

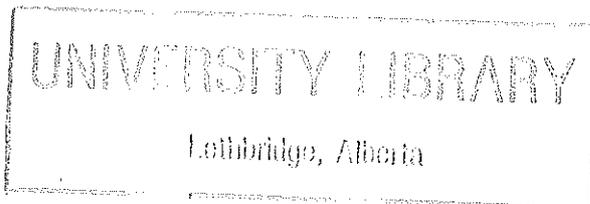
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**GAMBLING AND PROBLEM GAMBLING
IN NORTH DAKOTA**

Report to the
North Dakota Department of Human Services
Division of Mental Health

ALBERTA ALCOHOL AND DRUG ABUSE COMMISSION LIBRARY

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EXECUTIVE SUMMARY

Problem gambling is a term that refers to all of the patterns of gambling behavior that compromise, disrupt or damage personal, family or vocational pursuits. Pathological gambling lies at one end of a continuum of problematic gambling involvement. Pathological gambling is a treatable disorder characterized by loss of control over gambling, chasing of losses, lies and deception, family and job disruption, financial bailouts and illegal acts.

This report presents the findings of a state-wide survey of gambling involvement and problem gambling in North Dakota. A random sample of adult residents aged 18 and over (N=1,517) was interviewed in November and December of 1992 about the types of gambling in which they participate, the amounts of money they spend on gambling, and about problems related to their gambling. The results of this survey provide a benchmark for future assessments of gambling involvement and problem gambling in North Dakota as well as a foundation for policy making and service planning for individuals who experience problems related to their gambling.

Information on gambling involvement and problem gambling among Native Americans in North Dakota is presented in a separate report.

Key Findings

- ▶ Lifetime gambling participation ranges from 84% in Iowa to 92% in New Jersey. In North Dakota, 82% of the respondents said that they had participated in one or more of the gambling activities included in the survey.
- ▶ North Dakota respondents who gambled were more likely than non-gamblers to be male, under the age of 30, and to have graduated high school.
- ▶ Lifetime prevalence rates of problem and probable pathological gambling range from 1.7% in Iowa to 6.3% in Connecticut. The combined lifetime prevalence rate of problem and probable pathological gambling in North Dakota is 3.5%.
- ▶ North Dakota respondents who score as lifetime problem or probable pathological gamblers are more likely than the general population to be male and under the age of 30.
- ▶ Current prevalence data are only available from Montana and South Dakota. The current prevalence rate is 2.2% in Montana and 1.4% in South Dakota (where a 6-month current measure was used). The combined current prevalence rate of problem and probable pathological gambling in North Dakota is 2.0%.

- ▶ Based on weekly involvement and reported monthly expenditures, some types of gambling are more closely associated with problem and pathological gambling than others. In North Dakota, these types of gambling are pulltabs and live bingo.
- ▶ Research shows that continuous forms of gambling, with rapid cycles of stake, play and determination, are more likely to lead to problematic involvement than non-continuous forms of gambling. Pulltabs and bingo are both continuous forms of gambling.
- ▶ Information about the relationship between problem gambling and types of legal gambling in North Dakota will be useful in guiding legislative and regulatory efforts in the implementation of new types of gambling and in new formats for existing games.
- ▶ Since problem and pathological gamblers in North Dakota tend to have lower than average household income, it will be essential for the government of North Dakota to subsidize prevention and treatment services for individuals who experience problems related to their gambling.

Future Directions

The results of this survey show that, at a minimum, 4,500 North Dakota adults are currently experiencing moderate to severe problems related to their involvement in gambling. Problem and pathological gamblers suffer from a treatable disorder whose costs go far beyond individual monetary losses. The results of this survey indicate that there is a need for efforts to address the personal, financial and legal costs associated with gambling problems in North Dakota.

Residents of North Dakota with gambling-related problems are most likely to be involved with the continuous forms of gambling available in the state. In implementing new types of gambling in North Dakota, it will be important to avoid additional continuous forms of gambling such as video lottery terminals. For the future, consideration must be given to educating the state's residents about the potential problems associated with gambling, to providing treatment services for those individuals who experience difficulties related to their gambling, and to ensuring that adequate funds for such efforts are made available.

INTRODUCTION

In the 1970s, as states experienced increasingly serious financial problems, state legislatures around the country began to legalize many types of gambling. Initially, states legalized lotteries with daily and weekly drawings and, later, instant scratch-off games. Beginning in the 1980s, states began to legalize pulltab games and card rooms. Toward the end of the decade, increasing numbers of states legalized casino-style gambling, including riverboats, low-stakes casinos, and video lottery terminals. With the passage of the federal Indian Gaming Regulatory Act in 1988, states around the country have seen the establishment of casino-style gambling, including table games and slot machines. In 1991, Americans *legally* wagered \$304 billion on all types of gambling, including parimutuels, lotteries, casinos, bookmaking, cards, bingo, charitable gaming and on Indian reservations (Christiansen 1992).

With the increasing availability of legal gambling, the public has become more aware of the phenomenon of problem and pathological gambling, largely through media reports of the gambling-related problems of major collegiate and professional sports figures (Eskenazi 1990; Keteyian 1986; Sokolove 1990). The medical community first recognized pathological gambling as a diagnosable mental illness in 1980 (American Psychiatric Association 1980). Although self-help for problem gamblers has been available since 1957, this official recognition served as the foundation for the development of professional treatment for problem and pathological gambling. By 1991, there were professional treatment programs for problem and pathological gambling in 13 states (National Council on Problem Gambling 1992).

Defining Problem and Pathological Gambling

A variety of terms have been used to describe people whose gambling causes problems in their personal and vocational lives. The term typically employed by lay audiences is *compulsive gambling*. However, the term *compulsive* implies that the individual is engaged in an activity that is not enjoyable. Since, at least initially, gambling can be quite enjoyable even for those who later develop problems, this term is considered something of a misnomer.

The term *problem gambling* is used by many lay and professional audiences to indicate all of the patterns of gambling behavior that compromise, disrupt or damage personal, family or vocational pursuits and is intended to include *pathological gambling* as one end of a continuum of gambling involvement (Lesieur & Rosenthal 1991). Psychiatrists and other mental health professionals prefer the term *pathological gambling* (American Psychiatric Association 1980). This term incorporates several assumptions basic to the medical model, including the notion that pathological gambling is a chronic and progressive disorder as well as the assumption that there are clear distinctions between pathological and social gamblers.

The Costs of Problem and Pathological Gambling

Until the mid-1980s, research on problem and pathological gamblers was limited to individuals entering self-help or professional treatment programs. While the costs of gambling-related problems among individuals seeking treatment are probably higher than the costs of such problems among individuals who do not seek treatment, the domains affected by problematic involvement in gambling

are similar. It is therefore helpful to consider some of the impacts on individuals, families and communities engendered by gambling-related problems among those who do seek help.

Personal Costs

The personal costs of problematic involvement in gambling range from physical stress reactions to severe psychiatric disorders. Many pathological gamblers seek help for physical or non-gambling psychiatric disorders prior to recognition of their gambling problem. Between 24% and 70% of members of Gamblers Anonymous have sought help from mental health and addictions treatment professionals prior to joining this self-help group (Custer & Custer 1978; Nora 1984). Pathological gamblers have been found to experience withdrawal symptoms, including irritability, restlessness, depressed mood, obsessional thoughts, poor concentration, anxiety and sleep disturbance (Lorenz & Yaffee 1986; Wray & Dickerson 1981).

Psychiatric Disorders. The prevalence of psychiatric disorders among pathological gamblers entering treatment has been explored thoroughly. Major affective disorders and schizoaffective disorders have been found among pathological gamblers in a Veterans Administration inpatient treatment program (McCormick, Russo, Ramirez & Taber 1984). Among male members of Gamblers Anonymous, major depressive disorders and panic disorders are common (Linden, Pope & Jonas 1986). Significant rates of suicide attempts were identified among pathological gamblers entering inpatient treatment programs as well as Gamblers Anonymous (Custer & Custer 1978; Livingston 1974; McCormick et al 1984; Moran 1969).

Multiple Addictions. There is solid evidence of multiple addictions among pathological gamblers in professional treatment programs and in Gamblers Anonymous (Custer & Custer 1978; Linden et al 1986; Ramirez, McCormick, Russo & Taber 1983). Researchers have recently begun to address the issue of overlaps between pathological gambling and other addictive disorders. Common personality traits and similar criminal behavior patterns have been identified among pathological gamblers and heroin addicts in Australia and Great Britain (Blaszczynski, Buhrich & McConaghy 1985; Brown 1987c). There is good evidence from the United States that significant numbers of individuals in treatment for alcohol and drug dependence may also suffer from problems related to gambling (Haberman 1969; Lesieur & Heineman 1988; Lesieur, Blume & Zoppa 1986). Other similarities between pathological gambling and addictive disorders have been noted, including frequent preoccupation with the activity and the similarity between being "high" and being in "action" (Custer 1982; Levinson, Gernstein & Maloff 1983; Miller 1980; Moran 1970).

Costs to Family and Community

Family Problems. The effects of pathological gambling on the family are significant. An early survey of wives of members of Gamblers Anonymous found significant financial and interpersonal problems among these women, including physical and psychological abuse as well physical stress reactions (Lorenz 1981). More recent surveys show that many have had to obtain loans to buy family essentials, separated from and divorced their gambling spouses, and experienced harassment and threats from bill collectors. In addition, many experience physiological symptoms of stress including chronic or severe headaches, gastrointestinal disturbances, and asthma as well as depression (Lorenz & Yaffee 1988, 1989).

In addition to the impact on spouses, there is evidence that points to serious levels of problematic behavior among the children of pathological gamblers. Lorenz (1981) found that gamblers and spouses reported significant levels of physical abuse of their children. Children of pathological gamblers run away from home, use drugs, and become depressed more often than other children (Custer & Milt 1985). In a study of California high school students, Jacobs (1987) found compulsive gambling by parents to be associated with students' abuse of stimulant drugs and overeating. These adolescents were more likely to report an unhappy childhood, to have legal action pending, and to be depressed and suicidal than others in their schools. In New Jersey, Lesieur and Klein (1987) found that students reporting a parental gambling problem were more likely to have a gambling problem of their own.

Vocational Costs. There are numerous job-related costs associated with problem and pathological gambling. These include irritability, moodiness and poor concentration at work, lowered efficiency, impaired judgment and faulty decision-making, gambling on company time, lateness and absences from work, and abuse of the telephone in order to place bets and deal with creditors. Other job-related costs include borrowing from other employees to gamble or to pay gambling-related debts with associated impacts on the morale of co-workers, thefts of company property and other illegal acts to obtain money through an employer (Better Government Association 1992).

Financial Costs. Considerable financial debt is common among pathological gamblers in treatment. Mean levels of gambling-related debt among pathological gamblers in treatment vary from \$53,350 in New Jersey to \$92,000 in Maryland (Lesieur 1984; Politzer, Morrow & Leavey 1985). Female pathological gamblers tend to have lower levels of debt although this is probably related to their more limited access to financial resources (Lesieur & Blume 1991).

Criminal Activities. Pathological gamblers in self-help and in professional treatment admit to a wide variety of illegal activities, including passing bad checks, check forgery, employee theft, tax evasion, shoplifting, loan fraud, embezzlement, larceny, bookmaking, hustling, running con games, fencing stolen goods, burglary, armed robbery, pimping, and selling drugs (Brown 1987c; Lesieur 1984, 1987; Livingston 1974; Lorenz 1990). Many pathological gamblers entering treatment have significant legal problems. There is also some evidence that numerous individuals already incarcerated have experienced problems related to their involvement in gambling (Lesieur & Klein 1985).

As this review indicates, problem and pathological gambling are disorders whose costs go far beyond individual monetary losses for a small number of individuals in the general population. The impacts of problem and pathological gambling ripple out to involve family members and friends, co-workers and employers, banks, creditors, insurance companies, social service agencies and the civil and criminal justice systems. It is not hard to see how a single individual with severe gambling-related problems can deleteriously affect between 10 and 17 other individuals.

In the wake of the spread of legalized gambling in North Dakota, the North Dakota Department of Human Services Division of Mental Health has elected to fund a survey of the prevalence of problem and probable pathological gambling in the state. This report reviews the methods used to collect the data, discusses gambling involvement by North Dakota residents, identifies the prevalence of problem and probable pathological gambling among the adult population of North Dakota and compares these results with similar studies carried out in other parts of the United States. The report concludes with recommendations for government initiatives to minimize the negative impacts of legalized gambling in the State of North Dakota.

METHODS

The survey in North Dakota builds on work carried out in other parts of the United States as well as internationally. All but two of the prevalence surveys of problem and pathological gambling carried out in the United States have used the South Oaks Gambling Screen (SOGS) (Lesieur & Blume 1987). Prevalence surveys using the SOGS have been completed in California, Connecticut, Iowa, Maryland, Massachusetts, New Jersey and New York (Volberg 1991, 1993a; Volberg & Steadman 1988, 1989, 1992) as well as in Quebec (Ladouceur 1993). Prevalence surveys using a revised and expanded version of the same questionnaire have recently been completed in Montana, South Dakota, Texas and Washington State (Volberg 1992a, 1993c; Volberg & Stuefen 1991; Wallisch 1993) as well as in New Zealand (Abbott & Volberg 1991, 1992) and New Brunswick (Baseline Market Research 1992).

In all of these surveys, respondents were contacted and interviewed by telephone. The number of interviews completed in each jurisdiction was determined by balancing available resources, confidence intervals and the size of the population. Research based on the South Oaks Gambling Screen represents the largest existing database on gambling involvement and problem gambling in the United States or internationally.

Development of the South Oaks Gambling Screen

The South Oaks Gambling Screen is a 20-item scale based on the diagnostic criteria for pathological gambling (American Psychiatric Association 1980). In developing the SOGS, a large pool of variables was subjected to discriminant analysis. The results of this analysis were cross-tabulated with assessments of independent counselors in order to minimize the number of false-negative and false-positive cases. A score of 3 or 4 on the SOGS identifies a respondent as a *problem gambler* while a score of 5 or more identifies a respondent as a *probable pathological gambler*.

Weighted items on the SOGS include hiding evidence of gambling, spending more time or money gambling than intended, arguing with family members over gambling and borrowing money to gamble or to pay gambling debts. The SOGS has been found valid and reliable in distinguishing pathological gamblers among hospital workers; university students, high school students, prison inmates and inpatients in alcohol and substance abuse treatment programs (Lesieur & Blume 1987; Lesieur, Blume & Zoppa 1986; Lesieur & Klein 1985, 1987).

Recent surveys in Montana, South Dakota, Texas and Washington State have used a revised version of the instrument used in earlier surveys. In revising the SOGS, the preliminary section of the questionnaire was expanded to collect more detailed information about gambling frequency and estimated expenditures in the general population. In addition, the SOGS items were expanded to assess both lifetime and current prevalence of problem and pathological gambling. This revised version has been designated SOGS-R (Abbott & Volberg 1992) to distinguish it from the original version used in earlier surveys (SOGS) and from a modified version of the SOGS (SOGS-M) that was used in a survey in Minnesota (Laudergan, Schaefer, Eckhoff & Pirie 1990).

