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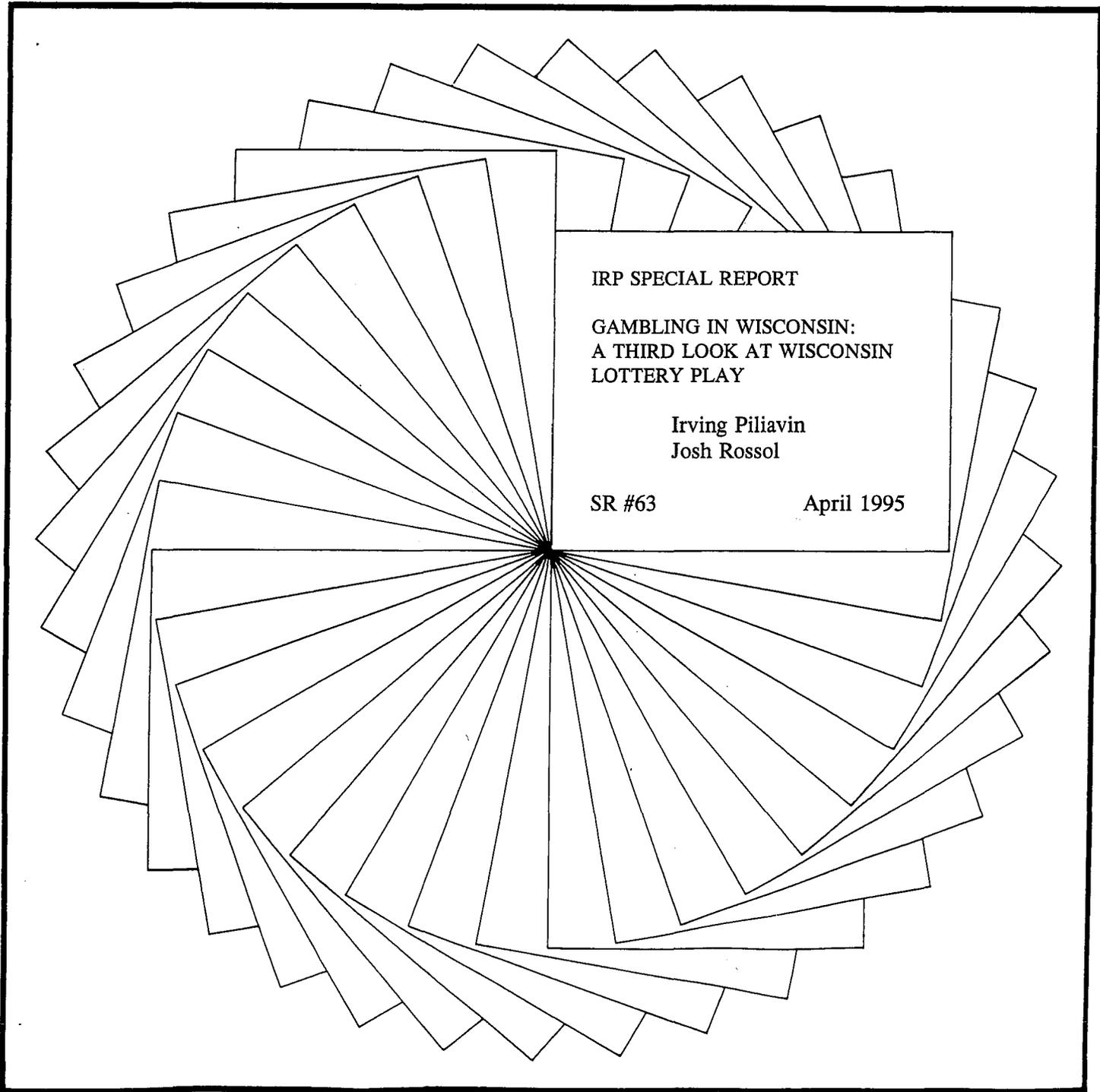
IRP SPECIAL REPORT

GAMBLING IN WISCONSIN:
A THIRD LOOK AT WISCONSIN
LOTTERY PLAY

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**Gambling in Wisconsin:
A Third Look at Wisconsin Lottery Play**

Report Commissioned by and Submitted to
the Wisconsin Gaming Commission

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Executive Summary

This report represents the third in a series of studies of Wisconsin lottery play and attitudes held by Wisconsin residents toward lottery issues. As with the prior reports of 1989 and 1991, the current study was conducted by the Wisconsin Gaming Commission through the Institute for Research on Poverty, University of Wisconsin–Madison. To our knowledge, no other state lottery has access to the type of time-trend data that have been acquired through this series of repeated surveys and analyses.

The 1995 Wisconsin Lottery survey involved a total sample of 2,276 Wisconsin residents. This included a statewide sample of 2,084 individuals divided into five geographic regions, along with a specially selected oversample of 192 African-American Wisconsin residents. The use of these two samples allows for reliable racial and regional comparisons. The data are from Computer Assisted Telephone Interviews conducted by the investigators from November 30, 1994, through February 19, 1995. Each interview lasted an average of fifteen minutes.

Before analyzing the data, the investigators present information on a number of important items. How frequently did Wisconsin residents play lottery games in 1994? How much did lottery players spend per month? What percentage of their income did they spend? In addition, we learn about the attitudes Wisconsin residents have toward lottery games and how well they understand how lotteries work.

The analysis consists of cross-tabulations. These allow one to see the interrelationship between two or more variables. For example, what percentage of males and females play lottery games? Or, who spends more per month on lotteries, those with high incomes or those with low incomes? The investigators use cross-tabulations to illustrate the relationship among demographic characteristics (e.g., age, education, income), attitudes toward lotteries, how frequently residents play lottery games, and how much they spend on them.

Three chapters of special interest are then presented. The first investigates racial differences in lottery-relevant issues, such as play of and attitudes toward lottery games. The second examines regional differences throughout Wisconsin on these same issues; the 1995 study marks the first analysis of geographic differences of the three lottery studies, and is possible through the larger sample size of the 1995 survey. Finally, a chapter is devoted to the potential introduction of a sports lottery in Wisconsin, including residents' reported voting stance on a referendum pertaining to a sports lottery creation, their reported likelihood of playing such a sports lottery along with their style of play, and their reported preferences regarding how the proceeds of such a sports lottery should be allocated.

SUMMARY OF MAJOR FINDINGS

1. Lottery participation has dropped somewhat since 1991. The proportion of Wisconsin residents who play the lottery most frequently, however, has doubled during the same time span.

2. Among players, lottery expenditures have leveled off since 1991. The extent of concentration of lottery spending among the heaviest lottery players also remains similar to that present in 1991.

3. The percentage of household income spent by Wisconsin Lottery players has dropped since 1991, a drop that can be accounted for by the higher incomes of the 1995 sample members. This indicates that as incomes have increased, residents have not used their extra income to increase their lottery expenditures.

4. Lottery players have diversified, rather than increased, their participation in lottery games to accommodate the new games introduced since 1991.

5. SuperCash! and Pick-3 are the lottery games most preferred by those players spending high amounts on the lottery, relative to those spending low amounts; Megabucks is more preferred by players spending lower amounts of money on lottery wagers.

6. While overall average approval of the lottery has slipped somewhat since 1991, a greater proportion of residents express high approval of the lottery.

7. Multiple demographic correlates exist of lottery play and amount spent on the lottery. On average:

    - Those with low incomes are less likely to play the lottery than are those with higher incomes, and they are more likely to spend fewer dollars but a higher proportion of their incomes on lottery wagers.

    - Widowed respondents are least likely to play the lottery and they spend less on lottery purchases, but, relative to other respondents, they spend the largest percentage of their incomes on the lottery.

    - Those with the highest and lowest levels of education are less likely to play the lottery than are those with intermediate levels of education. College graduates spent the fewest dollars and the lowest percentage of their income on the lottery.

    - Men are more likely than women to play the lottery, and they spend more on it.

8. We found several attitudinal correlates of lottery play and amounts spent on the lottery. Evidence also suggests that overall, Wisconsin residents appear to view their lottery play as a form of entertainment rather than as an attempt to improve their financial standing.

9. Wisconsin residents differ in their overall attitudes toward lotteries based on demographic characteristics. In general, those with low levels of income, those who are widowed, older respondents, and those with high or low levels of formal education express the lowest levels of approval of the lottery relative to other respondents.

10. Fewer African-American Wisconsin residents reported playing the lottery than did Caucasian residents. Whites were more likely to play pull-tab games and Powerball, while African-Americans were more likely to play SuperCash!, Pick-3, and Money Game 4.

11. Among lottery players, African-Americans play the lottery almost twice as frequently, on average, as whites. African-American players also spend nearly three times as much on the lottery, and three times the percentage of their incomes, as do white players. Controlling for income, however, presents a different picture: among those earning less than $20,000 annually, no significant differences arise between white and African-American lottery players. It is only among those players earning more than $20,000 that the significant race differences emerge in terms of lottery play frequency and amount spent.

12. Regional differences exist with regard to lottery play. Residents of the northwest region of the state report lower participation in the lottery overall and in several specific lottery games.

13. Similar differences are found on attitudinal scores, with those residents in northwestern Wisconsin expressing the least overall approval of state lotteries.

14. Regarding the potential creation of a new sports lottery:
   - The majority of state residents would support such creation in a referendum;
   - The majority of state residents, however, would not play the sports lottery;
   - Over two-thirds of those who would play the sports lottery would not reduce their existing lottery participation to do so; and
   - Most residents who would play the sports lottery would be more likely to do so if the proceeds were used to fund sports facilities throughout the state, and less likely to do so if the proceeds were solely directed to the construction of a new stadium for the Milwaukee Brewers.

CHAPTER 1

History and Prior Reports

HISTORICAL BACKGROUND

Enthusiasm for lotteries has waxed and waned throughout our nation's history.[1] As early as the colonial era all levels of government operated lotteries, and they were supported by well-known figures such as George Washington and Ben Franklin. These government-run lotteries funded numerous worthwhile endeavors including road building and education (Devereux 1980; Rosecrance 1988). But by the nineteenth century the inefficiency of government administration, evidenced by long delays between ticket purchases and drawings, led state governments to contract with private parties to operate lotteries. While privatization increased efficiency, it also opened the door to widespread fraud and corruption in lottery administrations (Asbury 1938). The pilfering of lottery money continued until 1895, when the federal government outlawed all games involving chance, consideration, and reward (Devereux 1980; Clotfelter and Cook 1989).

The official return of lotteries in the United States took place in New Hampshire in 1964. The return represented the culmination of a long-term series of developments involving the introduction of games of chance at movie theaters, various forms of competition promoted by private manufacturers, and, perhaps most important, the introduction of bingo games by religious and charitable organizations. Once reintroduced, lotteries rapidly gained acceptance among governmental officials and are now found in some form in thirty-nine states.

The Wisconsin Lottery began with the approval by voters in 1987 of the creation of a state-sponsored lottery and pari-mutuel betting. On September 14, 1988, the Lottery introduced its first games in the forms of scratch-off and pull-tab games. Currently, the Wisconsin Lottery offers three unique styles of lottery games (described in detail below).

With the reappearance of lotteries, considerable public debate has developed concerning their moral character and economic value. One position, argued by proponents of lotteries, holds that legalized gambling brings to government money otherwise spent on other often illegal forms of gambling (Peterson 1951). Furthermore, the proponents argue, today's lotteries, being state-run, experience minimal corruption, and their revenues fund worthy endeavors such as education and (in the case of Wisconsin) property tax relief.

Countering this pro-lottery position, opponents contend that legalizing lotteries sends the public a mixed message: why, after all, should a state legalize lotteries, but continue to outlaw other forms of gambling such as casinos (Clotfelter and Cook 1989; Devereux 1980)?[2] Opponents also argue that lottery play can create enthusiasm for gambling which can in fact result in increased illegal gambling (Peterson 1951). Finally, some have claimed that if lotteries disproportionately target the poor and uneducated, they potentially constitute regressive forms of taxation (Brinner and Clotfelter 1975).

PAST LOTTERY RESEARCH

Given the current popularity of lotteries and the recurring debate concerning their behavioral impacts, surprisingly few studies have rigorously examined patterns of lottery participation. The studies conducted prior to 1989 suggested that most Americans, especially those who lived in states that offered lotteries, approved of them. However, lottery approval varied among citizens, with older people, those earning under $5,000, and those without high school educations expressing the lowest levels of approval (Commission on the Review of the National Policy toward Gambling 1976).

As for lottery play itself, prior studies have indicated that those who are young (under twenty-four years of age), those who are old (over sixty-five), and men were more likely to play the lottery. According to some studies, lottery play increased with income (Commission on the Review

of the National Policy toward Gambling 1976). Lottery expenditures, however, appeared to be independent of income level, with the wealthy and the poor spending about the same on lottery play (Brinner and Clotfelter 1975). This finding can be and has been interpreted as indicating that lottery play is a form of regressive taxation. However, the validity of this conclusion depends in part on how individuals who play the lottery regard these expenditures. Specifically, if they view lottery play as "entertainment," the argument is weakened. Another important finding from some prior studies indicated that lottery play was highly correlated with non-lottery forms of gambling (Koza 1984). However, the causal direction of this association was not determined, thus leading to ambiguity as to whether lottery play led to other gambling activities, whether other gambling activities led to lottery play, or whether both are the consequences of other phenomena.

In 1989, at the request of the Wisconsin Lottery Board, Irving Piliavin and Michael Polakowski of the Institute for Research on Poverty, University of Wisconsin–Madison, undertook a study of lottery play and players based on two samples, one a probability sample drawn in Wisconsin (N=527), the other a probability sample drawn nationwide (N=733). In 1991, Piliavin and Bradley Wright performed a second investigation of individuals' lottery play and attitudes, this confined to residents of Wisconsin (N=767). This second study had two advantages relative to the earlier study. First, the sample on which it was based included a comparatively large number of African-Americans (N=225 of the total 767), allowing for more precise racial comparisons. Second, the 1991 study followed the implementation of two new games by the Wisconsin Lottery, SuperCash! and the original Megabucks game. This provided the opportunity to analyze in depth the impact of these new games upon lottery attitudes and playing habits.

The 1989 and 1991 studies produced several important findings pertaining to Wisconsin residents' lottery play and attitudes. Among these were the following:

1. The proportion of state residents who played the lottery changed little between 1989 and 1991, with approximately three out of five residents playing it sometime in the year prior to the date of their survey interview.

2. Lottery spending became more concentrated among residents with higher lottery expenditures. In 1991, about 10 percent of the state's populace (16 percent of lottery players) accounted for nearly 75 percent of all lottery revenue.

3. Scratch-off and Megabucks were the most widely played lottery games. Heavy-spending players preferred SuperCash! over Megabucks, although the reverse was true for light-spending players.

4. Most residents approved of the lottery, although the 1991 study found evidence suggesting that overall approval of the lottery was slipping somewhat.

5. Few state residents (less than 5 percent) reported that lottery play created personal problems for them.

6. Residents least likely to play included those who were either extremely poor, aged, either without high school diplomas or with college degrees, or who did not participate in other forms of gambling.

7. In 1991, African-American and white respondents were equally likely to play the lottery, and spent comparable amounts of their income on it.

8. In 1991, African-American respondents, relative to whites, reported more personal problems associated with lottery play.

9. Demographic differences existed among those who played the lottery. Men, young people, married people, high school graduates, and those with some college but no degree were the most likely to play. The bulk of these differences existed both in 1989 and 1991; thus, the basic profile of lottery players in Wisconsin changed little from 1989 to 1991.

10.   In 1989, men spent more on lottery play than did women. This difference did not hold true in 1991; both men and women reported statistically equivalent lottery expenditures.

11.   Monthly expenditures did not vary across age groups, income groups, race, educational levels, or marital status.

12.   The percentage of state residents who believed they could create a system to improve their chances of winning the lottery dropped significantly from 1989 to 1991, from one-third of residents to about one-fifth.

13.   More than half of Wisconsin residents underestimated the percentage of money spent on the lottery that is returned as winnings.

THE 1995 PROJECT

The current study of lottery play in Wisconsin, as its predecessors, was contracted through the Institute for Research on Poverty by the Wisconsin Gaming Commission. It again focuses on Wisconsin residents' lottery-play habits and their attitudes toward lottery issues. To our knowledge, no other state lottery has access to the type of time-trend data that have been acquired through this series of repeated surveys and analyses.

The data from the current survey have several advantages over the previous two projects. Most notably, these data come from a total sample of 2,276 state residents, more than twice the sample size of prior reports.[3] As will become clear, this increased sample size allows for much greater statistical power and precision in the estimation and reporting of statewide trends and differences.

Related to this feature, the 1995 study for the first time makes use of regional comparisons within the state. In the course of this project, the state of Wisconsin was divided into five geographic regions (see appendices A and B for a description of this division), to allow for interregional

comparisons on important variables of interest. In recognition of this novel property of the 1995 study, we include a chapter devoted solely to the investigation of regional relationships and contrasts.

Since the publication of the 1991 study of Wisconsin residents' lottery play, a number of additional lottery games have been introduced. While scratch-off and pull-tab games are still available in 1995, along with the on-line SuperCash! game, the multistate Megabucks game referred to in the 1991 project has been replaced by Wisconsin's Very Own Megabucks; the Powerball game has taken over as the multistate lotto-type game offered through the Wisconsin Lottery; and the Pick-3 and Money Game 4 games have been introduced (these games offer players the chance to match three- and four-digit numbers, respectively, to randomly chosen numbers). The 1995 study investigates play of these three types of games (scratch-off; pull-tab; and on-line games—SuperCash!, Wisconsin's Very Own Megabucks, Powerball, Pick-3, and Money Game 4) currently available through the Wisconsin Lottery.

The 1995 study also maintains the practice from the 1991 study of obtaining a substantial sample of African-American Wisconsin residents. As in 1991, we include in this report a chapter devoted to racial comparisons of lottery play and attitudes.

Finally, the 1995 study takes up an additional area of interest not addressed in prior studies: the potential creation of a sports lottery in Wisconsin. We present a chapter devoted to the sports lottery, which was a timely issue during the production of the 1995 report.

The remainder of this report is organized as follows. In chapter 2 we describe the sampling and interview procedures we employed in this survey and provide descriptive information on our respondents. In chapter 3 we examine changes over time (from 1989 to 1995) in the playing habits and attitudes of Wisconsin residents toward the lottery. In chapter 4, we use bivariate analysis to explore which factors are associated with lottery participation, lottery expenditures, and lottery-related attitudes among Wisconsin residents. In chapter 5, we compare the African-American and white

respondents in terms of their lottery play, knowledge, and attitudes, and we compare these results to the racial comparisons made in 1991. In chapter 6, we examine geographic regional differences in lottery play and attitudes. Finally, in chapter 7, we examine the issue of a potential new sports lottery in Wisconsin.

CHAPTER 2

Sample Collection, Analysis, and Description

The data on which our analysis is based were collected during the winter of 1994–95 by the Letters and Science Survey Research Center of the University of Wisconsin. Staff from the Center interviewed by telephone a total of 2,276 Wisconsin residents. In this chapter, we review the sampling techniques used to select and interview these respondents,[4] and describe the resulting sample.

The 1995 Wisconsin Lottery Survey was conducted by the Letters and Science Survey Center from November 30, 1994, through February 19, 1995. The Letters and Science Survey Center is a unit of the College of Letters and Science at the University of Wisconsin–Madison, and is supported by the College and by the Graduate School.

SAMPLES OF HOUSEHOLDS: RANDOM STATEWIDE SAMPLE AND AFRICAN-AMERICAN OVERSAMPLE

The Center purchased two samples of Wisconsin telephone numbers: a random statewide sample and an oversample of African-American households.

Random Statewide Sample

One sample of 6,500 was obtained from Nielsen Media Research. This sample is representative of currently working residential telephone numbers in Wisconsin, including both listed and unlisted numbers. Nielsen updates the sample three times a year. It is estimated that approximately 5–7 percent of U.S. households do not have telephones, and would not be represented in the sample. Although we do not know what this proportion is in Wisconsin, it is probably within this range. Nielsen begins with a file of all residential telephone numbers that are listed in published telephone directories. This file is, in effect, sorted by exchange and number within exchange.

Within each exchange the 10,000 potential telephone numbers (XXX-0000 through XXX-9999) are divided into 100 blocks of 100 consecutive numbers. Any block that has no listed residential numbers is eliminated from the sample. A sample is drawn from the remaining numbers. Thus the sample includes telephone numbers that are listed in the published directories, those that are unlisted, and numbers within those blocks that have been assigned since the most recent issue of the telephone directory. (However, the sample also includes both non-residential and non-working numbers that are in the blocks that contain some residential numbers.) Use of this sampling scheme is more efficient than a simple random-digit dialing procedure, since the time and expense of making calls to blocks that have no currently assigned numbers or to non-existent or non-residential exchanges is avoided.

