



## **Gambling Survey for the Georgia Department of Human Resources**

### **Director**

Jim Emshoff, Ph.D.

### **Researchers**

Elizabeth Anthony, B.S.

Caroline Lippy, B.S.

Leanne Valentine, M.A.

Angela Mooss, M.A., C.P.H.

Ayana Perkins, M.A.

Jennifer Zorland, M.A., C.P.H.

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For additional information, please contact:

Jim Emshoff at (404) 651-2029

Correspondence can be addressed to:

GSU Gambling Project

Attn: Jim Emshoff

Department of Psychology

Georgia State University

140 Decatur Street, 11<sup>th</sup> Floor

Atlanta, GA 30303

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## EXECUTIVE SUMMARY

This report presents the results of the third survey of gambling and problem gambling in the State of Georgia, and it is a follow-up to the surveys completed by the Applied Research Center at Georgia State University (GSU) in 1994 and the Psychology Department in 2000. As in the previous surveys, a random sample of Georgia residents (N = 1,602) were interviewed over the phone to assess their levels of gambling activity and associated behaviors. Data collection took place between January and June 2007.

### Findings

- The number of Georgia residents who report engaging in one or more gambling activities in their lifetime has increased from 69% to 88% since the last study. More specifically, 85% of the current sample gambles yearly, 29% monthly, 24% weekly, and 6.4% daily.
- Among respondents, males are more likely than females to be more frequent gamblers, spend more monthly, and report more gambling-related difficulties.
- Respondents under 30 were more likely than those over 30 to report more gambling-related difficulties.
- The lifetime prevalence rate of problem and probable pathological gambling in Georgia has decreased from 5.0% in 2000 to 4.0% within this sample. Current prevalence has also decreased from 2.4% in 2000 to 1.5% within the current sample. However, these declines are not statistically significant and may be partially accounted for by a change in the instrument used to measure the prevalence of problem and pathological gambling.
- Lifetime problem and pathological gamblers are significantly more likely to be males, people of color, and under age 30.
- Lifetime problem and probable pathological gamblers are significantly more likely to have felt that one or more of their parents have had a problem with betting money or gambling.
- Individuals with less than a high school education and those who earn less than \$25,000 a year are more likely to be problem and pathological gamblers. However, this trend was not statistically significant.

## INTRODUCTION

This report provides data from a prevalence survey conducted from January to June of 2007. It is divided into 6 sections. The first section provides a brief history of gambling in the United States and within the state of Georgia. The second section contains information on the methodology used to obtain the data. The next section goes on to describe the characteristics of gamblers and non-gamblers in Georgia and their gambling practices, including gambling frequency. The fourth section describes the characteristics and gambling practices of problem and pathological gamblers. The fifth section illustrates the impact of gambling-related media exposure on participation in gambling activities. The final section includes a summary and conclusions that include directives for future research.

### Gambling in the United States

#### *Legal Gambling*

**Gambling** is defined as: any betting or wagering, for self or others, whether for money or not, no matter how slight or insignificant, where the outcome is uncertain or depends upon chance or skill (Gamblers Anonymous, 2000). The spread of legalized gambling in the U.S. brought the total spent on gambling in this country to half a trillion dollars by 1998, with \$31.5 billion spent on annually on state lottery games (National Gambling Impact Study, 1999). Legal gambling practices are used in various states for supplemental revenue. State-sanctioned gambling practices began with lotteries and scratch off games in the 1960's. The trend continued into the 1980's and has expanded into other gambling practices such as pull-tabs, card rooms, casinos, riverboat casinos, and video lotteries. In 1988, with the advent of casinos on Native American reservations, the prevalence of gambling skyrocketed, especially among Native American populations

The increase of gambling practices in the United States has led to an increase in problems associated with this activity. The direct and indirect costs to American society as a result of problem gambling (e.g. health care, bankruptcy, crime, etc) are estimated at \$5 billion per year (Proimos, DuRant, Pierce, & Goodman, 1998). The evidence linking increased access to legalized gambling to gambling problems (especially among low-income groups and minorities) (Volberg & Boles, 1995) suggest the need to investigate programs that can increase the prevention and treatment of these problems.

Problems associated specifically with Internet gambling led to the creation of the Unlawful Internet Gambling Enforcement Act (UIGEA) in 2006, the goal of which is to prevent financial institutions from providing transactions for Internet gambling (Congressional Budget Office, 2006; Perkins & Zimmerman, 2007). More recently in 2007, Representative Barney Frank has been spearheading the Internet Gambling Regulatory and Enforcement Act (IGREA), which would permit online gambling again but only for approved financial institutions (IGaming, 2007).

## ***Prevalence of Gambling***

According to a study by Shaffer, Hall, and Vanderbilt (1999), the prevalence of problem gambling among adults has increased between the years 1974 and 1997. This extensive and comprehensive study analyzed results from 119 pathological gambling prevalence studies conducted over the course of 20 years. In the earlier (1977-1993) studies, 2.9% of the general population was classified as probable pathological gamblers and another .8% as pathological gamblers. The recent (1994-1997) studies indicated that probable pathological gambling and pathological gambling have increased to 4.9 % and 1.3 %, respectively. The NORC study (1999) estimated an adult prevalence rate of 2.5%, and a more recent study by Welte, Barnes, Wieczorek and Tidwell (2002) reported the prevalence of probable pathological gambling as 2.1%. Other estimates place the prevalence of problem and pathological gambling at between 1% and 3% (Netemeyer, Burton et al. 1998). These prevalence rates are comparable to prevalence rates for other mental disorders (Shaffer & Kidman, 2004). Data suggest that as gambling has become more accessible to the adult population, a significant increase in problematic gambling behavior has occurred. Future research, however, must be conducted systematically to examine the nature of this relationship.

## ***Gambling in the State of Georgia***

In 1992 Georgia's state legislature voted to create a lottery to fund public education. The Georgia Lottery's first ticket was sold in 1993. This was the state's first legal lottery in over one hundred years. Various lotteries in Georgia had been popular prior to the Civil War. Lotteries were often used to distribute farmland and to raise money for the construction of paved streets, water pipes, churches, and public buildings and academies (Volberg & Boles, 1995). The first Georgia State lottery was legalized in the years immediately following the Civil War primarily as a means to help the large number of poor in the state, many of whom were widows and orphans of Confederate soldiers (Volberg & Boles, 1995). The lottery was a success; however, it did not last long after its recognized conception. The new constitution mandated the Georgia Legislature to discontinue the state lottery in 1876 as a condition of admission back in the Union (Volberg & Boles, 1995).

Nevertheless, gambling grew prevalent. Dog and cockfights were betted upon in rural areas whereas number, card, and dice games were betted upon in the cities; moreover, in the 1960s and 1970s, sports betting grew in popularity with the arrival of a major league baseball team (Volberg & Boles, 1995).

The reinstated Georgia Lottery has been successful from the start. Its first-year per capita sales of \$164.81 set a new national record, surpassing the previous mark of \$128 set by Florida in 1988, effectively making the Georgia Lottery the most successful start-up state lottery ever. In fact, the Georgia Lottery was able to pay back its start-up line of credit within two weeks of start-up. In its first twelve years of operation, the Georgia Lottery had sales of \$24 billion and transferred more than \$8.2 billion to the State Treasury's Lottery for Education Account. On average the Georgia Lottery offers 40-45 instant ticket games at any given time and has six on-line, or computerized, games - CASH 3, CASH 4, Win for Life, Fantasy 5, Mega Millions and

KENO. Lottery tickets are now being sold at more than 7,500 authorized retailer locations in Georgia (Georgia Lottery 2006).

