ORIGINAL PAPER

Gambling on the Lottery: Sociodemographic Correlates Across the Lifespan

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Abstract   Two representative U.S. telephone surveys of gambling were conducted—an adult survey of adults aged 18 years and older (n = 2,631) and a youth survey of young people aged 14–21 years old (n = 2,274). Because the questions and methods were the same or similar in both surveys, the data from these two surveys were combined into a single dataset to examine the prevalence and sociodemographic correlates of gambling and problem gambling across the lifespan. The present work focused specifically on gambling on the lottery which is the most prevalent form of gambling in the U.S. The frequency of gambling on the lottery increased sharply from mid adolescence to age 18 which is the legal age to purchase lottery tickets in most states; lottery play continued to increase into the thirties when it leveled off and remained high through the sixties and then decreased among those 70 years and older. Considering multiple sociodemographic factors together in a negative binomial regression, the average number of days of lottery gambling was significantly predicted by male gender, age, neighborhood disadvantage and whether or not lottery was legal in the state where the respondent lived. These findings can be used to inform policies regarding lotteries in the U.S.

Keywords   Gambling · Lottery · Youth · Adults · Lifespan

Introduction

Lotteries are pervasive in the United States, yet there is relatively little empirical research on the extent of gambling on the lottery in representative sociodemographic groups characterized by age, gender, race/ethnicity and socioeconomic factors. Data from the U.S. Census Bureau's 2008 Annual Survey of State Government Finances showed that state lotteries were a source of revenue for 42 States and the District of Columbia, with only eight states having no state-administered lottery in 2008 [Alabama, Alaska, Arkansas

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(implemented a lottery in 2009), Hawaii, Mississippi, Nevada, Utah and Wyoming]. Total state lottery ticket sales in the United States were $77.3 billion in 2008 (U.S. Census Bureau, November 24, 2009).

In their seminal work, *Selling Hope*, Clotfelter and Cook (1991) document the "two faces of the lottery." On the one hand, the lottery is viewed as a "painless tax that raises public funds without coercion" (p. 9). Furthermore, lotteries are a popular form of entertainment. On the other hand, critics "view lotteries as a tax that falls disproportionately on the poor and uninformed" (p. 10). There is support for both positions in the gambling literature. In a representative household survey of adults aged 18 and over in the U.S., Welte et al. (2002) reported that lottery play was the most commonly played type of gambling by 66% of respondents in the past year. The next most prevalent types of gambling were raffles, charity and office pools (48%) and casinos (27%). In addition, lottery was the most frequent type of gambling, i.e., 13% of respondents played the lottery weekly in the past year and no other type of gambling was played weekly by more than 2% of respondents. The bottom three quintiles in socioeconomic status spent the most on the lottery and the highest socioeconomic group spent the least on the lottery. In addition, black respondents spent significantly more money per year on the lottery than respondents in any other specific racial/ethnic group. Among a representative U.S. household sample of youth and young adults aged 14–21 years, Welte et al. (2009) also found that lottery play was among the top most prevalent forms of gambling with 29% of this young population having gambled on the lottery in the previous year. Card games (33%) and office pools and charitable gambling (30%) were only slightly more common than lottery play. These two separate national U.S. samples form a combined sample in the present report for a focus on detailed sociodemographic predictors of gambling on the lottery in the U.S.—from adolescence through older adulthood.

The bulk of the research literature pertaining specifically to the lottery involves various economic analyses showing the relationships between lottery play and lower income and minority groups. Lang and Omori (2009) analyzed data from the 2004 and 2005 Consumer Expenditure Surveys of 15,000 respondents to examine the characteristics of household members who lost money playing the lottery and in pari-mutual betting and those who did not lose money on these gambling activities. Among those respondents from money-losing households, the least wealthy and African-American respondents lost a higher proportion of their incomes purchasing lottery tickets and engaging in pari-mutual betting than wealthier and white respondents. Using cross-sectional times-series data from the Census Bureau's Current Population Surveys for all 50 states for 1976–1995, Freund and Morris (2005) concluded that a significant portion of the increase in income inequality (i.e., the discrepancy in real income between the wealthiest and poorest segments of the population) over the 30-year period was attributable to the increasing prevalence of state lotteries. States with lotteries had higher levels of income inequality than states without a lottery. In another analysis of Consumer Expenditure Surveys from 1982 to 1998, Kearney (2005) found that the introduction of a state lottery was associated with a significant decline in non-gambling expenditures (e.g., food, rent and other bills), not by a reduction in expenditures of other forms of gambling. Furthermore, households in the lowest income third showed the most pronounced effect of a state lottery.