African-American Oversample

A second sample of 1,258 telephone numbers was purchased from Survey Sampling Incorporated (SSI), 458 from Milwaukee County, and 400 each from Racine and Kenosha Counties. Using 1990 U.S. Census data, SSI has identified census tracts for Milwaukee and Racine County where the density of African-American households is found to be 30 percent or higher. For Kenosha County, they identified census tracts where the density of African-American households is found to be 15 percent or higher. Those census tracts constitute the standard SSI sampling frame for Targeted African-American Samples. The sample drawn for the Lottery project oversample came from that part of SSI's Targeted African-American Sample which represents Wisconsin.

The samples are drawn by accessing the largest available national database of U.S. households, which carries over 74 million names and addresses (63 million with telephone numbers; it represents 86 percent of all U.S. households). It is important to note that because SSI's standard Targeted African-American Samples are based on census tracts, African-Americans living in very rural, untracted areas will not be represented in the oversample used for this project. And since the sampling methodology relies on the identification of those areas where African-American households

tend to be clustered, African-Americans living in predominately non-African-American neighborhoods will also be excluded.

In addition, certain African-American households (particularly those with lower incomes and less education) have been determined to be more likely to have unlisted telephone numbers than the population as a whole. To be truly representative of the African-American population, a sample would need to include households with both listed and unlisted telephone numbers. Yet, in order to maintain the integrity of the geographic selection process, only households with listed telephones were included in the sampling frame, resulting in a very slight skew away from African-American households with lower incomes and less education.

SELECTION OF THE RESPONDENT WITHIN SAMPLE HOUSEHOLDS

Random Statewide Sample

One person was selected at random from among the adult (age 18 or older) members of the sample household for the interview. The procedure used to select the respondent in households including more than one adult was to ask how many adults of each sex live in the household using that telephone number. If there was more than one adult of the same sex, they are distinguished by age—youngest versus oldest. One adult was selected at random—for example, the male or the female in a married-couple household, the youngest or oldest person in a two or more male household, or the youngest female in a household of two females and one male. Only that person could be interviewed. There were no restrictions on the race of the selected respondent in this sample.

African-American Oversample

The same respondent selection procedures were used for the African-American oversample as for the random sample, with one exception. The households from the oversample were asked one

additional screening question to determine the race of the selected respondent. If the selected respondent identified him- or herself as African-American, the interview continued. If the respondent indicated he or she was any other race, the interview terminated and the household was considered ineligible.

THE CATI INTERVIEW

The interview was conducted using a Computer-Assisted Telephone Interview (CATI) system. The text of all questions appear on the screen for the interviewer to read. The routing through the interview was determined by the computer, based on skip logic programmed into the computer. Wording of the question could be adapted according to answers given earlier in the interview. The system allows for precoded questions, open-ended questions, and combinations of the two. In addition, the computer allows only valid responses; when an invalid response is entered, the computer asks the interviewer to reenter the response. The system also keeps track of the current status of all sample telephone numbers and automatically routes them to the proper directory for the next attempt, and maintains an elaborate set of management records. The length of the 1995 Wisconsin Lottery Survey interview averaged fifteen minutes. Each sample number was called up to twenty-five times at various times during weekday and weekend afternoons and evenings.

RESPONSE RATE

The response rate can be looked at in several meaningful ways: as a whole, for the random statewide sample only, and for the oversample only. The response rate for the oversample can also be looked at adjusting for respondents whose race is unknown. Each response rate is calculated and

described in full in appendix B, which also contains a complete description of the geographic regions of the state for the purposes of this report, including a county list for each region.

SAMPLE WEIGHTS

The sample for this survey was relatively complex. The state was divided into five regions and the regions were sampled at differential rates in order to permit more reliable interregional comparisons. In addition, there was a supplementary sample of African-American households living in Milwaukee, Kenosha, and Racine Counties in census tracts with a high concentration of African-Americans. As in all similar samples, one adult within each household was randomly selected for interview.

A weight for each sample case was calculated to take account of:

1.   Differences in the number of eligible adults in the household

2.   Differences in the sampling rate across strata

3.   Differential strata non-response rates

4.   The African-American oversample in three counties

5.   Differences in sample and census sex ratios

6.   Remaining underrepresentation of Milwaukee County

7.   Making the weighted N equal to the unweighted N = 2,276

Further explanation regarding each of these seven criteria is presented in appendix B.

DESCRIPTION OF THE SAMPLE

In Table 1, we describe the respondents interviewed in this survey. For the reader's convenience and to facilitate cross-time comparisons, we also reprint descriptions of the 1989 and

1991 study respondents. As shown, the 1995 statewide sample closely resembles those collected in both 1989 and 1991. In all three samples the average respondent is white, middle-aged, female, married, and a high school, but not college, graduate. Over the course of the three studies, however, respondents' mean reported household incomes have risen significantly, from $28,676 in 1989, to $35,128 in 1991, to $49,324 in 1995. Each of these increases is statistically significant and can only be partly accounted for by inflation. A contributing factor to this rise in income over time might be the increasingly higher percentage of college graduates in successive samples. In addition, while it is the case that each phone number selected in the sample was dialed up to twenty-five times at different times of the day in attempts to make contact, it is also true that many attempts took place in the evening and during weekend hours. Such timing of calls may be more likely to successfully reach those individuals who work during the day in place of those who work during the evenings or at night since the latter periods may, on average, be associated with lower salaried occupations and positions. As a result, the incomes of respondents in our sample may be slightly skewed upward. Finally, the sampling design used for this survey relied in part on listed telephone numbers, thereby slightly excluding African-American households with lower incomes and less education. Factors such as these may explain the significant increases in income since the prior surveys.

Overall, the attributes of members of the 1995 survey sample reflect rather closely those of the state population. Respondents were, on average, 42 years of age; 94 percent white; and 48 percent male. According to the 1990 census, the population in Wisconsin 18 years of age and older was, on average, 44.7 years of age, 92 percent white, and 49 percent male (Department of Commerce 1993).

TABLE 1

Demographic Characteristics of Wisconsin Residents
Participating in Lottery Studies

	1989 Statewide Sample (N=527)	1991 Statewide Sample (N=542)	1995 Statewide Sample (N=2,084)
Median age (years)	43.8	45.0	42.0
Percentage white	94.3	95.0	94.0
Percentage male	45.2	48.3	48.2
Percentage married	58.4	56.5	65.1
Percentage single	18.8	21.6	19.9
Percentage widowed	10.4	7.6	4.1
Percentage divorced/separated	12.3	14.2	10.9
Percentage high school graduates	88.0	89.1	90.6
Percentage college graduates	19.5	23.6	28.2
Mean household income	$28,676[a]	$35,128[a]	$49,324[b]
Median household income	$26,170	$33,800	$43,000

Source: Telephone interviews conducted by authors.

Note: N indicates sample size. While reported sample sizes are unweighted, respondent cases and corresponding variable values used in analyses are weighted. See chapter 2 for more information regarding the use of weights.

[a] Difference between 1989 and 1991 statewide samples is significant at p=.01.
[b] Difference between 1991 and 1995 statewide samples is significant at p=.01.

ANALYSIS OF THE DATA

Most of the analyses we have undertaken on the data obtained in the 1995 survey consisted of cross-tabulation analysis. Cross-tabulation compares sample member attributes on one variable by the attributes of a second variable. For example, one might calculate the average dollars spent on lottery play (the first variable) by gender (the second variable). The difference in spending across gender lines can be then tested for statistical significance, using appropriate statistical tests.[5] Cross-tabulation techniques have several advantages, including straightforward and easily interpretable results. All statistical analyses were performed using the SPSSX computer program (SPSS Inc. 1990).

CHAPTER 3

Lottery Play and Attitudes toward Lottery Issues

In this chapter, we investigate the lottery-playing habits and attitudes of Wisconsin residents, and we compare our results with those found in the two prior Wisconsin state lottery studies.

FREQUENCY OF LOTTERY PLAY

Table 2 contains lottery-play data as provided by members of the 1995 statewide sample. A majority of the sample (54.6 percent) reported playing a Wisconsin Lottery game at least once in the prior year, but a large percentage of those who played (58.2 percent, or 31.4 percent of the entire sample) claimed that they played less than once a month. Only a small proportion of the players, 15.0 percent (8.6 percent of the total sample), played a lottery game once a week or more.

The composition of lottery play frequency has changed significantly since 1991. Although the 1995 survey reveals a larger proportion of the sample respondents playing once a week or more (8.6 percent of players, compared with 4.3 percent in 1991), there has also been a substantial increase in the proportion of the sample that has not played at least one of the games in the past year (45.4 percent, compared with 38.6 percent in 1991).

Comparison across the three surveys conducted since 1989 reveals an important trend. While shifts have occurred in all categories of play frequency, the dominating tendency is a decline over time in the frequency of lottery play among respondents. Most telling is the declining percentage of respondents reporting frequent lottery play, that is, once a month or more. In 1989, 61.4 percent of lottery players (35.6 percent of the 1989 statewide sample) reported playing at least once a month. In 1991, this figure dropped to 52.8 percent of players (32.4 percent of the 1991 statewide sample), and in 1995 dropped even further, to 41.8 percent of players (23.2 percent of the 1995 statewide sample). It appears that while the percentage of state residents that plays the lottery has remained relatively

TABLE 2

Overall Lottery Play and Expenditures of Wisconsin Residents

	1989 Statewide Sample		1991 Statewide Sample		1995 Statewide Sample	
Frequency of Lottery Play Last Year[a,b]						
Lottery play once a week or more	18.0%	(95)	4.3%	(23)	8.6%	(159)
Lottery play once a month or more	17.6%	(93)	28.1%	(150)	14.6%	(285)
Lottery play less than once a month	22.4%	(118)	29.0%	(155)	31.4%	(617)
Did not play	41.9%	(221)	38.6%	(206)	45.4%	(1,012)
Players' Monthly Expenditures on Lottery						
Mean	$10.50	(306)	$14.27	(311)	$13.75	(1,035)
Median	$5.00	(306)	$2.50	(311)	$3.58	(1,035)
$0 to $4 per month	37.9%	(116)	58.2%	(181)	53.9%	(568)
$4.01 to $30 per month	59.2%	(181)	28.6%	(89)	33.1%	(337)
$30.01 to $100 per month	1.3%	(4)	11.3%	(35)	10.4%	(104)
More than $100 per month	1.6%	(5)	1.9%	(6)	2.5%	(26)
Players' Percentage of Total Family Income Spent on Lottery[b]						
Mean	0.65%	(288)	0.67%	(284)	0.47%	(855)
Median	0.24%	(288)	0.12%	(284)	0.10%	(855)
0.0% to 0.10%	28.5%	(82)	47.2%	(134)	50.3%	(418)
0.11% to 1.00%	56.3%	(162)	38.4%	(109)	38.7%	(331)
1.01% to 4.99%	13.2%	(38)	12.0%	(34)	9.5%	(91)
5.00% or more	2.1%	(6)	2.5%	(7)	1.4%	(15)

Source: Telephone interviews conducted by authors.
Note: Number of sample members (unweighted) answering question/giving an answer is in parentheses; not all sample members responded to all questions.

[a] Differences between 1989 and 1991 statewide samples is significant at p=.01.
[b] Differences between 1991 and 1995 statewide samples is significant at p=.01.

stable (if declined somewhat) since 1989, the frequency of play among players has consistently declined.

DOLLARS SPENT ON THE LOTTERY

While the frequency of lottery play has decreased overall since 1989, it appears that the amount of money expended on lottery play has remained relatively stable. In the 1995 statewide sample, lottery players reported wagering, on average, $13.75 per month on the lottery—between $.45 and $.50 a day. This compares with $10.50 per month in 1989, and $14.27 per month in 1991. The slight decline in expenditures from 1991 to 1995 is not statistically significant.

The composition of spending levels in 1995 (e.g., the percentages of players occupying different spending levels) closely resembles that of 1991. Relative to players in 1991, a slightly lower percentage of players in 1995 reported spending low amounts on the lottery (i.e., $1 or less per week): 53.9 percent versus 58.2 percent in 1991. Furthermore, 33.1 percent of players in 1995 reported spending moderate amounts on the lottery per month (between $4 and $30), an increase from 28.6 percent in 1991. Finally, a greater percentage of players in 1995—2.5 percent—reported wagering more than $100 per month, compared with 1.9 percent in 1991.

These differences aggregate to provide a clear picture of changes in lottery expenditures among players between 1991 and 1995. That is, players appear to be spending more money today on the lottery than was the case in 1991. This change, however, is offset by the lower percentage of lottery players statewide in 1995, resulting in an overall lower mean monthly expenditure level in 1995—$13.75 as compared with $14.27 in 1991.

A further topic of interest concerns the issue of concentration of lottery play: Is it the case that, over time, lottery play and revenues are becoming dominated by a small number of frequent and heavy players? Between 1989 and 1991, there was evidence for such concentration: while the mean

monthly expenditure for lottery players increased from $10.50 in 1989 to $14.27 in 1991, the median expenditure dropped from $5.00 to $2.50 over the same period.[6] This implied that while many state lottery players had reduced their spending levels, which lowered the median amount spent, a minority of players actually increased their lottery spending enough to raise the overall mean spending level.

The results from 1995 reveal a reversal in this trend. While the mean spending level among lottery players dropped—from $14.27 in 1991 to $13.75 in 1995—the median amount spent rose, from $2.50 in 1991 to $3.58 in 1995. This implies that while a substantial number of relatively low-expenditure lottery players have increased their monthly lottery expenditures, some relatively high-expenditure players reduced their spending levels by an amount large enough that the overall mean expenditures on the lottery dropped for the entire group of players.

Another indicator of the extent of spending concentration among lottery players is the proportion of players who account for the bulk of lottery revenue. In 1989, 10 percent of the statewide sample (17 percent of lottery players) accounted for 61 percent of the total amount spent on the lottery by the sample.[7] In 1991, the degree of spending concentration sharply increased, when 10 percent of the 1991 sample (16 percent of the players) now accounted for 75 percent of the amount the sample spent on lottery play.[8] In 1995, no evidence exists for another sharp increase in spending concentration. Within the 1995 statewide sample, 10 percent of the sample (20 percent of the players) accounted for 76 percent of the sample's total expenditures, a figure very close to that of 1991.[9]

When we combine this information, it appears that between 1991 and 1995, state residents overall stabilized their lottery expenditures considerably. After extensive change between 1989 and 1991 in both the overall amount wagered on the lottery among Wisconsin residents and in the concentration of lottery spending, the 1995 data indicate that the composition of lottery spending and players is beginning to "settle in." While some players have increased their expenditures since 1991,

the overall mean amount spent has remained stable. Furthermore, after a sharp increase between 1989 and 1991, the percentage of lottery players who make up the bulk of lottery spending has likewise stabilized, with the same percentage of state residents (10 percent) accounting for roughly the same percentage of total lottery expenditures (75–76 percent) in both 1991 and 1995. After a period of turbulence between 1989 and 1991, the composition of Wisconsin lottery spending in 1995 appears to be stabilizing.

PERCENTAGE OF INCOME SPENT ON LOTTERY PLAY

We now examine lottery expenditure as a percentage of total family income. As summarized in Table 2, lottery players across time, from 1989 to 1995, spent small percentages of their incomes on lottery play: on average, less than 1 percent.

In 1995, players from the statewide sample wagered, on average, 0.47 percent of their incomes on the lottery. While on the surface this would appear to be a substantial drop from the 0.67 percent figure of 1991, the change is not statistically significant. The composition of spending as a percentage of income, however, changed significantly between 1991 and 1995. As portrayed in Table 2, a greater percentage of players in 1995 are spending less of their incomes on the lottery. Indeed, in 1995, 50.3 percent of players spent less than one-tenth of one percent of their income on the lottery—up from 47.2 percent in 1991. Lower percentages of players also reported spending high proportions of their incomes on the lottery. In 1991, 14.5 percent of lottery players spent more than 1 percent of their income on the lottery; in 1995, this percentage dropped to 10.9 percent.

The dominant explanation for the changes in lottery expenditures as a percentage of income between 1991 and 1995 rests in the significantly higher incomes reported by the 1995 statewide sample respondents. As mentioned above, mean lottery expenditures have not significantly changed since 1991. It is not surprising, then, that with the rise in income that has occurred since 1991, a

lower percentage of respondents' incomes have been spent on lottery expenditures. While the numerator (lottery expenditures) has remained stable, the denominator (family income) has increased, resulting in lower percentages of incomes being spent on the lottery in 1995.

A preliminary conclusion that appears warranted is that, with an increase in incomes between 1991 and 1995, Wisconsin lottery players did not choose to increase their lottery expenditures proportionately. Instead, they retained their overall patterns and amounts of play, with a resultant decrease in the percentage of their incomes that are spent on the lottery.

VARIATION AMONG LOTTERY GAMES

In the preceding sections we analyzed patterns of lottery play without differentiating between specific lottery games. However, three distinct styles of lottery games are currently available in Wisconsin: scratch-off, pull-tab, and on-line games. (On-line games include Wisconsin's Very Own Megabucks, SuperCash!, Powerball, Pick-3, and Money Game 4.) The possibility exists that lottery participation and expenditures vary by game type. We explored this possibility, and our findings are presented in Table 3.

As seen in Table 3, in 1991 scratch-off and Megabucks were the two most widely played games, with 52.9 percent and 51.4 percent of the statewide sample respectively having played these games during the preceding year.[10] Pull-tab and SuperCash! attracted fewer players, with only 16.9 percent of the sample playing the former and 22.0 percent playing the latter during the same period. In terms of lottery expenditures, however, a different ranking emerged. SuperCash! players spent the most money, averaging $10.68 on this game a month. Scratch-off players spent a somewhat smaller amount on their game, averaging $7.09. Megabucks players spent even less, averaging $5.19, and finally pull-tab players spent the least on their game, averaging just $.90 a month.

TABLE 3

Lottery Play of Wisconsin Residents, by Game

Game	1991 Statewide Sample		1995 Statewide Sample	
Scratch-off				
Played last year	52.9%	(541)	51.9%	(2,084)
Mean dollars spent by players per month	$7.09	(270)	$4.72	(1,024)
Median dollars spent by players per month	$1.00	(270)	$0.83	(1,024)
Pull-tab				
Played last year	16.9%	(540)	14.3%	(2,084)
Mean dollars spent by players per month	$0.90	(87)	$1.05	(292)
Median dollars spent by players per month	$0.33	(87)	$0.42	(292)
Megabucks				
Played last year	51.4%	(541)	45.1%	(2,084)
Mean dollars spent by players per month	$5.19	(262)	$2.80	(872)
Median dollars spent by players per month	$1.00	(262)	$0.83	(872)
SuperCash!				
Played last year	22.0%	(541)	22.6%	(2,084)
Mean dollars spent by players per month	$10.68	(111)	$5.07	(428)
Median dollars spent by players per month	$2.50	(111)	$0.67	(428)
Powerball				
Played last year	—		49.5%	(2,084)
Mean dollars spent by players per month	—		$5.19	(975)
Median dollars spent by players per month	—		$1.00	(975)
Pick-3				
Played last year	—		6.3%	(2,084)
Mean dollars spent by players per month	—		$5.54	(125)
Median dollars spent by players per month	—		$0.33	(125)
Money Game 4				
Played last year	—		2.6%	(2,084)
Mean dollars spent by players per month	—		$1.55	(46)
Median dollars spent by players per month	—		$0.33	(46)

Source: Telephone interviews conducted by authors.

Note: Number of sample members (unweighted) answering question/giving an answer is in parentheses; not all sample members responded to all questions.

In 1995, virtually every lottery game still in existence since 1991 experienced a decline in both participation and expenditures. Fewer players in the 1995 statewide sample, relative to the 1991 statewide sample, reported playing scratch-off, pull-tab, and Megabucks games; only SuperCash! players reported an increased prevalence of play. Similarly, player expenditures on scratch-off, Megabucks, and SuperCash! games showed declines over the same period, with only pull-tab games reporting a slight increase.

The decline between 1991 and 1995 in prevalence of lottery play and expenditure among Wisconsin residents does not tell the full story of the changes that took place during this period. In particular, it is not the case that lottery play is sharply declining in Wisconsin.

As indicated in Table 3, the Powerball game, introduced since the 1991 survey was completed, has attracted the second-largest player base of all lottery games, behind only scratch-off games. Two other new games, the Pick-3 and Money Game 4 games, have also attracted a substantial number of players. The range of expenditures on the three new games, from $1.55 a month on Money Game 4 to $5.54 a month on the Pick-3 game, reflects that of other, older lottery games: $1.05 on the pull-tab game to $5.07 on the Super Cash! game.

