1997-06

Compulsive gambling in Michigan: Final Report

Gullickson, Arlen R; Hartmann, David J; Michigan. Bureau of State Lottery; Western Michigan University. Evaluation Center; Leonard C. Kercher Center for Social Research

COMPULSIVE GAMBLING IN MICHIGAN

FINAL REPORT

Prepared for the Bureau of State Lottery

by

The Evaluation Center
in collaboration with the
Leonard C. Kercher Center for Social Research

Western Michigan University

June 1997

Arlen R. Gullickson, Project Director
The Evaluation Center

David J. Hartmann
Leonard C. Kercher Center

Table of Contents

List of Tables and Figures

List of Figures

Acknowledgments

This study was funded under contract with the Michigan Bureau of State Lottery. The opinions expressed are solely those of the authors and do not necessarily represent those of the Bureau of State Lottery or any state agency. Two persons–Dr. Arlen Gullickson, Project Director, and Dr. David Hartmann–collaborated in the conduct of this study and are coauthors of this report. Dr. Gullickson had primary responsibility for preparation of the literature review and executive summary sections. Dr. Hartmann had primary responsibility for the focus group reports and the survey report. Many others who are not credited as authors helped in the development and conduct of this study and in the preparation of this report.

A number of persons outside The Evaluation Center and the Kercher Center for Social Research assisted. Mr. Bill Martin, Michigan's Lottery Commissioner, was involved in setting the boundaries for the study and provided control for state work related to this project. Mr. Mark Hoffman of the Bureau of State Lottery, in his role as liaison with the Center, not only assisted in the study's design, but also contributed a wealth of articles and materials that he personally collected. Additionally, he regularly sought out information from a wide array of sources to serve our needs. Dr. James Petersen, Dr. Thomas Van Valey, Dr. Steven Miller, and Mr. Warren Biller all assisted in planning the project. Additionally, Mr. Biller helped to organize and conduct a focus group meeting of compulsive gamblers. Dr. Alan Hovestadt assisted in the identification of participants for a focus group of counselors, and Lt. Jerry Ciarlino of the Michigan State Police assisted in the organization of a focus group of law enforcement officials.

We sought consultive assistance from three individuals, Dr. Henry Lesieur, Dr. William Thompson, and Dr. Rachel Volberg. All three provided literature resources, leads to additional materials, and substantial information based on their previous research and gambling-related work. Dr. Lesieur reviewed the literature review portion of this report and provided an especially thorough and helpful critique. Dr. Thompson assisted us in understanding casino gambling and issues related to casinos. Dr. Volberg helped show us the way to a valid and reliable survey of problem gambling and one that would be comparable to those done in other states. Her published material and her willing personal assistance are gratefully acknowledged.

Within The Evaluation Center Dr. Daniel Stufflebeam prepared the initial design for the study, met with our external consultants, assisted in the design of the literature review and the survey instrument, corresponded with individuals interested in the project's progress, and reviewed drafts of our instruments and reports. Mr. Bradley Gates led the early literature review efforts, gathering materials and preparing an early summary of findings. Additionally, he coordinated arrangements for three of the four focus group meetings. Mr. Johnny McConnell compiled the bibliography of studies and assisted in the development of table

materials for the literature review. Ms. Sally Veeder edited this document to strengthen our presentation of information. Mrs. Mary Ramlow assisted in contacting focus group participants and arranging for the focus group meetings. Ms. Jean Poppe provided word processing and formatting assistance. The study benefitted substantially from all of these contributions.

Within the Kercher Center, Carol Frazee Groves managed the survey process. She supervised the data collection, the preparation and cleaning of the data for analysis, and the construction of the tables. Her abilities and dedication are acknowledged here and by her inclusion on the title page of the survey section. Lois Carl ably handled all administrative tasks associated with the project for the Kercher Center and acted as liaison with The Evaluation Center. Rob Wright did the CATI system programming. Rob, Carol, Dennis McReynolds, Halime Unal, Angie Evans-Mandreky, Paulina Ruf, and Teresa Carlo supervised the student interviewers. The interviewers themselves worked long and hard to assure a quality data set. Our most important debt, of course, is to the almost 4,000 Michigan residents who gave of their time and experience to answer our questions about gambling.

