyler District
(Counties)
Anderson
Angelina
Bowie
Camp
Cass
Cherokee
Delta
Franklin
Freestone
Gregg
Harrison
Henderson
Hopkins
Houston
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
Bosque
Burnet
Comanche
Coryell
Ellis
Erath
Falls
Hamilton
Hill
Hood
Johnson
Lampasas
Limestone
Llano
Mason
McLennan
Milam
Mills
Navarro
Robertson
San Saba
Somervell