To determine if these changes had any impact on reported prevalence rates, the SOGS-R was tested in Iowa where an earlier prevalence survey had been carried out. The difference in the prevalence rates for these two surveys was 0.1% (Volberg & Stuefen 1991).

The North Dakota Survey

In implementing this prevalence survey of problem and pathological gambling, the Division of Mental Health of the North Dakota Department of Human Services was determined to ascertain problem and pathological gambling prevalence levels prior to the establishment of casinos in the state. To ensure comparability with other recent state surveys in Montana, South Dakota, Texas and Washington State, the survey in North Dakota was based on the SOGS-R.

The survey in North Dakota was carried out in several stages. In the first stage, Dr. Volberg of Gemini Research and Mr. Winkelman of Precision Marketing, Inc., a Fargo-based survey research organization, worked with staff from the Council on Compulsive Gambling of North Dakota and the North Dakota Department of Human Services Division of Mental Health to finalize the questionnaire. In the second stage, staff from Precision Marketing carried out data collection with a random sample of 1,517 residents of North Dakota aged 18 years and older. Precision Marketing provided Dr. Volberg and Mr. Silver of Gemini Research with the North Dakota data for the final stage of the project which included analysis of the data and preparation of this report.

Questionnaire Design

The questionnaire for the North Dakota survey was composed of three major sections. The first section included questions about 16 different types of gambling. Involvement in all types of legal, illegal and out-of-state gambling available to North Dakota residents was assessed. For each type of gambling, respondents were asked whether they had ever tried this type of gambling, whether they had tried it in the past year, and whether they participated once a week or more in this type of gambling. The different types of gambling included:

- Raffles, casino nights and other small stakes games
- Live bingo
- Pulltabs
- Blackjack
- Instant lottery games
- Video lottery games
- Other lottery games
- Slot machines or other gaming machines
- Poker
- Card games other than poker played with friends or relatives
- Craps or other dice games
- Card or dice games played at out-of-state casinos
- Outcome of sports or other events with friends or co-workers
- Wagering on sports with a bookmaker
- Horse, dog or mule races
- Speculative investments

The second section of the questionnaire was composed of the lifetime and current South Oaks Gambling Screen items and the final section of the questionnaire included questions about the demographic characteristics of each respondent. A copy of the North Dakota questionnaire is included in Appendix A.

Sampling Design

The random sample of adults aged 18 and over was developed from a list of telephone numbers purchased from Maritz Marketing Research, Inc., a company that specializes in generating samples for survey research in the United States. The telephone numbers purchased for this sample were proportional to the actual incidence of prefixes and working blocks of telephone numbers in the state. Random selection of respondents within households, based on last birthday, was also used.

Demographic data from the random sample were compared with data from the 1990 United States census to determine whether the general population sample was representative of the population of North Dakota. There were no significant differences between the sample and the census in terms of ethnicity. However, respondents in the sample were less likely to be male and under the age of 25 than the general population.

Since the prevalence of problem and pathological gambling is generally higher among young men, these sample differences render conservative the estimates of problem and pathological gambling given here. Consequently, the prevalence rates for problem and probable pathological gambling in North Dakota should be treated as minimum rather than as maximum rates.

Response Rates

Response rates for problem gambling surveys range from 76% in Iowa to 61% in New Jersey. The response rate in the North Dakota general population survey was 65% which is within the range of response rates for other gambling surveys in the United States. The refusal rate in the North Dakota general population survey was 16% which also compares well with other states.

GAMBLING IN NORTH DAKOTA

In this chapter, we present information about the scope and magnitude of gambling among the general population in North Dakota. Gambling and problem gambling among Native Americans is addressed in a separate report (Volberg 1993b).

Chi-square analysis was used to test for statistical significance. In order to adjust for the large number of statistical tests conducted, p-values smaller than .01 were considered *statistically* significant, while p-values at the more conventional .05 level were considered *somewhat* significant. In reading the tables presented in this report, asterisks in the right-hand column of each table indicate that *one* of the figures in that row is significantly or somewhat different from other figures in the same row.

Gambling in the General Population

In every recent survey of gambling participation, the great majority of the respondents state that they have participated in one or more of the gambling activities included in the questionnaire. The proportion of respondents who have ever gambled ranges from 84% in Iowa to 92% in New Jersey. In North Dakota, 82% of the respondents said that they had participated in one or more of the gambling activities included in the questionnaire.

TABLE 1
Demographic Characteristics of
Gamblers and Non-Gamblers in North Dakota

Demographics	Gamblers (N=1,240)	Non-Gamblers (N=277)	
Male	42%	33%	**
Under 30	16%	8%	**
Non-White	3%	5%	
Less than HS	9%	23%	**
Not Married	34%	41%	*
HH Income Under \$25,000	38%	46%	*

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)

Male respondents, those under the age of 30, and those who had graduated from high school were all significantly more likely to have participated in one or more of the gambling activities mentioned in the survey. Married respondents and those with annual household incomes over \$25,000 were somewhat more likely to have participated in one or more of the gambling activities mentioned. There was no significant difference in terms of race or ethnicity between those who had ever gambled and those who had not.

The following section of this chapter details gambling involvement among North Dakota respondents who had ever gambled. A later chapter examines similarities and differences in gambling involvement and problem gambling in North Dakota, South Dakota and Montana where similar information has been collected (see Comparing North Dakota to Other States).

In terms of lifetime participation, the most frequently played types of gambling among North Dakota respondents are small stakes games such as raffles and wagering at casino nights events. Pulltabs, live bingo and slot machines are also played by significant proportions of the respondents. Other, less frequently played types of gambling include blackjack, wagering on sports or other events with friends, acquaintances or co-workers, instant lottery games, wagering on card games (including poker), and wagering on horse, dog or mule races. Video lottery games, other lottery games, wagering at out-of-state casinos, and wagering on craps or other dice games are the least frequently played types of gambling in North Dakota although this may be related to the availability of these games to North Dakota residents.

A *conversion rate* is used to assess how likely respondents are to become regular players if they have ever tried a gambling activity. The conversion rate for each type of gambling is determined 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 each type of gambling. The following table shows both lifetime participation and conversion rates for the most frequently played types of gambling among North Dakota respondents. Only those types of gambling in which 10% or more of the respondents had ever participated are shown.

TABLE 2
Lifetime Involvement and Conversion Rates
for Most Popular Types of Wagering
 (N=1,517)

Type of Activity	Lifetime Participation	Conversion Rate
Raffles and Casino Nights	71%	2%
Pulltabs	47%	6%
Live Bingo	43%	9%
Slot Machines	39%	1%
Blackjack	30%	4%
Sports with Friends/Co-workers	29%	11%
Instant Lottery Games	28%	4%
Non-Poker Card Games	23%	8%
Horse, Dog, or Mule Races	20%	< 1%
Poker	19%	3%
Video Lottery Games	14%	1%
Other Lottery Games	10%	13%

In contrast to lifetime participation rates, conversion rates for some games, such as raffles and casino nights, are quite low. The conversion rates are highest for lottery games and for betting on sports and other events with friends, acquaintances, or co-workers. That is, the highest proportion of respondents who have ever participated in these types of wagering report weekly participation in this activity. Conversion rates for wagering on live bingo and on card games other than poker are also quite high. Conversion rates for other types of wagering, such as slot machines and blackjack, are much lower.

Gambling Participation

In order to analyze gambling involvement in the general population, it is useful to distinguish different levels of gambling participation. In order to analyze gambling involvement in North Dakota, we divided the respondents into four groups:

- *non-gamblers* who have never participated in any type of gambling (18% of the sample);
- *infrequent gamblers* who have participated in one or more types of gambling but not in the past year (9% of the sample);
- *past-year gamblers* who have participated in one or more types of gambling in the past year but not on a weekly basis (60% of the sample); and
- *weekly gamblers* who participate in one or more types of gambling on a weekly basis (13% of the sample).

The following table shows that weekly gamblers are significantly more likely than other gamblers to be male. Weekly and past-year gamblers are significantly more likely to be under the age of 30, to have graduated from high school, to be married, employed, and to have annual household incomes over \$25,000 than infrequent gamblers. This table also shows that among infrequent gamblers, the great majority (88%) have participated in less than 5 types of gambling and only 1% have participated in 10 or more types of gambling. In contrast, 17% of weekly gamblers have participated in 10 or more types of gambling. Finally, this table shows that the *number* of gambling activities in which different groups of gamblers participate increases significantly with increased levels of participation.

Again, we remind readers that asterisks in the far right column of any table indicate that *one* of the figures in that row is significantly or somewhat different from other figures in the same row.

TABLE 3
Gambling Involvement in North Dakota

	Infrequent (N=139)	Past Year (N=905)	Weekly (N=196)	
Demographics				
Male	36%	41%	56%	**
Under 30	8%	18%	16%	**
Non-White	2%	3%	6%	
HS Graduate	81%	93%	89%	**
Married	55%	69%	64%	**
Annual HH over \$25,000	42%	64%	64%	**
Number of Activities				
1 - 4	88%	51%	30%	
5 - 9	12%	43%	53%	
10 or more	1%	7%	17%	
Mean Number of Activities	2.7	4.9	6.4	**

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)

As in other states, different types of gambling in North Dakota appeal to very different groups of players. There are significant differences in the demographics of non-gamblers, infrequent gamblers, past-year gamblers and weekly gamblers for nearly every type of wagering done by North Dakota respondents. Differences in the gambling involvement of different demographic groups in North Dakota are summarized below. Detailed information on the demographic characteristics of participants in each type of gambling is provided in Appendix B.

In North Dakota, young adults with higher education and income are more likely than the general population to wager on raffles and casino nights as well as on horse or dog races. Women, particularly those with lower income, are more likely than the general population to wager on non-poker card games and on slot machines. Non-White women are more likely to wager on bingo than any other demographic group while non-White men are more likely to be poker players than other demographic groups.

Young men with higher education and income are more likely than the general population to be involved in numerous types of gambling. These individuals are more likely than the general population to play pulltabs, blackjack, instant lottery games, video lottery games, and card and dice games at out-of-state casinos. Young men with higher education and income are more likely than the general population to wager on the outcome of sports and other events with friends, acquaintances and

co-workers. Regardless of age, men with higher incomes are more likely than the general population to wager on sports events with a bookmaker and on speculative investments.

Reasons for Gambling

Respondents who ever gambled were asked to say why they did so. The most frequently cited reason for gambling among North Dakota respondents is fun or entertainment (78%). Other important reasons include socializing (66%), to support worthy causes (66%), to win money (47%), and for excitement (44%).

The reasons given by North Dakota respondents for gambling differ significantly by the gender, age, ethnicity, education, marital status and employment status of the respondent. For example, women are significantly more likely to say that they gamble to support worthy causes than men. Men are somewhat more likely than women to gamble for excitement, as a hobby, or for fun and entertainment. Respondents under the age of 30 are significantly more likely to say that they gamble for excitement and somewhat more likely to say that they gamble to win money or out of curiosity than respondents over the age of 30.

Respondents without a high school degree are somewhat more likely to say that they gamble as a hobby and significantly more likely to say that they gamble to distract themselves from everyday problems than respondents who have graduated from high school. High school graduates, on the other hand, are somewhat more likely to say they gamble for entertainment than non-high school graduates. Non-White respondents are somewhat more likely to say that they gamble to win money and to distract themselves from every day problems than White respondents.

Respondents who are not married are somewhat more likely to say that they gamble for entertainment than married respondents. Respondents who are not employed are somewhat more likely to say that they gamble to socialize than employed respondents. However, employed respondents are more likely to say that they gamble to win money and to support worthy causes than respondents who are not employed.

Favorite Gambling Activities

In North Dakota, 9% of the respondents who ever gambled had participated in only one type of gambling. Among these respondents, the majority (69%) wagered on raffles and at casino nights while 20% wagered on live bingo.

Respondents who had participated in more than one type of gambling were asked to indicate which was their favorite game. A substantial proportion of these respondents (14%) expressed no preference for any one type of gambling. Among North Dakota respondents who had participated in more than one type of gambling and expressed a preference, slot machines (15%), live bingo (13%), pulltabs (11%) and blackjack (11%) were reported as favorite types of gambling. Other, less favored gambling activities included raffles and casino nights (9%), wagering on poker and other card games (8%), wagering on all types of lotteries (7%) and wagering on sports with friends, acquaintances or co-workers (6%).

Expenditures on Gambling

Reported estimates of expenditures obtained in this survey are based on recollection and self-report. These estimates do not include amounts spent on gambling in North Dakota by non-residents and tourists. Data on reported expenditures are best suited for analyzing the relative importance of different types of gambling in the general population rather than for ascertaining absolute spending levels on different types of wagering.

Respondents who had done any kind of gambling in the past year were asked to indicate how much money they spend on that activity in a typical month. The reported *total monthly expenditure* for each gambling activity was calculated by summing the amount of money reported by each respondent for each gambling activity. The total amount spent in a typical month by all respondents for all gambling activities was then calculated. The *proportion* of reported total monthly expenditure spent on each gambling activity was calculated by dividing the amount spent on each activity by the reported total monthly expenditure.

Adjustments to Expenditures. The one adjustment made in calculating the reported total monthly expenditure on gambling for North Dakota was to exclude expenditures on speculative investments from the calculation. Amounts spent on speculative investments constituted 39% of the unadjusted total monthly expenditure. However, these investments are not universally regarded as a gambling activity. In addition, speculative investments reflect large amounts of money spent by a small number of respondents (4% of the sample). This adjustment was made in order to more clearly explicate the relative gambling expenditures of the majority of North Dakota respondents.

Comparisons to Other Expenditure Data. The reported total monthly expenditure on all gambling activities included in the survey except speculative investments was divided by the number of respondents (N=1,517) to obtain an average amount reportedly spent on all types of wagering per respondent per month. Using this method, we calculate that respondents spend an average of \$25 on gambling activities per month. In Montana, this amount was \$27 while in South Dakota, this amount was \$23 per month per respondent.

If this amount is taken as an average of the amount spent on gambling by all individuals over 18 in North Dakota, the reported total expenditure of North Dakota adults on gambling is \$137 million per year. Data provided by the North Dakota Office of the Attorney General show that gross wagering proceeds for the year ending June 30, 1992 are much higher, at \$239 million.

There may be several reasons for differences between reported expenditures on different types of gambling in this survey and the gross wagering proceeds identified by the Attorney General. We have noted that the data from this survey are based on recollection and self-report which can affect their reliability. Respondents may be reporting on the amounts they take into gaming venues rather than on the amounts that they lose. Respondents are probably not including amounts that they obtain while in a gambling venue (through credit or check cashing) in their reported expenditures.