Overall, the introduction of new lottery games since 1991 appears to have had the effect of more widely distributing the amounts spent on the Wisconsin Lottery. And the new games seemingly have picked up the decline in play of older games either by attracting lottery players away from the already existing games or by attracting new players whose introduction to lottery play has largely offset the "retirement" of players from the earlier period.

Tables 2 and 3, then, tell a similar story. Since 1991, the availability of three new lottery games has not resulted in an overall increase of total lottery play among Wisconsin residents. Instead, lottery players in 1995 are "spreading around" their lottery play, reducing their play of older

games and increasing their play of newer games. The overall result, as indicated in Table 2, is a stable level of lottery expenditures and revenues from 1991 to 1995.

GAME SELECTION AS A FUNCTION OF MONEY SPENT

In the 1991 lottery study, Piliavin and Wright investigated the association between monthly lottery expenditures and the lottery games selected by players. The results of this investigation are presented in Table 4. Levels of lottery spending were divided into three groups: low spending levels (less than $1 a week); moderate spending levels (between $1 a week and $1 a day); and high spending levels (more than $1 a day). Then, for each group, the portion of total lottery expenditures spent on each type of lottery game was calculated.

As indicated in Table 4, in 1991, the three spending groups did not significantly differ in the proportion of their money allocated to scratch-off and pull-tab games. However, they did differ significantly in their expenditures on Megabucks and SuperCash!. Small-expenditure players wagered very little of their money on SuperCash! (4 percent). In contrast, large-expenditure players preferred SuperCash!, spending more of their money on it (35 percent) than on any other game. And while all groups of players spent comparatively large proportions of their lottery dollars on Megabucks, the large-expenditure players did put less of their lottery play in this game than did other players. This fact notwithstanding, it is clear from the data in Table 4 that in 1991 Megabucks and scratch-off were, overall, the most popular lottery games in Wisconsin, accounting for 85 percent of total state lottery expenditures.

In Table 4 we present data on lottery play by game using information from the 1995 statewide sample. Small-expenditure players continued to prefer Megabucks over SuperCash! in 1995, wagering 22.1 percent of their lottery funds on the former and only 4.9 percent of their lottery funds on the latter. Also similar to 1991, large-expenditure players in 1995 preferred SuperCash! over

TABLE 4
Game Preferences of Wisconsin Resident Lottery Players, by Spending Levels

Spending Level	Percentage of Lottery Expenditures Spent on						
	Scratch-Off	Pull-Tab	Megabucks	SuperCash!	Powerball	Pick-3	MoneyGame 4
1991 Statewide Sample							
$0.00 to $4.00/month (N=181)	45	4	47**	4**	—	—	—
$4.01 to $30.00/month (N=89)	44	2	38**	16**	—	—	—
$30.00 and up/month (N=41)	34	1	30**	35**	—	—	—
Mean for all players (N=311)	43	3	42	11	—	—	—
1995 Statewide Sample							
$0.00 to $4.00/month (N=557)	35.5	2.2	22.1**	4.9**	34.3	0.8**	0.3
$4.01 to $30.00/month (N=337)	33.1	3.1	22.5**	8.1**	31.3	1.5**	0.4
$30.00 and up/month (N=129)	29.5	0.9	15.0**	19.2**	31.1	4.2**	0.2
Mean for all players (N=1,023)	33.9	2.3	21.3	7.8	32.9	1.5	0.3

Source: 1991 telephone interviews conducted by Piliavin and Wright; 1995 telephone interviews conducted by Piliavin and Rossol.
— Games not available in 1991.
**Differences in percentage spent among spending levels for a given game within year is significant at p=.01.

Megabucks, spending 19.2 percent of their lottery wagers on SuperCash! as contrasted to 15 percent of their wagers on Megabucks.

Table 4 also presents the game preferences as a function of spending level for the three lottery games new to the 1995 survey. Three conclusions are apparent: First, the multistate Powerball game attracts roughly the same playing enthusiasm across spending levels, with players at each level spending about one-third of their lottery funds on the game. Second, the Pick-3 game, while not frequently played, appears to be more preferred by players who spend the most. Although small-expenditure players among the 1995 statewide sample reported spending only 0.8 percent of their lottery funds on Pick-3, large-expenditure players reported spending more than five times this proportion. Third, Money Game 4 attracts the least play of all lottery games currently offered in Wisconsin. Players of all levels report spending very low percentages of their lottery expenditures on Money Game 4—less than one-third of 1 percent. Finally, the data clearly indicate that scratch-off, Megabucks, and Powerball games dominate the 1995 lottery play of Wisconsin residents, accounting for about 88 percent of all lottery expenditures in the state.

ATTITUDES TOWARD THE LOTTERY

We now examine sample members' knowledge of and attitude toward lotteries. The data in Table 5 indicate the following patterns:

1. Overall attitudes toward the lottery tend to be moderately positive and similar to those expressed in 1991.

2. The number of Wisconsin residents who regard gambling as a problem for themselves is low—1.4 percent. Furthermore, there has been a statistically significant decline in this belief since 1991.

TABLE 5

Attitudes of Wisconsin Residents toward Lottery Issues

	1989 Statewide Sample		1991 Statewide Sample		1995 Statewide Sample	
Overall attitude toward lottery[a]	2.35	(518)	2.49	(536)	2.56	(2,065)
% somewhat/strongly in favor	72.8%		66.7%		67.4%	
Gambling has often been a problem for me[b]	3.46	(521)	3.51**	(540)	3.64**	(1,381)
% agree/strongly agree	2.9%		1.9%		1.4%	
Played less because don't have extra money[c]	3.04	(515)	2.98	(524)	3.05	(2,038)
% agree/strongly agree	22.1%		26.7%		23.5%	
Lottery is harmless recreation[c]	2.41	(508)	2.40**	(522)	2.51**	(2,020)
% agree/strongly agree	58.9%		62.5%		54.9%	
Lottery reduces money for household expenses[b]	3.33	(304)	3.36**	(332)	3.47**	(1,378)
% agree/strongly agree	3.9%		3.6%		3.5%	
Spend more on lottery than can afford[b]	3.34	(307)	3.37**	(333)	3.47**	(1,383)
% agree/strongly agree	5.9%		3.9%		4.2%	
Lottery play causes disagreement with partner[b]	3.43	(237)	3.39**	(208)	3.51**	(884)
% agree/strongly agree	4.6%		2.4%		2.9%	
Lottery is easy way to make money[c]	3.14	(517)	3.21	(526)	3.27	(2,050)
% agree/strongly agree	13.5%		14.1%		11.8%	
Can create winning systems (% yes)	34.3%*	(515)	22.8%*,**	(505)	28.0%**	(1,875)
Percentage of money wagered on lottery that is returned as winnings?						
0–25%	60.1%*	(233)	54.2%*,**	(208)	42.9%**	(842)
26–50%	31.7%	(123)	34.1%	(131)	41.8%	(759)
51% and above	8.2%	(32)	11.7%	(45)	15.3%	(273)
Participate in other forms of gambling (% yes)	49.7%	(527)	50.3%**	(533)	52.8%**	(2,084)

Source: Telephone interviews conducted by authors.

Note: Number of sample members (unweighted) answering question/giving an answer is in parentheses; not all sample members responded to all questions.

[a] Responses scored as 1=strongly in favor, 2=somewhat in favor, 3=none of these, 4=somewhat opposed, 5=strongly opposed.

[b] Question asked of lottery players only. Responses scored as 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree.

[c] Responses scored as 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree.

* Difference between 1989 and 1991 statewide samples is significant at p=.05.

** Difference between 1991 and 1995 statewide samples is significant at p=.01.

3. Respondents' agreement that they spend less money on lottery play than they would like because of money shortages is little different than in past lottery surveys. About 23 percent of sample members agreed with the statement.

4. Most sample members believe lottery play to be a harmless recreation. However, this belief is less strong than in prior surveys, with approximately 55 percent of sample members agreeing with this view as compared to 62.5 percent in 1991.

5. Few sample members believe that lottery play served to reduce money available for household expenses. There was a slight but statistically significant reduction in overall agreement with this view since the 1991 survey.

6. Few sample members believe they spend more on the lottery than they can afford. Somewhat more than 4 percent agreed with this view and overall agreement showed a small but statistically significant decline since the 1991 survey.

7. Lottery play, according to respondents, caused little friction with their partners. Less than 3 percent of the respondents agreed with this statement and overall agreement was again slightly smaller than in 1991.

8. The lottery is generally not seen as an easy way to make money. The level of agreement with this view is not significantly different from that of prior surveys.

9. Somewhat more than a quarter of the sample believe it is possible to create winning systems for lottery play. This is a statistically significant increase from 1991. The details of the winning systems were not asked for.

10. Sample members vary widely in their views as to the amount of money wagered on lottery play that is actually returned to players. At best, less than 60 percent come within 10 percent of the actual return rate.

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11.   Over 50 percent of sample members engage in forms of gambling other than lottery play. This represents a slight but statistically significant 2.5 percent increase over 1991 and a 3 percent increase over 1989.

CHAPTER 4

Demographic and Attitudinal Correlates of Lottery Play, Expenditures, and Lottery-Relevant Attitudes

In chapter 3 we presented a general description of the features of lottery play and attitudes pertaining to lotteries for the 1995 Wisconsin statewide sample as a whole. It is often important, however, to understand these features in greater detail. For example, it can be relevant to ask whether individuals with certain demographic characteristics are more likely to play the lottery or to spend more on the lottery. It can also be relevant to ask whether those with certain demographic attributes are more likely to hold certain opinions regarding lottery issues or whether individuals holding certain beliefs are more likely to play and spend more on the lottery. In this chapter, we examine these questions and compare our findings with those of the 1989 and 1991 lottery studies.

DEMOGRAPHIC CORRELATES OF LOTTERY PLAY

The first variable of interest to be reported here concerns lottery play. We investigate the relationship of this attribute with demographic characteristics among the respondents of the 1995 statewide sample, and present our findings in Table 6. In the interest of making comparisons across years, we also reproduce the findings from both the 1989 and 1991 studies.

The first association we test is that with income. The 1989 study found that the likelihood of having played the lottery in the past year significantly varied by income level, with the bottom two income groups having the lowest participation rates (see Table 6, panel A). The participation pattern in the 1991 survey was similar except that only its bottom income group reported relatively low participation rates. In 1995, the relationship between income and lottery play repeated the 1989 pattern. That is, both those individuals from families earning less than $10,000 as well as those from

TABLE 6

**Percentage of Wisconsin Residents Who Played the Wisconsin Lottery
in Prior Year, by Demographic Characteristics
(1989, 1991, and 1995 statewide samples)**

Demographic Characteristic	Percentage Who Played Wisconsin Lottery					
	1989		1991		1995	
A. Annual family income (pretax)						
$0–$9,999	45.3*	(75)	42.5*	(56)	36.2**	(205)
$10,000–$19,999	47.7*	(111)	69.1*	(84)	37.5**	(210)
$20,000–$29,999	71.3*	(94)	68.2*	(66)	52.3**	(244)
$30,000–$39,999	61.8*	(89)	69.3*	(75)	58.4**	(234)
$40,000–$49,999	62.2*	(45)	75.9*	(58)	62.4**	(244)
$50,000 or more[a]	69.9*	(82)	62.0*	(129)	—	
$50,000–$59,999[a]	—		—		65.4**	(176)
$60,000–$69,999[a]	—		—		62.2**	(127)
$70,000–$79,999[a]	—		—		55.2**	(83)
$80,000–$89,999[a]	—		—		68.5**	(67)
$90,000–$99,999[a]	—		—		46.8**	(37)
$100,000 or more[a]	—		—		56.9**	(89)
B. Marital status						
Single	68.7*	(99)	54.7	(117)	56.0**	(431)
Married	60.1*	(308)	63.1	(306)	55.5**	(1177)
Divorced/Separated	55.4*	(55)	68.8	(77)	56.4**	(309)
Widowed	30.9*	(65)	56.1	(41)	33.3**	(156)
C. Age						
18–25	70.8*	(65)	61.4*	(70)	57.1**	(228)
26–30	80.3*	(71)	77.6*	(58)	57.6**	(209)
31–35	66.7*	(81)	62.1*	(66)	63.9**	(264)
36–40	59.4*	(64)	70.7*	(58)	53.5**	(248)
41–45	62.5*	(32)	60.3*	(58)	61.3**	(254)
46–50	57.5*	(40)	73.7*	(38)	60.4**	(185)
51–60	54.7*	(53)	58.3*	(72)	54.0**	(241)
61–70	44.1*	(59)	62.5*	(56)	46.6**	(244)
71+	21.0*	(62)	37.3*	(59)	28.2**	(205)
D. Education						
Less than high school	38.1*	(63)	54.2*	(59)	47.9**	(206)
High school graduate	61.2*	(134)	65.7*	(131)	57.0**	(487)
Some post–high school education	56.8*	(132)	64.1*	(142)	61.4**	(502)
College associate arts degree	77.9*	(95)	71.8*	(78)	60.5**	(232)
College graduate	49.5*	(103)	53.1*	(128)	46.3**	(534)

(table continues)

TABLE 6, continued

Demographic Characteristic	Percentage Who Played Wisconsin Lottery					
	1989		1991		1995	
E. Does other gambling?						
Yes	72.5*	(261)	72.4*	(268)	83.6**	(1048)
No	43.8*	(264)	50.2*	(265)	22.4**	(1030)
F. Gender						
Male	58.4	(238)	65.3	(262)	59.8**	(878)
Female	57.8	(289)	58.2	(280)	50.0**	(1208)

Source: Telephone interviews conducted by authors.

Note: Number of sample members (unweighted) answering question/giving an answer is in parentheses; not all sample members responded to all questions.

[a] Breakdown of income brackets above $50,000 not available for 1989 and 1991 datasets.
* Differences across groups within sample are statistically significant at p=.05.
** Differences across groups within sample are statistically significant at p=.01.

families earning more than $10,000 but less than $20,000 were the least likely to report playing the lottery during the prior year.

As for marital status (panel B of Table 6), in 1995 significantly fewer widowed respondents reported playing the lottery compared to all other groups. Once again, this finding corresponds to the relationship discovered in 1989, but not to that of 1991, when no significant relationship between marital status and lottery play was found.

Panels C–E in Table 6 present the associations of lottery play with age, education, and other gambling. The 1995 findings in these categories closely mirror those from previous lottery studies. In all three samples, respondents over seventy years old were less likely to play than those under seventy; high school dropouts and college graduates were less likely to play than those with medium levels of education; and the respondents reporting other gambling were more likely to play than were non-gamblers. All of these differences are statistically significant.

For the first time in the series of lottery studies, the 1995 findings reveal a significant difference in terms of lottery play based on gender. Unlike the findings of 1989 and 1991, which reported no significant difference between men and women, the data from 1995 demonstrate that men are significantly more likely than women to have played the lottery in the past year. Only half the women in the sample had played the lottery, compared to almost 60 percent of the men (see panel F).

DEMOGRAPHIC CORRELATES OF DOLLARS SPENT PLAYING THE LOTTERY

In examining the associations between demographic attributes and dollars spent on the lottery, by players, within the 1995 statewide sample, we find multiple changes from the 1989 and 1991 datasets. It is here that the importance of the larger sample size of the 1995 study can be most profoundly seen for the first time. With a statewide sample size more than double that of the prior two studies, our estimates of the differences that exist among demographic groups are able to be

much more precise and efficient. As a result, we are able to analyze relationships between demographic attributes and monthly expenditures among players with more precision than was previously possible.

The 1989 data revealed almost no relationship between demographic attributes and monthly lottery expenditures. Gender was the only significant difference, with male lottery players wagering more than female players, $13.37 vs. $8.18 a month (see Table 7, panel E). In 1991, as reported in Table 7, there were no discovered relationships between demographic characteristics and lottery expenditures; even the association between gender and amount spent was reduced to insignificance.

In 1995, however, a different story emerges. As in 1989 and 1991, marital status and age were not significantly related to monthly lottery expenditures. However, family income, education, and gender were found to be significantly associated with amounts wagered. Specifically, it was found that those lottery players with the lowest incomes—i.e., below $20,000—reported spending less on the lottery than did those players with family incomes over $20,000; college graduates spent less on the lottery than did those with less formal education; and men reported spending more on the lottery than did women. All of these relationships were statistically significant. With the exception of the effect of gender (which was also found in 1989), these findings represent associations heretofore not seen in either of the two prior lottery studies.

DEMOGRAPHIC CORRELATES OF THE PERCENTAGE OF INCOME SPENT ON THE LOTTERY

In examining the relationship between demographic characteristics and the percentage of income spent by lottery players, more similarities emerge between the 1995 data and those data of earlier studies than was the case with raw monthly expenditures. As was the case in both 1989 and

TABLE 7

**Average Monthly Lottery Expenditures of Wisconsin Lottery Players,
by Demographic Characteristics
(1989, 1991, and 1995 statewide samples)**

Demographic Characteristic	Monthly Lottery Expenditures					
	1989		1991		1995	
A. Annual family income (pretax)						
$0–$9,999	$8.32	(36)	$11.60	(23)	$9.30**	(58)
$10,000–$19,999	$12.73	(55)	$12.35	(55)	$8.78**	(78)
$20,000–$29,999	$9.14	(68)	$20.27	(42)	$10.32**	(123)
$30,000–$39,999	$10.55	(58)	$19.95	(48)	$20.90**	(131)
$40,000–$49,999	$6.55	(29)	$13.00	(42)	$10.32**	(138)
$50,000–$59,999	$18.50	(24)	$19.11	(22)	$21.73**	(107)
$60,000 or more[a]	$10.89	(28)	$10.11	(56)	—	
$60,000–$69,999[a]	—		—		$12.66**	(80)
$70,000–$79,999[a]	—		—		$11.41**	(43)
$80,000–$89,999[a]	—		—		$5.69**	(44)
$90,000–$99,999[a]	—		—		$16.15**	(15)
$100,000 or more[a]	—		—		$14.41**	(49)
B. Marital status						
Single	$10.59	(72)	$5.46	(60)	$10.95	(217)
Married	$9.80	(189)	$17.10	(178)	$13.90	(615)
Divorced/Separated	$10.28	(18)	$18.27	(52)	$19.12	(155)
Widowed	$14.64	(37)	$5.60	(21)	$9.98	(47)
C. Age						
18–25	$11.87	(48)	$4.28	(39)	$11.46	(118)
26–30	$7.79	(57)	$10.26	(42)	$14.78	(111)
31–35	$14.90	(57)	$17.19	(41)	$9.98	(166)
36–40	$10.50	(39)	$23.97	(38)	$11.63	(126)
41–45	$7.84	(21)	$12.92	(33)	$13.74	(142)
46–50	$10.13	(24)	$14.41	(26)	$19.87	(101)
51–60	$8.07	(29)	$14.43	(38)	$16.91	(123)
61–70	$10.65	(26)	$20.80	(34)	$16.24	(102)
71+	$10.07	(15)	$8.71	(19)	$6.65	(46)
D. Education						
Less than high school	$15.25	(25)	$15.54	(27)	$16.58**	(74)
High school graduate	$8.46	(83)	$23.31	(79)	$22.59**	(252)
Some post–high school education	$14.08	(79)	$12.64	(85)	$11.23**	(287)
College associate arts degree	$10.58	(75)	$10.51	(53)	$12.50**	(128)
College graduate	$6.55	(54)	$8.22	(66)	$7.81**	(231)

(table continues)

TABLE 7, continued

Demographic	Monthly Lottery Expenditures					
Characteristic	1989		1991		1995	
E. Gender						
Male	$13.37*	(146)	$15.43	(163)	$16.57**	(483)
Female	$8.18*	(170)	$12.99	(148)	$10.57**	(552)

Source: Telephone interviews conducted by authors.

Note: Number of sample members (unweighted) answering question/giving an answer is in parentheses; not all sample members responded to all questions.

[a]Breakdown of income brackets above $60,000 not available for 1989 and 1991 datasets.
* Differences across groups within sample are statistically significant at p = .05.
** Differences across groups within sample are statistically significant at p = .01.

1991, family income is significantly associated with the percentage of income spent on the lottery. In both 1989 and 1991, lottery players reporting higher family incomes wagered comparatively less of their income than those with lower incomes (Table 8, panel A). In 1995, this general pattern remained significant, with those respondents earning the least (i.e., less than $10,000) reporting the highest percentage of income spent on lottery purchases—2.09 percent.

The relationship between education and percentage of income spent on the lottery also remained significant across all three lottery studies. As was the case in both prior studies, in 1995 those players with more education spent comparatively less of their income on the lottery than did those with less education (Table 8, panel D); those with a high school diploma spent the largest percentage of their income on the lottery of all groups—0.76 percent.

As regards marital status, the findings of the 1995 study more closely mirror those of the 1989 study than those of 1991. As was the case in 1989, those lottery players in the 1995 study who were divorced, separated, or widowed reported spending the greatest proportion of their income on the lottery. While this finding accords with the 1991 results, it was not statistically significant in 1991; its significance returns in 1995.