Gambling opportunities also exist just past Georgia's state borders. Casino boats dock in Brunswick Georgia, as well as in numerous locations in Florida. There are casinos in Alabama; Florida has a state lottery, jai-a-lai, and dog racing; video gambling is available in South Carolina; and there is a casino in the North Carolina Mountains, just north of the Georgia state line. There are also on-line casinos and other gambling opportunities available through the Internet. Such computer-based gambling maximizes the convenience to the gambler, posing additional danger to those vulnerable to addictive behavior, as transportation needs are eliminated and this gambling is done in total privacy, eliminating any possible social inhibition of the behavior.

## METHODS

This section of the report will discuss the methodology used to obtain the data used in the report. It will include the information on the questionnaire design, sampling design, representativeness of the sample, demographic categories and response rate.

### *Gambling Survey in Georgia: Spring 2007*

Staff from the Department of Psychology at GSU completed telephone interviews between January and June 2007. The current survey examines the responses of a random sample, stratified by gender, ethnicity, education, and income, of 1,602 Georgia residents.

This survey builds on the previous prevalence studies conducted in 1994 and 2000. Data are presented to compare results between the 2000 findings and this year's findings, but analyses are not longitudinal in nature.

The survey was designed in four parts: National Opinion Research Center DSM Screen for Gambling Problems (NODS), gambling activities, media exposure, and demographic questions.

### *Measures*

*National Opinion Research Center DSM Screen for Gambling Problems.* The National Opinion Research Center DSM Screen for Gambling Problems (NODS) was developed for use by the Gambling Impact and Behavior Study conducted in 1998 by the National Opinion Research Center (NORC) for the National Gambling Impact Study Commission. The Diagnostic Interview guided the development of the NODS for Gambling Severity (Winters, Specker & Stinchfield, 1997). The NODS contains 17 lifetime items and 17 corresponding past-year items; all items are based on DSM-IV criteria. The past-year items are asked for each lifetime NODS item that receives a positive response. The maximum score on the NODS is 10. Compared to other screens for pathological gambling (e.g. the South Oaks Gambling Screen), the NODS utilizes more stringent criteria to classifying individuals as pathological gamblers.

Until recently, the South Oaks Gambling Screen has been a widely used tool for assessing gambling behaviors and “does a good job at detecting pathological gambling in the general population” (Volberg, 1998). However, more recent gambling prevalence studies have developed questionnaires based strictly on DSM-IV criteria (such as the NODS) to determine prevalence rates. Although the SOGS was deemed an adequate measure of respondents who are likely to become problem or pathological gamblers, the DSM-IV more accurately assesses prevalence (Volberg, 1999), which is why the NODS was chosen for this research.

*Gambling Activities.* The current survey moderately differs from the survey used in 2000. Table 1 describes the differences in gambling activities asked about and the additional items added. Questions were added to the list of wagering activities used in the 2000 survey. The additional items included such activities as: poker on the Internet, poker, Keno, and pull tabs

or “paper” games. These items were added and other items were modified to be more specific and to reflect more modern gambling practices. Table 1 below lists the survey items from 2000 and 2007 to reflect the differences.

Table 1

*Comparison of gambling activities in the 2000 survey to the 2007 survey*

2000	2007
<ul style="list-style-type: none"> <li>• Instant or scratch off lottery games</li> <li>• Daily lottery games</li> <li>• Lotto</li> <li>• Raffles, casino nights or other small stakes charitable gaming</li> <li>• Bingo</li> <li>• Numbers games (not the daily lottery game)</li> <li>• Card games with relatives, friends or acquaintances for money</li> <li>• Individual bets on the outcome of sports or other events</li> <li>• Sports pools</li> <li>• Sports with a bookie (bookmaker)</li> <li>• Craps or other dice games</li> <li>• Games of skill (bowling, billiards, golf)</li>   <li>• Gaming devices or slot machines at an out-of-state casino</li> <li>• Card or dice games at an out-of-state casino</li> <li>• Horse or dog races (includes on-track, off-track or with a bookie)</li> <li>• Cockfights and/or dogfights</li> <li>• Speculative investments or stock market</li> <li>• Internet Casino Gambling</li> <li>• Any other gambling activity</li> </ul>	<ul style="list-style-type: none"> <li>• Scratch-offs</li> <li>• Daily lottery</li> <li>• Lotto-type lottery games</li> <li>• Raffles, casino nights, or other small stakes charitable gaming</li> <li>• Bingo</li> <li>• Played the numbers</li>   <li>• Other card games</li>   <li>• Bet on sport (office pool, with friends)</li> <li>• Bet on sport (parlay cards, with bookie)</li> <li>• Dice games (e.g. craps, over and under)</li> <li>• Wagered on a game of skill you played (e.g. bowling, pool, golf, shot hoops)</li> <li>• Played gambling machines (e.g. slot machine, poker machine)</li> <li>• Gambled at a casino</li>   <li>• Bet on horses, dogs, or other animals (at OTB, the track, or with bookie)</li> <li>• Cockfights and/or dogfights</li> <li>• Stock and/or commodities market</li> <li>• Gambled on the Internet (other than poker)</li> <li>• Some form of wagering not listed above</li>   <li>• Poker on the Internet*</li> <li>• Poker*</li> <li>• Pull tabs or “paper” games other than lotteries*</li> <li>• Keno*</li> </ul>

\* Indicates items added to the 2007 survey

*Media Exposure.* Exposure to media portrayals of gambling was assessed by asking respondents to report on their overall media viewing patterns, as well as specific gambling-related media seen within the previous 12 months. Previous research on the effects of media exposure has examined both overall TV viewing time and exposure to specific genres of TV (Shrum, Burroughs, & Rindfleisch, 2004; 2005; Morton, Wilson, & Laing, 1999; Nabi, & Sullivan 2001).

*Demographic Items.* Additional questions were asked about age, gender, ethnicity, county of residence, level of education and household income. Because having access to the Internet increases the opportunity to gamble and to be exposed to media portrayals of gambling, participants were asked to indicate if they have access to the Internet 1) at home, 2) at work, 3) at school, as well as 4) at any other location. We also asked participants to indicate if they believed that other important people in their life (parents, siblings, other relatives, friends, neighbors) had ever had a problem with gambling.

### ***Sampling Design***

The sampling design was developed to ensure that the sample data would be reflective of the population of Georgia residents age 18 and over. A random list of telephone numbers throughout the state was purchased from a company that specializes in producing such lists. Samples of telephone numbers were uploaded to WinCati, a computer-assisted telephone interviewing software program. As researchers administer the questionnaires and are entering the data, WinCati manages the calling, controls quotas, and consolidates the data from the telephone interviews. Each supervisor and telephone interviewer underwent training on the WinCati system.

To ensure a random selection of respondents within households, interviewers asked to speak with the person age 18 and older who had the most recent birthday; this prevents any potential bias associated with which member of the household answers the phone. Eligibility criteria included age 18 and over, English-speaking, and a working household phone.

Phone interviews were conducted Monday through Thursday between 10 a.m. and 9 p.m. Weekend interviews were scheduled on Saturdays between 10 a.m. and 2 p.m. Up to five attempts were made to contact each number before the number was dropped from the list of available numbers.