Analyses of national lotteries in the United Kingdom and in Australia have reported similar effects on low income households. Using Family Expenditure Survey data, before and after the introduction of a national lottery in the United Kingdom, Grun and McKeigue (2000) showed that the introduction of the national lottery led to a increase in the prevalence of excessive gambling, especially in low-income households. In Australia,

Pickernell et al. (2004) reported on the introduction of a national lottery and gave evidence that gambling's taxation implications (against income) was doubly regressive, taking disproportionately from lower income groups and giving to those who were better off financially.

Although these economic studies are important for lottery-specific policy discourse, they do not examine the effects of various sociodemographic factors, including age, gender, race/ethnicity and socioeconomic factors, on the prevalence of lottery play and the extent of gambling on the lottery. To our knowledge, this is the first such study to do so.

Methods

This report is based on a combined dataset of 4,905 respondents interviewed in two U.S. household surveys with comparable telephone sampling procedures and comparable measures of gambling behavior. The first survey was carried out in 1999–2000 among adults aged 18 years and older in all 50 states and the District of Columbia. There were 2,631 completed interviews (Welte et al. 2001). The second survey was conducted in 2005–2007 among young people aged 14–21 years old in all 50 states and the District of Columbia. There were 2,274 completed interviews. Parental permission to participate in the survey was obtained for respondents under the age of 18 years old. This was the first representative U.S. survey of gambling among adolescents and young adults (Welte et al. 2008).

Because there was a $\sim$ 6-year time lag between the adult (Aug. 1999–Oct. 2000) and youth surveys (Aug. 2005 to Jan. 2007), we examined key variables among the 18–21 year old groups in both surveys to determine if there were differences due perhaps to the different time periods for carrying out the surveys. For gambling, the mean number of days 18–21 year olds gambled in the past year was 53 times in the adult survey and 55 times in the youth survey. Among lottery players only, the 18–21 year olds in the adult survey averaged 26.8 days gambling on the lottery in the past year whereas the comparable figure for 18–21 year olds in the youth survey was 22.9 days. These are not meaningful differences; and thus, there is no evidence of a chronological gambling trend in the time between the two surveys.

The same sampling methods were used in both surveys. The telephone samples were purchased from Survey Sampling, Inc. with all household phone numbers in the U.S. having an equal probability of being selected. Because the samples were stratified by county and by telephone block within county, telephone numbers were distributed across the U.S. and not clustered by geographic area. Telephone numbers were called up to seven times to determine if that specific number was assigned to a household with an eligible respondent. Once a household was designated as eligible, the number was called until an interview was obtained or refusal conversion had failed. If the household had multiple persons of eligible age, the respondent for interviewing was selected randomly using the next birthday method. Both surveys took an average of 35–40 min to complete and respondents in both surveys were mailed a $25 check for their time. Sample management and interviewing were conducted by trained interviewers using a computer-assisted telephone interviewing (CATI) facility. Additional details about the methodology for each study have been published elsewhere; see Welte et al. 2001, 2008.

To derive comparable variables from each dataset, the two datasets were combined using the ADD FILES command in SPSS. A categorical variable with two values indicated the original dataset (i.e., adult or youth) in the combined file. In both surveys, cases were

statistically weighted inversely to their probability of selection and weighted to align the sample with the gender, age and race distributions for the U.S. based on the intercensal U.S. census estimates for the appropriate year. The final weight variable was scaled so that it had a mean of 1, and the weighted N equaled the true N. Weights from the two separate surveys were placed unaltered in the combined dataset, so the weighted N of the youth survey portion is equal to the true N of 2,274, and the weighted N of the adult survey portion is equal to the true N of 2,631. The gender and race distributions of the combined sample are approximately equal to the distributions in the U.S. However, the age distribution of the combined file does not equal the age distribution of the U.S. because young people aged 14–21 years are over-represented in the combined file.