There are certainly substantial amounts of money wagered in North Dakota by non-residents which would account for some of the difference between reported expenditures and gross proceeds. In addition, some groups in the general population that were somewhat under-sampled, including young men and Native Americans, spend far greater amounts than the per capita expenditures reported here

suggest. Greater expenditures, even by small groups in the general population, could contribute to substantially higher per capita expenditures. These differences underscore our earlier caution that these data are best suited for analyzing the relative importance of different types of gambling in the general population rather than for ascertaining absolute spending levels.

Variations in Expenditures. As with gambling participation, reported monthly gambling expenditures vary across demographic groups. Men report spending over twice as much money on gambling (\$37 per month) as women (\$17 per month). Employed respondents report spending much more money on gambling (\$30 per month) than respondents who are not employed (\$17 per month).

The following table shows the reported total monthly expenditures for all of the types of gambling included in this survey except speculative investments. Expenditures on several types of gambling not available in North Dakota, such as slot machines and lottery games, are nevertheless quite high. This suggests that North Dakota residents may be spending substantial amounts on gambling in adjacent states such as Minnesota, South Dakota and Montana and emphasizes the importance of analyzing gambling expenditure data on a regional basis.

TABLE 4
Reported Monthly Expenditures on Gambling

Type of Gambling Activity	Monthly Expenditure	Percentage of Total
Pulltabs	\$ 7,846	21%
Live Bingo	\$ 5,718	15%
Raffles and Casino Nights	\$ 4,826	13%
Slot Machines	\$ 4,323	12%
Blackjack	\$ 3,284	9%
Video Lottery	\$ 2,343	6%
Sports Bets with Friends	\$ 2,006	5%
Poker	\$ 1,653	4%
Out-of-State Casinos	\$ 1,338	3%
Horse, Dog or Mule Races	\$ 1,250	3%
Instant Lottery Games	\$ 1,207	3%
Non-Poker Card Games	\$ 775	2%
Other Lottery Games	\$ 639	2%
Craps or Other Dice Games	\$ 327	1%
State Total	\$37,535	100%

It is interesting to compare reported expenditures on gambling among the general population with reported expenditures among respondents who have wagered on different types of gambling in the past year (e.g. Past-Year Gamblers). In the following table, the first column displays reported monthly expenditures among the general population. The second column displays reported monthly expenditures among individuals who have participated in specific types of gambling during the past year.

TABLE 5
Summary of Average Monthly Gambling Expenditures

Type of Gambling Activity	General Population (N=1,517)	Past-Year Gamblers (N varies)
Pulltabs	5.17	15.91
Live Bingo	3.77	16.57
Raffles and Casino Nights	3.18	6.08
Slot Machines	2.85	12.98
Blackjack	2.16	13.14
Video Lottery	1.54	14.64
Sports Bets with Friends	1.32	7.04
Poker	1.09	17.97
Out-of-State Casinos	.88	21.24
Horse, Dog or Mule Races	.82	18.38
Instant Lottery Games	.80	3.88
Non-Poker Card Games	.51	4.33
Other Lottery Games	.42	5.46
Craps or Other Dice Games	.22	9.91

The preceding table shows that while average reported expenditures for most types of gambling are quite low, expenditures among past-year gamblers can be much higher. For example, while the average amount wagered on craps or other dice games among the adult population of North Dakota is 22¢ per month, the average amount wagered on craps or other dice games among respondents who have participated in this activity in the past year is \$9.91 per month.

Finally, it is instructive to compare expenditures on different types of gambling in terms of the amounts that respondents estimate they spend. Figure 1 (see Page 42) illustrates differences in the distribution of reported monthly expenditures on different gambling activities. While pulltabs attract the greatest overall reported expenditures (see Table 4), over half of these expenditures are in amounts under \$10 per month. In contrast, while the total reported monthly expenditure on blackjack and video lottery games are much lower, much higher proportions of these expenditures are in amounts over \$20 per month.

PROBLEM AND PATHOLOGICAL GAMBLING IN NORTH DAKOTA

We noted above that the demographics of the sample differ somewhat from the demographics of the state. Respondents in the sample were more likely to be female and less likely to be under 25 than the general population. We further noted that since the prevalence of problem and pathological gambling is generally highest among men under 30 years of age, these differences are likely to render conservative the estimates of problem and pathological gambling contained in this chapter.

In consultation with Mr. Winkelman, we elected not to weight the North Dakota sample to reflect the actual proportion of young men in the general population. Weighting has not been used to adjust samples in any other state where gambling prevalence surveys have been carried out. Weighting the North Dakota sample would make comparisons with these other states problematic. Further, while weighting the sample would probably increase the reported prevalence rates for North Dakota, such an increase is unlikely to be larger than 0.5%. Given the small size of the probable adjustment and the importance of maintaining comparability, it seemed best to leave the sample unweighted and to simply caution readers that the prevalence rates reported here must be viewed as minimum rather than as maximum rates.

In the chapter on Methods, we outlined the development of the South Oaks Gambling Screen in detail. Following the established criteria for discriminating between non-problem gamblers and individuals with moderate to severe gambling problems (Lesieur & Blume 1987), North Dakota respondents' scores on the lifetime and current South Oaks Gambling Screen items were tallied. In accordance with these criteria, prevalence rates were calculated as follows:

- *lifetime problem gamblers* are those respondents who score 3 or 4 points on the lifetime SOGS items;
- *lifetime probable pathological gamblers* are those respondents who score 5 or more points on the lifetime SOGS items;
- *current problem gamblers* are those respondents who score 3 or 4 points on the current SOGS items; and
- *current probable pathological gamblers* are those respondents who score 5 or more points on the current SOGS items.

Lifetime prevalence data are most useful for identifying the characteristics of individuals in the general population at greatest risk for experiencing problems related to their gambling involvement. Current prevalence data are most useful for assessing rates of change in gambling problems and pathology over time, both for individuals and in the general population.

Lifetime Prevalence

Among North Dakota respondents, 2.5% of the sample scored as lifetime problem gamblers and 1.0% of the sample scored as lifetime probable pathological gamblers. Overall, the lifetime prevalence rate of problem and probable pathological gambling in North Dakota is 3.5% of the adult population.

According to the 1990 census, the population aged 18 and over in North Dakota is 463,000 individuals. Based on these figures, we estimate that between 7,900 and 15,300 North Dakota residents can be classified as lifetime problem gamblers. In addition, we estimate that between 2,300 and 7,000 North Dakota residents can be classified as lifetime probable pathological gamblers.

TABLE 6
Comparing Lifetime Problem Gamblers
with the General Population

Demographics	Non-Problem Respondents (N=1,464)	Problem & Pathological Gamblers (N=53)	
Male	40%	55%	*
Under 30	14%	25%	*
Non-White	3%	8%	
Less than HS	11%	9%	
Not Married	35%	36%	
HH Income Under \$25,000	40%	43%	

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)

The preceding table shows that there are differences between respondents who scored as lifetime problem or probable pathological gamblers and the larger sample from North Dakota. Lifetime problem and probable pathological gamblers in North Dakota are somewhat more likely than the larger sample to be male and under 30 years of age.

The distribution of lifetime problem and probable pathological gamblers in North Dakota is congruent with data from other jurisdictions that suggests that problem and pathological gambling is associated with urban residence. In New York, 42% of the overall sample and 55% of the problem and probable pathological gamblers resided in the New York City region (Volberg & Steadman 1988). In New Zealand, 27% of the overall sample and 37% of the problem and probable pathological gamblers resided in the Auckland City region (Abbott & Volberg 1991). In North Dakota, the majority of lifetime problem and probable pathological gamblers reside in the regions served by mental health centers located in Fargo (30%), Grand Forks (21%), Minot (17%) and Bismarck (13%).

Current Prevalence

Among North Dakota respondents, 1.3% of the sample scored as current problem gamblers and 0.7% of the sample scored as current probable pathological gamblers. Overall, the current prevalence rate of problem and probable pathological gambling in North Dakota is 2.0% of the adult population.

Based on these figures, we estimate that between 3,200 and 8,700 North Dakota residents can be classified as current problem gamblers. In addition, we estimate that between 1,300 and 5,200 North Dakota residents can be classified as current probable pathological gamblers.

The following table shows that there are also significant differences between respondents who scored as current problem or probable pathological gamblers and the larger sample from North Dakota. Current problem and probable pathological gamblers in North Dakota are significantly more likely than the larger sample to be under 30 years of age, to be non-White, and are somewhat less likely to earn \$25,000 or more annually.

TABLE 7
Comparing Current Problem Gamblers
with the General Population

Demographics	Non-Problem Respondents (N=1,487)	Problem & Pathological Gamblers (N=30)	
Male	41%	37%	
Under 30	14%	33%	**
Non-White	3%	13%	**
Less than HS	11%	10%	
Not Married	35%	40%	
HH Income Under \$25,000	39%	60%	*

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)

As in other states, a substantial proportion of the North Dakota respondents who score as lifetime problem or probable pathological gamblers do not score as having a current problem or pathology. In other states, this proportion ranges from 39% in Montana to 52% in South Dakota (where a 6-month rather than a 12-month measure of current prevalence was used). In North Dakota, 45% of lifetime problem and probable pathological gamblers do not score as having a current problem or pathology.

Since there are few treatment services for problem and pathological gamblers in North Dakota, this finding suggests that a sizable group of individuals who have experienced gambling-related problems at some time in their lives have managed to overcome these difficulties without outside intervention. However, longitudinal research is required to obtain a comprehensive view of the natural history of these problems.

COMPARING PROBLEM AND NON-PROBLEM GAMBLERS IN NORTH DAKOTA

To understand the relationship between gambling involvement and problem gambling in North Dakota, it is important to compare problem and probable pathological gamblers with respondents who have gambled without problems. In this chapter, we compare the characteristics of respondents who have ever gambled with those who scored as lifetime problem and probable pathological gamblers.

In conducting analyses for the following discussion, respondents who scored as lifetime problem gamblers were combined with those who scored as lifetime probable pathological gamblers. Again, this approach is based on the importance of determining differences between respondents without gambling problems and respondents with moderate to severe gambling problems.

Gambling Participation

Since problem and probable pathological gamblers are demographically heterogeneous, it is useful to focus on specific behaviors exhibited by individuals who experience problems related to their gambling regardless of their sex, age, ethnicity or income. Research in Australia and Canada suggests that behavioral correlates of problem gambling include weekly gambling, regular heavy losses and involvement with continuous forms of gambling (Dickerson 1993; Ladouceur, Gaboury, Dumont & Rochette 1988). Continuous forms of gambling are characterized by rapid cycles of stake, play and determination.

As in other states, problem and probable pathological gamblers in North Dakota are significantly more likely than non-problem gamblers to be involved in one or more types of gambling on a weekly basis. In North Dakota, 42% of respondents who score as lifetime problem or probable pathological gamblers participate weekly in one or more types of gambling compared to 15% of respondents who have ever gambled. An even greater proportion of current problem and probable pathological gamblers (67%) are weekly gamblers compared to respondents with no current gambling problem (15%).

The following table shows differences in weekly involvement in different types of wagering by respondents without gambling-related problems and by those who score as lifetime problem or probable pathological gamblers. Respondents who score as lifetime problem or probable pathological gamblers are significantly more likely to wager weekly on live bingo, pulltabs, and raffles and casino nights than non-problem gamblers. The mean number of gambling activities in which non-problem and problem and probable pathological gamblers participate weekly also differs significantly.

TABLE 8
Weekly Gambling Involvement
of Non-Problem and Problem Gamblers

Games Played Weekly	Non-Problem Gamblers (N=1,187)	Problem & Pathological Gamblers (N=53)	
Live Bingo	4%	25%	**
Pulltabs	2%	23%	**
Raffles and Casino Nights	1%	8%	**
Sports Bets with Friends	4%	6%	
Non-Poker Card Games	2%	4%	
Blackjack	1%	4%	
Instant Lottery Games	1%	4%	
Slot Machines	<1%	2%	
Poker	<1%	0%	
Craps or Other Dice Games	<1%	0%	
Horse, Dog or Mule Races	<1%	0%	
Video Lottery Games	<1%	0%	
Other Lottery Games	2%	0%	
Mean Number of Weekly Activities	0.20	0.75	**

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)

Gambling Expenditures

Given the correlation between gambling problems and regular heavy losses, it is important to compare gambling expenditures of non-problem gamblers with those with moderate to severe gambling-related problems. The following table shows that reported monthly expenditures on gambling are significantly higher among problem and probable pathological gamblers than among those respondents who have ever gambled for nearly every type of gambling.

TABLE 9
Average Monthly Gambling Expenditures
of Problem and Non-Problem Gamblers

Type of Gambling Activity	Non-Problem Gamblers (N=1,187)	Problem & Pathological Gamblers (N=53)	
Pulltabs	3.52	69.11	**
Live Bingo	3.79	23.08	**
Raffles and Casino Nights	3.31	16.92	**
Slot Machines	3.00	14.30	**
Blackjack	2.27	11.09	**
Video Lottery	1.70	6.15	
Sports Bets with Friends	1.47	5.02	**
Poker	1.23	3.55	
Out-of-State Casinos	.80	7.26	**
Horse, Dog or Mule Races	1.01	.96	
Instant Lottery Games	.88	3.15	**
Non-Poker Card Games	.56	1.98	**
Other Lottery Games	.51	.68	
Craps or Other Dice Games	.22	1.17	**
Total Monthly Expenditures on Gambling	24.28	164.43	**

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)

Differences in reported monthly expenditures between problem and non-problem gamblers are greatest for pulltab wagering and for wagering on live bingo. Differences are also high for raffles and casino nights, slot machines, and blackjack. Reported total monthly expenditures on gambling for problem and non-problem gamblers also differ significantly.

On the basis of weekly involvement and reported monthly expenditures, the types of gambling in North Dakota most closely associated with problem and pathological gambling are pulltabs, live bingo and small stakes games such as raffles and casino nights. Research shows that continuous forms of gambling, with rapid cycles of stake, play and determination, are more likely to lead to problematic involvement than non-continuous forms of gambling (Dickerson 1993). Pulltabs, bingo and casino-style games are all continuous forms of gambling.

Other Significant Differences

There are several further significant differences between respondents who have ever gambled and those who score as problem and probable pathological gamblers in North Dakota that are worthy

of note. Lifetime problem and probable pathological gamblers are significantly more likely than non-problem gamblers to have ever felt that they had a problem with gambling. Lifetime problem and probable pathological gamblers are also significantly more likely to have ever felt nervous about their gambling.