### ***Representativeness of the Sample***

The sampling method utilized ensured adequate representation of Georgia residents based on ethnicity, education and gender. Quota cells based on gender, ethnicity, and level of education were used to limit the over-sampling of any specific subgroup. As shown in the table below, we were successful in achieving a diverse sampling of Georgia residents

## *Demographic Categories*

For ease in comparison between previous and current data, the same analytic categories were used as were used in Volberg's (1999) study. The exception was the total household income variable. The original report used the category "above or below \$25,000" to represent lower income. The analytic categories are found in Table 2. The median for this sample was within the \$26,000 to \$50,000 range. Table 2 provides detailed descriptions of the survey participants.

Table 2

*Comparison of Demographics of the study sample to the 2006 Federal Census Estimate Data on Georgia Residents*

		2005 Census Estimate (Percent)	2007 Sample (N=1602) (Percent)
<b>Gender</b>	Male	49.5	48.6
	Female	50.5	51.4
<b>Age*</b>	18 – 24	14.0	10.2
	25 – 29	10.0	5.9
	30 – 39	23.0	16.7
	40 – 49	21.0	22.2
	50 – 64	19.0	28.3
	65 +	13.0	15.0
<b>Income*</b>	0-25k	29.5	23.6
	26-50k	27.8	30.4
	51-75k	20.5	22.0
	76-100k	22.1	9.9
	>100k	-	9.4
<b>Ethnicity</b>	White/ Caucasian	59.6	62.8
	Hispanic	7.1	2.0
	American Indian/Alaska Native	0.3	0.4
	Black	29.8	32.5
	Asian/Pacific Islander	2.8	0.5
	Other	1.0	1.7
<b>Education*</b>	Less than HS	20.1	13.9
	HS and over	79.9	85.9

## ***Response Rate***

The total number of surveys completed was 1,602. The response or completion rate for this survey was calculated by taking the number of completed surveys and dividing it by the sum of the number of completed surveys (N = 1,602), the number of refusals (N = 5,262), and the number of partially completed surveys (N = 313). This resulted in a response rate of 22%. This response rate was considerably lower than the studies from 1994 and 2000 (73% and 42%, respectively). Response rates from other gambling surveys conducted in the U.S. range from 65% in New Jersey to 78% in South Dakota (Volberg, 1995). The low response rate to the survey may reflect Georgia residents' attitudes on gambling, or increasing public concern about the intrusion of telemarketers into homes.

## CHARACTERISTICS OF GAMBLERS IN GEORGIA

This section describes the types of gambling performed by the residents of Georgia. Survey participants were asked a series of questions focusing on 21 specific gambling items and one “other gambling activity” category. If participants stated that they had ever wagered money or anything of value on these activities, they were asked the frequency with which they engaged in the activity.

Throughout this report, statistical significance is reported when the p value is less than .05. This means that the events reported (e.g., differences between frequent gamblers and infrequent gamblers) could have occurred by chance less than 5 percent of the time. This is a standard level of reporting statistical significance in the social sciences.

Chi-square analyses of data from the current survey of 1,602 Georgia residents revealed demographic differences between those who gamble and those who do not engage in any gambling activities. Respondents who gamble regularly are more likely to be:

- Caucasian
- Over 30 years of age
- Have a high school education or greater
- Make more than \$25,000 in household income.

The finding that lifetime non-gamblers are more likely to be under 30 contradicts the 2000 survey. The current finding is consistent with the notion that lifetime incidence of gambling should increase with age: as age increases so do opportunities to engage in gambling activities. Given the unequal distribution of these two subgroups, this finding should be interpreted with caution.

In contrast to the 2000 survey, which demonstrated a decrease in non-gamblers with less than a high school education, the current study showed rates of non-gamblers in this subgroup nearly equal to those found in the 1994 survey. These rates show participants with less than a high school education are roughly 60% more likely to be non-gamblers than those with a high school education or greater. Again, this finding should be interpreted with caution given the unequal ratio of level of education.

### ***Gambling Practices in Georgia***

In Georgia, 88% of the sample surveyed stated that they have engaged in one or more gambling activities in their lifetime, which shows a dramatic increase from the 69% reported in the survey conducted in 2000. More specifically, 85% of the current sample gambles yearly, 29% monthly, 24% weekly, and 6.4% daily. For most individual gambling behaviors, the percentages of lifetime participation increased from the 2000 study. Changes in question wording between the 2000 and 2007 survey might account for some of these differences. The largest increases in lifetime gambling participation rates are for casino gambling and lotto-type lottery games.

Table 4 indicates how Georgia residents' reported lifetime gambling activities have changed from 2000 to 2007. Specifically, respondents primarily engaged in instant scratch-off games in both 2000 (50%) and in 2007 (55%). Participation in lotto-type lottery games increased from 2000 to 2007 (38% and 54%, respectively), and gambling at casinos showed a large increase from 2000 to 2007 (12% and 45%, respectively). In 2007 respondents reported that over their lifetimes the least participated in gambling activities were cockfights and/or dogfights (1%), Internet gambling other than poker (2%), and pull tabs and paper games (3%).

Table 4

*Lifetime Participation Rates for Each Type of Gambling Activity*

Type of Activity	Lifetime Participation % (2000)	Lifetime Participation % (2007)
Scratch-offs	50.1	54.6
Played lotto-type lottery games	38.0	53.8
Gambled at a casino	11.7	44.6
Raffles, casino nights, or other small stakes charitable gaming	33.1	35.5
Gambling machines	29.9	29.7
Played poker	-	29.0
Bet on sport (office pool, with friends)	16.4	28.8
Played other card games	23.2	22.0
Played the daily lottery	16.9	21.5
Bingo	13.4	20.7
Bet on horses, dogs, or other animals	13.7	19.8
Wagered on a game of skill that you played	10.9	14.7
Stock and/or commodities market	8.6	12.8
Played the numbers	-	12.0
Played dice games	5.4	11.7
Bet on sport (parlay cards, with bookie)	2.2	9.2
Keno	-	5.2
Poker on the Internet	-	3.4
Pull tabs or paper games other than lotteries	-	2.7
Gambled on the Internet (other than poker)	1.3	1.7
Cockfights and/or dogfights	0.6	1.1

Table 5 provides specific information regarding the lifetime frequency of Georgia residents' reported gambling activities. The majority of respondents who gambled yearly did so at casinos; or participated in raffles, casino nights, or other small stakes charitable gaming; or played scratch offs. The majority of those who reported participating in gambling on a yearly basis did so at casinos, while monthly, weekly, and daily gamblers reported most frequently participating in lotto-type lottery games and scratch-offs.