The characteristics of age and gender did not display significant associations with the proportion of income spent on the lottery in 1995. The finding with respect to age accords with both the 1989 and 1991 findings. Gender, while significantly related to percentage of income spent in 1989, was not significant in either 1991 or 1995.

To summarize this chapter so far, demographic characteristics give insight into who plays the lottery and how much is spent. For the 1995 statewide sample, we find that family income, marital status, age, education, gender, and other gambling are all significantly related to the likelihood of playing the lottery. While the significance of income, age, education, and other gambling duplicate earlier findings from 1989 and 1991, the significance of marital status and gender are new since

TABLE 8

Percentage of Wisconsin Lottery Players' Income Spent on Lottery, by Demographic Characteristics
(1989, 1991, and 1995 statewide samples)

Demographic	Percentage of Income					
Characteristic	1989		1991		1995	
A. Annual family income (pretax)						
$1–$9,999	1.00*	(36)	1.90*	(19)	2.09**	(47)
$10,000–$19,999	1.02*	(55)	1.13*	(55)	.74**	(78)
$20,000–$29,999	.44*	(68)	.99*	(42)	.51**	(123)
$30,000–$39,999	.36*	(58)	.70*	(48)	.75**	(131)
$40,000–$49,999	.17*	(29)	.36*	(42)	.28**	(138)
$50,000–$59,999	.40*	(24)	.41*	(22)	.48**	(107)
$60,000 or more[a]	.20*	(28)	.14*	(56)	—	
$60,000–$69,999[a]	—		—		.24**	(80)
$70,000–$79,999[a]	—		—		.18**	(43)
$80,000–$89,999[a]	—		—		.08**	(44)
$90,000–$99,999[a]	—		—		.20**	(15)
$100,000 or more[a]	—		—		.13**	(49)
B. Marital status						
Single	.62*	(72)	.21	(53)	.34**	(185)
Married	.39*	(189)	.72	(162)	.41**	(498)
Divorced/Separated	.98*	(18)	1.16	(51)	.92**	(137)
Widowed	.97*	(37)	1.07	(18)	.97**	(34)
C. Age						
18–25	.75	(48)	.28	(33)	.35	(101)
26–30	.40	(57)	.41	(41)	.38	(99)
31–35	.69	(57)	.66	(37)	.36	(149)
36–40	.40	(39)	1.00	(36)	.55	(112)
41–45	.34	(21)	.40	(31)	.35	(115)
46–50	.34	(24)	.51	(26)	.52	(87)
51–60	.42	(29)	1.15	(33)	.53	(94)
61–70	.71	(26)	1.51	(30)	.78	(75)
71+	.91	(15)	.66	(16)	.84	(23)
D. Education						
Less than high school	1.08*	(25)	1.18*	(23)	.64**	(60)
High school graduate	.48*	(83)	1.47*	(72)	.76**	(202)
Some post–high school education	.61*	(79)	.50*	(80)	.40**	(246)
College associate arts degree	.61*	(75)	.43*	(49)	.35**	(99)
College graduate	.23*	(54)	.20*	(59)	.16**	(192)

(table continues)

TABLE 8, continued

Demographic	Percentage of Income					
Characteristic	1989		1991		1995	
E. Gender						
Male	.68*	(146)	.74	(154)	.54	(403)
Female	.43*	(170)	.71	(130)	.39	(452)

Source: Telephone interviews conducted by authors.

Note: Number of sample members (unweighted) answering question/giving an answer is in parentheses; not all sample members responded to all questions.

[a] Breakdown of income brackets above $60,000 not available for 1989 and 1991 datasets.

* Differences across groups within sample are statistically significant at p=.05.
** Differences across groups within sample are statistically significant at p=.01.

1991. For the first time among the three lottery studies, in 1995 family income, education, and gender were found to be related to the amount spent on the lottery by players. Finally, in 1995, income, marital status, and education were found to be associated with the percentage of income spent on the lottery by players. Overall, the increased sample size of the 1995 survey has allowed for a much clearer picture of the demographic correlates of lottery play, amount spent on the lottery, and percentage of income spent on the lottery.

ATTITUDINAL CORRELATES OF LOTTERY PLAY

In their investigation of the relationship between attitudes and lottery play, Piliavin and Polakowski (1990) found six significant correlations, which are presented in Table 9. To summarize, lottery play was found to be positively associated with approval of lotteries, players' belief that they could not play more due to a lack of funds, their belief that the lottery was a harmless form of recreation, their view that lottery play was an easy way to make money, and the beliefs that lotteries not only offered players comparatively high odds of winning money, but that the odds could be improved by some form of wagering system.

Piliavin and Wright (1992) reported that only four of these correlations remained significant in 1991: those more likely to play the lottery included those who favored it, those who reported that they would play it even more if they had more money, those who considered it a harmless form of recreation, and those who believed it returned a high percentage of wagers back as winnings.

In 1995, these same four correlations retained their significance, and the significance associated with the belief that lottery play is an easy way to make money returned after an absence in 1991. As shown in Table 9, the 1995 study revealed that those statewide respondents who had the most favorable attitudes toward lotteries were the most likely to play some form of lottery, and those with the most negative views were least likely to play. Regarding the belief that lottery play is a

TABLE 9
Percentage of Wisconsin Residents Who Played the Wisconsin Lottery,
by Attitudes and Opinions toward Lotteries
(1989, 1991, and 1995 statewide samples)

	Percentage Who Played Wisconsin Lottery					
Attitude/Opinion toward Lotteries	1989		1991		1995	
A. Attitude toward lotteries						
Strongly in favor	87.5*	(144)	91.7*	(108)	79.0**	(351)
Somewhat in favor	64.6*	(240)	71.2*	(250)	66.3**	(994)
None of these	25.0*	(8)	33.3*	(42)	37.1**	(106)
Somewhat opposed	30.2*	(63)	38.8*	(80)	28.5**	(331)
Strongly opposed	6.3*	(63)	16.1*	(56)	15.0**	(277)
B. Can't play lottery more because lack extra money						
Strongly agree	90.0*	(20)	71.4*	(21)	55.8**	(83)
Agree	70.2*	(94)	77.3*	(119)	56.3**	(410)
Disagree	61.9*	(247)	62.8*	(234)	59.7**	(888)
Strongly disagree	43.5*	(154)	50.7*	(150)	49.2**	(651)
C. Lottery is harmless recreation						
Strongly agree	83.7*	(49)	85.0*	(40)	75.7**	(140)
Agree	70.4*	(250)	71.3*	(286)	69.2**	(926)
Disagree	47.2*	(159)	51.1*	(143)	42.9**	(651)
Strongly disagree	18.0*	(50)	28.3*	(53)	22.2**	(297)
D. Playing the lottery is an easy way to make money						
Strongly agree	83.0*	(6)	20.0	(5)	41.8**	(35)
Agree	60.9*	(64)	66.7	(69)	47.9**	(204)
Disagree	62.3*	(300)	64.4	(264)	59.6**	(984)
Strongly disagree	50.3*	(147)	58.5	(188)	52.0**	(821)
E. Estimated percentage of dollars wagered returned as winnings						
25% or less	57.9*	(223)	56.4*	(227)	50.8**	(840)
26%–50%	69.9*	(123)	71.1*	(187)	60.9**	(756)
51% or more	75.0*	(32)	67.7*	(62)	57.7**	(272)
F. Possible to create winning systems						
Agree	69.4*	(160)	65.2	(115)	59.3	(518)
Disagree	56.7*	(307)	63.6	(390)	56.3	(1352)

Source: Telephone interviews conducted by authors.

Note: Number of sample members (unweighted) answering question/giving an answer is in parentheses; not all sample members responded to all questions.

* Differences across groups within sample are statistically significant at $p = .05$.
** Differences across groups within sample are statistically significant at $p = .01$.

harmless form of recreation, those most in disagreement with such a belief had the lowest rate of lottery participation in 1995—only 22.2 percent. As might be expected, those respondents who believed the lotteries returned low percentages of money (i.e., 25 percent or less of moneys wagered) were the least likely to play.

Two findings that remained consistent from 1989 to 1995 deserve special attention. First, in both 1989 and 1991, our research found that respondents who most agreed that they could not play the lottery more because they lacked extra money were the most likely to report playing it. This relationship was explained as evidence that those likely to play the lottery would play even more if they had extra money. In 1995, the data provide support for this explanation. Among the 1995 statewide respondents, those who most disagreed with the belief that they could not play the lottery as often as they desired for lack of funds were those least likely to play the lottery. It would indeed appear that those individuals who are least likely to play the lottery would not play it any more frequently even if they had more money.

A second important and consistent finding relates to the belief that playing the lottery is an easy way to make money. This belief was significantly associated with lottery play in 1995, after falling from significance in 1991. It is noteworthy that across all three studies, more than half of those respondents who **disagree** with this belief nevertheless report playing the lottery in the prior year. Such a finding would seem to support the argument that people in Wisconsin tend to view their lottery play as a form of entertainment rather than as a serious attempt to improve their financial standing.

Finally, the 1995 data reveal no significant relationship between the belief that winning systems can be devised for playing the lottery and actual participation in the lottery. Those who feel that such systems can be created are only slightly more likely to play the lottery than are those who do not hold such a belief.

ATTITUDINAL CORRELATES OF DOLLARS SPENT ON LOTTERY PLAY

Using the 1989 survey data, Piliavin and Polakowski (1990) found only two significant correlations of dollars spent on lottery play with lottery-relevant attitudes and knowledge: those who favored the lottery spent more than those who did not, and those who expected higher rates of returned winnings spent more than did those who expected lower returns. Likewise, in 1991 two significant correlations were observed, although not the same two as in 1989. In 1991, it was found that those who favored the lottery spent more than those who did not, but no significant association was found between expected return rates of winnings and dollars spent on the lottery. A new and significant association was found in 1991 between the belief that a lack of extra funds prevented lottery play and the actual amount spent on the lottery. Players who most agreed that a lack of extra money curtailed their lottery play spent the least on lotteries.

In the interest of maximizing cross-time comparisons, we again present data pertaining to these three attitudinal components in Table 10. As shown, the 1995 data are highly consistent with the findings from 1991: Wisconsin lottery players who are most in favor of lotteries report spending the most on lottery play, but no significant association is found between players' perceptions of the percentage of lottery sales returned as winnings and the amount they spend on lottery play. Finally, while an association was observed in both 1991 and 1995 between players' lottery expenditures and their beliefs about the constraint on their play of lack of funds, the relationship across the two surveys changed somewhat. In 1991 the degree of disagreement with this belief was positively associated with increased lottery expenditures: the more individuals saw themselves as not hindered by money constraints, the more they spent on lottery play. In 1995, this was not true. Those players claiming to be least hindered had the lowest mean monthly lottery expenditures. This finding is in accord with the other associations found in 1995 which deal with beliefs regarding money restraint on lottery play. It is apparent that individuals who most disagree that their financial situation prevents them from

TABLE 10

Average Monthly Lottery Expenditures of Wisconsin Players, by Attitudes and Opinions toward Lotteries (1989, 1991, and 1995 statewide samples)

Attitude/Opinion toward Lotteries	Monthly Expenditures					
	1989		1991		1995	
A. Attitude toward lotteries						
Strongly in favor	$14.73*	(129)	$22.73*	(93)	$22.47**	(263)
Somewhat in favor	$8.13*	(159)	$12.86*	(164)	$11.86**	(615)
None of these	$3.00*	(2)	$4.48*	(13)	$4.12**	(30)
Somewhat opposed	$4.98*	(21)	$4.78*	(31)	$7.25**	(90)
Strongly opposed	$7.60*	(5)	$0.92*	(8)	$6.92**	(32)
B. Percentage of dollars wagered returned as winnings						
25% or less	$9.54*	(137)	$11.11	(115)	$14.39	(390)
26%–50%	$9.61*	(92)	$16.41	(130)	$12.92	(437)
51% or more	$24.74*	(25)	$20.28	(40)	$16.63	(146)
C. Can't play lottery more because lack extra money						
Strongly agree	$14.01	(18)	$11.18*	(69)	$11.00**	(42)
Agree	$10.66	(67)	$11.26*	(139)	$15.85**	(210)
Disagree	$11.73	(157)	$16.27*	(85)	$16.19**	(483)
Strongly Disagree	$7.47	(73)	$50.89*	(14)	$8.95**	(292)

Source: Telephone interviews conducted by authors.

Note: Number of sample members (unweighted) answering question/giving an answer is in parentheses; not all sample members responded to all questions.

* Differences across groups within sample are statistically significant at p=.05.
** Differences across groups within sample are statistically significant at p=.01.

playing the lottery more often are the same individuals who would not spend more on the lottery even

if they could. Accordingly, it is not surprising that this group reports the lowest level of monthly

expenditures on the lottery: they currently do not spend much on the lottery, and they would not

spend more even if they had extra money with which to do so.

ATTITUDINAL CORRELATES OF THE PERCENTAGE OF INCOME SPENT ON THE
LOTTERY

Substantial differences were found between the 1989 and 1991 results concerning relationships

between lottery players' lottery-relevant attitudes and the percentage of their incomes spent on

lotteries. In the earlier study, players who favored the lottery, expected higher returns, considered it

an easy way to make money, and believed they had more financial constraints on lottery play, spent a

greater proportion of their income on lottery play than did respondents with contrary views. In 1991,

only the latter of these correlations was found to be significant.

As indicated in Table 11, the data from 1995 more closely resemble those of 1991 than from

1989. As was the case in 1991, no significant associations were found between beliefs concerning

returns on lottery investment or the potential of making easy money through lottery play and

percentage of income spent on the lottery. As in to 1991, players in the 1995 statewide sample

revealed a significant correlation between felt financial constraints on lottery play and the percentage

of income spent on the lottery. Those most in agreement that a lack of funds curtailed their lottery

play spent the highest proportion of their income on the lottery.

The overall attitude held by players toward state lotteries in 1995 was significantly correlated

with percentage of income spent on the lottery. Comparing the results of 1989 with those of 1995

(Table 11, panel A), an interesting association is apparent: while it is the case that those players who

most approve of lotteries also report spending the highest percentage of their incomes on the lottery,

TABLE 11

Percentage of Wisconsin Players' Incomes Spent on the Lottery, by Attitudes and Opinions toward Lotteries (1989, 1991, and 1995 statewide samples)

Attitude/Opinion toward Lotteries	Percentage of Income					
	1989		1991		1995	
A. Attitude toward lotteries						
Strongly in favor	.73*	(123)	1.00	(85)	.75**	(224)
Somewhat in favor	.42*	(148)	.74	(149)	.36**	(508)
None of these	.13*	(2)	.11	(12)	.19**	(21)
Somewhat opposed	.36*	(20)	.28	(29)	.33**	(76)
Strongly opposed	.82*	(5)	.05	(7)	.65**	(23)
B. Percentage of dollars wagered returned as winnings						
25% or less	.49*	(137)	.50	(103)	.54	(314)
26%–50%	.46*	(92)	.97	(121)	.39	(377)
51% or more	1.03*	(25)	.68	(38)	.56	(127)
C. Playing lottery is an easy way to make money						
Strongly agree	.09*	(4)	3.33	(1)	.81	(12)
Agree	.92*	(40)	.92	(39)	.64	(67)
Disagree	.52*	(180)	.84	(150)	.54	(432)
Strongly disagree	.44*	(73)	.40	(89)	.31	(338)
D. Can't play lottery more because lack extra money						
Strongly agree	.86*	(17)	2.28*	(9)	.93**	(36)
Agree	.73*	(64)	1.20*	(82)	.61**	(177)
Disagree	.55*	(147)	.51*	(127)	.48**	(388)
Strongly disagree	.32*	(69)	.34*	(63)	.30**	(250)

Source: Telephone interviews conducted by authors.

Note: Number of sample members (unweighted) answering question/giving an answer is in parentheses; not all sample members responded to all questions.

* Differences across groups within sample are statistically significant at p=.05.
** Differences across groups within sample are statistically significant at p=.01.

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it is also the case that players who most **disapprove** of lotteries spend higher proportions of their income on the lottery than those groups with intermediate attitudes. This relationship is present in both 1989 and 1995, but not in 1991.

DEMOGRAPHIC CORRELATES OF GENERAL ATTITUDE TOWARD THE LOTTERY

We examine a last set of correlations relating demographic characteristics and general attitude toward state lotteries. Looking at the results in Table 12, we find considerable stability from 1989 through 1995 regarding which demographic characteristics are most associated with general approval of lotteries. As shown in panels A–D, those individuals who report the lowest family incomes (i.e., below $20,000), who are widowed, who are over sixty years of age, and who have either less than a high school education or a college degree are more likely to **disapprove** of lotteries than their counterparts with higher incomes, other marital statuses, younger ages, and intermediate levels of formal education. These findings directly support the results of the 1989 study and return to significance those demographic features (namely income and marital status) that did not show significant associations with lottery approval in 1991.

CONCLUSION

The bivariate correlations examined in this chapter tell a twofold story in relation to the findings of 1991. First, as was the case in 1991, we find more correlates of who plays the lottery than of how much is spent. We have identified many demographic characteristics and attitudes that are significantly correlated with having played the lottery, and these bivariate relationships give insight into which Wisconsin residents play the lottery. Second, but unlike the 1991 study, multiple correlates of how much is spent were found in 1995, though they number fewer than the correlates of

TABLE 12

**General Attitude of Wisconsin Residents toward Lottery,
by Demographic Characteristics
(1989, 1991, and 1995 statewide samples)**

Demographic	Attitude Score					
Characteristic	1989		1991		1995	
A. Annual family income (pretax)						
$0–$9,999	2.79*	(73)	2.89	(53)	2.79**	(197)
$10,000–$19,999	2.51*	(109)	2.24	(83)	2.81**	(207)
$20,000–$29,999	2.17*	(93)	2.30	(66)	2.51**	(243)
$30,000–$39,999	2.15*	(88)	2.53	(74)	2.36**	(234)
$40,000–$49,999	1.91*	(45)	2.41	(58)	2.34**	(243)
$50,000–$59,999	2.00*	(31)	2.30	(37)	2.41**	(177)
$60,000 or more[a]	2.43*	(42)	2.51	(92)	—	
$60,000–$69,999[a]	—		—		2.70**	(127)
$70,000–$79,999[a]	—		—		2.62**	(83)
$80,000–$89,999[a]	—		—		2.56**	(67)
$90,000–$99,999[a]	—		—		2.40**	(37)
$100,000 or more[a]	—		—		2.50**	(89)
B. Marital status						
Single	2.11*	(97)	2.41	(117)	2.31**	(432)
Married	2.36*	(304)	2.53	(303)	2.63**	(1169)
Divorced/Separated	2.09*	(58)	2.28	(77)	2.37**	(304)
Widowed	3.02*	(41)	2.82	(39)	3.01**	(155)
C. Age						
18–25	2.06*	(65)	2.09*	(70)	2.32**	(228)
26–30	1.94*	(68)	2.10*	(58)	2.21**	(211)
31–35	2.16*	(81)	2.23*	(66)	2.29**	(261)
36–40	2.10*	(63)	2.46*	(56)	2.48**	(248)
41–45	2.19*	(32)	2.36*	(58)	2.43**	(253)
46–50	2.17*	(40)	2.53*	(38)	2.59**	(186)
51–60	2.38*	(53)	2.72*	(72)	2.70**	(236)
61–70	3.02*	(57)	2.79*	(56)	2.94**	(241)
71+	3.17*	(59)	3.15*	(55)	3.32**	(201)

(table continues)

TABLE 12, continued

Demographic	Attitude Score		
Characteristic	1989	1991	1995
D. Education			
Less than high school	2.69* (59)	2.50* (58)	2.63** (198)
High school graduate	2.38* (133)	2.35* (128)	2.36** (485)
Some post–high school education	2.30* (131)	2.29* (141)	2.36** (500)
College associate arts degree	1.89* (93)	2.39* (78)	2.54** (232)
College graduate	2.57* (103)	2.88* (127)	2.86** (534)

Source: Telephone interviews conducted by authors.

Notes: Responses scored as 1=strongly in favor, 2=somewhat in favor, 3=none of these, 4=somewhat opposed, 5=strongly opposed. Number of sample members (unweighted) answering question/giving an answer is in parentheses; not all sample members responded to all questions.

[a] Breakdown of income brackets above $60,000 not available for 1989 and 1991 datasets.

* Differences across groups within sample are statistically significant at p=.05.
** Differences across groups within sample are statistically significant at p=.01.

who plays the lottery. This improved success in identifying significant relationships between variables of interest is best recognized as a function of the increased sample size of the 1995 survey. The end result is the clearest and most precise picture to date of the demographic and attitudinal characteristics that are associated with lottery play and lottery expenditures.