TABLE 10
Other Significant Differences Between
Problem and Non-Problem Gamblers

Type of Gambling Activity	Non-Problem Gamblers (N=1,187)	Problem & Pathological Gamblers (N=53)	
Ever felt you had a problem?	< 1%	17%	**
Ever felt nervous about gambling?	7%	49%	**
Main Reasons for Gambling			
For fun or entertainment	78%	94%	**
For excitement or challenge	42%	72%	**
To win money	46%	70%	**
To socialize	66%	68%	
To support worthy causes	66%	55%	
Out of curiosity	33%	40%	
As a distraction from everyday problems	9%	23%	**
As a hobby	6%	21%	**

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)

The preceding table also shows that there are significant differences between problem and non-problem gamblers in North Dakota in motivations for gambling. Problem and probable pathological gamblers are significantly more likely than non-problem gamblers to engage in these activities for entertainment, excitement, to win money, as a hobby and as a distraction from everyday problems. Problem and probable pathological gamblers are just as likely as non-problem gamblers to say that they gamble in order to socialize or out of curiosity. They are less likely than non-problem gamblers to say that they gamble to support worthy causes.

COMPARING GAMBLING AND PROBLEM GAMBLING BY REGION

In order to implement services for problem and pathological gamblers in North Dakota, it is essential to understand differences in gambling involvement, gambling expenditures, and problem and pathological gambling prevalence rates across the state. The regions identified in this chapter correspond to the regions served by mental health centers in:

- Bismarck
- Devils Lake
- Dickinson
- Fargo
- Grand Fork
- Jamestown
- Minot
- Williston

These regions are used for planning purposes by the North Dakota Department of Human Services, Division of Mental Health. Differences across these regions are summarized below. Details of regional gambling involvement, gambling expenditures and prevalence rates are presented in Appendix C. In reading the tables presented in Appendix C, we remind readers that asterisks in the far right column indicate that *one* of the figures in that row is significantly or somewhat different from other figures in the same row.

Gambling in the General Population

There are few significant differences across the 8 regions in the demographic characteristics of individuals who have ever gambled. As Table C1 shows, respondents from the Fargo region are significantly more likely to have ever gambling and to have participated in many types of gambling than respondents from other regions. Table C2 shows that lifetime gamblers from the Devils Lake region are significantly more likely to than lifetime gamblers from any other region to be non-White. These are the only significant differences in the characteristics of lifetime gamblers or problem and probable pathological gamblers by region.

While these findings do not attain statistical significance, Table C2 also shows that lifetime gamblers from the Williston region are most likely to be men, those from the Bismarck region are most likely to be under the age of 30, those from the Devils Lake, Fargo and Williston regions are most likely to have graduated from high school, those from the Fargo region are most likely to be unmarried, and those from the Dickinson region are most likely to have household incomes under \$25,000 annually.

Involvement in gambling differs significantly across these regions. As Table C3 shows, while 88% of the respondents in the Fargo region said that they had participated in one or more of the gambling activities included in the questionnaire, only 74% of the respondents in the Williston region indicated that they had done so. Respondents from the Fargo region were significantly more likely to have tried nearly every type of gambling included in the survey except lottery games and craps or other

dice games. While respondents from several other regions were more likely than Fargo residents to have wagered on live bingo, this difference was not statistically significant.

Expenditures on Gambling

While expenditures on gambling differ across the 8 regions, most of these differences do not attain statistical significance. As Table C4 shows, reported monthly expenditures on gambling in the Devils Lake region are significantly higher than expenditures in any other region. Total reported monthly expenditures on gambling in the Devils Lake region are nearly \$53 while the next highest figure is \$29 in the Grand Forks Region. This difference is probably related to the much higher proportion of Native American respondents residing in the Devils Lake region. Further discussion of gambling involvement and expenditures of Native Americans in North Dakota is presented in a separate report (Volberg 1993b).

Reported expenditures on specific types of gambling are highest in the Devils Lake region for pulltabs, live bingo, video lottery games, blackjack, and craps or other dice games although the majority of these differences do not attain statistical significance. Expenditures on raffles are highest in the Bismarck region. Expenditures on slot machines are highest in the Grand Forks region. Expenditures on out-of-state casino games, card games other than poker, and wagering on sports or other events with friends, acquaintances or co-workers are highest in the Williston region while those on poker are highest in the Minot region.

Reported expenditures on sports wagering with friends, acquaintances and co-workers are significantly higher in the Williston region than elsewhere in North Dakota. Reported expenditures on horse or dog races are somewhat higher in the Williston region than elsewhere in North Dakota. Reported expenditures on instant lottery games are significantly higher in the Grand Forks region than elsewhere in North Dakota.

Lifetime and Current Prevalence

Table C1 summarizes differences across all regions in lifetime and current prevalence of problem and probable pathological gambling as well as gambling participation. The lifetime prevalence of problem and probable pathological gambling is highest in the Fargo region and lowest in the Jamestown region. The current prevalence of problem and probable pathological gambling is highest in the Grand Forks region and lowest in the Dickinson region. The small size of the groups of problem and probable pathological gamblers in each region makes statistical significance difficult to establish.

Table C1 suggests that while differences in the lifetime prevalence of problem and probable pathological gambling are most closely correlated with differences in lifetime gambling involvement, differences in current prevalence are most closely correlated with differences in weekly involvement in gambling. Determining the relationships between lifetime and current prevalence rates as well as their relationship to gambling involvement and expenditures will require further research.

COMPARING NORTH DAKOTA TO OTHER STATES

This chapter focuses on comparisons of North Dakota with South Dakota and Montana. These two states are contiguous to North Dakota and the surveys of gambling involvement and problem gambling in these states collected similarly detailed information on respondents' gambling involvement and gambling expenditures.

The first section of this chapter compares the demographics of the general population samples from these states. The second section compares gambling involvement in the general population across states. The third section compares the demographics and gambling involvement of problem and probable pathological gamblers in these states. In reading the tables presented in this chapter, we remind readers that asterisks in the far right column indicate that *one* of the figures in that row is significantly or somewhat different from other figures in the same row.

Comparing Demographics Across States

To compare gambling involvement and prevalence rates of problem and probable pathological gambling in North Dakota with those in other states, it is important to note differences in the demographics of respondents in these states.

TABLE 11
Demographic Characteristics of General Population Samples
in Surveys of Problem Gambling

Demographics	North Dakota (N=1,517)	South Dakota (N=1,560)	Montana (N=1,020)	
Male	41%	44%	49%	**
Under 30	15%	17%	16%	
Non-White	3%	4%	4%	
Not Married	35%	34%	36%	
High School Graduate	89%	87%	93%	**
HH Income Under \$25,000	40%	46%	41%	**

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)

This table shows that respondents from North Dakota and South Dakota are significantly less likely to be male and to have graduated from high school than respondents from Montana. Respondents from North Dakota and Montana are significantly less likely to have annual household incomes over \$25,000 than respondents from South Dakota.

Comparing Gambling Involvement Across States

Comparisons of gambling involvement across states can be difficult because of the many different types of gambling available in different states. Data on involvement in gambling activities in different states have been collapsed into categories that can be matched across states. For example, respondents in North Dakota who ever wagered on blackjack, poker, card games other than poker or craps were considered to have wagered on cards or dice. Respondents in Montana who ever wagered on card games with friends or family, high-stakes card games or out-of-state card or dice games were considered to have wagered on cards or dice. Respondents from South Dakota who ever wagered on card games for money or dice games for money were considered to have wagered on cards or dice.

The following table indicates the variety of legal forms of gambling available to residents in North Dakota, South Dakota and Montana. While all three states have substantial amounts of legal gambling, North Dakota residents do not have a state lottery or widespread gaming machines (called video lottery terminals in South Dakota). Residents of South Dakota do not have legal sports wagering in their state.

TABLE 12
Legal Forms of Gambling
By State*

Legal Forms of Gambling	North Dakota (N=1,517)	South Dakota (N=1,560)	Montana (N=1,020)
Instant Lottery Games		◆	◆
Lotto Games		◆	◆
Video Lottery Terminals		◆	◆
Bingo	◆	◆	◆
Pulltabs	◆	◆	
Casinos/Blackjack	◆	◆	
Horse and Dog Races	◆	◆	◆
Sports Betting	◆		◆
Respondents Who Ever Gambled	82%	86%	86%

* Based on "Gaming At A Glance 1992,"
Gaming & Wagering Business 14 (9): 34.

Analysis of the demographics of respondents who ever gambled in each state shows that patterns of gambling involvement in North Dakota are similar to patterns in South Dakota. In contrast, in Montana, females and unmarried persons were just as likely as males and married persons to have ever gambled.

The following table compares lifetime gambling involvement among respondents in North Dakota, South Dakota and Montana. Although *all* gambling in North Dakota is considered charitable

gambling, we have separated pulltab and bingo participation among North Dakota respondents from other types of charitable gambling such as raffles. This was done in order to allow comparisons of types of gambling participation across states.

TABLE 13
Lifetime Gambling Involvement
Across States

Type of Gambling Activity	North Dakota (N=1,517)	South Dakota (N=1,560)	Montana (N=1,020)	
Instant Lottery Games	28%	59%	63%	**
Other Lottery Games	10%	39%	50%	**
Pulltabs	47%	30%	---	**
Charitable Games	71%	20%	56%	**
Bingo/Keno	43%	49%	36%	**
Gaming Machines	42%	65%	65%	**
Cards/Dice	46%	33%	22%	**
Sports	29%	50%	47%	**
Horses or Dogs	20%	30%	30%	**
Speculative Investments	9%	29%	11%	**

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)

This table shows that respondents from Montana are significantly more likely to have ever played instant as well as other lottery games and significantly less likely to have ever played bingo or keno games than respondents from the other two states. Respondents from South Dakota are significantly more likely to have ever played bingo or keno games and to have wagered on speculative investments than respondents from the other two states. Respondents from South Dakota are significantly less likely to have wagered on charitable games. Respondents from North Dakota are significantly more likely to have played cards and dice games and significantly less likely to have wagered on lottery games, gaming machines or sports events than respondents from the other two states.

Comparing Problem Gambling Across States

The following table shows differences in the combined lifetime prevalence rates of problem and probable pathological gambling in all of the states where similar surveys of gambling involvement and problem gambling prevalence have been conducted. Lifetime prevalence rates of problem and probable pathological gambling in North Dakota are higher than in South Dakota and Iowa but lower than in Montana, California and all of the Northeastern states.

TABLE 14
Comparing Lifetime Prevalence Rates by State

State	Prevalence Rate	Adult Population*	Sample Size	Year
Connecticut	6.3%	2,500,000	1,000	1991
Washington State	5.1%	3,600,000	1,502	1992
Massachusetts	4.4%	4,200,000	750	1989
New York	4.2%	12,800,000	1,000	1986
New Jersey	4.2%	5,700,000	1,000	1988
California	4.1%	19,900,000	1,250	1990
Maryland	3.9%	2,900,000	750	1988
Montana	3.6%	600,000	1,020	1992
North Dakota	3.5%	500,000	1,517	1992
South Dakota	2.8%	500,000	1,560	1991
Iowa	1.7%	2,900,000	750	1989

* Rounded to the nearest 100,000

Current prevalence rates of problem and probable pathological gambling in North Dakota are slightly lower than in Montana where comparable data were collected. In Montana, 2.2% of the sample scored as current problem or probable pathological gamblers. In North Dakota, 2.0% of the sample scored as current problem or probable pathological gamblers. Current prevalence rates in South Dakota are based on a 6-month measure and are therefore not directly comparable. In South Dakota, 1.4% of the sample scored as current (past 6 months) problem or probable pathological gamblers.

There are significant differences between the general population and those who score as lifetime problem or probable pathological gamblers in all of the states where prevalence surveys of problem and pathological gambling have been carried out. In the discussion that follows, differences between the general population and lifetime problem and pathological gamblers in terms of demographics and gambling involvement are highlighted.

Demographics of Problem and Pathological Gamblers

To compare the demographics of problem and probable pathological gamblers across states, respondents in each state who scored as lifetime problem gamblers were combined with those who scored as lifetime probable pathological gamblers. As with earlier analyses in this report, this approach is based on the importance of determining differences between respondents without gambling problems and respondents with moderate to severe gambling problems.

TABLE 15
Demographic Characteristics of
Problem and Probable Pathological Gamblers

Demographics	North Dakota (N=53)	South Dakota (N=44)	Montana (N=36)	
Male	55%	61%	53%	
Non-White	8%	9%	6%	
Under 30	25%	32%	33%	
Less than HS	9%	14%	6%	
Not Married	36%	64%	33%	**
HH Income Under \$25,000	43%	59%	47%	

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)

There are significant differences in the demographics of lifetime problem and probable pathological gamblers and the general population in every state (Volberg 1993a). When problem and probable pathological gamblers are compared across North Dakota, South Dakota and Montana, the only significant difference is that problem and probable pathological gamblers from South Dakota are much less likely to be married than those from North Dakota and Montana.

Gambling Involvement of Problem and Probable Pathological Gamblers

As with gambling involvement in the general population, data on involvement in gambling activities by lifetime problem and pathological gamblers have been collapsed into categories that can be matched across states.

The following table shows that lifetime problem and probable pathological gamblers in North Dakota are significantly less likely than problem gamblers in Montana and South Dakota to have ever wagered on instant lottery games, other lottery games, gaming machines (including video lottery terminals), sports and horse or dog races. Lifetime problem and probable pathological gamblers in North Dakota are slightly more likely to wager on pulltabs than those in South Dakota and just as likely to have ever wagered on speculative investments. Lifetime problem and probable pathological gamblers in North Dakota are significantly more likely than those in the other two states to have ever wagered on charitable games as well as on card and dice games.

TABLE 16
Lifetime Gambling Involvement
of Problem and Probable Pathological Gamblers

Type of Gambling Activity	North Dakota (N=53)	South Dakota (N=44)	Montana (N=36)	
Instant Lottery Games	59%	91%	92%	**
Other Lottery Games	19%	73%	72%	**
Pulltabs	77%	61%	---	
Charitable Games	91%	25%	67%	**
Bingo/Keno	68%	75%	56%	
Gaming Machines	59%	98%	92%	**
Cards/Dice	85%	68%	36%	**
Sports	49%	82%	75%	**
Horses or Dogs	36%	55%	53%	**
Speculative Investments	17%	18%	3%	

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)

Comparison of the following table with the table above shows that patterns in lifetime gambling involvement of problem and probable pathological gamblers are somewhat different from patterns of weekly gambling involvement.

TABLE 17
Weekly Gambling Involvement of
Problem and Pathological Gamblers

Type of Gambling	North Dakota (N=53)	South Dakota (N=44)	Montana (N=36)	
Instant Lottery Games	4%	21%	25%	*
Other Lottery Games	0%	36%	36%	**
Pulltabs	23%	2%	---	**
Charitable Games	8%	0%	3%	
Bingo/Keno	25%	5%	6%	**
Gaming Machines	2%	41%	6%	**
Cards/Dice	8%	14%	0%	
Sports	6%	18%	0%	**
Horses or Dogs	0%	0%	6%	

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)

As with lifetime involvement, the preceding table shows that problem and probable pathological gamblers in Montana and South Dakota are significantly more likely to wager regularly on lottery games than those in North Dakota where there is no state lottery. Problem and probable pathological gamblers in North Dakota are significantly more likely to play pulltabs and bingo than those in the other two states. Pulltabs are legal in South Dakota but not in Montana while bingo is legal in all three states. Problem and probable pathological gamblers in South Dakota are significantly more likely to play video lottery terminals than those in Montana where gaming machines are also available. Problem and probable pathological gamblers from South Dakota are also significantly more likely to wager on sports than those in the other two states even though South Dakota is the only state of the three where sports wagering is illegal.