Table 5

*Lifetime Percentage of Participation in Each Type of Gambling Activity*

Type of Activity	Never	Yearly	Monthly	Weekly	Daily
Scratch-offs	45.4	29.9	12.1	10.3	2.4
Played lotto-type lottery games	46.2	27.3	12.4	12.4	1.6
Gambled at a casino	55.4	43.8	0.7	0.1	0.0
Raffles, casino nights, or other small stakes charitable gaming	64.7	34.1	1.0	0.2	0.0
Gambling machines	70.3	28.3	0.9	0.4	0.1
Played poker	71.0	24.5	2.2	2.0	0.4
Bet on sport (office pool, with friends)	71.2	25.7	1.3	1.7	0.1
Played other card games	78.0	17.0	2.5	2.3	0.2
Played the daily lottery	78.5	10.9	3.8	4.9	1.9
Bingo	79.3	19.0	0.7	0.9	0.0
Bet on horses, dogs, or other animals	80.2	19.3	0.2	0.2	0.0
Wagered on a game of skill that you played	85.3	10.0	2.4	1.9	0.4
Stock and/or commodities market	87.4	9.4	1.9	0.4	0.9
Played the numbers	88.0	6.2	2.7	2.4	0.6
Played dice games	88.3	9.3	1.2	0.9	0.3
Bet on sport (parlay cards, with bookie)	90.8	7.4	0.7	1.1	0.1
Keno	94.8	4.4	0.4	0.3	0.1
Poker on the Internet	96.6	1.9	0.3	0.6	0.5
Pull tabs or paper games other than lotteries	97.3	2.4	0.2	0.1	0.1
Gambled on the Internet (other than poker)	98.3	0.9	0.3	0.4	0.1
Cockfights and/or dogfights	98.9	0.7	0.2	0.1	0.0

***Georgia State Lottery***

Differences were examined between lottery and non-lottery players. Volberg (1995) found that non-lottery gamblers were “significantly more likely to be married and keeping house than gamblers who have played the lottery games” (p. 12). Gamblers who played lottery games were more likely to be divorced and employed full-time compared to non-lottery players.

Table 6 depicts current data, showing that approximately one-quarter of respondents who engage in any gambling activities have played the lottery. Men and women who gambled were equally likely to participate in state lotteries. Significant differences emerged due to age and race. Specifically, participants over thirty were significantly more likely than those under thirty to have played the lottery ( $p=.05$ ), and people of color were significantly more like than Caucasians to have played the lottery ( $p<.0001$ ).

Table 6

*Gamblers' Participation in the Lottery by Gender, Age, and Race*

	Never gambled on the lottery (%)	Gambled on the lottery (%)
Men	74.1	24.9
Women	77.4	22.6
<30	80.6	19.4
>30*	74.5	25.5
Caucasian	82.2	17.8
People of color*	64.8	35.2
Less than High School Education	71.3	28.7
High school education and above	76.4	23.6

***Estimating Weekly Gambling from Lifetime Gambling Data***

Volberg (1995) determined a way to assess the relationship between lifetime and weekly participation for various gambling activities. This *conversion rate* (Table 7) for each gambling activity is computed by “dividing the number of respondents who say that they gamble once a week or more on each type of gambling by the number of respondents who have ever tried that type of gambling” (p.13). The conversion rate is an empirical way of predicting the likelihood that people who have ever tried a specific gambling activity will become weekly gamblers. These likelihood rates will vary by activity and by state. Conversion rates can serve as a ‘red-flag’ of activities that may have a high number of people participating frequently in those activities.

Table 7

*Lifetime and Weekly Participation and Conversion to Weekly Gambling for Various Activities*

Gambling Activity	Weekly Participation (%)	Lifetime Participation (%)	Conversion Rate
Poker on the Internet	1.1	3.4	0.32
Played the daily lottery	6.8	21.5	0.32
Gambled on the Internet (other than poker)	0.5	1.7	0.29
Played the numbers	3.1	12.0	0.26
Played lotto-type lottery games	14.0	53.8	0.26
Scratch-offs	12.6	54.6	0.23
Wagered on a game of skill that you played	2.4	14.7	0.16
Bet on sport (parlay cards, with bookie)	1.2	9.2	0.13
Played other card games	2.6	22.0	0.12
Played dice games	1.2	11.7	0.10
Stock and/or commodities market	1.3	12.8	0.10
Cockfights and/or dogfights	0.1	1.1	0.09
Played poker	2.4	29.0	0.08
Keno	0.4	5.2	0.08
Bet on sport (office pool, with friends)	1.8	28.8	0.06
Bingo	0.9	20.5	0.04
Pull tabs or paper games other than lotteries	0.1	2.7	0.04
Gambling machines	0.5	29.7	0.02
Bet on horses, dogs, or other animals	0.2	19.8	0.01
Raffles, casino nights, or other small stakes			
charitable gaming	0.2	35.5	0.006
Gambled at a casino	0.1	44.6	0.002

The sample surveyed for the 1994 report showed the highest conversion rates for lotto, the daily lottery game, and instant lottery games (41%, 33%, and 23%, respectively). The 2000 sample revealed highest conversion rates for daily lottery games, card or dice games at an out-of-state casino, and unspecified (other) gambling (only four people participating on a weekly basis).

In the current sample, the highest conversion rates were for poker on the Internet, daily lottery, and gambled on the Internet. Although weekly and lifetime participation in Internet gambling is relatively low in the current sample, their high conversion rates suggest greater addictive potential. Therefore, low participation rates undercut the potentially problematic nature of Internet gambling. Overall, the conversion rates were generally higher in 1995 than those reported in the 2000 sample

### ***Lifetime Differences in Gambling Participation by Demographic Groups***

Chi-square analyses revealed lifetime differences across categorical groups in the types of gambling activities engaged in. These results are summarized in Table 8.

#### **Gender effects**

Chi-square analyses revealed gender differences in the various gambling choices. Men were significantly more likely to have ever wagered money or anything of value on the following activities:

- Poker on the Internet
- Gambled on the Internet
- Poker
- Played other card games
- Bet on horses, dogs, other animals
- Bet on sports (parlay cards, with bookie)
- Bet on sports (office pool, with friends)
- Dice games
- Gambled at a casino
- Played the numbers
- Lotto-type lottery games
- The stock and/or commodities markets
- Wagered on a game of skill you played
- Pull tabs or paper games, other than lotteries
- Cockfights and/or dog fights

Women were significantly more likely to have ever wagered money or anything of value on the following activity:

- Bingo

There were no gender differences on the following activities:

- Daily lottery
- Scratch-offs
- Keno
- Gambling machines
- Raffles, casino nights, or other small stakes charitable gaming sponsored by schools, clubs

#### **Age effects**

Chi-square analyses revealed age differences in lifetime gambling activity preferences. Respondents under the age of 30 were significantly more likely to engage in the following:

- Poker on the Internet
- Card games other than poker
- Dice games
- Scratch-offs
- Wagered on a game of skill you played

- Cockfights and/or dog fights

Respondents over age 30 were significantly more likely to have ever engaged in the following:

- Bet on horses, dogs, other animals
- Gambled at a casino
- Lotto-type lottery games
- Daily lottery
- Bingo
- The stock and/or commodities markets
- Gambling machines
- Raffles, casino nights, or other small stakes charitable gaming sponsored by schools, clubs

There were no lifetime differences between age groups for the other gambling activities.

### **Ethnicity effects**

Chi-square analyses revealed ethnic differences in various gambling activities.

Caucasians were significantly more likely than people of color to have ever wagered on the following activities:

- Poker
- Bet on sports (office pool, with friends)
- Gambled at a casino
- The stock and/or commodities markets
- Gambling machines
- Raffles, casino nights, or other small stakes charitable gaming sponsored by schools, clubs

People of color were significantly more likely than Caucasians to have ever engaged in the following activities:

- Card games other than poker
- Dice games
- Played the numbers
- Daily lottery

There were no lifetime differences between ethnic groups for other activities.