Executive Summary

This study was conducted under contract with the Bureau of State Lottery in response to the state legislature's request for information on compulsive gamblers in the state of Michigan. As conceived, the study was expected to examine the

- extent of gambling addiction among Michigan citizens as concerns both legal and illegal gambling

- incidence of different forms of gambling for persons 18 years and older, including lottery, race tracks, and casinos

Among people who gamble, two types of persons are generally distinguished: those who constrain gambling to reasonable and personally affordable bounds (noncompulsive gamblers) and those who are unable to contain or constrain their impulse to gamble (compulsive gamblers). This study divides compulsive gamblers into two groups, problem gamblers and pathological gamblers, to denote differences in severity and to more appropriately describe the gambling addiction.

Today pathological gambling is recognized and formally described in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* as an impulse control disorder. Consistent with other research on this topic, this study operationally defined a person as a probable pathological gambler if the person scored 5 or more on a 20-point scale of the South Oaks Gambling Screen (SOGS), because those scores efficiently predict persons known to have a gambling pathology. Problem gambling was similarly defined as a score of 3 or 4 on that same scale. As such, problem gamblers have some of the symptoms of pathological gamblers.

The study was grounded in the preceding definitions. Its centerpiece, a statewide telephone survey of 3,900 adults, was prefaced by a survey of current literature and a small set of focus group interviews. Both the literature review and the focus groups were designed to focus, define, and delimit the survey. They provided orientation and additional detail to enhance understandings gained through the telephone interviews. Consistent with design of the study, both the final report and this executive summary are provided in three parts: literature review, focus groups report, and survey report.

Literature Review

Although it has always been present in our country, the past 30 years has seen an enormous and unprecedented growth in gambling. Where gambling was viewed as "big time" in Nevada in 1960, gambling is now a big time *national* pastime. Gambling has captured the imagination and pocketbooks of citizens from New England, through the Midwest and south,

to the far west. Now, only two states, Utah and Hawaii, do not allow some form of gambling. Although illegal gambling is believed to be big business, credible figures are not available regarding the amount of money wagered and lost in those activities. However, the amount of money wagered *legally* across the country is truly staggering–more than $550 billion dollars in 1995 alone. Adults in the state of Michigan legally wager more than $5 billion annually and lose more than a billion. This is a conservative estimate because Indian or Tribal casinos only report video/slot machine wagering; wagering amounts for other types of games such as dice, table games, bingo, and pull tabs are not reported. To some, those figures are shocking; to others, the figures just denote the public interest in gambling.

Michigan, like other states, is beginning to address concerns related to compulsive gambling. With the study reported here, Michigan joins nearly 20 states that have conducted or are now conducting surveys to assess the extent of compulsive gambling within the state. The Michigan Bureau of State Lottery now funds a toll-free telephone hot line where individuals can call for guidance and additionally provides support for the Michigan Council on Problem Gambling. Few other states spend large amounts of money annually to address problems of pathological gambling, and $100,000 typifies the amount currently spent.

Recent epidemiological surveys, together with studies of acknowledged compulsive gamblers and their families, establish several clear patterns:

U.S. adults tacitly, if not openly promote or condone gambling.

- Most adults (roughly 80 percent) do gamble or have gambled at some point in their lifetime.
- A majority have gambled in the past year

A small percentage (1 to 2 percent) *can be labeled as pathological gamblers, with an additional 1 to 4 percent as problem gamblers*. The proportion of persons manifesting these problems appears to be growing as availability of gambling opportunities grows.

Pathological gamblers suffer themselves and inflict suffering on their families and the communities where they reside. Characteristics common to pathological gamblers include

- High gambling-related indebtedness
- Adverse affects on medical and insurance costs (lapsed insurance policies, insurance fraud, greater number of medical problems, etc.)
- Psychiatric disorders (e.g., depression and bipolar disorder)
- Dysfunctional families (high rates of divorce, psychosocial maladjustments in children, physical abuse, etc.)
- Increased crime (a majority gamble illegally, and many prison inmates--estimated at 14 to 30 percent--are pathological gamblers)
- The poor, minorities, males, and less well educated are overrepresented in this group.