Dependent measures—Gambling on the lottery in the past year. Both surveys included questions on the frequency of past-year gambling on fifteen types of gambling. Lottery play is the specific type of gambling of interest in the present article. The survey asked about playing the lottery, including instant scratch tickets, daily numbers or Lotto in the past 12 months. (This lottery question does not include lottery video-keno such as Quick Draw.) For the present analyses, a dichotomous variable was derived representing any gambling on the lottery in the past 12 months; and a second variable was derived, representing the number of days the respondent gambled on the lottery in the past 12 months.

Independent measures—Sociodemographic factors. Age was measured as a continuous variable ranging from 14 to 94 years in the combined dataset. *Age squared* was also included in the analyses because it was determined that the relationship between gambling and age was not linear across the entire age span of the study. The analyses also included *gender* and *race/ethnicity* (white/not Hispanic, black/not Hispanic, Hispanic, Asian, Native American and mixed/unknown).

A dichotomous variable was included in the dataset indicating whether or not *lottery was legal* in the state where the respondent lived. Eight states had no lottery at the time of the surveys; these states were Alabama, Alaska, Arkansas, Hawaii, Mississippi, Nevada, Utah and Wyoming. The remaining 42 states and the District of Columbia had lotteries.

Socioeconomic status (SES) was based on a composite measure of education and occupational prestige, equally weighted. Average years of education was based on adult's responses in the adult survey and on average years of mother's and father's education in the youth survey. Occupational prestige was based on respondent's responses in the adult survey and parents' occupational prestige in the youth survey. Occupational prestige was coded based on the census occupational categories (Stricker 1988; Hauser and Warren 1997). The SES variables were scaled from 1 to 10 in both surveys. Because both SES variables had similar variances, they could be merged into the combined file for analyses. SES had a curvilinear relationship to gambling and therefore, a squared SES variable was also included in the analysis.

Neighborhood disadvantage and its squared term were also included in the analysis. Neighborhood disadvantage is an ecological measure based on objective data from the respondent's census tract. The census block-level variables used to create the neighborhood disadvantage scale were: percentage of households on public assistance; percentage of families head by a female; percentage of adults unemployed; and the percentage of persons in poverty (Boardman et al. 2001).

Negative binomial regression analysis from Generalized Linear Models (SPSS Inc. 2008) was used. Negative binomial regression is appropriate for an overdispersed count variable where the variance is greater than the mean (Coxe et al. 2009) as is the case with the present dependent variable, gambling on the lottery. Negative binomial regression was used because it is based on a probability model that better describes the distribution of the

count dependent variable. If ordinary least squares (OLS) regression were used to predict the count variable, the assumptions of OLS would likely be violated, and hence undesirable results would likely be produced, such as biased standard errors and significance tests.

Results

Table 1 shows the demographic distributions of the dichotomous variable, percent of respondents who gambled on the lottery in the past year and the interval variable, mean number of days respondents gambled on the lottery in the past year. All of these relationships were tested together in the subsequent negative binomial regression.

Males gambled on the lottery more than females (18.3 days in the past year for males versus 11.7 days for females). The percent gambling on the lottery was relatively low among adolescents in the 14–15 and 16–17 age categories (14 and 16%, respectively) and then was markedly higher for young adults 18–21 with approximately half of these young adults having gambled on the lottery in the past year. The proportion gambling on the lottery reached the highest points among those in the 22–29 age group (70%) and among respondents in their thirties (71%). Approximately two-thirds of adults in their forties, fifties and sixties gambled on the lottery with the percentage falling to below half (45%) for those over 70 years old. The age pattern for amount of lottery gambling can be observed in Fig. 1 where the mean number of days gambled in the past year is plotted for the same age groups as in Table 1. U.S. respondents in their thirties through sixties have the highest mean levels of gambling - approximately 25 days in which they gambled on the lottery in the previous year.