### **Education effects**

Chi-square analyses revealed ethnic differences in various gambling activities. Respondents with a high school education or higher were significantly more likely than those with less than a high school education to ever have engaged in the following:

- Poker
- Bet on horses, dogs, other animals
- Bet on sports (office pool, with friends)
- Gambled at a casino
- Lotto-type lottery games
- The stock and/or commodities markets
- Gambling machines
- Raffles, casino nights, or other small stakes charitable gaming sponsored by schools, clubs

Respondents with less than a high school education were significantly more likely than those with a high school education or more to ever have engaged in the following:

- Played the numbers
- Cockfights and/or dog fights

There were no lifetime differences between education levels for other activities.

### **Income effects**

Chi-square analyses revealed ethnic differences in the various gambling activities. Respondents with an income over \$25,000 were significantly more likely than those who made \$25,000 or less to ever have wagered money on the following activities:

- Gambled on the Internet
- Poker
- Card games other than poker
- Bet on horses, dogs, other animals
- Bet on sports (parlay cards, with bookie)
- Bet on sports (office pool, with friends)
- Gambled at a casino
- Lotto-type lottery games
- Keno
- The stock and/or commodities markets
- Gambling machines
- Wagered on a game of skill you played
- Raffles, casino nights, or other small stakes charitable gaming sponsored by schools, clubs

Respondents who made \$25,000 or less were more likely to ever have wagered money on the following activities:

- Daily lottery

There were no lifetime differences between those with different levels of income for other activities.

Table 8

*The Demographic Subgroup More Likely to Gamble on Each Activity*

<b>Type of Activity</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Educat</b>	<b>Age</b>	<b>Income</b>
Scratch-offs	-	-	-	<30	-
Played lotto-type lottery games	M	-	More	>30	>\$25K
Gambled at a casino	M	C	More	>30	>\$25K
Raffles, casino nights, or other small stakes charitable gaming	-	C	More	>30	>\$25K
Gambling machines	-	C	More	>30	>\$25K
Played poker	M	C	More	-	>\$25K
Bet on sport (office pool, with friends)	M	C	More	-	>\$25K
Played other card games	M	POC	-	<30	>\$25K
Played the daily lottery	-	POC	-	>30	<\$25K
Bingo	F	-	-	>30	-
Bet on horses, dogs, or other animals	M	-	More	>30	>\$25K
Wagered on a game of skill that you played	M	-	-	<30	>\$25K
Stock and/or commodities market	M	C	More	>30	>\$25K
Played the numbers	M	POC	Less	-	-
Played dice games	M	POC	-	<30	-
Bet on sport (parlay cards, with bookie)	M	-	-	-	>\$25K
Keno	-	-	-	-	>\$25K
Poker on the Internet	M	-	-	<30	-
Pull tabs or paper games other than lotteries	M	-	-	-	-
Gambled on the Internet (other than poker)	M	-	-	-	>\$25K
Cockfights and/or dogfights	M	-	Less	<30	-

\*Note: M = Male, F = Female; C = Caucasian, POC = People of color; More = High school education or greater, Less = less than a high school education; <30 = less than 30 year-olds, >30 = 30 year-olds and older; <\$25K = less than \$25,000, >\$25K = \$25,000 and greater.

## DEFINING PATHOLOGICAL GAMBLING

The American Psychiatric Association's definition of pathological gambling takes a categorical approach to defining the problem, whereas most researchers in this area define pathological gambling using a dimensional approach. In other words, the DSM-IV does not classify an individual as a pathological gambler unless they meet at least five out of the ten criteria listed below.

- Preoccupation with gambling
- Gambling with larger amounts of money to increase excitement
- Repeated efforts to reduce or stop gambling
- Restlessness or irritability when attempting to control gambling behavior
- Gambling to escape problems or to alleviate a negative mood
- Trying to win back money after incurring losses while gambling
- Lying about the extent of gambling behavior to significant other/s
- Committing crimes to finance gambling
- Lost relationships with significant other/s or lost career advancement because of gambling
- Dependent upon others to provide financial assistance to relieve a debt caused by gambling

In order to better describe the continuum of gambling problems present in the population this report uses a dimensional classification system, the same that was used by the National Gambling Impact Study Commission (presented in Table 9 below) (National Opinion Research Center; Volberg, et al., 1999).

Table 9

### *DSM-IV Criteria for Classifying Respondents*

Classification	Criteria
Low-risk gambler	Does not meet any DSM-IV criteria
At-risk gambler	Meets 1 or 2 DSM-IV criteria
Problem gambler	Meets 3 or 4 DSM-IV criteria
Pathological gambler	Meets 5 or more DSM-IV criteria

Although most researchers agree that a dimensional approach provides a better estimate of those with gambling problems and those at risk for more serious problems, Dube, Freeston and Ladouceur (1996) found that there are qualitative differences between individuals who meet 3 – 4 DSM-IV criteria and those who meet 5 or more criteria. For example, they found that pathological gamblers engage in more illegal behaviors, wager more frequently and wager larger amounts of money, have a greater need for escape associated with gambling, and are more likely to gamble alone. In contrast, problem gamblers were more likely to gamble with friends and have parents who gamble frequently. For the current study, problem and pathological gamblers were grouped together and contrasted with non-problem gamblers.

A final distinction was made among those demonstrating a *lifetime* problem or probable pathological gambling pattern, and those demonstrating a *current* problem or probable pathological pattern. Lifetime problem or pathological gamblers were those that met the NODS criteria for problem or pathological at any time in their lives, whereas current problem or pathological gamblers were those demonstrating such a pattern in the last year. These results are presented in Table 10.

For a more comprehensive review of the characteristics and consequences of pathological gambling as well as treatment approaches, please refer to Treatment of Pathological Gambling: A Review of the Literature (Emshoff, Eddlemon, Broomfield & Mohar, 2000).

Table 10

*DSM-IV Classification of 2007 Sample*

<b>Classification</b>	<b>Criteria</b>	<b>Lifetime %</b>	<b>Past Year %</b>
Non-gambler / Low-risk gambler	Never gambled/ Gambles, but does not meet any DSM-IV criteria	84.5	93.3
At-risk gambler	Meets 1 or 2 DSM-IV criteria	11.4	5.2
Problem gambler	Meets 3 or 4 DSM-IV criteria	2.6	1.1
Pathological gambler	Meets 5 or more DSM-IV criteria	1.4	0.4

***Problem and Pathological Gambling in Georgia***

***Lifetime Prevalence***

Problem and probable pathological gamblers were identified with the National Opinion Research Center DSM Screen for Gambling Problems (NODS). Although the survey conducted in 2000 used the South Oaks Gambling Screen (SOGS), the National Opinion Research Center asserts that the performance of the NODS exceeds that of the SOGS, based on how the measure is constructed. The specificity of the NODS items are very good, reducing the rate of lifetime false positives (National Opinion Research Center, 1999).

Data revealed that 87.9% of Georgia residents have gambled in their lifetime. Most gamblers in Georgia, however, do not have problems with their gambling (95.9%). Approximately 2.6% (N = 41) of gamblers scored as lifetime problem gamblers. Roughly 1.4% (N = 22) of gamblers scored as lifetime probable pathological gamblers (i.e., they have had a probable pathological gambling condition at some point in their life). Thus, 4.0% of the adult Georgia population could be considered lifetime problem or probable pathological gamblers. This figure is lower than that found in the 2000 survey (5.0%), but not statistically significantly so. The NODS, as compared to the SOGS, is a more stringent measure of pathological gambling, which may in part explain this decrease. Assuming an adult population of 6.9 million in the state of Georgia, this translates into 75,900 past year problem gamblers and 27,600 past year probable pathological gamblers.