Pathological gamblers engage in all forms of gambling, but appear to be drawn to some forms more than others (e.g., card games and slot machines). Several researchers (e.g., Grinols & Omorov, 1995) note that casinos in particular appear to obtain a substantial and disproportionate amount of their revenues from pathological gamblers.

We carefully analyzed instruments employed in these other survey efforts before choosing the SOGS as our primary survey tool. Our review established that the SOGS has been used extensively in other comparable survey efforts and has the strongest base of validity evidence, much stronger than could be developed if we were to develop our own instrument from scratch. Also, because the previous literature shows demographic characteristics (e.g., income, race, and sex) as well as personal behavior variables to be important predictors of gambling behavior, we chose to supplement the SOGS with items addressing those matters.

Uniformly, previous studies were conducted through a telephone interview process. This process is much more economical than in-person interviews and enables collection of information in a relatively short period of time. The response rates of recent surveys were much lower than desirable (less than 40 percent), and all experienced some response bias problems (e.g., underrepresentation of males) that suggest their findings somewhat underestimate the actual prevalence of pathological gamblers.

Focus Group Interviews

We conducted focus group interviews with four groups (compulsive gamblers and spouses of compulsive gamblers, counselors, law enforcement officers, and college students). As expected, the four focus groups evidenced a variety of backgrounds and opinions with regard to gambling in Michigan. The strength of the focus group approach is that we could look for and tease out those differences, in light of the known experiences of the participants. The perceptions and insights would not have come out in a general population survey. Each group had much to share about gambling. We are grateful to these individuals for the time they gave us and even more so for the wisdom they shared.

Specifically, the compulsive gamblers showed a remarkable ability to express the plight of the gambler and the family, job, and health problems related to the pathology. These individuals tend to see the problem as a disease requiring treatment, social support, and abstinence. Stages of the problem and the need to honestly desire help were stressed. Family members shared this disease model and the need for helping resources in the state.

The compulsive gamblers view the current culture as acceptant of gambling and the socialization around it. They listed a wide range of gambling activities: horse racing, lottery, casino, bingo, dice, bowling, after hours clubs (poker), office pools, liars poker, machines

(both legal and illegal), sports, fantasy football (or baseball, or hockey, etc.), numbers, pull tabs, bets with bookies (which themselves might cover a wide range), and betting on the Internet. They even included the stock market. They also noted many prevalent conditions that encourage people to gamble including easy credit, ease of filing for bankruptcy, state sanction of gambling (e.g., lotteries), support of gambling by other institutions such as the church or other community groups, moral acceptance of gambling, the value placed on instant gratification, peer pressure, the media, ease of access, and improved technology. A major issue was the encouragement of gambling by the gambling establishments themselves (including the state). As they see it, gambling is simply part of today's society.

The student group had less direct experience with significant gambling problems, but were aware of very young people entering into the early stages of gambling participation. While this particular group did not have many personal problems or know many associates with problems, they did describe a culture of acceptance of gambling and the socialization around it. The legal-illegal distinction was not stressed, since many saw a tacit acceptance of gambling as a whole in their environment.

The State Police group focused on the interactions of law enforcement with gambling. The distinction of legal and illegal gambling was quite important to these men when it came to the types of gambling they tend to scrutinize. But that distinction was far less important when it came to the legal implications of gambling problems. Gambling debt and the pursuit of winning lead to family, job, and crime problems both as victims (of extortion, for example) and as perpetrators (to secure funds to pay debts or gamble anew). From the perspective of these officers, all types of gambling are linked in contributing to an environment where gambling-related problems, especially those involving criminal activity, will become an increasingly significant problem in Michigan.

The therapist and counselor group also saw compulsive gambling as a significant and growing problem in Michigan. They tended to see root causes in increasing acceptance and social legitimation of gambling as well as easier access for traditionally excluded groups like women. Compulsive gambling itself, however, was generally seen as a manifestation of a deeper disorder that requires identification and treatment. Approaches to addressing these issues must involve awareness, education, and a strong prevention message.

This group noted that some compulsive gamblers seek help through counseling services. The persons seeking help tend to be middle-class persons, not unemployed or underemployed individuals. Their comments suggest that the amount of such assistance is likely to be underreported. Additionally, they noted their own lack of familiarity with the standard gambling screening instruments, for example, The South Oaks Gambling Screen (SOGS).