CHAPTER 5

Racial Differences in Lottery Play, Lottery-Relevant Attitudes, and Lottery Knowledge

In this chapter we compare the 1995 lottery play, lottery-relevant attitudes, and lottery knowledge of African-Americans and whites in Wisconsin. The data we used for this comparison come from Caucasian members of the statewide sample (N=1,917) and members of the African-American oversample (N=193), augmented by African-American members of the statewide sample (N=80).[11] We also compare our findings with those of the 1991 lottery study.

COMPARISON OF SAMPLES

For the purposes of comparing the white sample with the African-American sample, we reproduce in Table 13 the demographic characteristics outlined in Table 1, but compare across races instead of across time as was done in Table 1. As is indicated in Table 13, the African-American respondents in the 1995 lottery study are less likely than white respondents to be married or have a high school or college diploma, and more likely to be single or widowed. Furthermore, African-American respondents in 1995 report significantly lower household incomes than do whites. These differences between the two samples should be kept in mind when drawing comparisons between the samples on any variables of interest. Later in this chapter, we discuss these differences in the context of controlling for conditions that might mediate correlations between race and lottery play.

Lottery Play

We first examine racial differences in lottery play. As indicated in Table 14, 51.7 percent of the white respondents in 1995 reported that they played the lottery in the prior year. This is in contrast to 41.3 percent of the African-American respondents. This difference is statistically

TABLE 13

**Demographic Characteristics of Wisconsin Residents Participating in 1995 Lottery Study:
Comparing Whites with African-Americans
(1995 sample)**

	Whites (N=1,917)	African-Americans (N=272)
Median age (years)	42.0	43.0
Percentage male	41.8	36.8
Percentage married	58.6**	28.8**
Percentage single	19.2**	35.1**
Percentage widowed	7.6**	14.0**
Percentage divorced/separated	14.6	22.1
Percentage high school graduates	90.4**	66.3**
Percentage college graduates	28.1**	11.4**
Mean household income	$43,760**	$24,296**
Median household income	$39,000	$18,000

Source: Telephone interviews conducted by authors.
Note: N indicates sample size.

** Difference between whites and African-Americans is statistically significant at p=.01.

TABLE 14
Lottery Play of Wisconsin Residents, by Race (1995 sample)

	Whites		African-Americans	
Games Played Last Year				
Played any Wisconsin Lottery Game	51.7%**	(1906)	41.3%**	(271)
Played scratch-off	50.5%	(1911)	45.8%	(271)
Played pull-tab	14.9%**	(1912)	7.0%**	(272)
Played Wisconsin's Very Own Megabucks	42.7%	(1910)	39.3%	(272)
Played SuperCash!	20.8%*	(1912)	27.9%*	(272)
Played Powerball	47.9%**	(1907)	35.6%**	(270)
Played Pick-3	5.4%**	(1912)	25.4%**	(272)
Played Money Game 4	2.2%*	(1912)	5.2%*	(272)
Players' Frequency of Lottery Play Last Year**				
Mean	23.9*	(986)	45.7*	(112)
Median	8.0	(986)	10.0	(112)
Played once a week or more	14.8%	(146)	17.9%	(20)
Played once a month or more	27.3%	(269)	30.4%	(34)
Played less than once a month	57.9%	(571)	51.8%	(58)
Players' Monthly Expenditure on Lottery**				
Mean	$13.15*	(964)	$38.51*	(105)
Median	$3.33	(964)	$6.67	(105)
$0 to $4 per month	55.0%	(530)	43.8%	(46)
$4.01–$30 per month	33.2%	(320)	27.6%	(29)
$30.01–$100 per month	9.4%	(91)	21.9%	(23)
More than $100 per month	2.4%	(23)	6.7%	(7)
Players' Percentage of Total Household Income Spent on Lottery**				
Mean	.52%*	(798)	1.89%*	(82)
Median	.10%	(798)	.43%	(82)
0.0%–.10%	49.5%	(395)	32.9%	(27)
.11%–1.00%	38.7%	(309)	39.0%	(32)
1.01%–4.99%	10.2%	(81)	23.2%	(19)
5.00% or more	1.6%	(13)	4.9%	(4)

Source: Telephone interviews conducted by authors.

Note: Number of sample members answering question/giving an answer is in parentheses; not all sample members responded to all questions. Whites are from the 1995 statewide sample; African-Americans are from the 1995 African-American sample, augmented by African-Americans in the statewide sample.

* Difference between whites and African-Americans is statistically significant at p=.05.
** Difference between whites and African-Americans is statistically significant at p=.01.

significant. We next examine the likelihood of playing specific lottery games, and here again we find significant racial differences. The data indicate that a significantly higher percentage of whites than African-Americans reported playing pull-tab games (14.9 percent vs. 7.0 percent) and Powerball (47.9 percent vs. 35.6 percent). Conversely, a significantly higher percentage of African-Americans than whites played SuperCash! (27.9 percent to 20.8 percent), Pick-3 (25.4 percent vs. 5.4 percent), and Money Game 4 (5.2 percent to 2.2 percent). Roughly equal proportions of each played scratch-off games (50.5 percent of whites; 45.8 percent of African-Americans) and Megabucks (42.7 percent of whites; 39.3 percent of African-Americans).

Additional racial differences exist in the frequency of lottery play. While white respondents who play the lottery do so on average 23.9 times a year, African-American lottery players play almost twice as often, 45.7 times a year on average. The difference is statistically significant. Also significantly different are the percentages of players at each frequency level across races. Compared with white players, African-American lottery players are less likely to play the lottery infrequently (51.8 percent of African-American lottery players report infrequent lottery play, compared with 57.9 percent of white players), and more likely to play it fairly frequently (30.4 percent vs. 27.3 percent) or frequently (17.9 percent vs. 14.8 percent). Thus, while the prevalence of lottery play is less frequent among African-Americans than whites, among those who do play lotteries, African-Americans do so more than whites.

Lottery Expenditures

In the bottom two panels of Table 14, we present the lottery expenditures of white and African-American lottery players. Piliavin and Wright (1992) found that in 1991, while white respondents who played the lottery wagered, on average, $14.57 a month, African-American lottery players averaged $10.72 a month. This difference was not statistically significant.[12] In 1995, a different finding emerges: white lottery players reported spending $13.15 per month on the lottery,

while African-American players spent nearly three times as much at $38.51 a month. This difference in 1995 is statistically significant. Results dealing with the percentage of family income spent on lottery play follow those of dollars spent. White lottery players wager, on average, .52 percent of their total household incomes on the lottery, and their median percentage is .10 percent of household income. African-American lottery players, by contrast, wager on average 1.89 percent of their total household income on lottery play, and their median percentage is .43 percent. As with dollars spent, the difference between groups in percentage of family income wagered is statistically significant. This was not the case in 1991, when the percentages of income wagered by white and African-American players were not significantly different from each other.

In contrast to 1991, then, the 1995 data suggest that Wisconsin's African-American and white residents differ in their lottery spending habits, both in terms of total dollars spent on the lottery and percentage of family income directed toward lottery play. We shall examine shortly whether this observed relationship can be entirely attributed to race.

Knowledge About and Attitudes toward Lotteries

The knowledge and attitudinal queries on which we compare African-American and white sample members are those discussed in chapters 3 and 4. Our results are presented in Table 15. More agreement exists between white and African-American respondents on items than found in 1991.[13] In 1991, the two groups reported apparent agreement on only one item, that concerning overall attitude toward lotteries, for which two-thirds of white sample members and almost 60 percent of African-Americans stated in 1991 that they were in favor of lotteries. Excepting this similarity, however, white and African-American respondents in 1991 expressed significantly different perceptions and beliefs pertaining to every other lottery issue presented. That is, African-Americans and whites differed with respect to their beliefs that: gambling had been a problem for them; they played the lottery less because they lacked extra funds; playing the lottery is a harmless form of

TABLE 15
Attitudes of Wisconsin Residents toward Lottery Issues, by Race (1995 sample)

	Whites		African-Americans	
Overall attitude toward lottery[a]	2.60	(1,896)	2.52	(267)
%somewhat/strongly in favor	65.7%		62.9%	
Gambling has often been a problem for me[b]	3.64**	(1,275)	3.40**	(163)
%agree/strongly agree	1.3%		5.5%	
Played less because don't have extra money[c]	3.06**	(1,868)	2.73**	(264)
%agree/strongly agree	23.1%		37.5%	
Lottery is harmless recreation[c]	2.56	(1,855)	2.53	(262)
%agree/strongly agree	52.6%		51.1%	
Lottery reduces money for household expenses[b]	3.47**	(1,273)	3.28**	(160)
%agree/strongly agree	3.6%		8.1%	
Spend more on lottery than can afford[b]	3.47**	(1,278)	3.20**	(163)
%agree/strongly agree	4.2%		9.8%	
Lottery play causes disagreement with partner[b]	3.53	(832)	3.43	(58)
%agree/strongly agree	2.9%		1.7%	
Lottery is easy way to make money[c]	3.29**	(1,880)	2.88**	(264)
%agree/strongly agree	10.7%		28.0%	
Someday will be rich via lottery[b]	3.44**	(1,266)	2.90**	(160)
%agree/strongly agree	6.7%		29.4%	
Can create winning systems (% yes)	26.6%*	(1,719)	34.6%*	(237)
Out of $100 in lottery revenue, how much is returned as winnings?	$29.38	(1,486)	$26.64	(167)
Set money aside for lottery (% yes)	8.6%	(991)	10.6%	(113)

Source: Telephone interviews conducted by authors.

Note: Number of sample members answering question/giving an answer is in parentheses; not all sample members responded to all questions. Whites are from the 1995 statewide sample; African-Americans are from the 1995 African-American sample, augmented by African-Americans in the statewide sample.

[a]Responses scored as 1=strongly in favor, 2=somewhat in favor, 3=none of these, 4=somewhat opposed, 5=strongly opposed.

[b]Question asked of lottery players only. Responses scored as 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree.

[c]Responses scored as 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree.

*Difference between whites and African-Americans is statistically significant at p=.05.

**Difference between whites and African-Americans is statistically significant at p=.01.

recreation; playing the lottery reduced money for household expenses; they spent more on the lottery than they could afford; lottery play caused disagreement with their partners; the lottery was an easy way to make money; they would someday be rich through playing the lottery; winning systems can be created; and on lottery play style (i.e., whether a set amount of money is set aside for lottery play vs. whether the respondent plays on the spur of the moment).

In 1995, we find greater similarities between white and African-American respondents. It is still the case that African-Americans and whites differ with respect to their beliefs that the lottery is an easy way to make money, that they will someday be rich through playing the lottery, and that systems can be created to improve one's chances of winning, with African-Americans reporting higher levels of agreement on all of these variables than whites reported. However, unlike in 1991, the views of white and African-American respondents in 1995 did not significantly differ from each other regarding the beliefs that playing the lottery is a harmless form of recreation, that lottery play causes disagreements with their partners, the perception of the return from lottery games in the form of winnings, and in style of lottery play (setting money aside as opposed to spur-of-the-moment play decisions). That is, the majority of both groups believe that playing the lottery is a form of harmless recreation, and that lottery play does not cause disagreements with their partners. Likewise, both groups had similar beliefs regarding how much of lottery proceeds are returned as winnings, and both groups overwhelmingly reported that their lottery play is typified by spur-of-the-moment decisions.

As was the case in 1991, both whites and African-Americans in 1995 are predominantly of the view that lottery play causes them few if any problems. Thus, in 1995 the majorities of both groups believe that lottery play places no financial burden on their household expenses and that their lottery play is within the bounds of affordability. These general views notwithstanding, African-Americans are still more likely than whites to report that lottery play does in fact lead to financial problems. While the percentages of respondents who report these problems are small, African-

Americans are significantly more likely to report that lottery play reduces money for household expenses (8.1 percent vs. 3.6 percent of whites), and that they wager more than they can afford (9.8 percent vs. 4.2 percent). Finally, in accord with the findings of the 1991 study, African-Americans are more likely in 1995 to report that gambling in general is a problem for them (5.5 percent vs. 1.3 percent of whites).

POSSIBLE MEDIATING INFLUENCES OF OBSERVED RACIAL DIFFERENCES

In reporting racial differences in lottery play and lottery-relevant attitudes between African-American and white sample members, we cannot neglect the possibility that these differences are caused by related demographic differences. As was discussed earlier in this chapter, the African-Americans surveyed, on average, earn less family income, are less likely to be currently married, and have completed fewer years of education than the white respondents. Therefore it might be these differences, rather than strictly racial differences, that generate the previously observed differences in lottery play and attitudes.

Using the results of the 1991 study, Piliavin and Wright (1992) investigated this possibility, but found that most of the originally observed differences between whites and African-Americans remained significant after controlling for respondents' family incomes, marital status, and education. (We refer the reader to the 1991 report for further information concerning these results.)

Using the 1995 data, we repeat this analysis by statistically controlling for the possible mediating factors of family income, marital status, and education. The comparisons in Table 16 employ respondents' reported household income as a control. As indicated in the column under significant race effects, relative to whites, African-American respondents are still more likely to play SuperCash!, Pick-3, and Money Game 4 than are white respondents. Controlling for income, however, reduces to statistical insignificance the previously observed differences between African-

TABLE 16

Racial Differences in Lottery Play and Attitudes of
Wisconsin Residents, Controlling for Household Income (1995 sample)

	Earning Less than $20,000		Earning More than $20,000		Significant Effects		
	Whites	African-Americans	Whites	African-Americans	Race	Income	Interaction
Lottery Participation							
Played any game	34.8%	43.2%	57.4%	62.5%		**	
Played scratch-off	35.1%	39.8%	56.5%	57.9%		**	
Played pull-tab	10.6%	4.2%	16.4%	13.5%		**	
Played Megabucks	26.9%	28.0%	48.0%	57.3%		**	
Played SuperCash!	14.4%	19.5%	23.4%	37.5%	**	**	
Played Powerball	31.8%	21.6%	53.4%	58.3%		**	+
Played Pick-3	4.7%	20.3%	5.3%	37.5%	**	*	++
Played Money Game 4	1.9%	1.7%	2.2%	11.5%	**	*	++
Mean yearly play frequency	7.23	5.28	14.32	39.17	**	**	++
Lottery Expenditures							
Mean dollars spent	$8.75	$10.16	$13.73	$60.33	**	**	++
Mean percentage of income	1.33%	.94%	.38%	2.30%	**	**	++
Attitudes toward Lottery							
Overall lottery attitude[a]	2.27	2.20	2.15	1.91			
Gambling has been problem[b]	3.57	3.35	3.67	3.51	**	**	
Play less b/c lack money[c]	2.78	2.47	3.09	2.77	**	**	
Lottery harmless recreation[c]	2.48	2.22	2.31	2.46			++
Reduces household money[b]	3.36	3.27	3.52	3.37	*	**	
Spend more than can afford[b]	3.42	3.25	3.51	3.37			
Causes disagreements[b]	3.42	3.50	3.56	3.37			
Easy way to make money[c]	3.30	2.63	3.36	2.80	**		
Will be rich through lottery[c]	3.36	2.63	3.47	2.77	**		
Can create systems (% yes)	26.0%	37.1%	27.4%	37.5%	*		
Portion of $100 returned	$31.70	$36.05	$33.51	$25.33			
Set money aside (% yes)	6.4%	9.1%	7.1%	11.7%			

Source: Telephone interviews conducted by authors.

Note: Number of sample members answering question/giving an answer is in parentheses; not all sample members responded to all questions. Whites are from the 1995 statewide sample; African-Americans are from the 1995 African-American sample, augmented by African-Americans in the statewide sample.

[a]Responses scored as 1=strongly in favor, 2=somewhat in favor, 3=none of these, 4=somewhat opposed, 5=strongly opposed.
[b]Question asked of lottery players only. Responses scored as 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree.
[c]Responses scored as 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree.
* Difference between whites and African-Americans is statistically significant at p=.05.
** Difference between whites and African-Americans is statistically significant at p=.01.
+ Interaction effect between race and income is statistically significant at p=.05.
++ Interaction effect between race and income is statistically significant at p=.01.

Americans' and whites' likelihoods of playing pull-tab games and Powerball. Taking household income into account also renders insignificant the difference between African-Americans and whites with respect to overall participation in the lottery.

Interesting findings emerge regarding the frequency of lottery play and expenditures on the lottery. While African-Americans still differ significantly from whites in their frequency of lottery play, the amount of money spent on the lottery, and percentage of income spent on the lottery, controlling for income reveals a more complex arrangement. As shown in Table 16 in the category of mean yearly play frequency, whites with low levels of income report playing the lottery more often than do African-Americans with comparable levels of income, but among respondents with higher incomes (i.e., greater than $20,000), African-Americans report playing the lottery at a frequency nearly three times that of whites.

Similar patterns emerge with respect to total dollars and percentage of income spent on the lottery. For those respondents in households earning less than $20,000, the difference between African-Americans and whites is relatively small. Among players with relatively higher incomes, however, this difference balloons, with African-Americans reporting spending $60.33 monthly on the lottery as compared with whites' $13.73. The relationship is similar for percentage of income spent. Among players reporting household incomes below $20,000, whites report spending a higher percentage of their incomes on the lottery than African-Americans, but African-Americans with incomes over $20,000 spend over six times as much of their incomes on the lottery than do whites of similar income levels.

Combining these findings suggests the following: while it is the case that, as a whole, African-Americans who play the lottery play it more often and spend more on it than do whites who play the lottery, this relationship appears to be concentrated among those respondents who earn relatively higher incomes. Indeed, among only those respondents with household incomes below

$20,000, there exist no significant differences between African-American and white lottery players in the areas of lottery play frequency, monthly lottery expenditures, and percentage of income spent on the lottery.

Prior findings reported in Table 15 concerning relevant knowledge and attitudes of African-Americans and whites are little changed when the household income of respondents is controlled (see Table 16). The exception is the observed difference between African-Americans and whites in the belief that they spend more on the lottery than they can afford, which is reduced to insignificance by controlling for household income.

Another possible mediating factor is marital status. The comparisons in Table 17 control for marital status. Only one of the racial differences presented in Tables 14 and 15 changes with this control. Net of marital status, African-American and white respondents do not significantly differ in their beliefs concerning the percentage of lottery sales that is returned in the form of winnings. In addition, however, a surprising finding emerges in the areas of frequency of lottery play and amount spent on the lottery. As shown in Table 17, among those respondents currently married and living with their spouses, African-American respondents reported much greater frequencies of lottery play as well as total dollars and percentage of income spent on lottery purchases.

Finally, we control for the amount of education received by respondents. These findings are reported in Table 18. As was the case with marital status, little change occurred in the observed racial differences originally presented in Tables 14 and 15. Net of education, African-American respondents are no longer significantly more likely than whites to play SuperCash!, nor are they more likely than whites to agree that winning systems for playing the lottery can be created.

To place our findings in a larger context, critics of lotteries have suggested that such games disproportionately burden a particular segment of society, such as minorities or the poor (see, e.g., Brinner and Clotfelter 1975). We find mixed support for this concern. On one hand, it does indeed

TABLE 17

Racial Differences in Lottery Play and Attitudes of
Wisconsin Residents, Controlling for Marital Status (1995 sample)

| | Currently Married | | Currently Not Married | | Significant Effects | | |
	Whites	African-Americans	Whites	African-Americans	Race	Marital Status	Interaction
Lottery Participation							
Played any game	51.8%	50.0%	49.2%	37.5%	**	*	
Played scratch-off	51.1%	48.7%	49.9%	44.3%			
Played pull-tab	13.6%	7.7%	16.8%	6.7%	**		
Played Megabucks	45.1%	55.1%	39.4%	32.6%		**	+
Played SuperCash!	21.8%	39.7%	19.4%	22.8%	**	*	+
Played Powerball	50.0%	49.3%	45.2%	29.7%	**	**	+
Played Pick-3	5.9%	32.1%	4.8%	22.8%	**		
Played Money Game 4	2.2%	9.0%	2.3%	3.6%	**		+
Mean yearly play frequency	13.67	38.09	10.39	10.86	**	**	++
Lottery Expenditures							
Mean dollars spent	$12.94	$77.98	$13.25	$31.97	**		++
Mean percentage of income	.38%	3.07%	.72%	1.39%	**		++
Attitudes toward Lottery							
Overall lottery attitude[a]	2.21	2.09	2.17	2.13			
Gambling has been problem[b]	3.67	3.61	3.60	3.37	**	**	
Play less b/c lack money[c]	3.14	2.89	2.91	2.59	**	**	
Lottery harmless recreation[c]	2.37	2.43	2.35	2.37			
Reduces household money[b]	3.54	3.46	3.39	3.25	*	**	
Spend more than can afford[b]	3.50	3.25	3.35	3.29	**	*	
Causes disagreements[b]	3.53	3.48	3.47	3.14			
Easy way to make money[c]	3.37	2.77	3.14	3.14	**	*	+
Will be rich through lottery[c]	3.47	2.82	3.35	3.00	**		
Can create systems (% yes)	25.7%	31.9%	28.0%	35.7%			
Portion of $100 returned	$33.65	$28.56	$31.02	$25.46			
Set money aside (% yes)	7.9%	12.8%	5.4%	8.2%			

Source: Telephone interviews conducted by authors.
Note: Number of sample members answering question/giving an answer is in parentheses; not all sample members responded to all questions. Whites are from the 1995 statewide sample; African-Americans are from the 1995 African-American sample, augmented by African-Americans in the statewide sample.