Since the numbers of problem and probable pathological gamblers were relatively small compared to the total sample, the two groups (4.0% of gamblers) were combined and compared to non-problem lifetime gamblers in subsequent analyses. Table 11 provides demographic descriptions of lifetime non-problem gamblers compared to problem and pathological gamblers.

Although men and women are equally represented in the non-problem gambler group, men were twice as likely as women to be problem or pathological gamblers. People of color were more likely than Caucasians to be problem or pathological gamblers. Additionally, participants under age 30 were more likely than those over age 30 to be problem or pathological gamblers. This is particularly significant given the relatively small number of individuals in this sub-sample. Education and income did not relate to the probability that a gambler would or would not have a problem with this behavior.

Table 11

*Demographic Characteristics of Participants who Gambled in their Lifetime*

Characteristic		Non-Problem Gamblers (%)	Problem and Pathological Gamblers (%)
Age*	Under 30	92.1	7.9
	30 and over	96.6	3.4
Sex*	Male	94.5	5.5
	Female	97.3	2.7
Ethnicity*	Caucasian	97.3	2.7
	People of color	93.0	7.0
Education Level	Less than high school	94.0	6.3
	High school or higher	96.0	3.7
Income	\$25,000 and under	94.7	5.3
	\$25,001 and over	96.1	3.9

\* The difference between groups is statistically significant at  $p < .05$

Multiple regression analyses revealed that while the above characteristics were significantly associated with rates of pathological gambling, their relationship with the single characteristic of education level appears to be driving the effects. Education level is the most significant predictor of pathological gambling ( $p < .01$ ), and its relationship to the other variables in part accounts for their significance as well. One reason education is the most significant predictor in the regression analysis and yet not significant in the chi-square analysis is due to the different ways the tests categorize pathological gambling. The more sensitive regression analysis uses a continuous measure of pathological gambling while the chi-square analysis uses a binary one.

### ***Gambling Behaviors***

Compared to lifetime non-problem gamblers, problem and probable pathological gamblers were significantly more likely to:

- wager more than \$100 on any one day
- gamble as a way to escape from personal problems
- believe that a friend or someone important in their life currently has or has ever had a gambling problem

Some of the kinds of games that non-problem lifetime gamblers played and problem/pathological gamblers reported playing also differed. Problem/pathological gamblers were more likely to engage weekly in all of the gambling activities **except for**:

- Stock and/or commodities market
- Raffles, casino nights, or other small stakes charitable gaming at least once per week

Interestingly, 67% (N = 44) of lifetime problem or probable pathological gamblers surveyed reported having ever tried to stop, cut down, or control their gambling. This is noteworthy, as there are minimal resources available for those seeking treatment for problem gambling, and may indicate a need to expand access to gambling treatment.

### ***Current Prevalence***

Current problem gamblers constitute 1.1% (N = 17) of the respondents. Current probable pathological gamblers represent 0.4% (N = 6) of the respondents that have gambled during the past year. Overall, the current prevalence of problem or probable pathological gamblers is 1.5% of the adult population in Georgia. In 2000, the estimated prevalence of current problem or probable pathological gamblers was 2.4% of the adult population. The difference between the 2000 estimate and the current estimate is not statistically significant. Since the numbers of current problem and probable pathological gamblers were relatively small compared to the total sample, these two groups were combined and compared to non-problem gamblers in subsequent analyses.

Table 12 provides demographic descriptions of current non-problem and problem and pathological gamblers. Current problem/pathological gamblers were 2.5 times more likely to be male than female. Most current gamblers were over age 30 regardless of NODS score, and the differences in NODS scores based on age were not significant. Current problem and probable pathological gamblers were also more likely to have less than a high school education. Interestingly, there were no income or age differences among current problem/pathological gamblers and non-problem gamblers.

Table 12

*Demographic Characteristics of Participants who Gambled in the Past Year*

Characteristic		Non-Problem Gamblers (%)	Problem and Pathological Gamblers (%)
Age	Under 30	97.4	2.6
	30 and over	98.6	1.4
Sex*	Male	97.7	2.3
	Female	99.1	0.9
Ethnicity*	Caucasian	99.0	1.0
	People of color	97.5	2.5
Education Level	Less than high school	96.9	3.1
	High school or higher	98.7	1.3
Income	\$25,000 and under	97.9	2.1
	\$25,001 and over	98.8	1.2

The difference between groups is significant at  $p < .05$

Multiple regressions revealed that while the above characteristics were significantly associated with rates of pathological gambling, their relationship with the single characteristic of education level appears to be driving the effects. Education level is the most significant predictor of pathological gambling ( $p < .01$ ), and its relationship to the other variables in part accounts for their significance as well. One reason education is the most significant predictor in the regression analysis and yet not significant in the chi-square analysis is due to the different ways the tests categorize pathological gambling. The more sensitive regression analysis uses a continuous measure of pathological gambling while the chi-square analysis uses a binary one.

***Gambling Behaviors***

Some of the kinds of games that non-problem current gamblers played and problem/pathological gamblers reported playing differed. Current problem/pathological gamblers were more likely to engage weekly in all of the gambling activities **except for**:

- Stock and/or commodities market
- Raffles, casino nights, or other small stakes charitable gaming

## MEDIA EXPOSURE TO GAMBLING

Exposure to gambling in the media was measured with several items. Participants were asked about their level of exposure to gambling in advertisements, television, news coverage, and films. Using a six-point Likert scale (“never” to “daily”), seven items measured advertisement exposure, three items measured television exposure, and three items measured news exposure. Participants’ exposure to gambling in films was determined with 2 items: one asked if participants have seen a movie in the past year featuring gambling, and the second asked how many of those films the participants have seen.

The items of each form of media exposure (advertisement, television, news, and movies) were added together to create summed variables for each media form. The only exception was the in-store promotions item. This item was not summed into the advertisement variable because it was significantly more endorsed than any other form of advertisement exposure, so it was treated as a separate variable.

Descriptive statistics of the media exposure variables indicate that participants more frequently viewed in-store promotions, other forms of advertisements, and movies than the other forms of media exposure. On average, participants saw in-store promotions approximately once a week and other forms of advertisements about once a month. Participants also reported seeing on average of 2 movies a year that featured gambling. News coverage and television on gambling was viewed on average less than once a month.