With regard to lottery play for respondents of various racial/ethnic groups, non-Hispanic whites and Native Americans had the highest proportion of gambling on the lottery (51% for each group); however, with regard to mean levels of gambling on the lottery, blacks and Native Americans had the highest averages (20.6 and 25 days, respectively). Asian respondents had the lowest mean levels of lottery play with an average 8.1 days.

Whether or not lottery is legal in the state where a respondent lives was related to the percentage of gambling on the lottery; 51% of respondents gambled when they lived in states where lottery was legal compared to a rate of 18% gambling on the lottery when they lived in a state where the lottery was not legal. Likewise, the mean number of days one gambled on the lottery was related to the legality of lottery in the state (15.9 days in lottery-legal states versus 1.9 days in states where lottery was not legal).

Respondent's socioeconomic status was related to gambling with those in the lowest fifth SES group having the highest rate of lottery gambling (61%) and the highest mean level of days gambled in the past year (26.1 days). There were very few observed differences in lottery gambling for those in the three upper SES groups—42–43% gambled on the lottery and the three upper groups averaged about 10 days of gambling on the lottery in the past year. Although neighborhood disadvantage was based on objective census data, the variable showed some similarity to socioeconomic status in its relationship to lottery play. Those respondents who lived in the geographic area with the highest neighborhood disadvantage had the highest number of days gambling on the lottery (19.6).

Table 2 shows the results of the negative binomial regression in which the dependent variable was the number of days respondents had gambled on the lottery in the past year and the independent variables were the sociodemographic factors as described above. The incidence rate ratio (IRR) represents the factor by which the dependent variable is multiplied for a one unit increase in the independent variable. Each independent variable was considered after controlling for all of the other independent variables in the analysis.

Table 1 Percent gambled on the lottery (past year) and mean number of days gambled on the lottery (past year) using the combined youth and adult U.S. gambling surveys (N = 4,905)

| Sociodemographic group	N	Percent gambled on lottery (past year) (%)	Mean number of days gambled on lottery (past year)
Total sample	4,905	49	14.9
Gender			
Male	2,409	50	18.3
Female	2,496	48	11.7
Age group			
14–15	588	14	2.4
16–17	583	16	1.7
18–19	721	49	9.6
20–21	649	48	13.6
22–29	409	70	16.2
30–39	489	71	24.8
40–49	545	69	25.7
50–59	387	64	26.6
60–69	267	67	26.4
70+	267	45	18.5
Race			
White/not hispanic	3,255	51	14.1
Black/not hispanic	649	41	20.6
Hispanic	675	47	14.4
Asian	178	40	8.1
Native American	45	51	25.0
Mixed/unknown	103	49	18.2
Lottery legal in state			
Yes	4,574	51	15.9
No	331	18	1.9
Socioeconomic status			
Low fifth (lowest SES)	1,056	61	26.1
Second fifth	1,014	53	18.0
Third fifth	970	43	9.4
Fourth fifth	952	42	9.5
Top fifth (highest SES)	914	42	10.1
Neighborhood disadvantage			
Low fifth (least disadvantaged)	979	45	9.0
Second fifth	978	51	11.8
Third fifth	979	50	17.3
Fourth fifth	979	47	17.0
Top fifth (most disadvantaged)	978	51	19.6
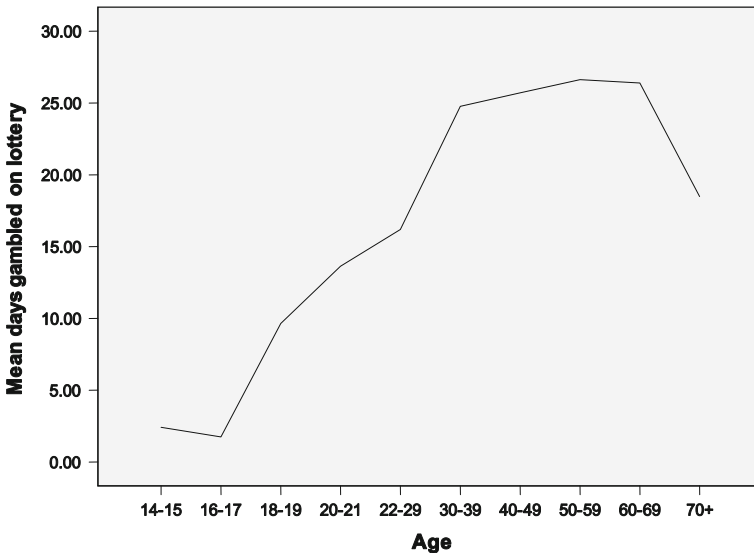
Fig. 1 Mean number of days U.S. respondents gambled on the lottery in the past year according to age group