[a]Responses scored as 1=strongly in favor, 2=somewhat in favor, 3=none of these, 4=somewhat opposed, 5=strongly opposed.
[b]Question asked of lottery players only. Responses scored as 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree.
[c]Responses scored as 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree.
* Difference between whites and African-Americans is statistically significant at p=.05.
** Difference between whites and African-Americans is statistically significant at p=.01.
+ Interaction effect between race and marital status is statistically significant at p=.05.
++ Interaction effect between race and marital status is statistically significant at p=.01.

TABLE 18

Racial Differences in Lottery Play and Attitudes of
Wisconsin Residents, Controlling for Education (1995 sample)

| | No College Education | | Some College Education | | Significant Effects | | |
	Whites	African-Americans	Whites	African-Americans	Race	Education	Interaction
Lottery Participation							
Played any game	51.1%	34.3%	51.7%	50.0%	**		+
Played scratch-off	51.5%	40.7%	49.8%	50.5%			
Played pull-tab	18.1%	7.5%	12.5%	6.4%	**	**	
Played Megabucks	41.0%	30.8%	43.2%	47.7%			+
Played SuperCash!	24.0%	24.7%	19.1%	31.2%			+
Played Powerball	45.9%	28.5%	49.4%	41.3%	**	*	
Played Pick-3	8.0%	21.9%	4.3%	29.4%	**		+ +
Played Money Game 4	3.7%	3.4%	1.4%	7.3%	*		+ +
Mean yearly play frequency	15.58	20.72	9.82	17.72	*	**	
Lottery Expenditures							
Mean dollars spent	$20.05	$45.73	$9.72	$46.54	**	*	
Mean percentage of income	.76%	1.90%	.32%	1.99%	**	*	
Attitudes toward Lottery							
Overall lottery attitude[a]	2.09	2.26	2.25	1.99			+
Gambling has been problem[b]	3.51	3.36	3.71	3.54	**	**	
Play less b/c lack money[c]	2.87	2.58	3.15	2.83	**	**	
Lottery harmless recreation[c]	2.35	2.52	2.36	2.26			
Reduces household money[b]	3.32	3.25	3.56	3.39	*	**	
Spend more than can afford[b]	3.32	3.07	3.58	3.47	*	**	
Causes disagreements[b]	3.41	3.33	3.58	3.53		**	
Easy way to make money[c]	3.22	2.70	3.42	2.89	**	**	
Will be rich through lottery[c]	3.35	2.74	3.51	2.84	**	**	
Can create systems (% yes)	29.1%	34.9%	25.6%	33.7%		**	
Portion of $100 returned	$34.34	$30.31	$31.22	$25.47		*	
Set money aside (% yes)	8.1%	8.0%	5.9%	10.9%			

Source: Telephone interviews conducted by authors.

Note: Number of sample members answering question/giving an answer is in parentheses; not all sample members responded to all questions. Whites are from the 1995 statewide sample; African-Americans are from the 1995 African-American sample, augmented by African-Americans in the statewide sample.

[a]Responses scored as 1=strongly in favor, 2=somewhat in favor, 3=none of these, 4=somewhat opposed, 5=strongly opposed.
[b]Question asked of lottery players only. Responses scored as 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree.
[c]Responses scored as 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree.
* Difference between whites and African-Americans is statistically significant at p=.05.
** Difference between whites and African-Americans is statistically significant at p=.01.
+ Interaction effect between race and education is statistically significant at p=.05.
+ + Interaction effect between race and education is statistically significant at p=.01.

appear that, on average, African-American residents of Wisconsin who play the lottery tend to play more frequently than do white residents who play the lottery, and they also spend more dollars and a greater proportion of their income on the lottery. On the other hand, by controlling for household income, our results indicate that the true differences between African-Americans and whites in these categories reside primarily between those African-Americans and whites earning more than $20,000; those earning lower incomes do not exhibit significant racial differences.

Finally, while few respondents of either race report problems resulting from their lottery play, such problems are more likely to be reported by African-Americans. In 1995, African-Americans are substantially more likely than whites to characterize the lottery as reducing the money available to them for household expenses, and are more likely to report spending more than they feel they can afford on the lottery. The latter difference, however, is reduced to insignificance when household income is used as a control.

CHAPTER 6

Regional Differences in Lottery Play, Lottery-Relevant
Attitudes, and Lottery Knowledge

Unlike the two previous lottery projects, the 1995 lottery survey was designed specifically to determine whether there were geographical differences among Wisconsin residents in terms of their views about and involvement in lottery play. In this chapter, we present our findings comparing residents living in five regions of Wisconsin which encompass the entire state.

DESCRIPTION OF REGIONS

In appendix A, we present a map of Wisconsin that provides a profile of the five regions. For convenience the regions are referred to as: the northwest, the northeast, the southwest, the southeast (excluding Milwaukee County), and Milwaukee County. For a complete list of counties included in each region, the reader is directed to appendix B. Different regions did not have equal numbers of respondents; instead, the number of allocated respondents was determined such that (1) an adequate number of cases would be obtained in each region to facilitate interregional comparisons, and (2) the proportion of the sample represented by each region would approximate the distribution of the state population as a whole. Again, the reader is directed to appendix B for a complete description of the numbers of respondents obtained from each region of the state.

LOTTERY PLAY

First, we examine regional differences in the prevalence of lottery play. As presented in Table 19, while 56.3 percent of residents in the southeastern part of Wisconsin reported playing lottery games at least once in the last year, only 45.7 percent of residents in the northwestern sector of the state reported playing games. The proportions of the population reporting lottery play in the

TABLE 19
Regional Differences in Lottery Play and Monthly Expenditures of Wisconsin Residents
(1995 statewide sample)

	Geographic Region				
	NW	NE	SW	SE	Milw.
Lottery Participation					
Played any game	45.7%**	47.3%**	49.3%**	56.3%**	54.7%**
	(346)	(412)	(367)	(551)	(397)
Played scratch-off	45.4%	47.7%	49.9%	53.1%	50.5%
	(346)	(413)	(367)	(554)	(398)
Played pull-tab	17.1%	13.3%	12.8%	14.1%	14.6%
	(346)	(413)	(367)	(555)	(398)
Played Megabucks	35.6%**	40.2%**	38.4%**	45.8%**	48.7%**
	(346)	(413)	(367)	(553)	(398)
Played SuperCash!	12.7%**	17.0%**	22.1%**	24.0%**	26.6%**
	(346)	(413)	(367)	(555)	(398)
Played Powerball	44.4%	45.6%	43.3%	49.4%	51.6%
	(345)	(412)	(367)	(553)	(397)
Played Pick-3	2.3%**	3.6%**	4.4%**	7.6%**	11.6%**
	(346)	(413)	(367)	(555)	(398)
Played Money Game 4	0.6%**	1.7%**	1.1%**	3.1%**	4.0%**
	(346)	(413)	(367)	(555)	(398)
Frequency and Lottery Expenditures of Players					
Mean yearly play frequency	18.86	22.68	24.36	23.89	31.17
	(158)	(195)	(181)	(310)	(217)
Mean dollars spent	$11.22	$12.57	$11.68	$14.74	$15.57
	(154)	(193)	(176)	(304)	(208)
Mean percentage of income	.49%	.48%	.39%	.67%	.52%
	(122)	(162)	(142)	(254)	(175)

Source: Telephone interviews conducted by authors.

Note: Number of sample members (unweighted) answering questions/giving an answer is in parentheses; not all sample members responded to all questions.

* Differences across regions are statistically significant at p=.05.

** Differences across regions are statistically significant at p=.01.

other three regions fell between these two extremes. Across regions, the differences are statistically significant.

Next, we examine regional differences in prevalence of play among the various lottery games. The data in Table 19 reveal differences in prevalence of play for four specific games: Wisconsin's Very Own Megabucks, SuperCash!, Pick-3, and Money Game 4. All of these games were played by a greater percentage of residents in the southeast and in Milwaukee County than in the other three regions. While trends along the same lines appear in the play of scratch-off games and Powerball, the differences across regions for these games are not statistically significant.

LOTTERY PLAY FREQUENCY AND LOTTERY EXPENDITURES

In the bottom panel of Table 19 we present the overall frequency of lottery play and reported lottery expenditures among respondents from the five state regions who report having engaged in lottery play at least once during the past year. Unlike our findings with respect to prevalence of play, we fail to find statistically significant differences across Wisconsin regions regarding frequency of play and amounts spent on the lottery. Although lottery players of the northwest region reported playing 18.86 times last year, on average, while those players in Milwaukee County reported playing over 31 times last year, this difference is not large enough to be statistically significant.

Similar findings emerge with respect to players' monthly lottery expenditures and percentage of income spent on the lottery. In ascending order of expenditures, northwest residents who played the lottery reported spending an average of $11.22 per month on lottery wagers; southwest residents reported spending $11.68 per month; northeast, $12.57; southeast, $14.74; and Milwaukee County, $15.57. These differences, however, are not statistically significant. It would appear that residents of Wisconsin who choose to play the lottery choose to spend similar amounts on the lottery, regardless of where in the state they live.

An identical statement can be made with respect to the percentage of income spent on the lottery. Unlike the results of raw dollars expended on lottery play, here we find that southwest residents report spending the lowest percentage of household income on lottery play, 0.39 percent; northeast residents reported spending 0.48 percent; northwest residents, 0.49 percent; Milwaukee County residents, 0.52 percent; and finally, residents of southeastern Wisconsin, 0.67 percent. Once again, though, these differences fail to achieve statistical significance, and we conclude that residents of the different regions of Wisconsin spend roughly equal percentages of their household incomes on lottery expenditures.

ATTITUDES TOWARD LOTTERY ISSUES

Our findings about Wisconsin residents' attitudes and beliefs concerning lottery issues are presented in Table 20. As is apparent, few interregional differences are found. Wisconsin residents across the state are statistically equally unlikely to report that lottery play and gambling in general cause them personal and household problems. Furthermore, respondents from the five regions do not differ in their beliefs that systems can be created to improve the chances of winning, their estimates of lottery revenues returned as winnings, and their reported style of play (i.e., setting money aside for lottery play vs. playing on the spur of the moment).

The regions do differ, however, in other reported attitudes. Residents of the northwestern region of the state report the least overall approval of state lotteries, compared with the other four regions of the state. As regards the belief that lottery is harmless recreation, Milwaukee County residents were the most likely of all regions to agree with such a belief. Milwaukee County respondents also were more likely to believe that they will someday be rich through playing the lottery.

TABLE 20
Regional Differences in Attitudes of Wisconsin Residents toward Lottery Issues
(1995 statewide sample)

	Geographic Region				
	NW	NE	SW	SE	Milw.
<u>Attitudes toward Lottery</u>					
Overall lottery attitude[a]	2.86**	2.71**	2.55**	2.53**	2.44**
	(343)	(408)	(362)	(553)	(394)
Gambling often a problem[b]	3.65	3.59	3.62	3.64	3.63
	(210)	(268)	(237)	(388)	(273)
Play less b/c lack money[c]	3.03	3.04	3.06	3.01	3.05
	(341)	(402)	(358)	(543)	(389)
Lottery harmless recreation[c]	2.67**	2.64**	2.52**	2.53**	2.40**
	(335)	(402)	(356)	(540)	(383)
Reduces household money[b]	3.55	3.41	3.49	3.47	3.42
	(209)	(268)	(237)	(389)	(270)
Spend more than can afford[b]	3.47	3.38	3.47	3.51	3.48
	(210)	(268)	(238)	(390)	(273)
Causes disagreements[b]	3.60	3.47	3.51	3.51	3.48
	(145)	(175)	(156)	(262)	(143)
Will be rich through lottery[c]	3.50*	3.46*	3.38*	3.40*	3.31*
	(208)	(265)	(232)	(389)	(272)
Can create systems (% yes)	27.3%	31.3%	25.4%	26.6%	27.8%
	(315)	(358)	(323)	(504)	(370)
Portion of $100 returned	$27.84	$29.24	$30.54	$30.33	$26.80
	(258)	(322)	(276)	(444)	(305)
Set money aside (% yes)	5.06%	9.69%	4.42%	6.37%	10.14%
	(158)	(196)	(181)	(314)	(217)

Source: Telephone interviews conducted by authors.

Note: Number of sample members (unweighted) answering questions/giving an answer is in parentheses; not all sample members responded to all questions.

[a]Responses scored as 1=strongly in favor, 2=somewhat in favor, 3=none of these, 4=somewhat opposed, 5=strongly opposed.

[b]Question asked of lottery players only. Responses scored as 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree.

[c]Responses scored as 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree.

*Differences across regions are statistically significant at p=.05.

** Differences across regions are statistically significant at p=.01.

Combining these multiple findings, several general conclusions can be reached:

1. Residents of southeastern Wisconsin (including Milwaukee County) are the most likely to participate in the Wisconsin Lottery.

2. Residents of southeastern Wisconsin and Milwaukee County are also the most likely of any region to report playing Megabucks, SuperCash!, Pick-3, and Money Game 4 during the past year.

3. We find no statistically significant differences among the five regions in terms of percentage of region residents who report playing scratch-off games, pull-tabs, or Powerball.

4. Where statistically significant differences are present, residents of northwestern Wisconsin are consistently the least likely to report playing a given lottery game.

5. Among lottery players, residents of the five regions of Wisconsin do not differ in their average frequency of lottery play, nor on the raw amount or percentage of income spent on lottery purchases.

6. Few attitudinal differences are apparent across regions. Residents of the northwest express the lowest approval of lotteries overall, while Milwaukee County residents are most likely to believe that playing the lottery is a form of harmless recreation and that they will someday be rich through playing the lottery.

CHAPTER 7

Attitudes and Opinions of Wisconsin Residents
Concerning a Potential Sports Lottery

In addition to the regional comparisons of interest presented in chapter 6, the 1995 lottery

survey contained an additional focus of interest: the attitudes of Wisconsin residents pertaining to the

possible creation of a new sports lottery administered by the Wisconsin Gaming Commission, and the

intended participation of residents in such a sports lottery. We conclude our report with a discussion

of these results.

THE POTENTIAL WISCONSIN SPORTS LOTTERY

Within the context of the 1995 lottery survey, several questions were devoted to the issue of

the potential new sports lottery. The term "sports lottery" can perhaps be deceiving. Unlike the

"sports lotteries" of the state of Oregon and parts of Canada, the proposed sports lottery in Wisconsin

would in no way involve betting or wagering on the outcome of sporting events. Instead, the

Wisconsin sports lottery as currently conceived would entail the use of already existing Wisconsin

Lottery scratch-off games, with the following two adjustments: First, the themes of the sports lottery

scratch-off games would reflect sports themes, not unlike some existing games. Second, the proceeds

from the sports lottery would be directed to benefit sports facilities throughout the state, including a

new stadium for use by the Milwaukee Brewers and potentially other interests.

Reported Voting Stances of Wisconsin Residents

The first question of the 1995 lottery study pertaining to the sports lottery introduced the

sports lottery and asked all respondents whether they felt they would vote in favor of or against the

creation of such a sports lottery if a statewide referendum were held. Overall, respondents in the

statewide sample reported favorable voting stances with respect to the sports lottery, with 57 percent

of the sample stating they would vote for the lottery's creation, and 43 percent stating they would

vote against it.[14]

In Tables 21 through 24, we present four variables that are conceptually important in their

association with voting stance. Table 21 provides a breakdown of sample members' voting stance by

region of residence: as is apparent, where people live in Wisconsin is an important factor with

respect to their views. Although only 43.8 percent of residents from northwest Wisconsin reported

that they would vote for the creation of a sports lottery, close to two-thirds of Milwaukee County

residents stated that they would do so. Excepting the northwest, all regions of the state displayed

overall favorability (i.e., greater than 50 percent casting favorable votes) of the sports lottery's

creation.

Table 22 presents respondents' voting stances as associated with lottery play during the past

12 months. While 65.3 percent of recent lottery players stated that they would vote in favor of a new

sports lottery, this figure was only 46.9 percent among respondents who had not played the lottery

during the past year. Similar findings emerge with respect to recent scratch-off play, an important

variable because the new sports lottery would likely take the form of a specific scratch-off game. As

presented in Table 23, almost two-thirds (67.3 percent) of recent scratch-off players report that they

would vote for the creation of the new sports lottery, as compared with only 46.9 percent of

non-scratch-off players during the same time period.

Finally, Table 24 presents the voting preferences of statewide respondents who have played

the lottery during the past 12 months as a function of their monthly lottery expenditures. While

players at every level of expenditure express support for the creation of the sports lottery (which

follows from Table 22), such support increases incrementally with expenditure level. Accordingly,

while 61.1 percent of players spending below $4 per month state that they will vote for the creation

of the new sports lottery, 68.1 percent of players spending between $4 and $30 per month report that

TABLE 21

Vote Stance by Region

	NW	NE	SW	SE	Milw.	Row Totals
Vote for It	139 (43.8%)	194 (53.5%)	187 (56.1%)	306 (58.7%)	234 (66.2%)	**1,060 (57.0%)**
Vote against It	178 (56.2%)	191 (46.5%)	151 (43.9%)	213 (41.3%)	128 (33.8%)	**861 (43.0%)**
Column Totals	317 (11.0%)	385 (18.6%)	338 (18.4%)	519 (33.2%)	362 (18.8%)	1,921 (100%)

TABLE 22

Vote Stance by Lottery Play (Last 12 Months)

	Has Played Lottery	Has Not Played Lottery	Row Totals
Vote for It	642 (65.3%)	413 (46.9%)	**1,055 (57.0%)**
Vote against It	350 (34.7%)	510 (53.1%)	**860 (43.0%)**
Column Totals	992 (54.9%)	923 (45.1%)	1,915 (100%)

TABLE 23

Vote Stance by Scratch-Off Play (Last 12 Months)

	Has Played Scratch-Off	Has Not Played Scratch-Off	Row Totals
Vote for It	645 (67.3%)	414 (46.9%)	1,059 (57.0%)
Vote against It	326 (34.7%)	535 (53.1%)	861 (43.0%)
Column Totals	971 (52.7%)	949 (47.3%)	1,920 (100%)

TABLE 24

Vote Stance by Monthly Lottery Expenditure

	$0–$4 per Month	$4.01–$30 per Month	More than $30 per Month	Row Totals
Vote for It	324 (61.1%)	211 (68.1%)	90 (74.8%)	625 (65.2%)
Vote against It	208 (38.9%)	106 (31.9%)	27 (25.2%)	341 (34.8%)
Column Totals	532 (54.0%)	317 (33.5%)	117 (12.5%)	966 (100%)

Note: Only current Wisconsin lottery players (last 12 months) included.

they will vote in this manner, and a full 74.8 percent of players whose average wager exceeds $1 a day express a favorable voting stance. All told, Tables 21 through 24 indicate that a majority of Wisconsin residents appear to be in favor of the creation of a new sports lottery; that such support varies by geographic region; and that this support is further augmented by lottery play and amount spent on the lottery.

Reported Play Stance of Wisconsin Residents

In addition to voting position, another important issue pertaining to the sports lottery is whether Wisconsin residents would play such a lottery if it were created. We asked this question of all statewide sample members, and our results are presented in Tables 25 through 28, again using the same four variables of interest in inferring associations.

As indicated in Table 25, Wisconsin residents express much less enthusiasm concerning their likelihood of playing the sports lottery than they did concerning their voting support of it. For all statewide respondents, only 43 percent reported that they would play the sports lottery, while 57 percent reported that they would not play it. As was the case with voting stance, respondents' play stances varied by geographic region. Only Milwaukee County revealed a slim majority of residents who claimed they would play the sports lottery (50.4 percent vs. 49.6 percent of region residents). Residents of all other regions were less optimistic that they would play the sports lottery: in the southeast, only 44.7 percent of respondents felt they would play it; in the southwest, 41.9 percent; in the northeast, 38.1 percent; and in the northwest, 35.4 percent, the lowest of all regions.