Table 13

### *Average Exposure to Gambling Media*

<b>Media Form</b>	<b>Average Score</b>	<b>Frequency</b>
In-Store promotions	3.17	Once a week
Movies	2.00	1-2 times a year
Advertisements	1.85	Once a month
News coverage	0.69	Less than once a month
Television	0.56	Less than once a month

Figure 1

*In-Store Promotions/Georgia Lottery*

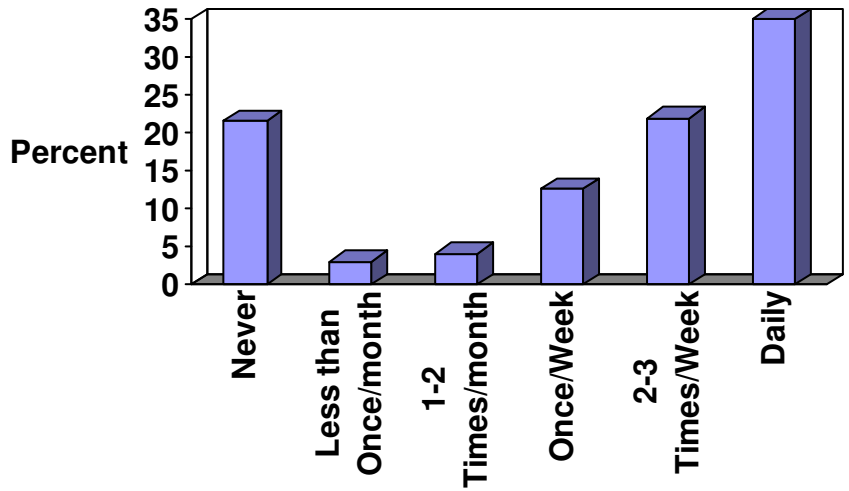


Figure 2

*Georgia Lottery Advertisements (TV, Radio, Billboard, Etc.)*

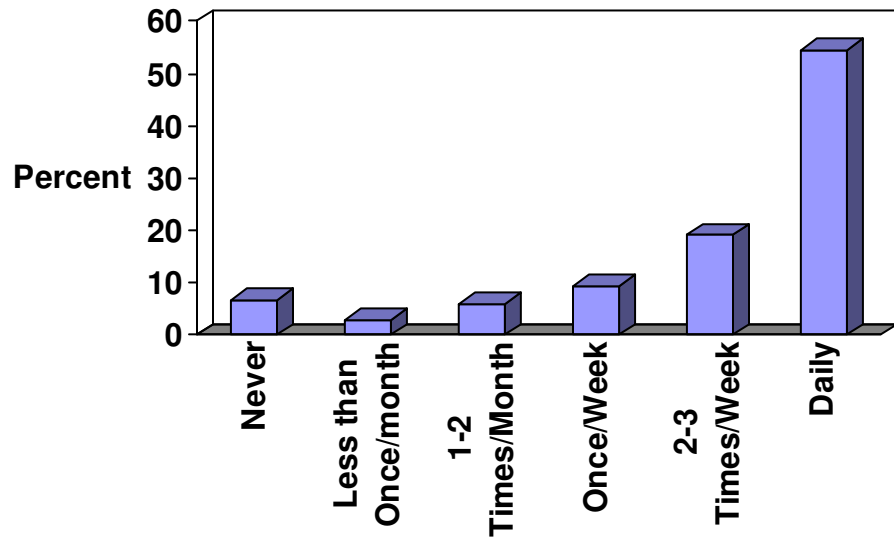


Figure 3

*Bar or Restaurant Flyers Promoting Poker Tournaments*

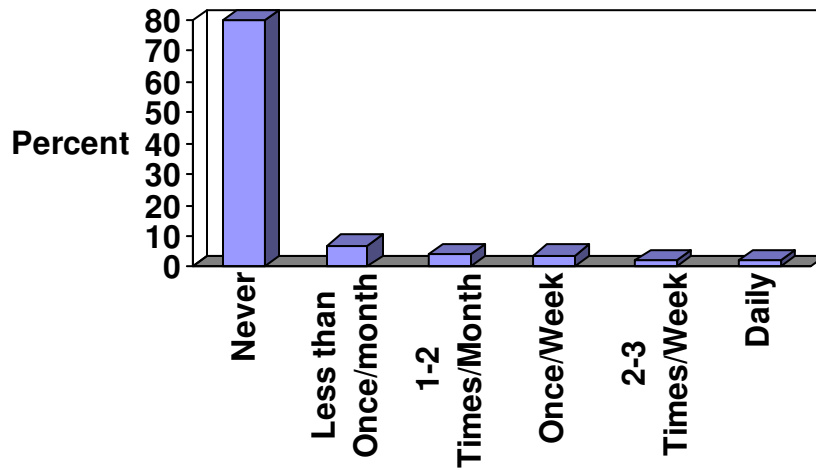


Figure 4

*Casino Ads (TV, radio, billboard, newspaper, transit, magazine, Internet)*

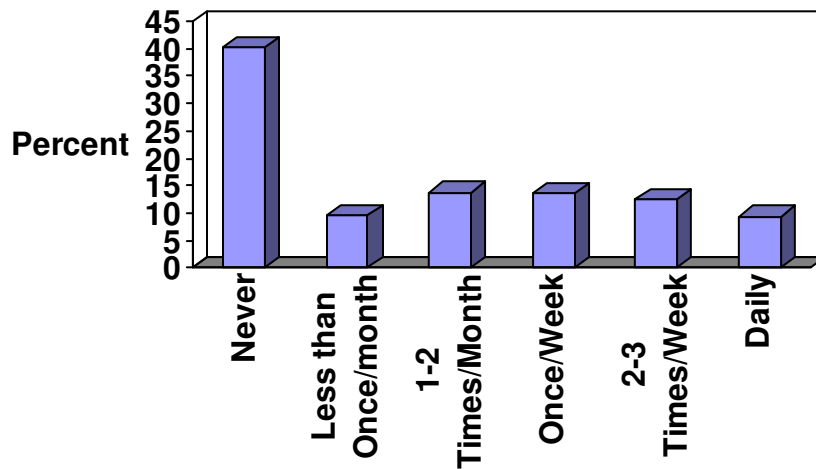


Figure 5

*Gambling Website Ads (TV, radio, billboard, newspaper, transit, magazine, Internet)*

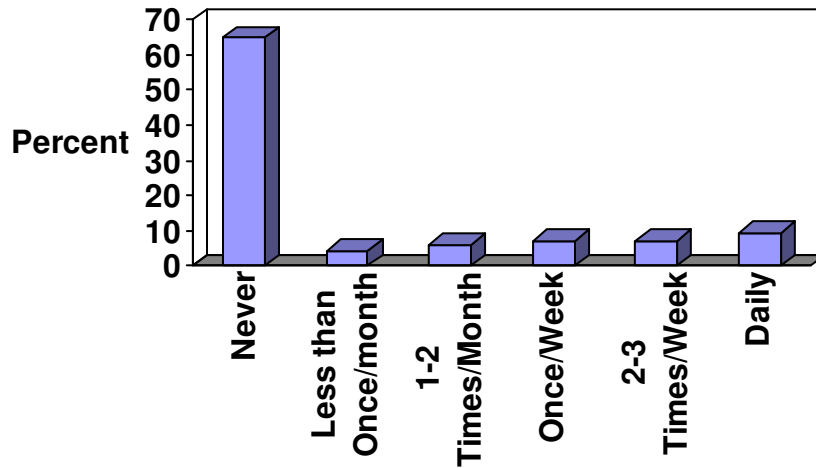
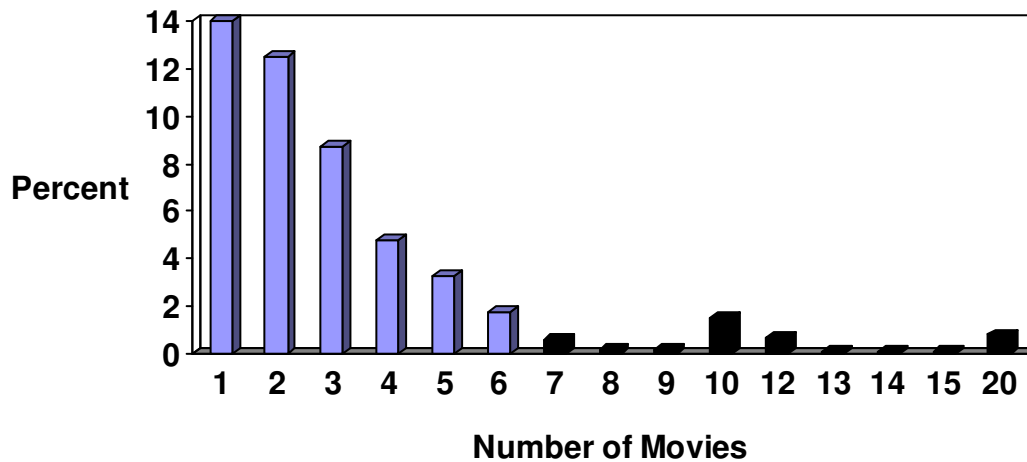