In sum, members of these groups told us that (1) compulsive gambling is a significant and growing problem in Michigan, although its size is unclear; (2) compulsive gambling is a

disease requiring prevention, treatment, social support, and abstinence; (3) control of gambling-related problems is becoming more difficult, due to gambling's increased social legitimacy, public acceptance, and technological sophistication (e.g., off-shore phone lines and Internet opportunities); (4) the state is compounding the problem through its sponsorship of various forms of gambling (casinos, charitable gaming, lottery, and parimutuel racing); (5) more women and young people are gambling because of socially acceptable opportunities such as casinos; (6) there is some help for problem gamblers, but more should be done in the areas of education and prevention as well as in establishing a referral network of helping resources; (7) illegal gambling and excessive gambling are not victimless and can lead to debt, bankruptcy, crime, poor support of families, and poor job performance; (8) problem gambling is often a manifestation of some deeper psychological problem; and (9) support groups and many therapists still do not work well together.

All the groups added to our understanding in particular ways and tended to agree on certain points:

- Access to gambling is easier.
- Social approval of gambling is perceived to be increasing.
- There is insufficient understanding of the problems associated with gambling.
- Among those problems are disruptive effects on individual health and well-being and on families and workplaces.
- Criminal involvement may be related to gambling in ways we are not fully able to document.
- Necessary remedial actions must include a clearer focus on programs to help gamblers and a clear and strong educational program.

Statewide Survey

The primary purpose of the survey was to establish a precise estimate of compulsive gambling among adults in Michigan. The survey was administered through a computer assisted telephone interviewing approach utilizing a random digit dialing telephone sample. A total of 3,942 persons were interviewed from a total of 9,257 reached by telephone, a 43 percent response rate. (While lower than desired, this response rate is higher than those in recent similar surveys in other states.) Respondents slightly underrepresent blacks and to a greater extent lower income groups. Data were weighted on several key variables to address these representation problems, with little effect on the results.

The survey consisted of four parts. The first two parts asked respondents to address gambling from two perspectives, lifetime and current (within the past 12 months). In the first part respondents were asked to answer a series of questions regarding whether they had ever gambled in a variety of ways (e.g., lottery, horse racing, sports betting) and, if so, whether they had gambled in that way in the past year. In the second part respondents answered the set of 20 questions known as the South Oaks Gambling Screen. These

questions are designed to identify individuals as at risk of being either a *problem* gambler (a response of yes to 3 or 4 of the SOGS items) or a probable *pathological* gambler (a response of yes to 5 or more items). Again, respondents were asked to respond to each item on a lifetime and current basis. The third section of the survey was an in-depth analysis of respondents whose scores on the SOGS indicated they were currently or at some point in their lifetime had been problem and pathological gamblers. Finally, all respondents were asked a set of demographic questions regarding factors such as age, race, education, employment, size of household, and marital status.

Michigan's prevalence rates among adults for gambling and for lifetime and current problems with gambling (SOGS scores of 3 or more) are all within the expected range based on other statewide surveys. The Michigan survey also elaborated a series of detailed results that may contribute to policy discussions on this timely issue. But perspective is important. The survey results are only part of the data gathered in this report. It is that combination of methods and sources in the overall study that provides the best guidance, for the present, that we can offer.

Among adult residents of Michigan who answered this survey, 77 percent currently gamble and 85 percent have gambled at some point in their lives. Among current gamblers about 1 percent scored as probable pathological gamblers, 2 percent as problem gamblers, and 97 percent as social or nonproblem gamblers. Among individuals who reported gambling at some point in their lives, about 2 percent scored as probable pathological gamblers, 3 percent as problem gamblers, and 95 percent as social gamblers. Those numbers are well within the range reported in other statewide studies. When extrapolated to the adult population of Michigan, they suggest that more than 230,000 residents would score as problem or pathological gamblers on the current year measure and more than 350,000 on the lifetime measure.

Rates of gambling participation vary by type of gambling and by population subgroup. For example, men tend to have higher rates than women (with notable exceptions like bingo). The male dominance of participation is least pronounced in legal secure games like the lottery and casino gambling and most pronounced in activities like sport betting and betting on one's own performance in a game of skill.