Table 2 Negative binomial regression predicting number of days gambled on the lottery in the past year using the combined youth and adult U.S. gambling surveys (N = 4,905)

	Predictor	Significance	Incidence rate ratio IRR = Exp(B)
Gender	Male (1)	<.001	1.64
	Female (0)	Reference	1
Age	(14–94 years)	<.001	1.19
Age squared		<.001	.998
Race	White/not hispanic (1)	Reference	1
	Black/not hispanic (2)	NS	1.15
	Hispanic (3)	NS	1.03
	Asian (4)	<.01	.555
	Native American (5)	<.001	3.26
	Mixed/unknown (6)	NS	1.09
Lottery legal in state	Yes (2)	<.001	6.69
	No (1)	Reference	1
SES (0 = lowest SES; 10 = highest SES)	(0–10)	NS	1.00
SES squared		NS	.988
Neighborhood disadvantage (least disadvantage to most disadvantage)	Standardized scale	<.001	1.34
Neighborhood disadvantage squared		<.001	.939

Gender was highly significant in predicting the amount of gambling on the lottery; males had a 64% increase over females in the number of days they gambled on the lottery. Likewise, age was highly significant in the analysis; the number of days one played the

lottery gets multiplied by 1.19 for each additional year (unit) of age. Thus, for each year that age increases, the number of days that a person plays the lottery goes up by 19%. Age squared was also significant, indicating that the age distribution for lottery gambling is curvilinear as shown in Fig. 1.

For the race/ethnicity variable, white/non-Hispanic was considered the reference group. Although blacks showed a higher mean level of lottery play than whites in the descriptive analysis shown in Table 1, once socioeconomic status and neighborhood disadvantage were taken into account, the incidence rate ratio was not significant for blacks. Likewise, Hispanics were not significantly different from whites in amount of lottery play. However, two racial groups were significantly different from the white reference group. Asians had half the rate of days lottery gambling as compared to whites; whereas Native Americans had 3.26 times the rate of days playing the lottery as whites.

Lottery being legal in the state where the respondent lived was a highly significant predictor of the amount of lottery play even after controlling for all of the other independent variables in the analysis. Socioeconomic status (SES) was a significant predictor of amount of gambling on the lottery before neighborhood disadvantage was added to the analysis; however, when both socioeconomic status and neighborhood disadvantage (based on census data) were in the analysis, only neighborhood disadvantage remained significant in predicting the number of days gambled on the lottery. The squared term of neighborhood disadvantage was also significant; the lottery curve rose sharply as neighborhood disadvantage increased and then leveled off.

Interaction terms between age and all of the other independent variables were also tested in the negative binomial regression after the main effects were considered. Two interactions were statistically significant at the p. 01 level—race by age and socioeconomic status (SES) by age. With regard to the race by age interaction, whites showed a different pattern of mean days gambled in the past year in comparison to other racial/ethnic groups. Mean days gambled increased from adolescence/young adulthood to middle adulthood and then leveled off in the fifties and older age group for whites whereas mean levels of gambling days continued to increase in the fifties for blacks. There was a strong curvilinear effect of age on frequency of gambling for Hispanics and Asians with the highest levels being in the 30 and 40s age group. American Indians showed yet another pattern of age-related gambling, i.e., means days gambled on the lottery was highest among the young age group and lowest among the over 50 age group.