Figure 6

*Average Movies Watched per Year that Feature Gambling*



### ***Impact of Media Exposure on Gambling Behavior***

Multiple regressions were run to determine the associations between media exposure and gambling activities. All forms of media together accounted for 12.3% of the variance in gambling activities ( $p < .001$ ). This indicates that media in general is significantly associated with gambling behavior. Upon closer analyses, only advertising ( $p < .001$ ), television ( $p < .001$ ), and news coverage ( $p < .05$ ) were found to be significantly associated with gambling behavior. In

other words, people who were exposed to more advertising, news coverage, and television portrayals of gambling were more likely to gamble. Witnessing these forms of gambling in the media showed a strong association with respondents' gambling behavior.

## SUMMARY AND CONCLUSIONS

Although the 2000 report demonstrated a decrease in lifetime participation in gambling activities from the 1994 study, this trend was not continued in the current study. Those who reported engaging in gambling activity increased to 88%, an increase of approximately 20% since the 2000 study. While overall gambling rates have increased, the majority of participants have never gambled or infrequently gambled on all but two of the queried activities. Scratch-offs and lotto-type lottery games are the two most frequently endorsed gambling activities, with the majority of respondents playing both at least yearly. It is important to note, however, that many respondents failed to answer all of the survey items describing gambling behaviors. Therefore, any results should be interpreted with caution. However, the sampling method utilized yielded adequate representation of Georgia residents based on ethnicity, education, and gender. Quota cells based on gender, ethnicity, and level of education were used to limit the over-sampling of any specific subgroup. As shown in the table below, we were successful in achieving a diverse sampling of Georgia residents.

Table 14

*The Demographic Subgroup More Likely to Gamble on Each Activity*

<b>Type of Activity</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Educat</b>	<b>Age</b>	<b>Income</b>
Scratch-offs	-	-	-	<30	-
Played lotto-type lottery games	M	-	More	>30	>\$25K
Gambled at a casino	M	C	More	>30	>\$25K
Raffles, casino nights, or other small stakes charitable gaming	-	C	More	>30	>\$25K
Gambling machines	-	C	More	>30	>\$25K
Played poker	M	C	More	-	>\$25K
Bet on sport (office pool, with friends)	M	C	More	-	>\$25K
Played other card games	M	POC	-	<30	>\$25K
Played the daily lottery	-	POC	-	>30	<\$25K
Bingo	F	-	-	>30	-
Bet on horses, dogs, or other animals	M	-	More	>30	>\$25K
Wagered on a game of skill that you played	M	-	-	<30	>\$25K
Stock and/or commodities market	M	C	More	>30	>\$25K
Played the numbers	M	POC	Less	-	-
Played dice games	M	POC	-	<30	-
Bet on sport (parlay cards, with bookie)	M	-	-	-	>\$25K
Keno	-	-	-	-	>\$25K
Poker on the Internet	M	-	-	<30	-
Pull tabs or paper games other than lotteries	M	-	-	-	-
Gambled on the Internet (other than poker)	M	-	-	-	>\$25K

Cockfights and/or dogfights	M	-	Less	<30	-
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\*Note: M = Male, F = Female; C = Caucasian, POC = People of color; More = High school education or greater, Less = less than a high school education; <30 = less than 30 year-olds, >30 = 30 year-olds and older; <\$25K = less than \$25,000, >\$25K = \$25,000 and greater.

## CONVERSION RATES

The highest conversion rates (which represent the percentage of individuals who have ever participated in the activity and who are now weekly gamblers) were exhibited for the following gambling activities:

- Poker on the Internet
- Daily Lottery
- Gambled on the Internet

Based on the demographic categories in the above table, participants engaging in these more addictive gambling activities are diverse and do not fall neatly into any single subgroup. This creates hurdles for prevention efforts.

## PROBLEM AND PATHOLOGICAL GAMBLERS

Lifetime problem and pathological gamblers are more likely than non-problem gamblers to be:

- Male
- Under 30 years-old
- People of color
- Have less than a high school education
- Earn less than \$25,000 a year

Current problem and pathological gamblers are more likely than non-problem gamblers to be:

- Male
- Under 30 years-old
- People of color
- Have less than a high school education
- Earn less than \$25,000 a year

Both lifetime and current problem and pathological gamblers are also more likely to:

- Wager more than \$100 on any one day
- Gamble as a way to escape from personal problems
- Engage weekly in all of the gambling activities **except for**:
  - Stock and/or commodities market
  - Raffles, casino nights, or other small stakes charitable gaming at least once per week

## **FUTURE RESEARCH DIRECTIONS**

These findings raise a number of issues that may be addressed in future research. The fact that lifetime gamblers continue to be significantly more likely to be under age 30 warrants the investigation of the gambling activities among adolescents.

Another gambling activity has recently been made legal in the state of Georgia and has become increasingly popular. These are gaming devices, called “cherry masters”, that are usually available in bowling alleys and bars. More recently, certain venues have been created exclusively catering to those who play these machines. Researchers were unaware of this activity prior to the development of the survey instrument, but it would be interesting to see the effects of this gaming activity on variables such as rates of lifetime and weekly gambling activity and problem/pathological gambling.

Demographic differences in specific gambling activities within problem and probable pathological gamblers were not analyzed, but previous research has indicated that there may be important differences among problem/pathological gamblers that relate to such distinctions. In addition, problem and probable pathological gamblers were not subdivided into patterns of action gambling and escape gambling, which may provide evidence of distinct gambling patterns and demographic characteristics. This was not feasible for the present study due to the small proportion of the sample that scored within the problem and probable pathological ranges on the NODS. Future research may need to study these and other issues within a high-risk sample, to increase the likelihood that a higher percentage of respondents will exhibit these behavior patterns.

Since both forms of Internet gambling queried in this study exhibited high conversion rates, future research should be directed toward this easily accessible and potentially addictive form of gambling. The use of Internet gambling by specific populations (males, individuals under the age of 30, and/or those with incomes higher than \$25,000) suggests that interventions and prevention efforts for this specific form of gambling should be targeted at these populations.

The significant association between media exposure of gambling and gambling behavior is even more problematic given that the average Georgia resident views in-store gambling promotions about once a week. Future research should continue to assess the impact of the increasingly frequent exposure to gambling content.

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