Variations in the rate of gambling problems are also interesting. Education and income are modestly, if at all related to rates of problem gambling. On the other hand, males, nonwhites, and younger respondents tend to have higher rates of gambling problems as measured by the lifetime and current SOGS.

It is important, if not surprising, that problem gamblers tend to gamble longer at a time and to lose more money than social gamblers. They report starting to gamble when quite young, and a significant proportion have at some point been nervous about the amounts they gambled. Even more importantly, however, relatively few report a desire to stop gambling

and even fewer report seeking help to stop. Finally, a significant minority of problem and pathological gamblers also report a substance abuse or mental health problem.

In summary, the focus group and survey findings consistently confirm and substantiate findings from other states. Gambling in Michigan is a large, socially accepted entity. Michigan adults do gamble, and do so in a wide array of activities. Though small in percentage, many individuals meet the criteria as probable problem and pathological gamblers. Our study suggests that currently there are enough problem gamblers to populate a city the size of Flint and enough pathological gamblers to populate an additional city the size of Kalamazoo, two of Michigan's larger cities.

There is evidence that prevalence rates are increasing in recent years and that states with large numbers of casinos have higher prevalence rates. Both factors suggest Michigan should closely monitor prevalence and associated problems. Furthermore, the low reported use of helping services among respondents who score as compulsive gamblers suggests examination of education, coordination, and referral efforts on matters of accessibility and quality may be needed. In combination with the focus group and other information on the economic, personal, work, and family problems associated with problem gambling, the survey findings begin to convey the seriousness and scope of the problem in Michigan.

The State of Compulsive Gambling in Michigan

A Literature Review Prepared for the Michigan Bureau of State Lottery

Arlen Gullickson and Bradley Gates

May 1997

A French proverb states, "There are two great pleasures in gambling: that of winning and that of losing." George Washington, though known to gamble, did not fully share those sentiments. He once said gambling "is the child of avarice, the brother of iniquity, and the father of mischief." Those perspectives *(The Columbia Dictionary of Quotations*, 1993) give some insight into the dual nature of gambling, bringing both pleasure and pain, that has made gambling controversial and keeps it before us today as a major societal concern.

This report summarizes literature on this important topic. We conducted this review as a first step in our study of compulsive gambling, the primary purpose of which is to provide a status report on gambling and compulsive gambling in the state of Michigan. Information gained through this review has helped us to better understand the nature and magnitude of gambling and problems that surround it (nationally and in Michigan) and has provided substantial practical guidance in development of survey instruments and procedures.

The Literature Review Process

We began the literature review process in the newest and most fashionable way (i.e., by searching for information on gambling on the Internet's World Wide Web). We immediately ran into substantial hurdles. The number of citations (home pages) listed was enormous (e.g., 10,000 for a single keyword search), and many, if not most of the citations were not pertinent to our study's intended purposes. The large number of citations, the paucity of pertinent studies currently available on the Web, and the difficulty of searching the mass of materials to identify those pertinent to our needs caused us to return to more traditional modes.

We checked two preliminary sources, *ERIC* and *PSYCINFO,* available at Western Michigan University's Waldo Library. Both provide citations of published studies by keyword. For example, PSYCINFO lists over 900 references for the keyword gambling. Of the 2, *PSYCINFO* provided the best list of sources. We narrowed the search in *PSYCINFO* by using several keyword combinations with the following results[1]:

Keywords	Documents
Gambling and Prevalence	37
Gambling and Profile	13
Gambling and Pathological	347

Periodical titles and abstracts provided a first cut of articles retained for review. Reference lists in those articles in turn led us to additional documents and key persons (Dr. Henry Lesieur, Dr. Rachel Volberg, and Dr. William Thompson) who have conducted previous studies on the prevalence and characteristics of compulsive gambling. Dr. Lesieur collaborated in the development of the South Oaks Gambling Screen (SOGS), the primary instrument used in most research on gambling, and has actively investigated the effects of gambling on gamblers and society. Dr. Volberg has been a primary or contributing researcher in a majority of the statewide studies conducted in the past 10 years. Dr. Thompson has collaborated in several state studies of gambling, but is noted primarily for his work regarding casinos. All three were contacted to elicit additional studies and unpublished (fugitive) findings on the topic.