Recent lottery play and lottery expenditures were associated with respondents' play stance in much the same way as with voting stance. Referring to Tables 26 and 27, while the vast majority of respondents who had not recently played the Wisconsin Lottery or scratch-off games reported that they would not play a new sports lottery (77.1 percent and 77.5 percent, respectively), the majority of current players stated that they would play it (59.6 percent of recent lottery players overall; 61.8

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TABLE 25

Play Stance by Region

	NW	NE	SW	SE	Milw.	Row Totals
Would Play	113 (35.4%)	141 (38.1%)	139 (41.9%)	238 (44.7%)	175 (50.4%)	**806 (43.0%)**
Would Not Play	218 (64.6%)	253 (61.9%)	206 (58.1%)	294 (55.3%)	199 (49.6%)	**1,170 (57.0%)**
Column Totals	331 (11.1%)	394 (18.7%)	345 (18.3%)	532 (33.2%)	374 (18.7%)	1,976 (100%)

TABLE 26

Play Stance by Lottery Play (Last 12 Months)

	Has Played Lottery	Has Not Played Lottery	Row Totals
Would Play	596 (59.6%)	206 (22.9%)	**802 (42.9%)**
Would Not Play	413 (40.4%)	755 (77.1%)	**1,168 (57.1%)**
Column Totals	1,009 (54.6%)	961 (45.4%)	1,970 (100%)

TABLE 27

Play Stance by Scratch-Off Play (Last 12 Months)

	Has Played Scratch-Off	Has Not Played Scratch-Off	Row Totals
Would Play	597 (61.8%)	208 (22.5%)	**805 (42.9%)**
Would Not Play	387 (38.2%)	783 (77.5%)	**1,170 (57.1%)**
Column Totals	984 (49.8%)	991 (50.2%)	1,975 (100%)

TABLE 28

Play Stance by Monthly Lottery Expenditure

	$0–$4 per Month	$4.01–$30 per Month	More than $30 per Month	Row Totals
Would Play	**282 (52.5%)**	**205 (65.6%)**	**90 (69.6%)**	**577 (59.1%)**
Would Not Play	258 (47.5%)	115 (34.4%)	35 (30.1%)	**408 (40.9%)**
Column Totals	540 (53.8%)	320 (32.9%)	125 (13.2%)	985 (100%)

Note: Only current Wisconsin lottery players (last 12 months) included.

percent of recent scratch-off players). Finally, as shown in Table 28, monthly lottery expenditures among recent lottery players were also associated with play stance. Similar to voting position, statewide lottery players in aggregate reported a greater likelihood of participation in the new sports lottery as their spending levels on lottery purchases increased.

Cannibalization of Existing Lottery Games

A third important issue pertaining to the sports lottery is the extent of so-called cannibalization—the extent to which players of the new sports lottery would reduce their play of other lottery games in order to play the sports lottery. We asked sample respondents who indicated that they would play the new sports lottery whether they would play such a lottery in addition to their current lottery play—that is, that they would **not** cannibalize their existing play—or, alternatively, if they would play other lottery games less in order to play the new sports lottery—that is, that they **would** cannibalize their existing play. Our results, using the same associating factors as earlier tables, are presented in Tables 29 through 32.

Table 29 presents the extent to which likely players of the new sports lottery in different regions of Wisconsin would cannibalize their existing lottery play in order to participate in the new sports lottery. As indicated, over two-thirds of statewide residents report that they would play the sports lottery in addition to their existing lottery play. Furthermore, this percentage does not vary significantly across regions, with all five regions reporting over 65 percent of planned non-cannibalization.

Similar patterns are found in Tables 30, 31, and 32 pertaining to cannibalization as a function of recent lottery play and lottery expenditures by recent players. As indicated in these tables, most respondents who report that they will play the new sports lottery indicate that they will do so in addition to their existing lottery play, regardless of whether they have played the lottery or scratch-off games in the past year, and regardless of their level of lottery expenditures.[15] It would appear from

TABLE 29

Cannibalization by Region

	NW	NE	SW	SE	Milw.	Row Totals
In Addition	66 (70.1%)	84 (75.1%)	75 (65.5%)	130 (66.5%)	115 (75.1%)	**470 (69.9%)**
Others Less	29 (29.9%)	27 (24.9%)	37 (34.5%)	74 (33.5%)	37 (24.9%)	**204 (30.1%)**
Column Totals	95 (9.1%)	111 (15.3%)	112 (17.7%)	204 (35.0%)	152 (22.8%)	674 (100%)

TABLE 30

Cannibalization by Lottery Play (Last 12 Months)

	Has Played Lottery	Has Not Played Lottery	Row Totals
In Addition	403 (70.8%)	63 (63.9%)	**466 (69.8%)**
Others Less	171 (29.2%)	33 (36.1%)	**204 (30.2%)**
Column Totals	574 (85.7%)	96 (14.3%)	670 (100%)

TABLE 31

Cannibalization by Scratch-Off Play (Last 12 Months)

	Has Played Scratch-Off	Has Not Played Scratch-Off	Row Totals
In Addition	397 (69.4%)	72 (72.5%)	**469** **(69.9%)**
Others Less	177 (30.6%)	27 (37.5%)	**204** **(30.1%)**
Column Totals	574 (84.7%)	99 (15.3%)	673 (100%)

TABLE 32

Cannibalization by Monthly Lottery Expenditure

	Less than $4 per Month	$4.01–$30 per Month	More than $30 per Month	Row Totals
In Addition	**180** **(69.6%)**	**146** **(70.1%)**	**65** **(78.1%)**	**391** **(71.1%)**
Others Less	91 (30.4%)	55 (29.9%)	19 (21.9%)	**165** **(28.9%)**
Column Totals	271 (47.7%)	201 (36.9%)	84 (15.4%)	556 (100%)

Note: Only current Wisconsin lottery players (last 12 months) included.

these tables that while some players of the new sports lottery will reduce their play of other lottery games in order to participate in the sports lottery, most will instead choose to increase their overall lottery play by adding the sports lottery to the total of games in which they take part.

Preferences of Wisconsin Residents for Sports Lottery Proceeds

Finally, statewide sample respondents who claim they would play the new sports lottery were asked about their attitudes regarding the use of sports lottery proceeds. We asked if they would be more likely to play the sports lottery if: (1) its proceeds were entirely directed to the funding of a new baseball stadium for the Milwaukee Brewers; (2) its proceeds were directed to a new stadium for the Brewers along with other sports facilities of all kinds throughout the state; or (3) their play would not be affected by the recipient of the proceeds. The results to this question make up Tables 33 through 36.

Table 33 displays money-use preferences by geographic region. As shown, very few likely players of the new sports lottery report the preference that the sports lottery proceeds be used entirely to finance a new stadium for the Milwaukee Brewers. The percentage of players expressing this preference was virtually nonexistent in the northwest (3.4 percent) and northeast (5.7 percent) regions of the state, and even in Milwaukee County only 27.5 percent of respondents who said they would play the sports lottery believed the Brewers' stadium should be the sole beneficiary of lottery proceeds. Among statewide sample respondents as a whole, only 15.5 percent of likely sports lottery players believed the Brewers stadium should be the only recipient of proceeds from the sports lottery. More than three times as many players (47.5 percent) preferred that sports facilities of all varieties throughout the state receive sports lottery proceeds. The remainder of respondents to this question (36.9 percent) stated that the use of sports lottery proceeds would not affect their likelihood of play.

Similar patterns emerge with respect to whether respondents had recently played the Wisconsin Lottery (Table 34), whether they had recently played scratch-off games (Table 35), and

TABLE 33

Money Use by Region

	NW	NE	SW	SE	Milw.	Row Totals
Brewers only	5 (3.4%)	6 (5.7%)	16 (10.3%)	43 (18.5%)	45 (27.5%)	**115 (15.5%)**
All Kinds	67 (62.6%)	71 (51.8%)	74 (53.4%)	107 (46.0%)	59 (35.7%)	**378 (47.5%)**
Doesn't Matter	41 (34.0%)	63 (42.5%)	49 (36.3%)	87 (35.5%)	71 (36.7%)	**311 (36.9%)**
Column Totals	113 (9.2%)	140 (16.5%)	139 (17.9%)	237 (34.4%)	175 (22.0%)	804 (100%)

Note: Money use categories:

Brewers only	=	Would more likely play the sports lottery if proceeds helped fund a new stadium for the Milwaukee Brewers.
All kinds	=	Would more likely play the sports lottery if proceeds helped fund a new stadium **and** helped fund sports facilities of all varieties throughout the state.
Doesn't matter	=	Would not matter; would play sports lottery equally likely either way.

TABLE 34

Money Use by Lottery Play (Last 12 Months)

	Has Played Lottery	Has Not Played Lottery	Row Totals
Brewers Only	86 (16.1%)	29 (14.1%)	**115 (15.6%)**
All Kinds	287 (48.5%)	90 (44.8%)	**377 (47.6%)**
Doesn't Matter	222 (35.4%)	86 (41.1%)	**308 (36.8%)**
Column Totals	595 (75.8%)	205 (24.2%)	800 (100%)

Note: Money use categories:

Brewers only   =   Would more likely play the sports lottery if proceeds helped fund a new stadium for the Milwaukee Brewers.

All Kinds   =   Would more likely play the sports lottery if proceeds helped fund a new stadium **and** helped fund sports facilities of all varieties throughout the state.

Doesn't matter =   Would not matter; would play sports lottery equally likely either way.

TABLE 35

Money Use by Scratch-Off Play (Last 12 Months)

	Has Played Scratch-Off	Has Not Played Scratch-Off	Row Totals
Brewers Only	77 (14.3%)	37 (18.7%)	**114 (15.4%)**
All Kinds	292 (50.0%)	86 (40.5%)	**378 (47.6%)**
Doesn't Matter	228 (35.8%)	83 (40.7%)	**311 (37.0%)**
Column Totals	597 (75.1%)	206 (24.9%)	803 (100%)

Note: Money use categories:

Brewers only = Would more likely play the sports lottery if proceeds helped fund a new stadium for the Milwaukee Brewers.

All kinds = Would more likely play the sports lottery if proceeds helped fund a new stadium **and** helped fund sports facilities of all varieties throughout the state.

Doesn't matter = Would not matter; would play sports lottery equally likely either way.

TABLE 36

Money Use by Monthly Lottery Expenditure

	Less than $4 per Month	$4.01–$30 per Month	More than $30 per Month	**Row Totals**
Brewers only	44 (16.5%)	30 (18.0%)	10 (11.0%)	**84 (16.2%)**
All Kinds	130 (45.1%)	103 (51.4%)	45 (51.8%)	**278 (48.5%)**
Doesn't Matter	107 (38.4%)	72 (30.7%)	35 (37.2%)	**214 (35.4%)**
Column Totals	281 (47.7%)	205 (36.6%)	90 (15.7%)	576 (100%)

Note: Money use categories:

Brewers only = Would more likely play the sports lottery if proceeds helped fund a new stadium for the Milwaukee Brewers.

All kinds = Would more likely play the sports lottery if proceeds helped fund a new stadium **and** helped fund sports facilities of all varieties throughout the state.

Doesn't matter = Would not matter; would play sports lottery equally likely either way.

Note: Only current Wisconsin lottery players (last 12 months) included.

recent players' levels of lottery expenditure (Table 36). As indicated in these three tables, the patterns of money use preferences remain stable: the largest percentage of likely players of the new sports lottery expressed a desire that the proceeds from the sports lottery be used to fund sports facilities of all varieties throughout the state, while a much smaller percentage of such players feel that they would most likely play the sports lottery if the proceeds were directed entirely to a new Brewers stadium.

These findings pertaining to money use preferences of likely sports lottery players have potentially important policy implications. Specifically, it is likely that the findings of the first three questions pertaining to the sports lottery (i.e., voting stance, play stance, and extent of cannibalization) may be highly dependent on the findings of the fourth issue—the use of sports lottery proceeds. It is apparent that most of the likely players of the new sports lottery have strong preferences regarding the use of such lottery money. If a sports lottery were created in contrast to the preferences expressed by these players, then it is possible that voter support, play support, and cannibalization would differ from those reported in this chapter. If a new sports lottery were created, for example, such that the proceeds would entirely benefit the construction of a new Brewers stadium, then it is possible that fewer Wisconsin residents would support the creation of such a lottery, that fewer residents would play it, and that a greater number of those who did play it would reduce their current lottery play in order to play the new sports lottery. Issues such as these are best kept in mind when formulating policy decisions surrounding the creation of any new sports lottery.

SUMMARY

To close our report, we present the following highlights of our findings:

1. Lottery participation has dropped somewhat since 1991. The proportion of Wisconsin residents who play the lottery most frequently, however, has doubled during the same time span.

2. Among players, lottery expenditures have leveled off since 1991. The extent of concentration of lottery spending among the heaviest lottery players also remains similar to that present in 1991.

3. The percentage of household income spent by Wisconsin Lottery players has dropped since 1991, a drop that can be accounted for by the higher incomes of the 1995 sample members. This indicates that as incomes have increased, residents have not used their extra income to increase their lottery expenditures.

4. Lottery players have diversified, rather than increased, their participation in lottery games to accommodate the new games introduced since 1991.

5. SuperCash! and Pick-3 are the lottery games most preferred by those players spending high amounts on the lottery, relative to those spending low amounts; Megabucks is more preferred by players spending lower amounts of money on lottery wagers.

6. While overall average approval of the lottery has slipped somewhat since 1991, a greater proportion of residents express high approval of the lottery.

7. Multiple demographic correlates exist of lottery play and amount spent on the lottery. On average:

    - Those with low incomes are less likely to play the lottery than are those with higher incomes, and spend fewer dollars but a higher proportion of their incomes on lottery wagers.

- Widowed respondents are least likely to play the lottery, spend less on lottery purchases, and spend the largest percentage of their incomes on the lottery, relative to other respondents.

- Those with the highest and lowest levels of education are less likely to play the lottery than are those with intermediate levels of education. College graduates spent the fewest dollars and the lowest percentage of their income on the lottery.

- Men are more likely than women to play the lottery, and they spend more on it.

8. We found several attitudinal correlates of lottery play and amounts spent on the lottery. Evidence also suggests that overall, Wisconsin residents appear to view their lottery play as a form of entertainment rather than as an attempt to improve their financial standing.

9. Wisconsin residents differ in their overall attitudes toward lotteries based on demographic characteristics. In general, those with low levels of income, those who are widowed, older respondents, and those with high or low levels of formal education express the lowest levels of approval of the lottery relative to other respondents.

10. Fewer of Wisconsin's African-American residents reported playing the lottery than did Caucasian residents. Whites were more likely to play pull-tab games and Powerball, while African-Americans were more likely to play SuperCash!, Pick-3, and Money Game 4.

11. Among lottery players, African-Americans play the lottery almost twice as frequently, on average, as whites. African-Americans also spend nearly three times as much on the lottery, and three times the percentage of their incomes, as do whites. Controlling for income, however, presents a different picture: among those earning less than $20,000 annually, no significant differences arise between white and African-American lottery players. It is only among those players earning more than $20,000 that the significant race differences emerge in terms of lottery play frequency and amount spent.

12. Regional differences exist with regard to lottery play. Residents of the northwest region of the state report lower participation in the lottery overall and in several specific lottery games.

13. Similar differences are found on attitudinal scores, with those residents in northwestern Wisconsin expressing the least overall approval of state lotteries.

14. Regarding the potential creation of a new sports lottery:

- The majority of state residents would support such creation in a referendum;

- The majority of state residents, however, would not play the sports lottery;

- Over two-thirds of those who would play the sports lottery would not reduce their existing lottery participation to do so; and

- Most residents who would play the sports lottery would be more likely to do so if the proceeds were used to fund sports facilities throughout the state, and less likely to do so if the proceeds were solely directed to the construction of a new stadium for the Milwaukee Brewers.

APPENDIX A

Division of Geographic Regions
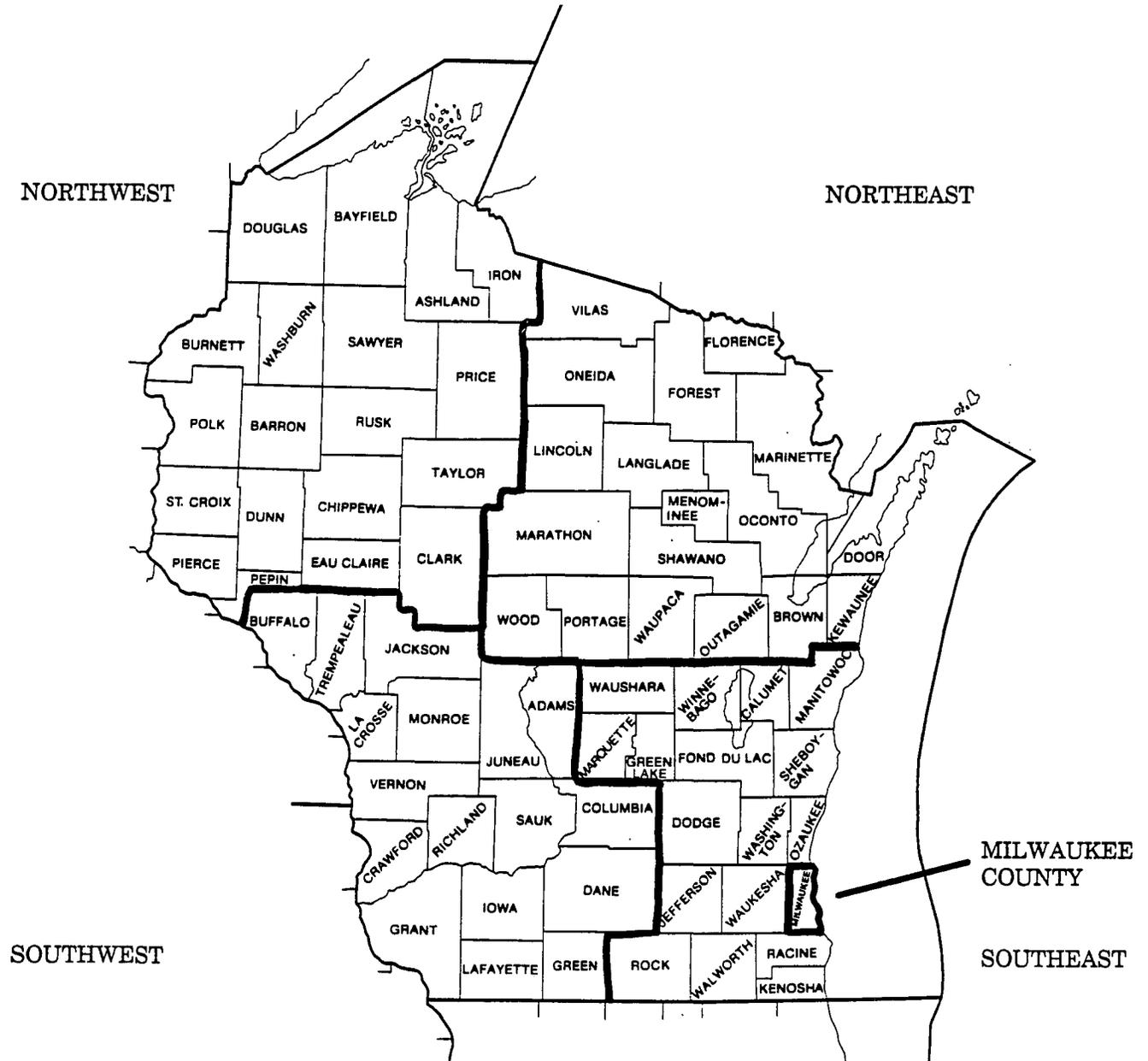
Source: U.S. Department of Commerce, Economics and Statistics Administration, Bureau of the Census, 1990.

APPENDIX B

Methods

The response rate can be looked at in several meaningful and different ways: as a whole, for the random statewide sample only, and for the oversample only. The response rate for the oversample can also be looked at adjusting for respondents whose race is unknown. Each is calculated below, beginning on page 96.

The never-answered numbers consist of non-working and non-residential numbers plus working residential numbers that were never answered in any of the calls that were made. We assume that the ratio of working residential numbers to other numbers in this subset is the same as for numbers that were answered.

REGION 1

Region 1 represented northwestern Wisconsin and consisted of the following 19 counties:

Douglas	Bayfield	Ashland	Iron
Burnett	Washburn	Sawyer	Price
Polk	Barron	Rusk	St. Croix
Dunn	Chippewa	Taylor	Pierce
Pepin	Clark	Eau Claire	

A total of 1,000 numbers were used for this region. This resulted in:

346	Completed interviews
159	Refusals
3	Partials (not delivered)
376	Non-case (non-working numbers, non-residential, etc.)
48	Answered, not interviewed, language problem, unable
68	Never answered

A maximum of 25 calls were made to each household.