The SES by age interaction appears to have resulted by the middle third SES group showing a steady increase in mean days gambled across the lifespan whereas the lower third and upper third SES groups showed an increase from adolescence to the thirties and forties and then a decline in lottery gambling after 50.

Discussion

By combining two comparable U.S. national surveys of gambling among youth aged 14–21 years and adults aged 18 years and older, it was possible to examine patterns of gambling on the lottery across the lifespan from adolescence to older adulthood. The analysis of lottery gambling took into account important sociodemographic factors including gender, race/ethnicity, socioeconomic status and ecological factors - neighborhood disadvantage and legality of lottery in the respondent's state. No comparable analysis has been done previously, and therefore direct comparisons between the present findings

and other studies are not possible. However, relationships between lottery play and selected sociodemographic factors have been investigated.

The current finding that males have higher levels of lottery play than females is consistent with gender-related findings for gambling as a whole and for other correlated behaviors, namely, alcohol and other substance use (e.g., Welte et al. 2001; Barnes et al. 2009). It has long been found that males are involved in higher levels of problem behaviors than females (Elliott et al. 1985; Hirschi and Gottfredson 1994). However, the age pattern of lottery gambling appears to be somewhat different from substance use behaviors. Data from the National Survey on Drug Use and Health showed that alcohol and illicit drug use peaked earlier than lottery play in the current study; i.e., illicit drug use peaked around 18–20 years and alcohol use peaked around 21–25 years, and use of illicit drugs and binge drinking both declined steadily from the 30s to 65+ years (SAMHSA 2007). On the other hand, the current study showed that gambling on the lottery (based on the average days gambled on the lottery) peaked in the 30s and remained high until 70+ years. The age pattern for lottery gambling is similar to reported age patterns for overall gambling incorporating multiple forms of gambling behaviors (Welte et al. 2002). Although gambling, alcohol and illicit drug use are often co-occurring behaviors (Welte et al. 2001; Barnes et al. 2009), lottery gambling is somewhat different from substance use in its age distribution across the lifespan. Once lottery gambling patterns are established in the 30s, they are stable until 70s.

Lottery gambling among youth is another age-related issue that has been highlighted in the gambling literature. The present study showed relatively low rates of past-year lottery gambling among 14–17 year olds in the U.S. as a whole (around 15%) with a large increase to 49% among 18–19 year olds when it is legal to play the lottery in most states. A recent report based on a large sample of New York State 7th–12th grade students found a 30% rate of gambling on the lottery, lotto or scratch offs (New York State Office of Alcoholism and Substance Abuse Services 2009). Much of the published work on youth lottery play comes from Canada and the United Kingdom where lottery play is reportedly higher among youth in these countries than in the U.S. based on data in the present study. In Ontario, Canada, Felsher et al. (2004) reported that lottery products were the most popular form of gambling activity engaged in by 53% of youth in grades 6–12. Furthermore, these authors reported that a majority (65%) of underage youth found it easy to get tickets from local stores. In a sample of school students aged 11–15 years old in the United Kingdom, Wood and Griffiths (2004) reported that 48% of the adolescents played the lottery and 30% played scratch cards. Furthermore, a majority of these young respondents did not regard lottery and scratchcard playing as bona fide forms of gambling. Consistent with this view, Felsher et al. (2003) in Ontario, Canada reported that 77% of students who played the lottery reported that their parents purchased scratch tickets for them, leading the authors to conclude that parents perceive the lottery as an innocuous form of gambling. The present study did not include questions about attitudes toward the lottery or parental purchase of tickets for young people. Given the lower rates of lottery play among underage youth in the U.S., it may be more difficult for young people to play the lottery in the U.S. as a whole than in reported areas of Canada, the United Kingdom or in selected states such as New York. Thus, from the literature, there is some evidence that increased parental education is warranted to make parents aware that providing lottery or scratch off tickets for their children may be teaching their children to gamble. Furthermore, it has been shown that lottery play is associated with a moderate, but significant, increase in problem gambling symptoms among youth and young adults (Welte et al. 2009).