The result of the search process was a small but coherent set of research studies and essays on gambling and pathological gambling. These documents show some consistent patterns and raise a number of important issues. Only in the final stages of the literature review, in the cleaning up of numerous details, did we return to the World Wide Web to gather additional supporting information.

Organization of the Report

We have organized the findings of the literature review to answer three general questions:

1. *What are the gambling trends nationally and in the state of Michigan?* To answer this question we provide a brief overview of the explosive growth of gambling in the United States and Michigan, a growing awareness of attendant problems, and states' preliminary actions to better understand and address these problems.

2. *What are the characteristics of gambling and compulsive gambling?*

   - We distinguish between gambling and compulsive gambling and briefly chronicle psychiatrists' and researchers' attempts to specify diagnostic criteria (symptoms) for persons afflicted with the compulsion to gamble.

   - We show the results of studies in other states regarding the prevalence of gambling and the extent of problem gambling.

   - We describe the characteristics of compulsive gambling both in terms of the impact on compulsive gamblers and on society.

3. *How good are the completed prevalence studies of gambling and compulsive gambling?* Here we analyzed the studies themselves to assess the quality of their methods and to determine the extent to which those methods affect (facilitate or impede) our understanding and conclusions about gambling and compulsive gambling. This section is divided into four parts: variable definitions, instrumentation, sampling procedures, and data analysis.

After responding to the three questions, we provide a summary and conclusions.

During the twentieth century gambling has been a closely regulated industry and severely limited in most states of the U.S. In fact, during most of this century Nevada was the

What Are the Gambling Trends?

A National Perspective

only state that actively promoted a wide array of legal gambling options. As late as 1973 Nevada was still the only state with legal casinos. Since then, though gambling continues to be closely regulated, the availability of legalized gambling has expanded explosively.

Certainly, the reasons for the tremendous growth in gambling opportunities are varied, but state sanctioning of gambling, which has been occurring steadily for the past 30 years, is a major factor. States appear to have moved in this direction in order to increase state revenues without increasing state taxes, thereby enabling them to support programs otherwise viewed as essential but unaffordable.

Gambling in America (1976), prepared by the federal Commission on the Review of the National Policy Toward Gambling and published by the Government Printing Office, is a major resource on personal, state, and federal gambling practices; patterns; revenues; and attitudes. It reports what it calls a phenomenal growth in gambling during the 15-year period, from 1960 to 1974:

- Americans' annual wagers increased from $5 billion to more than $17 billion, an increase of more than 340 percent (p. 77).
- Six additional states legalized pari-mutuel gambling, bringing the total number of states with pari-mutuel betting to 32.
- Nevada, the only state with casinos, had increased its revenue by almost 600 percent from $200 million to more than $1 billion.
- Several forms of gambling were legalized for the first time, including the lottery (the first state to legalize it was New Hampshire in 1964), parimutuel off-track betting (New York), and New Jersey's numbers game.

Gambling in America identified 8 major types of gambling in 1976: lotteries, numbers, bingo, racing (horse and dog), off-track betting, casinos, sports cards, and single-event sports betting. At that time, "Almost half of the $19 billion handle from legal gambling in 1975 consisted of pari-mutuel wagers at horse races, dog races and jai alai frontons" (p. 108). (Note: The word "handle" is gambling terminology that means the total amount of money put at risk, wagered.

Handle is often distinguished from "gross win," where gross win is the total amount won by the gambling establishment —"win" = players' losses.) The authors state that in 1976 ". . . the growth in legal gambling shows no signs of abating and may even be accelerating, as additional states compete in the gambling arena with an expanding array of 'bigger' and 'better' games of chance" (p. 77).

Since that national report on gambling more than 20 years ago, the growth in gambling has continued at an accelerated pace. States one after another have sanctioned gambling in various forms. Additionally, the federal Indian Gaming Regulatory Act of 1988 opened the door to tribal-controlled gambling in those states that permitted gaming within the state. That Act resulted in significant growth of gambling activities on Indian reservations (Thompson, Gazel, & Rickman, 1995).