Response Rate = 58.0%

$$\text{Response Rate} = \frac{\text{completed interviews}}{\text{completes + refused + partial + R not available + adjusted never answered}}$$

$$\text{Response Rate} = \frac{346}{346 + 159 + 3 + 48 + (556/932)*68}$$

$$\text{Response Rate} = 346/597 = .580$$

REGION 2

Region 2 represented northeastern Wisconsin and consisted of the following 18 counties:

Vilas	Forest	Florence	Oneida
Lincoln	Langlade	Marinette	Marathon
Menominee	Shawano	Oconto	Door
Wood	Portage	Waupaca	Outagamie
Brown	Kewaunee		

A total of 1,300 numbers were used for this region. This resulted in:

414	Completed interviews
233	Refusals
1	Partials (not delivered)
463	Non-case (non-working numbers, non-residential, etc.)
92	Answered, not interviewed, language problem, unable
95	Never answered
2	Other

A maximum of 25 calls were made to each household.

Response Rate = 51.8%

$$\text{Response Rate} = \frac{\text{completed interviews}}{\text{completes + refused + partial + other + R not available + adjusted never answered}}$$

$$\text{Response Rate} = \frac{414}{414 + 233 + 1 + 2 + 92 + (742/1205)*95}$$

$$\text{Response Rate} = 414/800 = .518$$

REGION 3

Region 3 represented southwestern Wisconsin and consisted of the following 17 counties:

Buffalo	Jackson	Juneau	Trempealeau
Adams	LaCrosse	Monroe	Vernon
Richland	Sauk	Columbia	Crawford
Iowa	Dane	Grant	Lafayette
Green			

A total of 1,100 numbers were used for this region. This resulted in:

367	Completed interviews
159	Refusals
1	Partials (not delivered)
447	Non-case (non-working numbers, non-residential, etc.)
64	Answered, not interviewed, language problem, unable
62	Never answered

A maximum of 25 calls were made to each household.

Response Rate = 58.6%

Response Rate =

$$\text{Response Rate} = \frac{\text{completed interviews}}{\text{completes + refused + partial + R not available + adjusted never answered}}$$

$$\text{Response Rate} = \frac{367}{367 + 159 + 1 + 64 + (591/1038)*62}$$

Response Rate =   367/626   =   .586

REGION 4

Region 4 represented southeastern Wisconsin (excluding Milwaukee) and consisted of the following 17 counties:

Waushara	Winnebago	Calumet
Manitowoc	Marquette	Green Lake
Fond du Lac	Sheboygan	Dodge
Washington	Ozaukee	Jefferson
Waukesha	Rock	Walworth
Racine	Kenosha	

A total of 1,700 numbers were used for this region. This resulted in:

557	Completed interviews
321	Refusals
3	Partials (not delivered)
597	Non-case (non-working numbers, non-residential, etc.)
117	Answered, not interviewed, language problem, unable
105	Never answered

A maximum of 25 calls were made to each household.

Response Rate = 52.4%

Response Rate =

$$\frac{\text{completed interviews}}{\text{completes + refused + partial + R not available + adjusted never answered}}$$

Response Rate =

$$\frac{557}{557 + 321 + 117 + 3 + (998/1595)*105}$$

Response Rate = 557/1064 = .524

REGION 5

Region 5 represented Milwaukee County:

A total of 1,400 numbers were used for this region. This resulted in:

402	Completed interviews
238	Refusals
1	Partials (not delivered)
548	Non-case (non-working numbers, non-residential, etc.)
102	Answered, not interviewed, language problem, unable
105	Never answered
4	Other

A maximum of 25 calls were made to each household.

Response Rate = 49.8%

Response Rate =

$$\text{Response Rate} = \frac{\text{completed interviews}}{\text{completes + refused + partial + other + R not available + adjusted never answered}}$$

$$\text{Response Rate} = \frac{402}{402 + 238 + 1 + 4 + 102 + (747/1295)*105}$$

Response Rate =   402/808   = .498

REGIONS 1–5

Regions 1 through 5 represent all regions within the state of Wisconsin. A total of 6,500 numbers were used for these regions. This resulted in:

2,086	Completed interviews
1,110	Refusals
9	Partials (not delivered)
2,431	Non-case (non-working numbers, non-residential, etc.)
423	Answered, not interviewed, language problem, unable
435	Never answered
6	Other

A maximum of 25 calls were made to each household.

Response Rate = 53.6%

$$\text{Response Rate} = \frac{\text{completed interviews}}{\text{completes + refused + partial + other + R not available + adjusted never answered}}$$

$$\text{Response Rate} = \frac{2086}{2086 + 1110 + 9 + 6 + 423 + (3634/6065)*435}$$

$$\text{Response Rate} = 2086/3895 = .536$$

REGION 6

Region 6 represented an oversample of African-Americans in Milwaukee County.

A total of 458 numbers were used for this portion of oversample. This resulted in:

107   Completed interviews
84   Refusals
1   Partials (not delivered)
199   Non-case (non-working numbers, non-residential, etc.)
57   Answered, not interviewed, language problem, unable
10   Never answered

A maximum of 25 calls were made to each household.

Response Rate = 42.0%

$$\text{Response Rate} = \frac{\text{completed interviews}}{\text{completes} + \text{refused} + \text{partial} + \text{R not available} + \text{adjusted never answered}}$$

$$\text{Response Rate} = \frac{107}{107 + 84 + 1 + 57 + (249/448)*10}$$

$$\text{Response Rate} = 107/255 = .420$$

Note: The response rate reported for the oversample is a very conservative one. It assumes that a refusal is a refusal even when we were unable to determine the race of the selected respondent. Likewise, if we were able to determine that a selected phone number was a residence but we were not able to interview a respondent, we were unable to determine the race of the selected respondent. In both these cases, we counted the sample point as an uninterviewed oversample respondent.

REGION 7

Region 7 represented an oversample of African-Americans in Racine County.

A total of 400 numbers were used for this portion of oversample. This resulted in:

66	Completed interviews
99	Refusals
157	Non-case (non-working numbers, non-residential, etc.)
68	Answered, not interviewed, language problem, unable
10	Never answered

A maximum of 25 calls were made to each household.

Response Rate = 27.6%

$$\text{Response Rate} = \frac{\text{completed interviews}}{\text{completes + refused + R not available + adjusted never answered}}$$

$$\text{Response Rate} = \frac{66}{66 + 99 + 68 + (233/390)*10}$$

$$\text{Response Rate} = 66/239 = .276$$

Note: The response rate reported for the oversample is a very conservative one. It assumes that a refusal is a refusal even when we were unable to determine the race of the selected respondent. Likewise, if we were able to determine that a selected phone number was a residence but we were not able to interview a respondent, we were unable to determine the race of the selected respondent. In both these cases, we counted the sample point as an uninterviewed oversample respondent.

REGION 8

Region 8 represented an oversample of African-Americans in Kenosha County.

A total of 400 numbers were used for this portion of oversample. This resulted in:

20	Completed interviews
80	Refusals
243	Non-case (non-working numbers, non-residential, etc.)
46	Answered, not interviewed, language problem, unable
11	Never answered

A maximum of 25 calls were made to each household.

Response Rate = 13.3%

$$\text{Response Rate} = \frac{\text{completed interviews}}{\text{completes} + \text{refused} + \text{R not available} + \text{adjusted never answered}}$$

$$\text{Response Rate} = \frac{20}{20 + 80 + 46 + (146/389)*11}$$

$$\text{Response Rate} = 20/150 = .133$$

Note: The response rate reported for the oversample is a very conservative one. It assumes that a refusal is a refusal even when we were unable to determine the race of the selected respondent. Likewise, if we were able to determine that a selected phone number was a residence but we were not able to interview a respondent, we were unable to determine the race of the selected respondent. In both these cases, we counted the sample point as an uninterviewed oversample respondent.

OVERSAMPLE: REGIONS 6–8

Regions 6 through 8 represent the entire oversample of African-Americans in Milwaukee, Racine, and Kenosha counties. A total of 1,258 numbers were used for these regions. This resulted in:

193	Completed interviews
263	Refusals
1	Partial (not delivered)
599	Non-case (non-working numbers, non-residential, etc.)
171	Answered, not interviewed, language problem, unable
31	Never answered

A maximum of 25 calls were made to each household.

Response Rate = 30.0 %

$$\text{Response Rate} = \frac{\text{completed interviews}}{\text{completes} + \text{refused} + \text{partial} + \text{R not available} + \text{adjusted never answered}}$$

$$\text{Response Rate} = \frac{193}{193 + 263 + 1 + 171 + (628/1227)*31}$$

$$\text{Response Rate} = 193/644 = .300$$

Note: The response rate reported for the oversample is a very conservative one. It assumes that a refusal is a refusal even when we were unable to determine the race of the selected respondent. Likewise, if we were able to determine that a selected phone number was a residence but we were not able to interview a respondent, we were unable to determine the race of the selected respondent. In both these cases, we counted the sample point as an uninterviewed oversample respondent.

REGULAR SAMPLE AND OVERSAMPLE: REGIONS 1-8

Regions 1 through 5 represent all regions within the state of Wisconsin. Regions 6 through 8 represent the entire oversample of African-Americans in Milwaukee, Racine, and Kenosha counties. A total of 7,758 numbers were used for these regions. This resulted in:

2,279	Completed interviews
1,373	Refusals
10	Partial (not delivered)
3,030	Non-case (non-working numbers, non-residential, etc.)
594	Answered, not interviewed, language problem, unable
466	Never answered
6	Other

A maximum of 25 calls were made to each household.

Response Rate = 50.3%

$$\text{Response Rate} = \frac{\text{completed interviews}}{\text{completes + refused + partial + other + R not available + adjusted never answered}}$$

$$\text{Response Rate} = \frac{2279}{2279 + 1373 + 10 + 6 + 594 + (4262/7292)*466}$$

$$\text{Response Rate} = 2279/4534 = .503$$

Note: The response rate reported for the oversample is a very conservative one. It assumes that a refusal is a refusal even when we were unable to determine the race of the selected respondent. Likewise, if we were able to determine that a selected phone number was a residence but we were not able to interview a respondent, we were unable to determine the race of the selected respondent. In both these cases, we counted the sample point as an uninterviewed oversample respondent.

REGION 6: Adjusted for Race of Respondent

Another way to estimate response rate for this sample would be to use the ratio of respondents whose race we do know to estimate the ratio of those we do not know. That calculation follows:

107	Completed interviews
9	Refusals and answered, not interviewed, language problem, unable, etc., where race is confirmed as African-American
132	Refusals and answered, not interviewed, language problem, unable, etc., where race is not confirmed
1	Partials (not delivered)
199	Non-case (non-working numbers, non-residential, etc.)
10	Never answered

The percentage of households where the race is known to be African-American over all households where race is known is equal to 116/194 or 59.8 percent. From this we estimate that 79 of the 132 respondents whose race is unknown are African-American. Note that this also affects our estimate for adjusted never answered.

Response Rate = 53.5%

$$\text{Response Rate} = \frac{\text{completed interviews}}{\text{completes} + \text{adjusted(refused} + \text{R not available)} + \text{partials} + \text{adjusted never answered}}$$

$$\text{Response Rate} = \frac{107}{107 + 9 + (116/194)*132 + 1 + (196/448)*10}$$

$$\text{Response Rate} = 107/200 = .535$$

REGION 7: Adjusted for Race of Respondent

Another way to estimate response rate for this sample would be to use the ratio of respondents whose race we do know to estimate the ratio of those we do not know. That calculation follows:

66	Completed interviews
3	Refusals and answered, not interviewed, language problem, unable, etc., where race is confirmed as African-American
164	Refusals and answered, not interviewed, language problem, unable, etc., where race is not confirmed
157	Non-case (non-working numbers, non-residential, etc.)
10	Never answered

The percentage of households where the race is known to be African-American over all households where race is known is equal to 69/152 or 45.4 percent. From this we estimate that 74 of the 164 respondents whose race is unknown are African-American. Note that this also affects our estimate for adjusted never answered.

Response Rate = 44.9%

Response Rate =
$$\frac{\text{completed interviews}}{\text{completes} + \text{adjusted(refused} + \text{R not available)} + \text{adjusted never answered}}$$

Response Rate =
$$\frac{66}{66 + 3 + (69/152)*164 + (143/390)*10}$$

Response Rate = 66/147 = .449

REGION 8: Adjusted for Race of Respondent

Another way to estimate response rate for this sample would be to use the ratio of respondents whose race we do know to estimate the ratio of those we do not know. That calculation follows:

20	Completed interviews
1	Refusals and answered, not interviewed, language problem, unable, etc., where race is confirmed as African-American
125	Refusals and answered, not interviewed, language problem, unable, etc., where race is not confirmed
243	Non-case (non-working numbers, non-residential, etc.)
11	Never answered

The percentage of households where the race is known to be African-American over all households where race is known is equal to 21/199 or 10.6 percent. From this we estimate that 13 of the 125 respondents whose race is unknown are African-American. Note that this also affects our estimate for adjusted never answered.

Response Rate = 57.1%

$$\text{Response Rate} = \frac{\text{completed interviews}}{\text{completes} + \text{adjusted(refused} + \text{R not available)} + \text{adjusted never answered}}$$

$$\text{Response Rate} = \frac{20}{20 + 1 + (21/199)*125 + (34/389)*11}$$

$$\text{Response Rate} = 20/35 = .571$$

OVERSAMPLE, REGION 6–8: Adjusted for Race of Respondent

Another way to estimate response rate for this sample would be to use the ratio of respondents whose race we do know to estimate the ratio of those we do not know. That calculation follows:

193	Completed interviews
13	Refusals and answered, not interviewed, language problem, unable, etc., where race is confirmed as African-American
421	Refusals and answered, not interviewed, language problem, unable, etc., where race is not confirmed
1	Partials (not delivered)
599	Non-case (non-working numbers, non-residential, etc.)
31	Never answered

The percentage of households where the race is known to be African-American over all households where race is known is equal to 206/545 or 37.8 percent. From this we estimate that 159 of the 421 respondents whose race is unknown are African-American. Note that this also affects our estimate for adjusted never answered.

Response Rate = 51.5%

$$\text{Response Rate} = \frac{\text{completed interviews}}{\text{completes} + \text{adjusted(refused} + \text{R not available)} + \text{partials} + \text{adjusted never answered}}$$

$$\text{Response Rate} = \frac{193}{193 + 13 + (206/545)*421 + 1 + (373/1227)*31}$$

$$\text{Response Rate} = 193/375 = .515$$

REGULAR SAMPLE AND OVERSAMPLE, REGIONS 1–8: Adjusted for Race of Respondent

Another way to estimate response rate for this sample would be to use the ratio of respondents whose race we do know to estimate the ratio of those we do not know. That calculation follows:

2,279	Completed interviews
1,123	Refusals and answered, not interviewed, language problem, unable, etc., where necessary, race is confirmed as African-American
421	Refusals and answered, not interviewed, language problem, unable, etc., where race is necessary and not confirmed
423	Answered, not interviewed, race not necessary
10	Partials (not delivered)
3030	Non-case (non-working numbers, non-residential, etc.)
466	Never answered
6	Other

Where necessary, we have computed the following data: The percentage of households where the race is known to be African-American over all households where race is known is equal to 206/545 or 37.8 percent. From this we estimate that 159 of the 421 respondents whose race is unknown are African-American. Note that this also affects our estimate for adjusted never answered.

Response Rate = 53.6%

Response Rate =

$$\frac{\text{completed interviews}}{\text{completes} + \text{adjusted (refused} + \text{R not available)} + \text{partials} + \text{adjusted never answered}}$$

Response Rate =

$$\frac{2279}{2279 + 1123 + 423 + (206/545)*421 + 10 + (4007/7292)*466}$$

Response Rate =   2279/4250   = .536

APPENDIX C

Further Explanation of the Weighting System

As was described in chapter 2, sample weights were assigned to the values of every case in the 1995 Lottery Survey. Seven criteria were used in this weighting design. These criteria, listed in chapter 2, are further described here.

<u>Weighting Criteria</u>:

1. Differences in number of eligible adults in the household
2. Differences in the sampling rate across strata
3. Differential strata non-response rates
4. The African-American oversample in three counties
5. Differences in sample and census sex ratios
6. Remaining underrepresentation of Milwaukee County
7. Making the weighted N equal to the unweighted N = 2276

<u>Further Explanation</u>:

1. Cases are weighted proportionately to the number of adults in the household. That is, a respondent from a household with three adults is weighted 3 times as heavily as a respondent who lives alone, and 1.5 times as heavily as a respondent who lives with one other adult.

2. Strata were sampled at different rates. The weight for cases from a stratum is inversely proportional to the sampling rate. If region x is sampled at twice the rate of region y, cases in region x would have weights that are half those of cases in region y.

3. The response rate differed by stratum (region). Weights were adjusted to reflect this differential stratum response.

4. African-Americans were oversampled in three urban counties. For a variety of reasons we decided that, for each of the three counties, the most reasonable procedure was to pool African-Americans in the oversample (drawn from census tracts with heavy concentrations of African-Americans) with African-Americans from the cross-section sample to represent African-Americans in that county. Weights for African-Americans and non-African-Americans in these three counties were adjusted to represent their proportion in the state's population.

5. In this survey, as in almost all similar sample surveys, women are overrepresented and men are underrepresented. An adjustment was made to the weights to make the sample sex distribution identical to the census-derived sex distribution of the state's population.

6. After all of the above adjustments, we found that the sample continued to underrepresent Milwaukee County, and a small adjustment was made to the weights of cases from Milwaukee County to remedy this.

7. Weights were proportionately adjusted to make the weighted total sample size equal to the weighted sample size.

Notes

[1]Much of this section is condensed from Piliavin and Polakowski (1990), to which we refer the reader for greater detail.

[2]Wisconsin provides an interesting case study regarding this issue. Although casino gambling is illegal in the state, favorable court rulings have allowed various Native American tribes throughout Wisconsin to operate casinos and bingo halls. It is interesting to note that in apparent accord with Clotfelter and Cook's question (i.e., why should lotteries be legal but other forms of gambling remain illegal?), the Tavern League of Wisconsin and other business groups have lobbied the state to allow taverns to offer limited casino-type gaming (e.g., video poker) in order to remain competitive with Native American casinos.

[3]Of the 2,276 respondents, five individuals reported unusually low family incomes (i.e., below $100 per year). Accordingly, the information provided by these five respondents pertaining to income questions (which also includes, for example, questions pertaining to percentage of income spent on lottery play) have been eliminated from our analysis.

[4]We thank Bob Lee and James Sweet, directors of the Letters and Science Survey Center, for providing this overview.

[5]The term statistical significance refers to the probability that a difference in means or percentages found across two or more groups could have occurred by chance. In the event that the probability is sufficiently small by some standard, analysts assume the difference did not occur by chance but in fact represents a true difference. In this study, if a difference in means or percentages could have occurred by chance 1 percent or less of the time, the assumption is made that the difference is real, a true difference.

[6]A median spending level of $2.50 means that one-half of the players spent more than this, and one-half spent less.

[7]The 1989 sample averaged spending $6.18 per month on the lottery, for a total monthly expenditure of $3,258 (527 respondents * $6.18). The 53 highest-spending respondents (10 percent of the sample) averaged wagering $37.23 a month, for a total monthly average expenditure of $1,973 (53 * $37.23). Thus, the top 10 percent spent 61 percent of all lottery expenditures ($1,973/$3,258).

[8]The 1991 statewide sample averaged spending $8.57 per month on the lottery, for a total monthly expenditure of $4,440 (518 respondents * $8.57). The 52 highest-spending respondents (10 percent of the sample) wagered an average of $62.93 a month, for a total monthly average expenditure of $3,324 (52 * $63.93). Thus, the top 10 percent spent 75 percent of all lottery expenditures ($3,324/$4,440).

[9]The 1995 statewide sample averaged spending $6.83 per month on the lottery, for a total monthly expenditure of $14,231 (2,084 respondents * $6.83). The 207 highest-spending respondents (10 percent of the sample) wagered an average of $52.40 a month, for a total monthly average expenditure of $10,847 (207 * $52.40). Thus, the top 10 percent spent 76 percent of all lottery expenditures ($10,847/$14,231).

[10]It is important to note that in 1991, the Megabucks game was a multistate lotto-type game. In 1995, "Megabucks" refers to Wisconsin's Very Own Megabucks game, while Powerball became the lottery's multistate game offering.

[11]For more information regarding the obtaining of the African-American sample, please see chapter 2.

[12]We refer the reader to Piliavin and Wright (1992) for more information on the findings of that study.

[13]See Piliavin and Wright (1992) for more detail concerning the 1991 findings.

[14]Responses of "Don't Know" were not included in the percentages reported in tables.

[15]It is important to recognize that only respondents who reported **ever** playing the Wisconsin Lottery were included in Table 30. Similarly, only respondents who have **ever** played scratch-off

games are included in the analysis presented in Table 31. This restriction was imposed because the concept of cannibalization would not be equivalent for those players who have never played the Wisconsin Lottery at all or scratch-off games in particular when compared to players who have played such games, even if only in the distant past (i.e., more than one year ago).

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