Some of the differences in weekly gambling involvement across states are clearly due to the availability of various types of gambling. Other differences may be due to social or cultural patterns associated with different types of gambling. For example, although pulltabs are equally available to North Dakota and South Dakota residents, weekly pulltab play is much higher in North Dakota. The much greater weekly wagering on gaming machines among South Dakota respondents may explain their lower weekly participation in pulltabs. However, this does not explain the large difference in weekly wagering on gaming machines between South Dakota and Montana.

A better understanding of such patterns of gambling participation would require alternative research approaches, such as participant-observation or in-depth interviewing techniques. Such research would be invaluable in understanding the interaction between the availability of different types of gambling, socio-cultural patterns that may affect gambling participation, and the psychological factors that may contribute to problematic gambling involvement.

T9

DISCUSSION

Like many other states, North Dakota has recently legalized several types of gambling. The data from this survey indicate that significant numbers of the residents of North Dakota participate in these as well as other types of gambling, that they find gambling entertaining and enjoyable, and that they spend moderate amounts of money on gambling. While the State of North Dakota benefits from the gambling involvement of its citizens through the tax revenues raised from legal gambling, the results of this survey show that, at a minimum, 4,500 North Dakota adults are currently experiencing moderate to severe problems related to their involvement in gambling.

Problem and pathological gamblers suffer from a treatable disorder whose costs go far beyond individual monetary losses. The results of this survey indicate that there may be significant costs associated with gambling involvement among North Dakota residents, including personal, family, financial and legal difficulties. The results of this survey further indicate that there is a need for efforts to address the personal, financial and legal costs associated with gambling problems in North Dakota.

The Treatment of Problem and Pathological Gambling

Since the 1950s, pathological gamblers have been treated in a variety of settings including self-help groups, private psychiatric and psychological practices, general and psychiatric hospital inpatient programs, community mental health centers, and drug and alcohol treatment centers. The profile of the pathological gambler entering treatment remains strikingly homogeneous across all of these treatment milieux (Brown 1987b; Volberg 1992b).

Self-Help (Gamblers Anonymous)

Until the 1970s, the only form of assistance available to problem and pathological gamblers was the self-help group, Gamblers Anonymous. The present organization of Gamblers Anonymous was established in 1957 and the number of Gamblers Anonymous chapters grew from 16 in 1960 to 600 in 1988 (Lesieur 1990).

The treatment program of Gamblers Anonymous consists of a "12-step" program of group meetings, comprised entirely of recovering problem and pathological gamblers. In addition to group meetings, newly enrolled members of Gamblers Anonymous attend pressure meetings where they are required to identify their debts and develop a plan for restitution. The members of Gamblers Anonymous are available to one another on a 24-hour basis in case a member experiences the urge to gamble. Gamblers Anonymous views its members' central dilemma as an incurable disease and insists on abstinence and the restitution of gambling debts. Members of Gamblers Anonymous usually attend one or more meetings each week in their first 6 to 12 months of membership although the level of attendance tends to diminish with time (Brown 1987a, 1987b).

Professional Treatment of Pathological Gambling

In 1972, the Veterans Administration established the first professional treatment program for pathological gamblers at Brecksville, Ohio. During the 1970s, the Veterans Administration established several more such programs around the United States. These inpatient treatment programs were

modeled on approaches in alcoholism and located within Veterans Administration alcohol treatment units (Custer & Milt 1985). As we noted in the Introduction, the medical community did not recognize pathological gambling as a diagnosable mental illness until 1980 (American Psychiatric Association 1980). This official recognition served as the foundation for the development of professional treatment for pathological gambling. By 1991, there were professional treatment programs for problem and pathological gambling in 13 states (National Council on Problem Gambling 1992).

While the professional and self-help approaches to working with problem and pathological gamblers are distinct, there are close ties between Gamblers Anonymous and professional treatment programs. Significant proportions of the referrals to professional treatment programs come from Gamblers Anonymous (Volberg 1988; Weinbaum 1989). Like Gamblers Anonymous, these programs have established abstinence from gambling and restitution of gambling-related debts as primary treatment goals. Many programs require or strongly advocate attendance at Gamblers Anonymous meetings as part of their therapeutic regimen.

Inpatient Treatment. Very few evaluations of the effectiveness of professional treatment programs have been carried out. The inpatient gambling treatment program at Brecksville is one of the few professional treatment programs to have published outcome data on the effectiveness of its treatment approach. This program features a 28-day multi-dimensional approach including medical assessment, didactic presentations, relaxation training, group psychotherapy, Gamblers Anonymous meetings and physical exercise (Taber, McCormick, Russo, Adkins & Ramirez 1987).

In an initial 12-month follow-up of 124 clients enrolled in the Brecksville program, 48% responded to a mail survey. Over half of these clients (55%) were completely abstinent and an additional 27% of the clients had been abstinent for at least one month (Russo, Taber, McCormick & Ramirez 1984). The totally abstinent group had significantly better interpersonal relationships, less depression, better financial status and their rates of participation in aftercare were greater than those who were not abstinent or who had relapsed. In a later 6-month follow-up of 66 clients from the same program, 86% were interviewed by telephone. Again, just over half (56%) of these clients were completely abstinent at the time of follow-up. In all, 67% of these clients reported periods of abstinence (Taber et al 1987). Significant improvements in several other measures, including subjective distress, impulse control, role impairment, alcohol abuse, and suicidal ideation, were also detected.

Outpatient Treatment. The New York State treatment program on Staten Island has published the only data on the effectiveness of outpatient treatment for pathological gamblers. The primary modes of treatment utilized in this program are individual, family/marital and group therapy and the mean length of treatment is just under 6 months. Data comparing scores at intake and termination for 88 of the clients in this program showed significant reductions in gambling involvement and improvements in social relations and life-style at termination of treatment (Blackman, Simone, Thoms & Blackman 1989). It should be noted that these data are based solely on self-report and no control group was utilized. In a separate assessment of all of the New York State outpatient treatment programs, comparison of scores at intake and termination for the 90 clients who successfully completed treatment showed decreases in indebtedness as well as reductions in the frequency of gambling, preoccupation with gambling, and in quarrels with family members, friends and employers (Volberg 1988).

Although there are now outpatient treatment programs operating in several states, including California, Connecticut, Florida, Iowa, Maryland, Massachusetts, Minnesota, New Jersey and

Pennsylvania, there are as yet no outcome data from these programs. It is therefore not yet possible to determine the effectiveness of the treatment regimens being used in these programs.

Funding Treatment Services for Pathological Gambling

In recent years, an increasing number of states have funded services for problem and pathological gamblers. In Florida, the state lottery recently appropriated \$98,500 from its advertising budget to fund a state-wide toll-free hotline providing information and referral services to pathological gamblers. In Minnesota, legislation was passed to provide biennial funding for longitudinal studies of pathological gambling among adults and adolescents, prevention and public education programs, a toll-free hotline, training for treatment professionals and one outpatient treatment program. The appropriation for 1989-91 was \$600,000 in Minnesota.

In New Jersey and New York, annual appropriations from general revenue funds have been used to establish and maintain outpatient treatment programs, state-wide hotlines and training for mental health and substance abuse treatment professionals. In New Jersey, \$500,000 per year is taken from fines paid by casinos found to be in violation of state gambling laws. In New York, funding for these programs is appropriated annually and currently stands at \$400,000 per year.

In Iowa, ½ of 1% of gross revenues from the state lottery and 3% of adjusted gross revenues from riverboat gambling are supposed to be set aside each year to fund public education and awareness programs, outpatient treatment programs, a toll-free hotline for information and referrals, and training of mental health and substance abuse treatment professionals. In past years, there have been difficulties in ensuring that these funds are indeed spent on services for problem and pathological gamblers in Iowa. In Massachusetts, biennial funding for public education activities, training of mental health professionals, an annual state-wide conference, a toll-free hotline and two outpatient treatment programs is provided from the lottery's unclaimed prize monies. Biennial funding for these services in Massachusetts presently stands at \$380,000.

The state of Texas has provided the most comprehensive approach to ameliorating the potentially negative impacts of legalized gambling on its citizens. In Texas, provisions to establish a state-wide hotline, public education efforts, training of mental health treatment professionals, baseline prevalence surveys of adults and adolescents, and outpatient treatment services were included in the enabling legislation for the state's lottery. Texas provided \$4 million from the general fund to support these programs for the 1992-1993 budget period.

Establishing Treatment Services in North Dakota

A small number of pathological gamblers in North Dakota have sought treatment from Mr. Richard Elefson, a private practitioner who specializes in the treatment of pathological gamblers. While 55% of the problem and pathological gamblers in the general population are men, 63% of Mr. Elefson's clients are men. While 64% of the problem and pathological gamblers in the general population are married, 53% of Mr. Elefson's clients are married. Among Mr. Elefson's clients, men tend to be younger than women although their average age is 42.5 years. Their average annual income is \$16,448 and their preferred types of wagering are pulltabs (34%) and bingo (32%).

The number of pathological gamblers receiving treatment for this pathological gambling in North Dakota (N=38) represents less than 2% of the 2,300 lifetime pathological gamblers and only 3% of the 1,300 current pathological gamblers that we have identified in North Dakota. Pathological gamblers entering professional treatment in North Dakota are more likely to be men and less likely to be married than pathological gamblers in the general population. These individuals are somewhat older than the problem and pathological gamblers identified in the general population. As services for problem and pathological gamblers are implemented in North Dakota, it will be essential to direct outreach efforts particularly to women, minorities and young adults in order to ensure that such services reach the entire spectrum of individuals in North Dakota who experience difficulties related to their gambling.

In introducing this report, we indicated that gambling involvement can lead to overwhelming personal, interpersonal, financial and legal problems for a small but significant number of individuals in the general population. The costs of gambling-related problems can be high, not only for individuals but for families, businesses, and communities. Other significant impacts include costs to employers, creditors, insurance companies, social service agencies and the civil and criminal justice systems.

In developing services for problem and pathological gamblers, the consensus among treatment professionals is that a broad array of services is necessary. Extensive public education is just as important as treatment services, particularly in the early stages of program development for problem and pathological gamblers and their families. In states as different as Iowa and New York, it has taken several years of concerted public education and outreach to generate substantial caseloads in the treatment programs.

Treatment services should include outpatient treatment, referral networks, and aftercare. In most states, aftercare consists of attendance at Gamblers Anonymous meetings, regular contact with a peer counselor, and occasional attendance at individual or group therapy sessions. While the need for inpatient treatment tends to be limited, there is consensus among professionals in this field that access to such services is important for those gamblers unable to stop gambling, those who are multiply addicted, and for those with significant co-morbid pathologies or with suicidal ideation.

Critical to the implementation of services is adequate and continued funding, a supportive regulatory environment, and an organizational commitment to establishing and maintaining these efforts. Regardless of the options developed for funding services for problem and pathological gamblers in North Dakota, it is essential that a firm and continuing financial commitment be made to minimize the negative impacts of legalized gambling.

Regulations governing the availability and accessibility of gambling are crucial in efforts to minimize the negative impacts of legalized gambling. Regulatory policies on the location of gambling venues, their hours of operation, the responsibilities of retailers and operators to prevent underage gambling, limits on the size of bets and payouts as well as credit have been used in a variety of jurisdictions to prevent or mitigate the prevalence of problem and pathological gambling. Regulatory efforts in shaping product development and delivery are a vital component in minimizing the potentially negative impacts of legalized gambling.

A firm and continuing organizational commitment to establishing and maintaining services for problem and pathological gamblers is another essential component to success. Problem and pathological

gambling has addictive elements as well as mental illness components and services for individuals with such problems tend to fall between these two, often quite separate domains. This is graphically illustrated by the fact that the New Jersey Division of Alcoholism oversees programs for problem gamblers in that state while in contiguous New York, these programs are overseen by the Office of Mental Health. In North Dakota, it will be critical to locate oversight for any services for problem and pathological gamblers in a state agency, such as the Division of Mental Health, that will support efforts to address this issue.

In implementing treatment services for problem and pathological gamblers in North Dakota, we recommend a two-phase approach. Phase One would require 1 to 2 years to implement and would include:

- ▶ establishment of a reliable source of funding;
- ▶ a wide-reaching public education campaign;
- ▶ prevention efforts in high schools and colleges;
- ▶ training for health, mental health and social service personnel (including school counselors) in the identification of gambling-related problems among their clients; and
- ▶ establishment of a hotline or crisis intervention system.

While public education and outreach may eventually generate substantial requests for assistance, it is likely that such efforts will lead problem gamblers to seek help earlier in their gambling careers while the costs of these problems to themselves, their families and their communities are still relatively low.

While the second phase in service implementation may be more expensive than the first phase, total investment will be minimized if efforts at prevention and education are successful. Phase Two would require an additional 3 to 5 years to implement and would include:

- ▶ training for mental health treatment professionals in how to treat problem and pathological gamblers;
- ▶ establishment of a certification program for gambling counselors;
- ▶ establishment of gambling-treatment positions in mental health and substance abuse treatment centers;
- ▶ evaluation of treatment effectiveness; and
- ▶ ongoing assessment of the prevalence of problem and pathological gambling in the general population.

Conclusion

While the revenues generated by legalized gambling benefit all citizens, gambling legalization also produces social costs. Since state governments both sanction legalized wagering and benefit directly from their citizens' participation, it seems reasonable to expect these governments to provide assistance to individuals who experience problems related to their gambling. Treatment professionals stress the importance of establishing an array of services aimed at preventing and mitigating the negative effects of gambling legalization. A full array of services would include public education, prevention, outreach, outpatient and inpatient treatment services, and research and evaluation. Most critical, however, is the need for reliable mechanisms for funding these efforts.

The data presented here provide a benchmark for future assessments of gambling involvement and problem and pathological gambling in North Dakota. These data also provide a foundation for policy making and planning for services for individuals who experience difficulties related to their involvement in gambling. Consideration must now be given to educating North Dakota residents about the potential problems associated with gambling, to providing treatment services for those individuals who experience problems related to their gambling, and to ensuring that adequate and continuing funds for such efforts are made available. In the future, it will be important for everyone involved with legalized gambling in North Dakota to work together to develop ways to help those individuals who encounter problems related to their gambling.