In previous reports from the current adult and youth surveys, it was reported that blacks had lower rates of overall gambling than whites, but blacks had higher rates of both frequent gambling and problem gambling; these findings were consistent for adults (Welte et al. 2001) and for youth and young adults (Welte et al. 2008). These findings are consistent with the present descriptive analysis of lottery gambling; that is, blacks have lower rates of gambling on the lottery than whites, but blacks have a higher average number of days gambled on the lottery than whites. However, in the analysis containing all of the sociodemographic variables, including socioeconomic status and neighborhood disadvantage, black and Hispanic groups are not significantly different from the white reference group in number of days gambled on the lottery. It is noteworthy that Native Americans remained significantly more likely to gamble on the lottery in spite of all of the other sociodemographic factors considered and in spite of a fairly small number of Native Americans in the sample.

Lower socioeconomic status has been linked to pathological gambling among adults (Welte et al. 2001); and in the current analysis of a combined sample of youth and adults, the lowest socioeconomic group had the highest percent of gambling on the lottery in the past year and the highest mean level of days gambled on the lottery. This effect of socioeconomic status on lottery play went away in the multivariate analysis when the census-based variable, neighborhood disadvantage, was taken into account. Neighborhood disadvantage is correlated with low socioeconomic status and minority race/ethnicity yet it may also represent a broader ecological factor—a cultural milieu where lotteries are easily available and an environment favorably inclined to gambling on the lottery.

Other investigators have reported that the lowest income group spent the most on lotteries (Clotfelter and Cook 1991). The Chicago Defender (Hutson 2008) did an analysis of the Illinois Lottery sales for 2008 and reported that six of the 10 zip codes that produced the highest lottery sales had a majority black population. In an examination of the Georgia lottery for education, Rubenstein and Scafidi (2002) found that lower income and non-white households had higher purchases of lottery products and received lower benefits from the lottery (in terms of scholarships) than higher income and white households. Similarly, using data from the 2004 to 2005 Consumer Expenditure Surveys, Lang and Omori (2009) showed that among households characterized by losing money on the lottery and pari-mutuel betting, those with the least wealth and African American respondents were more likely to lose a higher proportion of their respective incomes purchasing lottery tickets than wealthier and white respondents. Furthermore, Kearney (2005) showed that household lottery spending was financed primarily by using non-gambling expenditures (food, rent and other bills) and not from other forms of gambling. Some have speculated that the link between gambling pathology and lower socioeconomic status is due in part to lower income individuals viewing gambling as a type of investment providing a possible escape from poverty (Welte et al. 2004). In an experiment, Haisley et al. (2008) tested the hypothesis that people who feel poor in a relative sense due to implicit comparisons with others are more likely to purchase lottery tickets; i.e., low-income individuals are moti-vated to play the lottery to correct for low-income status. The authors found support for the hypothesis in that low-income participants were more likely to purchase lottery tickets when they were primed to perceive that their own income was low relative to a reference point. The authors concluded that for low-income participants, lotteries may be considered a "social equalizer" whereby everyone has an equal chance to win.

The objective measure of whether or not lottery was legal in the state where the respondent lived remained significant in predicting the amount of lottery play even after controlling for individual demographics (age, gender, race/ethnicity, SES) and

neighborhood disadvantage. Availability of lottery opportunities is a clear factor contributing to lottery play. This is analogous to numerous studies which have shown that the density of alcohol outlets in a geographic area is linked to alcohol consumption and alcohol-related problems (see review by Popova et al. 2009).

The present study examined the sociodemographic correlates of gambling on the lottery in a combined dataset of two national U.S. surveys of gambling among respondents 14–94 years old. It is clear that lottery play is a popular form of entertainment among adults with a majority of those in their twenties through sixties reporting that they had gambled on the lottery in the past year. It is also clear that in states where the lottery is legal, there is eight times the mean level of days gambled on the lottery; yet in those states where the lottery is legal, a significant amount of revenue is generated in a non-coercive manner. On the other hand, increased levels of lottery play are linked with certain subgroups in the U.S. population—males, blacks, Native Americans, and those who live in disadvantaged neighborhoods. The present findings do not resolve the debate about lotteries in the U.S., but they do help to inform the discussion.

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