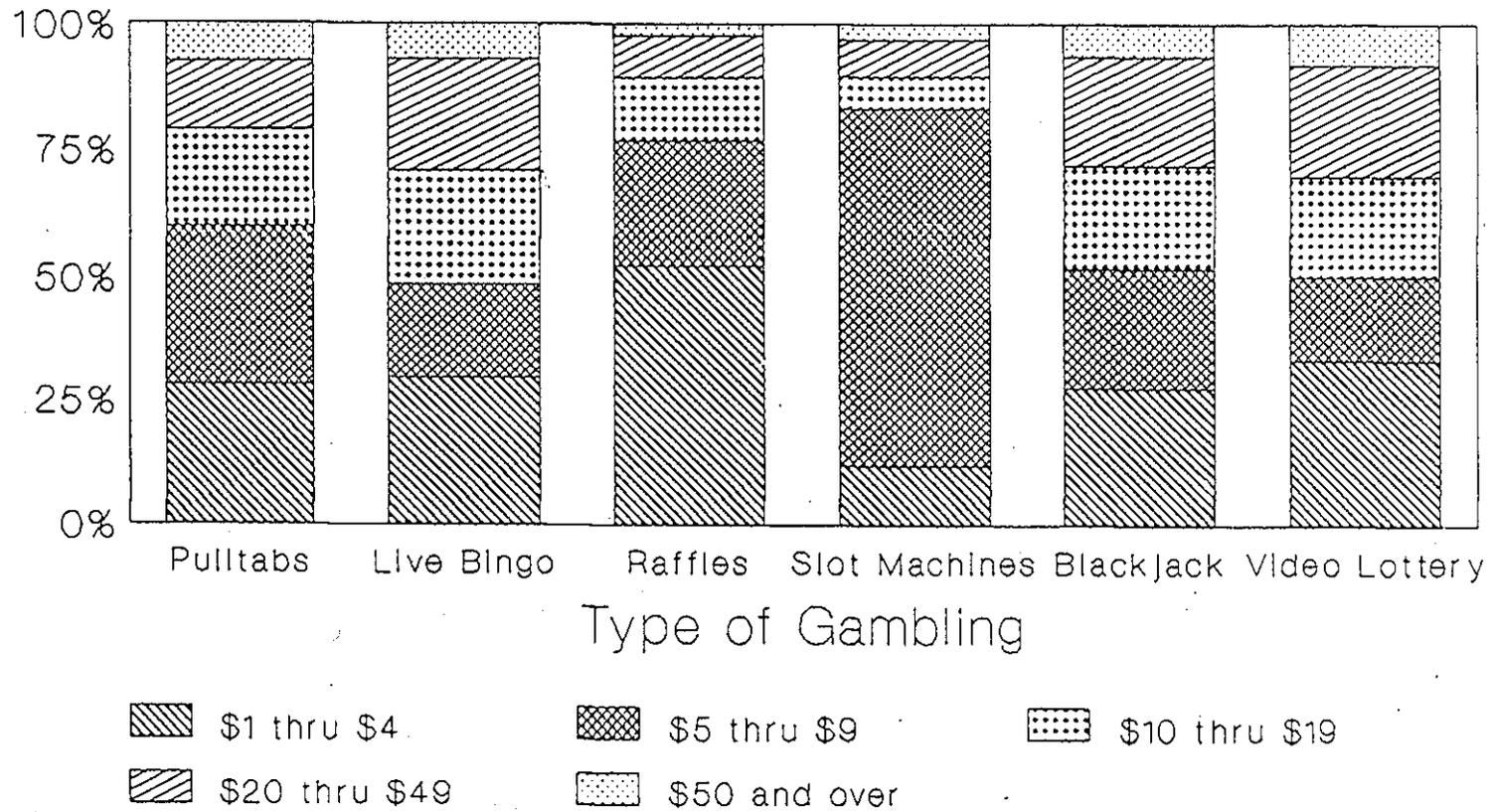
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Figure 1
 Distribution of Monthly Expenditures
 by Gambling Activity



APPENDIX A

**Questionnaire for the North Dakota Survey
on Gambling Involvement and Problem Gambling**

DATA ENTRY #: _____ INTERVIEWER NAME: _____ EMP. #: _____
 DATE: ____/____/____ START TIME: _____ am pm RESPONDENT #: _____

Hello, my name is (Your first name) and I am calling from PMI Research in Fargo. We are doing a study of the gambling practices of the Citizens of North Dakota. This is a scientific study funded by the North Dakota Department of Human Services and the results will influence how government funds will be spent. Your household is one of 1,500 being surveyed in North Dakota. Your number was randomly selected by a computer and I do not even know your name. All of your answers will be anonymous. In order to interview the right person, I need to speak with the member of your household who is over 18 and has had the most recent birthday. Would that be you? Y . . . Yes

ASK TO SPEAK TO CORRECT PERSON. <-- N . . No/Not Sure/No Response
 CALL BACK (CB) IF NOT AVAILABLE.

ASK Q1 (Q2-Q4 AS NEEDED) FOR EACH ACTIVITY LISTED ON NEXT PAGE.

Q1. People bet on many different things such as raffles, football games and card games. I am going to ask you about some activities such as these that you may participate in. Have you ever bet or spent money on (From list on next page)? <Record on next page under Q1.Ever Bet>

IF "Yes", ASK Q2. Otherwise go to next activity on the list.

Q2. Have you bet or spent money on this activity in the past year? <Record on next page under Q2.Past Year>

IF "Yes", ASK Q3 & Q4. Otherwise go to next activity on the list.

Q3. Can you give me an idea of the amount that you spend on this activity in a typical month? <IF RELUCTANT OR NOT SURE: I am only looking for an approximate amount, rounded to the nearest 5 dollars or so.> <Record on next page under Q3.\$/Month>

Q4. Do you gamble for money on this activity at least once per week? <Record on next page under Q4.1/Week>

GO BACK to Q1, until you have asked about all listed activities. If Q1 (and Q2 to Q4 as needed) have been asked for all activities, either continue with Q5 if the respondent said "yes" to one or more activities in Q1 or SKIP to Q39 if the respondent did not say "yes" to any activities in Q1.

IF RESPONDENT ONLY NAMED ONE ACTIVITY IN Q1, THEN RECORD THAT NUMBER IN Q5 AND GO TO Q7.

Q5. Thinking about these sorts of activities, which involve an element of luck or chance or which we call gambling activities, can you please tell me which is your favorite type of gambling activity?

ENTER ACTIVITY NUMBER FROM "CODE SHEET": _____

Q6. Do you have a second favorite type of gambling activity?

ENTER ACTIVITY NUMBER FROM "CODE SHEET": _____

Type of Wagering 1=Yes 2=No 3=DK 4=NR	Q1.Ever Bet	Q2. Past Year	Q3.\$/ Month	Q4.1/ Week +
1. Raffles, casino nights and other small stakes games sponsored by schools, clubs or other organizations				
2. Live Bingo				
3. Pull tabs				
4. Blackjack				
5. Instant lottery games, such as scratch cards in Minnesota where you know instantly if you've won				
6. Video lottery such as bingo, poker, black jack with progressive prizes such as those in South Dakota				
7. Other lottery games where winning numbers are announced at the end of the day or week				
8. Slot machines and other gaming machines, not including video lottery, that pay out tickets or cash				
9. Poker				
10. Card games other than poker played with friends or relatives for money				
11. Craps or other dice games				
12. Any card or dice games at out of state casinos				
13. Outcome of sports and other events with friends or co-workers				
14. Sports with a bookie				
15. Any type of horse, dog, or mule races				
16. Speculative investments including the stockmarket and commodities				
17. Other gaming activities				

IF THE RESPONDENT SAID "YES" TO ONE OR MORE ACTIVITIES IN Q1, CONTINUE WITH Q5.
 IF THE RESPONDENT DID NOT SAY "YES" TO ANY ACTIVITIES IN Q1, SKIP TO Q39.

Q7. And can you tell me the main reasons why you participate in the types of activities we have just discussed? Is it:

	Yes	No/NS
a. For socializing,	1 .. 2	
b. For excitement or as a challenge,	1 .. 2	
c. As a hobby,	1 .. 2	
d. To win money,	1 .. 2	
e. To support worthy causes,	1 .. 2	
f. Out of curiosity,	1 .. 2	
g. For entertainment or fun,	1 .. 2	
h. To distract myself from everyday problems, or ..	1 .. 2	
i. Some other reasons?	1 .. 2	

Q8. The next set of questions is part of a standard measurement scale which has been used throughout the United States in surveys similar to this one. There are no right or wrong answers to the questions that follow. We want to know what your experiences have been. Please try to be as accurate as possible in your answers and remember that all this information is anonymous.

For Q8 to Q29, if respondent answers never or no to part "a", then skip to next "a", otherwise ask part "b".

If person refuses to complete this section, please say "We realize these questions may not apply to everyone, but we do need answers to all of the questions. It will only take a few more minutes."

	Never	Some of the time	Most of the time	Every time	Don't know	No response
Q8a. When you participate in the gambling activities we have discussed, how often do you go back another day to win back money you lost? Is it never, some of the time, most of the time, or every time?	1 .. 2	3 .. 4	5 .. 6			
Q8b. How often have you done this in the past year?	1 .. 2	3 .. 4	5 .. 6			
Q9a. Have you ever claimed to be winning money from these activities when in fact you lost? Is it never, some of the time, most of the time, or every time?	1 .. 2	3 .. 4	5 .. 6			
Q9b. How often have you done this in the past year?	1 .. 2	3 .. 4	5 .. 6			
Q10a. Do you ever spend more time or money gambling than you intended?	1 .. 2	3 .. 4				
Q10b. Have you done this in the past year?	1 .. 2	3 .. 4				
Q11a. Have people ever criticized your gambling?	1 .. 2	3 .. 4				
Q11b. Have people criticized your gambling in the past year?	1 .. 2	3 .. 4				
Q12a. Have you ever felt guilty about the way you gamble or about what happens when you gamble?	1 .. 2	3 .. 4				
Q12b. Have you felt this way in the past year?	1 .. 2	3 .. 4				
Q13a. Have you ever felt that you would like to stop gambling, but didn't think that you could?	1 .. 2	3 .. 4				
Q13b. Have you felt this way in the past year?	1 .. 2	3 .. 4				

	Yes	No	Don't know	No response
Q14a. Have you ever hidden betting slips, lottery tickets, gambling money or other signs of gambling from your spouse or partner, children, or other important people in your life?	1 .. 2	3 .. 4		
Q14b. Have you done so in the past year?	1 .. 2	3 .. 4		
Q15a. Have you ever argued with people you live with over how you handle money?	1 .. 2	3 .. 4		
Q15b. Have these arguments ever centered on your gambling?	1 .. 2	3 .. 4		
Q15c. Have you had any of these arguments in the past year?	1 .. 2	3 .. 4		

We are almost through this section of questions. Please remember that all this information is anonymous.

Q16a. Have you ever missed time from work or school due to gambling?	1 .. 2	3 .. 4		
Q16b. Have you missed time from work or school in the past year due to gambling?	1 .. 2	3 .. 4		
Q17a. Have you ever borrowed from someone and not paid them back as a result of your gambling?	1 .. 2	3 .. 4		
Q17b. Have you done so in the past year?	1 .. 2	3 .. 4		

I am going to read a list of the ways in which some people get money for gambling. Can you tell me which of these, if any, you have ever used to get money for gambling or to pay gambling debts?

Q18a. Have you ever borrowed from household money?	1 .. 2	3 .. 4		
Q18b. Have you borrowed from household money in the past year?	1 .. 2	3 .. 4		

Please remember we are asking you about the sources of money for gambling or to pay gambling debts.

Q19a. Have you ever borrowed money from your spouse or partner?	1 .. 2	3 .. 4		
Q19b. Have you borrowed money from your spouse or partner in the past year?	1 .. 2	3 .. 4		

Q20a. Have you ever borrowed from other relatives or in-laws?	1 .. 2	3 .. 4		
Q20b. Have you borrowed from other relatives or in-laws in the past year?	1 .. 2	3 .. 4		

Q21a. Have you ever gotten loans from banks, loan companies or credit unions?	1 .. 2	3 .. 4		
Q21b. Have you gotten loans from banks, loan companies or credit unions in the past year?	1 .. 2	3 .. 4		

Please remember we are asking you about the sources of money for gambling or to pay gambling debts.

Q22a. Have you ever made cash withdrawals on credit cards to get money to gamble or pay gambling debts? (Does not include instant cash cards) ..	1 .. 2	3 .. 4		
Q22b. Have you made cash withdrawals on credit cards in the past year?	1 .. 2	3 .. 4		

Q23a. Have you ever gotten loans from loan sharks to gamble or pay gambling debts?	1 .. 2	3 .. 4		
Q23b. Have you gotten loans from loan sharks in the past year?	1 .. 2	3 .. 4		

- | | Yes | No | Don't Know | No response |
|--|-----|----|------------|-------------|
| Q24a. Have you ever cashed in stocks, bonds or other securities to finance gambling? | 1 | 2 | 3 | 4 |
| Q24b. Have you cashed in stocks, bonds or other securities in the past year? | 1 | 2 | 3 | 4 |
| Q25a. Have you ever sold personal or family property to gamble or pay gambling debts? | 1 | 2 | 3 | 4 |
| Q25b. Have you sold personal or family property to gamble or pay gambling debts in the past year? | 1 | 2 | 3 | 4 |
| Q26a. Have you ever borrowed from your checking account by writing checks that bounced to get money for gambling or to pay gambling debts? | 1 | 2 | 3 | 4 |
| Q26b. Have you borrowed from your checking account by writing checks that bounced in the past year? | 1 | 2 | 3 | 4 |
| Q27a. Have you ever had a credit line with a casino or a bookie? | 1 | 2 | 3 | 4 |
| Q27b. Have you had a credit line with a casino or a bookie in the past year? | 1 | 2 | 3 | 4 |
| Q28a. Have you ever sold food stamps or food you get from a government program for gambling or to pay gambling debts? | 1 | 2 | 3 | 4 |
| Q28b. Have you done this in the past year? | 1 | 2 | 3 | 4 |
| Q29a. Do you feel that you have ever had a problem with betting money or gambling? | 1 | 2 | 3 | 4 |
| Q29b. Do you feel that you have had a problem with betting money or gambling in the past year? | 1 | 2 | 3 | 4 |
| Q30. Do you feel that either of your parents has ever had a problem with betting money or gambling? | 1 | 2 | 3 | 4 |
| Q31. How old were you when you first started gambling? | | | | |

ENTER AGE: _____

Q32. What type of gambling was that?

ENTER ACTIVITY NUMBER FROM "CODE SHEET": _____

Q33. Was there any time when the amount you were gambling made you nervous?
1 .. Yes

Skip to Q36 <--- 2 .. No
Skip to Q36 <--- 3 .. Don't Know
Skip to Q36 <--- 4 .. No Response

Q34. How old were you when that happened?

ENTER AGE: _____

Q35. What types of gambling were you doing when that happened? <UP TO THREE RESPONSES>
<ENTER ACTIVITY NUMBERS FROM "CODE SHEET">

1st: _____ 2nd: _____ 3rd: _____

Q36. Have you ever been in trouble with the law because of activities related to gambling?

- 1 ... Yes
- 2 ... No
- 3 ... Don't Know
- 4 ... No Response

Q37. Have you ever desired or sought treatment to help you stop gambling?

1 .. Yes

Skip to Q39 <--- 2 .. No
Skip to Q39 <--- 3 .. Don't Know
Skip to Q39 <--- 4 .. No Response

Q38. What type of treatment was that?

- 1 ... Gamblers Anonymous
- 2 ... Veterans Administration
- 3 ... Psychologist
- 4 ... Psychiatrist
- 5 ... Physician
- 6 ... A mental health center
- 7 ... Other counselor (incl. Social Workers)
- 8 ... Minister/Clergy
- 9 ... Other: _____
- 10 .. Not sure/no response

Q39. As you probably know, different types of people have different opinions and experiences. The following questions are for statistical purposes only and the answers to these questions, like all of the others, will be anonymous. Are you currently married, widowed, divorced, separated, or have you never been married?

- 1 ... Married, common-law, co-habitation
- 2 ... Widowed
- 3 ... Divorced
- 4 ... Separated
- 5 ... Never married
- 6 ... Refused/NR

Q40. Including yourself, how many people over the age of 18 live in your household?

ENTER NUMBER: _____ 98 = Not Sure

Q41. What is the highest level of education you have completed?

- 1 ... Elementary or some high school
- 2 ... High school graduate or GED
- 3 ... Some college or associates degree (including technical and trade schools)
- 4 ... Bachelor's degree
- 5 ... Graduate study or degree
- 6 ... Refused/No response

Q42. Last week, were you working full-time, part-time, going to school, keeping house, or something else?

- 1 ... Working full-time
- 2 ... Working part-time

Skip to Q44 <--- 3 ... Going to school
Skip to Q44 <--- 4 ... Keeping house

- 5 ... Disabled
- 6 ... Retired
- 7 ... Unemployed

Skip to Q44 <--- 8 ... Refused or no answer

Q43. What kind of work (do/did) you normally do?

- 1 ... Farming/agriculture
- 2 ... Mining
- 3 ... Retail services
- 4 ... Other services
- 5 ... Professional/technical
- 6 ... Manager/proprietor
- 7 ... Skilled, craftsman
- 8 ... Semi-skilled, operative
- 9 ... Laborer
- 10 ... Student
- 19 ... Refused or no answer

Q44. May I have your age please? <IF RELUCTANT OR REFUSE: Remember, your answers are anonymous and will be used for statistical purposes only.>

ENTER AGE: _____ 0=Refuse/No response

Q45. Which of the following best describes your racial or ethnic group -- would you say...

- 1 ... White/Caucasian
- 2 ... Hispanic
- 3 ... Native American
- 4 ... Asian
- 5 ... Black, or
- 6 ... Some other group?
- 7 ... <DO NOT READ> Don't Know
- 8 ... <DO NOT READ> No Response

Q46. Which of the following best describes your current religious preference -- would you say...

- 1 ... Protestant (Examples: Lutheran, Baptist, Methodist, Presbyterian, Seventh Day Adventist, and Episcopalian)
- 2 ... Catholic
- 3 ... Jewish
- 4 ... Muslim, or
- 5 ... Some other religion? _____
- 6 ... <DO NOT READ> None
- 7 ... <DO NOT READ> Don't Know
- 8 ... <DO NOT READ> No Response

Q47. What was your total household income last year?

- 1 ... Under \$15,000
- 2 ... \$15,001 to \$25,000
- 3 ... \$25,001 to \$35,000
- 4 ... \$35,001 to \$50,000
- 5 ... Over \$50,000
- 6 ... Don't Know
- 7 ... No Response

Q48. <DO NOT READ> RESPONDENT GENDER

- 1 ... Male
- 2 ... Female
- 3 ... Cannot tell

Q49. <DO NOT READ> Enter Region from list: _____

VERIFICATION CLOSE: That's all the questions I have for you. Lastly, let me verify that I dialed _____ . Again, my name is (Your First Name), and on occasion a small percentage of people like yourself are called back just to verify that this interview actually took place. Your responses will remain anonymous and if this interview is verified, you will be identified by your age and gender. Thank you for your time and have a good (evening/day).

END TIME: _____ am pm PHONE: (_____) _____

APPENDIX B

**Gambling Involvement
in North Dakota**

NORTH DAKOTA

TABLE B1
Demographic Profile By Participation Level
Raffles

Raffles and Casino Nights. Weekly wagers on raffle and casino nights are somewhat more likely to be under the age of 30 than the general population ($p < .05$). Weekly and past-year players are significantly more likely to be married, employed, and to earn over \$25,000 annually than the general population ($p < .001$). Non-participants are significantly less likely to possess a high school degree than the general population ($p < .0001$).

	Overall (1517)	Weekly (19)	Past-Year (775)	Infrequent (281)	Never (442)
Female	59%	53%	58%	61%	61%
Male	41%	47%	42%	39%	39%
Over 30	85%	74%	83%	87%	89%
Under 30	15%	26%	17%	13%	11%
White	97%	95%	97%	97%	95%
Nonwhite	3%	5%	3%	3%	5%
Less than HS	11%	11%	6%	7%	23%
HS Graduate	89%	89%	94%	91%	78%
Married	65%	74%	71%	59%	57%
Not Married	35%	26%	29%	41%	43%
Protestant	63%	63%	58%	68%	68%
Other/None	37%	37%	42%	32%	32%
HH > \$25,000	60%	68%	67%	52%	53%
HH < \$25,000	40%	32%	33%	48%	47%
Not Employed	39%	16%	27%	41%	59%
Employed	61%	84%	73%	59%	41%

NORTH DAKOTA

TABLE B2
Demographic Profile By Participation Level
Live Bingo

Live Bingo. Weekly live bingo players are significantly less likely to be White than the general population ($p < .001$). Weekly and past-year bingo players are significantly more likely to be female than the general population ($p < .001$).

	Overall (1517)	Weekly (57)	Past-Year (288)	Infrequent (307)	Never (865)
Female	59%	67%	71%	55%	56%
Male	41%	33%	29%	45%	44%
Over 30	85%	91%	83%	85%	86%
Under 30	15%	9%	17%	15%	14%
White	97%	86%	96%	98%	97%
Nonwhite	3%	14%	4%	2%	3%
Less than HS	11%	19%	11%	9%	12%
HS Graduate	89%	81%	89%	91%	88%
Married	65%	60%	63%	64%	67%
Not Married	35%	40%	37%	36%	33%
Protestant	63%	58%	57%	62%	52%
Other/None	37%	42%	43%	38%	35%
HH > \$25,000	60%	60%	58%	59%	61%
HH < \$25,000	40%	40%	42%	41%	39%
Not Employed	39%	42%	38%	37%	39%
Employed	61%	58%	62%	63%	61%

NORTH DAKOTA

TABLE B3
Demographic Profile By Participation Level
Pulltabs

Pulltabs. Weekly players of pulltabs are significantly more likely to be male ($p < .0001$) and somewhat less likely to be married ($p < .01$) than the general population. Past-year pulltab players are significantly more likely to be high school graduates, employed ($p < .0001$), and somewhat more likely to earn over \$25,000 annually than the general population ($p < .01$). Infrequent players are somewhat more likely to be over 30 years of age than the general population ($p < .03$).

	Overall (1517)	Weekly (40)	Past-Year (453)	Infrequent (224)	Never (800)
Female	59%	35%	57%	51%	64%
Male	41%	65%	43%	49%	36%
Over 30	85%	88%	82%	90%	86%
Under 30	15%	12%	18%	10%	14%
White	97%	93%	97%	96%	97%
Nonwhite	3%	7%	3%	4%	3%
Less than HS	11%	13%	4%	8%	17%
HS Graduate	89%	88%	96%	92%	83%
Married	65%	55%	70%	69%	62%
Not Married	35%	45%	30%	31%	38%
Protestant	63%	47%	58%	59%	67%
Other/None	37%	53%	42%	41%	33%
HH > \$25,000	60%	58%	66%	63%	56%
HH < \$25,000	40%	42%	34%	37%	44%
Not Employed	39%	33%	24%	37%	48%
Employed	61%	67%	76%	63%	52%

NORTH DAKOTA

TABLE B4
Demographic Profile By Participation Level
Blackjack

Blackjack. The proportion of males who wager on blackjack increases with the frequency with which the game is played ($p < .0001$). Weekly blackjack players are significantly more likely to be male and under the age of 30 ($p < .0001$) than the general population. These players are less likely to be married ($p < .001$) and less likely to earn over \$25,000 annually than the general population ($p < .0001$). Weekly and past-year players of blackjack are significantly more likely to be high school graduates ($p < .0001$) than the general population. Overall, those who have never played blackjack are significantly less likely to be employed than those who have played ($p < .0001$).

	Overall (1517)	Weekly (17)	Past-Year (233)	Infrequent (205)	Never (1062)
Female	59%	18%	38%	45%	67%
Male	41%	82%	62%	55%	33%
Over 30	85%	59%	78%	88%	87%
Under 30	15%	42%	22%	12%	13%
White	97%	100%	97%	98%	96%
Nonwhite	3%	0%	3%	2%	4%
Less than HS	11%	0%	3%	7%	14%
HS Graduate	89%	100%	96%	93%	86%
Married	65%	35%	67%	72%	64%
Not Married	35%	65%	33%	28%	36%
Protestant	63%	41%	53%	64%	65%
Other/None	37%	59%	47%	36%	35%
HH > \$25,000	60%	41%	70%	70%	57%
HH < \$25,000	40%	59%	30%	30%	43%
Not Employed	39%	24%	19%	28%	45%
Employed	61%	76%	81%	72%	55%

NORTH DAKOTA

TABLE B5
Demographic Profile By Participation Level
Instant Lottery

Instant Lottery Games. Weekly players of instant lottery games are somewhat more likely to be male ($p < .01$) and under the age of 30 ($p < .01$) than the general population. Weekly and past-year participants are significantly more likely to be high school graduates than the general population ($p < .0001$). Past-year players of instant lottery games are significantly more likely to be employed than the general population ($p < .0001$).

	Overall (1517)	Weekly (18)	Past-Year (293)	Infrequent (107)	Never (1099)
Female	59%	39%	54%	51%	62%
Male	41%	61%	46%	49%	38%
Over 30	85%	72%	82%	77%	87%
Under 30	15%	28%	18%	23%	13%
White	97%	100%	97%	97%	97%
Nonwhite	3%	0%	3%	3%	3%
Less than HS	11%	6%	5%	8%	14%
HS Graduate	89%	94%	95%	92%	86%
Married	65%	61%	67%	72%	64%
Not Married	35%	39%	33%	28%	36%
Protestant	63%	67%	58%	60%	64%
Other/None	37%	33%	42%	40%	36%
HH > \$25,000	60%	61%	66%	65%	58%
HH < \$25,000	40%	39%	35%	35%	42%
Not Employed	39%	39%	26%	37%	42%
Employed	61%	61%	74%	63%	58%

NORTH DAKOTA

TABLE B6
Demographic Profile By Participation Level
Video Lottery

Video Lottery. There were a total of 3 respondents who reported weekly participation in video lottery games. Past-year players of video lottery are significantly more likely to be male ($p < .0001$) and under the age of 30 ($p < .001$) and somewhat more likely to have graduated from high school ($p < .05$) than the general population. These players are significantly more likely to be employed ($p < .0001$) and somewhat more likely to earn over \$25,000 annually ($p < .05$) than the general population.

	Overall (1517)	Weekly (3)	Past-Year (157)	Infrequent (46)	Never (1311)
Female	59%	33%	43%	41%	62%
Male	41%	67%	57%	58%	38%
Over 30	85%	100%	74%	83%	87%
Under 30	15%	0%	24%	17%	13%
White	97%	100%	97%	94%	97%
Nonwhite	3%	0%	3%	4%	3%
Less than HS	11%	33%	4%	13%	12%
HS Graduate	89%	67%	96%	87%	88%
Married	65%	67%	69%	65%	65%
Not Married	35%	33%	31%	35%	35%
Protestant	63%	67%	57%	48%	64%
Other/None	37%	33%	43%	52%	36%
HH > \$25,000	60%	67%	70%	70%	59%
HH < \$25,000	40%	33%	30%	30%	41%
Not Employed	39%	33%	22%	34%	41%
Employed	61%	67%	78%	66%	59%

NORTH DAKOTA

TABLE B7
Demographic Profile By Participation Level
Other Lottery Games

Other Lottery Games. Weekly players of other lottery games are significantly more likely to be male than the general population ($p < .001$). Weekly and past-year players of other lottery games are also somewhat more likely to be employed than the general population ($p < .05$).

	Overall (1517)	Weekly (20)	Past-Year (97)	Infrequent (38)	Never (1362)
Female	59%	20%	55%	42%	61%
Male	41%	80%	45%	78%	39%
Over 30	85%	90%	89%	84%	85%
Under 30	15%	10%	11%	16%	15%
White	97%	100%	96%	97%	97%
Nonwhite	3%	0%	4%	3%	3%
Less than HS	11%	10%	6%	8%	12%
HS Graduate	89%	90%	94%	92%	88%
Married	65%	70%	66%	79%	65%
Not Married	35%	30%	34%	21%	35%
Protestant	63%	70%	55%	74%	63%
Other/None	37%	30%	45%	36%	37%
HH > \$25,000	60%	70%	68%	63%	60%
HH < \$25,000	40%	30%	32%	37%	40%
Not Employed	39%	30%	26%	34%	40%
Employed	61%	70%	74%	66%	60%

NORTH DAKOTA

TABLE B8
Demographic Profile By Participation Level
Slot Machines

Slot Machines. Weekly slot machine players are somewhat more likely to be female ($p < .02$) and to have graduated from high school ($p < .01$) than the general population. These players are somewhat less likely to earn over \$25,000 annually ($p < .01$) and somewhat more likely to be unemployed ($p < .05$) than the general population.

	Overall (1517)	Weekly (6)	Past-Year (327)	Infrequent (251)	Never (933)
Female	59%	83%	60%	51%	61%
Male	41%	17%	40%	49%	39%
Over 30	85%	100%	82%	90%	85%
Under 30	15%	0%	18%	10%	15%
White	97%	83%	98%	97%	96%
Nonwhite	3%	17%	2%	3%	4%
Less than HS	11%	0%	8%	8%	14%
HS Graduate	89%	100%	92%	92%	86%
Married	65%	83%	69%	67%	63%
Not Married	35%	17%	31%	33%	37%
Protestant	63%	50%	61%	63%	63%
Other/None	37%	50%	39%	37%	37%
HH > \$25,000	60%	33%	67%	64%	57%
HH < \$25,000	40%	67%	33%	36%	43%
Not Employed	39%	50%	32%	41%	40%
Employed	61%	50%	69%	59%	60%

NORTH DAKOTA

TABLE B9
Demographic Profile By Participation Level
Poker

Poker. Overall, poker players are significantly more likely to be male than the general population ($p < .0001$). Weekly poker players are somewhat less likely to be White ($p < .01$) and employed ($p < .01$) than the general population. Past-year and infrequent players are somewhat more likely to be high school graduates than the general population ($p < .01$).

	Overall (1517)	Weekly (8)	Past-Year (84)	Infrequent (194)	Never (1231)
Female	59%	50%	29%	22%	67%
Male	41%	50%	71%	78%	33%
Over 30	85%	75%	80%	90%	85%
Under 30	15%	25%	20%	10%	15%
White	97%	75%	96%	96%	97%
Nonwhite	3%	25%	4%	4%	3%
Less than HS	11%	13%	2%	7%	13%
HS Graduate	89%	87%	98%	93%	87%
Married	65%	75%	67%	71%	64%
Not Married	35%	25%	33%	29%	36%
Protestant	63%	25%	42%	61%	64%
Other/None	37%	75%	49%	39%	36%
HH > \$25,000	60%	63%	69%	64%	59%
HH < \$25,000	40%	37%	31%	36%	41%
Not Employed	39%	75%	29%	32%	40%
Employed	61%	25%	71%	68%	60%

NORTH DAKOTA

TABLE B10
Demographic Profile By Participation Level
Card Games Other Than Poker

Non-Poker Card Games. Weekly players of card games other than poker are significantly more likely to be female than the general population while past-year and infrequent players are more likely to be male than the general population ($p < .0001$). Weekly players are somewhat less likely to earn over \$25,000 annually than the general population ($p < .05$). Past-year and infrequent players are somewhat more likely to be high school graduates ($p < .05$) and more likely to be employed than the general population ($p < .01$).

	Overall (1517)	Weekly (28)	Past-Year (151)	Infrequent (172)	Never (1166)
Female	59%	64%	46%	37%	64%
Male	41%	36%	54%	63%	36%
Over 30	85%	93%	80%	87%	86%
Under 30	15%	7%	20%	13%	14%
White	97%	100%	99%	98%	96%
Nonwhite	3%	0%	1%	2%	4%
Less than HS	11%	14%	6%	8%	13%
HS Graduate	89%	86%	94%	92%	87%
Married	65%	61%	67%	69%	64%
Not Married	35%	39%	33%	31%	36%
Protestant	63%	46%	57%	64%	64%
Other/None	37%	54%	43%	36%	36%
HH > \$25,000	60%	43%	67%	66%	59%
HH < \$25,000	40%	57%	33%	34%	41%
Not Employed	39%	43%	27%	33%	41%
Employed	61%	57%	73%	67%	59%

NORTH DAKOTA

TABLE B11
Demographic Profile By Participation Level
Craps

Craps or Other Dice Games. One (male) respondent reported weekly participation in craps or other dice games. Respondents who have ever played craps are somewhat more likely to be male ($p < .001$) and less likely to be unemployed than the general population ($p < .01$).

	Overall (1517)	Weekly (1)	Past-Year (32)	Infrequent (104)	Never (1380)
Female	59%	0%	41%	20%	63%
Male	41%	100%	59%	80%	37%
Over 30	85%	100%	75%	89%	85%
Under 30	15%	0%	25%	11%	15%
White	97%	100%	91%	98%	97%
Nonwhite	3%	0%	9%	2%	3%
Less than HS	11%	0%	0%	10%	12%
HS Graduate	89%	100%	100%	90%	88%
Married	65%	0%	59%	68%	65%
Not Married	35%	100%	41%	32%	35%
Protestant	63%	100%	50%	60%	63%
Other/None	37%	0%	50%	40%	37%
HH > \$25,000	60%	100%	69%	70%	59%
HH < \$25,000	40%	0%	31%	30%	41%
Not Employed	39%	0%	16%	27%	40%
Employed	61%	100%	84%	73%	60%

NORTH DAKOTA

TABLE B12
Demographic Profile By Participation Level
Out of State Casinos

Card or Dice Games at Out-of-State Casinos. One (male) respondent reported weekly wagering at out-of-state casinos. Respondents who have ever played cards or dice games at out-of-state casinos are somewhat more likely to be male ($p < .0001$) and to have graduated from high school ($p < .05$) than the general population. These respondents are significantly more likely to be employed ($p < .001$) and to earn over \$25,000 annually ($p < .001$) than the general population.

	Overall (1517)	Weekly (1)	Past-Year (62)	Infrequent (79)	Never (1375)
Female	59%	0%	42%	37%	61%
Male	41%	100%	58%	63%	39%
Over 30	85%	100%	84%	89%	85%
Under 30	15%	0%	16%	11%	15%
White	97%	100%	97%	94%	97%
Nonwhite	3%	0%	3%	6%	3%
Less than HS	11%	0%	3%	5%	12%
HS Graduate	89%	100%	97%	95%	88%
Married	65%	100%	69%	71%	64%
Not Married	35%	0%	31%	29%	36%
Other/None	37%	0%	44%	47%	37%
Protestant	63%	100%	56%	53%	63%
HH > \$25,000	60%	100%	69%	81%	59%
HH < \$25,000	40%	0%	31%	19%	41%
Not Employed	39%	0%	23%	24%	40%
Employed	61%	100%	77%	76%	60%

NORTH DAKOTA

TABLE B13
Demographic Profile By Participation Level
Sports Betting with Friends, Acquaintances, or Co-workers

Sports Betting with Friends, Acquaintances, or Co-workers. The proportion of males who bet with friends, acquaintances, or co-workers increases significantly with the frequency of such betting ($p < .0001$). Weekly and past-year participants are significantly more likely to be high school graduates ($p < .0001$), to be employed ($p < .0001$), and to earn over \$25,000 annually than the general population ($p < .0001$).

	Overall (1517)	Weekly (47)	Past-Year (238)	Infrequent (153)	Never (1079)
Female	59%	30%	38%	50%	67%
Male	41%	70%	62%	50%	33%
Over 30	85%	75%	83%	88%	86%
Under 30	15%	25%	17%	12%	14%
White	97%	98%	99%	97%	96%
Nonwhite	3%	2%	1%	3%	4%
Less than HS	11%	0%	3%	7%	14%
HS Graduate	89%	100%	97%	93%	86%
Married	65%	68%	70%	65%	63%
Not Married	35%	32%	30%	35%	36%
Protestant	63%	64%	64%	61%	63%
Other/None	37%	36%	36%	39%	37%
HH > \$25,000	60%	68%	74%	61%	57%
HH < \$25,000	40%	32%	26%	39%	43%
Not Employed	39%	15%	18%	34%	45%
Employed	61%	85%	82%	66%	55%

NORTH DAKOTA

TABLE B14
Demographic Profile By Participation Level
Horse, Dog, or Mule Races

Horse, Dog, or Mule Races. Two (male) respondents reported weekly wagering on horse, dog, or mule races. Overall, respondents who have ever participated in this type of wagering are significantly more likely to be high school graduates ($p < .001$) and to be employed ($p < .001$) than the general population. These respondents are somewhat more likely to earn over \$25,000 annually than the general population ($p < .01$).

	Overall (1517)	Weekly (2)	Past-Year (66)	Infrequent (234)	Never (1215)
Female	59%	0%	50%	55%	61%
Male	41%	100%	50%	45%	39%
Over 30	85%	100%	79%	89%	85%
Under 30	15%	0%	21%	11%	15%
White	97%	100%	96%	98%	96%
Nonwhite	3%	0%	4%	2%	4%
Less than HS	11%	0%	3%	7%	13%
HS Graduate	89%	100%	97%	93%	87%
Married	65%	100%	58%	70%	64%
Not Married	35%	0%	42%	30%	36%
Protestant	63%	0%	54%	58%	64%
Other/None	37%	100%	46%	42%	36%
HH > \$25,000	60%	100%	71%	68%	58%
HH < \$25,000	40%	0%	29%	32%	42%
Not Employed	39%	0%	14%	36%	41%
Employed	61%	100%	86%	64%	59%

NORTH DAKOTA

TABLE B15
Demographic Profile By Participation Level
Speculative Investments

Speculative Investments. Respondents who wager weekly on speculative investments are significantly more likely to be male ($p < .0001$) and to earn over \$25,000 annually ($p < .0001$). These respondents are somewhat more likely to be employed ($p < .01$) than the general population. Past-year participants are also significantly more likely to be male ($p < .0001$) and to earn over \$25,000 annually ($p < .0001$) than the general population. These respondents are somewhat more likely to be employed ($p < .01$) and to have graduated from high school than the general population. Infrequent participants are significantly more likely to be male ($p < .0001$) and to earn over \$25,000 annually ($p < .0001$) than the general population. These respondents are somewhat more likely to have graduated from high school ($p < .01$) than the general population.

	Overall (1517)	Weekly (14)	Past-Year (66)	Infrequent (53)	Never (1384)
Female	59%	29%	44%	38%	61%
Male	41%	71%	56%	62%	39%
Over 30	85%	86%	83%	94%	85%
Under 30	15%	14%	17%	6%	15%
White	97%	100%	97%	98%	97%
Nonwhite	3%	0%	3%	2%	3%
Less than HS	11%	14%	2%	2%	12%
HS Graduate	89%	86%	98%	98%	88%
Married	65%	86%	71%	72%	64%
Not Married	35%	14%	29%	28%	36%
Protestant	62%	43%	53%	57%	64%
Other/None	37%	57%	47%	43%	36%
HH > \$25,000	60%	93%	79%	87%	58%
HH < \$25,000	40%	7%	21%	13%	42%
Not Employed	39%	0%	26%	36%	40%
Employed	61%	100%	74%	64%	60%

APPENDIX C

**Gambling Involvement, Gambling Expenditures and Prevalence Rates
Across Mental Health Regions in North Dakota**

TABLE CI

Lifetime and Current
Prevalence Rates and Gambling Involvement
by Mental Health Center Region
(N=1,517)

	Fargo (N=330)	Grand Forks (N=233)	Minot (N=210)	Devils Lake (N=105)	Williston (N=78)	Bismarck (N=302)	Dickinson (N=106)	Jamestown (N=153)	
Lifetime Prevalence									
Lifetime Prevalence Rate	4.8%	4.7%	4.3%	3.8%	2.6%	2.4%	1.9%	1.3%	
Lifetime Participation in Gambling	87.9%	81.5%	77.6%	78.1%	74.4%	85.8%	76.4%	76.5%	**
Mean # of Lifetime Gambling Activities	4.8	4.4	3.3	3.7	3.0	4.1	3.7	3.3	**
Current Prevalence									
Current Prevalence Rate	1.2%	3.8%	2.9%	2.9%	1.3%	2.0%	0.0%	0.7%	
Weekly Participation in Gambling	11.8%	18.0%	10.5%	14.3%	17.9%	12.2%	9.4%	11.1%	

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)

TABLE C2

Demographics of Lifetime Gamblers
By Mental Health Center Region
(N=1,240)

Demographic Variables	Fargo (N=290)	Grand Forks (N=190)	Minot (N=163)	Devils Lake (N=82)	Williston (N=58)	Bismarck (N=259)	Dickinson (N=81)	Jamestown (N=117)
Male	42%	44%	38%	42%	47%	45%	38%	43%
Under 30	18%	12%	16%	10%	17%	22%	17%	12%
Non-White	2%	3%	3%	16%	2%	3%	0%	1%
Less than HS	7%	8%	10%	7%	7%	10%	11%	11%
Not Married	39%	32%	29%	32%	28%	33%	37%	31%
Annual Income Under \$25,000	37%	36%	36%	40%	33%	38%	48%	44%

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)

TABLE C3

Differences in Lifetime Gambling Involvement
By Mental Health Center Region
(N=1,517)

	Fargo (N=330)	Grand Forks (N=233)	Minot (N=210)	Devils Lake (N=105)	Williston (N=78)	Bismarck (N=302)	Dickinson (N=106)	Jamestown (N=153)	
Raffles/Casino Nights	77%	70%	65%	66%	64%	77%	68%	65%	**
Pulltabs	56%	46%	40%	53%	39%	51%	43%	37%	**
Slot Machines	49%	43%	30%	34%	19%	40%	39%	31%	**
Live Bingo	44%	47%	47%	42%	30%	39%	38%	48%	
Sports w/Friends	40%	32%	21%	27%	30%	28%	22%	19%	**
Blackjack	38%	33%	21%	30%	23%	30%	28%	25%	**
Instant Lottery	37%	39%	18%	19%	17%	27%	23%	20%	**
Non-Poker Card Games	27%	26%	19%	20%	14%	26%	24%	16%	*
Poker	25%	19%	16%	19%	18%	18%	18%	12%	*
Horse/Dog Races	25%	22%	19%	16%	9%	21%	9%	21%	**
Video Lottery Games	15%	13%	9%	8%	12%	19%	22%	6%	**
Other Lottery Games	15%	16%	6%	7%	5%	9%	10%	6%	**
Out-of-State Casinos	12%	11%	6%	8%	4%	11%	9%	7%	
Speculative Investments	12%	11%	4%	5%	4%	8%	9%	11%	*
Craps or Other Dice Games	10%	7%	8%	19%	10%	9%	5%	6%	**
Lifetime Participation in Gambling	88%	82%	78%	78%	74%	86%	76%	77%	**

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)

TABLE C4

Estimated Monthly Expenditures
by Mental Health Center Region
(N=1,517)

Estimated Monthly Expenditures	Fargo (N=330)	Grand Forks (N=233)	Minot (N=210)	Devils Lake (N=105)	Williston (N=78)	Bismarck (N=302)	Dickinson (N=106)	Jamestown (N=153)	
Pulltabs	5.02	9.14	2.31	14.17	4.01	3.19	3.08	3.16	
Slot Machines	3.22	3.87	2.51	2.73	1.85	2.51	2.03	2.82	
Raffles/Casino Nights	2.70	2.55	2.42	4.54	2.59	5.04	2.93	2.09	
Live Bingo	1.92	3.41	3.05	11.30	1.36	4.41	1.79	5.48	*
Sports w/Friends	1.66	1.30	.83	1.03	6.09	.67	.99	.59	**
Blackjack	1.64	3.30	1.43	5.40	1.69	1.68	1.61	1.95	
Out-of-State Casinos	1.61	1.13	.10	.78	1.79	.60	.77	.24	
Video Lottery Games	1.14	.80	1.09	6.02	1.13	2.09	1.42	.34	
Instant Lottery	1.00	1.40	.29	.97	.54	.71	.43	.63	**
Poker	.90	.78	2.91	1.46	1.47	.62	.45	.39	
Non-Poker Card Games	.57	.55	.60	.30	.65	.53	.53	.23	
Other Lottery Games	.55	.60	.30	.87	.26	.19	.15	.48	
Craps or Other Dice Games	.22	.15	.19	.90	.26	.15	.15	.03	
Horse/Dog Races	.16	.21	1.42	2.29	4.87	.47	.33	.34	*
Total Estimated Expenditures	22.29	29.16	19.43	52.77	28.56	22.83	16.68	18.76	**

* Somewhat significant ($p \leq .05$)

** Statistically significant ($p \leq .01$)