Karcher (1992) traced just one of the gambling activities–lotteries–to provide perspective on the magnitude of gambling in our country. He noted that as early as 1978, the 13 state lottery operations yielded $779 million in proceeds. By 1988, 33 states plus the District of Columbia had approved legalized lotteries. In 1989 these lotteries produced sales receipts of 18.5 billion dollars–with states spending 257 million dollars on advertising. Karcher notes that with sales of 20 billion dollars in 1990, state-run lotteries ranked 24th in gross sales among companies listed in the *Forbes* magazine survey. Additionally, he states that the sales amounted to 0.6 percent of personal income nationwide and a much higher percentage in states with mature lotteries. For example, in Massachusetts, which is at the high end, ticket sales absorbed 1.2 percent of personal income. As his report, along with the federal commission's study, shows, lotteries moved from being a nonentity in our country in 1960 to status as being one of its largest industries in less than 30 years.

Lesieur[2] provides a more comprehensive perspective. His findings show that by 1986 the total amount of legal wagers in the country had grown to $166.5 billion, nearly a 10-fold increase in 12 years. Gross win increased from $3.3 billion to $16.9 billion in that same time period, a 5-fold increase. By 1995, less than 10 years later, these national figures

had again more than tripled to $550 billion for legal wagers and doubled to $39.9 billion for gross win. Altogether, across a little more than 30 years, legal wagering grew by a factor of 30; and gross win by gambling establishments grew by a factor of 15. As those figures suggest, gambling has become a huge industry.

Legal lotteries are now operated in 37 states; and Washington, DC, casinos are operated in 27 states (of which 14 states have non-Indian casino or device gambling), and Indian gaming is legal in 30 states (see Appendix A for listings by state). While the lotteries and casino gambling have probably received the greatest public attention, other forms of gambling have grown markedly as well. In particular, as Table 1 shows, bingo, charitable gambling, and pari-mutuel wagering are still available in more states than other types of gambling activities.

These large increases in gambling activity did not occur free of problems. Charles Morin, chairman of the federal commission that prepared *Gambling in America*, stated in the book's Foreward (p. ix) that gambling ". . . a pastime indulged in by two-thirds of the American people, and approved of by perhaps 80 percent of the population, contributes more than any other single enterprise to police corruption in their cities and towns and to the well being of criminals." His concerns have been echoed by a growing chorus as gambling opportunities increase and gambling's effects on individuals, their families, and society becomes more apparent.

Nadler (1985) noted that the then accepted prevalence estimate was 1.1 million compulsive gamblers in the U.S. These compulsive gamblers were viewed as wreaking havoc on themselves and others, resulting in bankruptcies, divorce, medical problems, and legal and judicial problems. Karcher (1992, p. 52) addressed the problems as gambling addiction and compared this addiction to being hooked on prescription drugs " . . . which frequently cause users-cum-abusers a myriad of problems: financial, behavioral, psychological, and physical."

States have gradually moved to address problems resulting from gambling, and many have recently acted to slow the

growth of gambling. For example, in the last 2 years, 24 states and localities have defeated measures for new casinos and only Michigan approved new casino development (Abramson, 1996). Also, they have taken proactive steps to better understand gambling problems and reduce their effects. In 29 states plus Puerto Rico, councils have been created (e.g., Florida, Minnesota, Nebraska, and Mississippi) to study and address these problems (H. R. Lesieur, personal communication February 14, 1997). Since 1984 surveys have been conducted in at least 17 states (Fig. 1) to better understand the extent and nature of problems surrounding gambling. Additionally, a growing number are funding programs to directly address problems associated with gambling.

Table 1.
Availability of Legal Gambling as of December 1994 – Data compiled by Lesieur[3] (1994)

Form of Gambling	Number of States
All forms	48 and District of Columbia [all states but Hawaii and Utah]
Bingo	47 and District of Columbia
Charitable gambling (excluding bingo)	42 and District of Columbia
Card rooms	15
Casinos	22[4]
Gaming device gambling (slots, video poker, etc.)	21
Video lottery terminals	8
Keno	16
Lotteries	37 and District of Columbia
Sports	5
Pari-mutuel wagering	44

In 1992 Lesieur noted that only 8 states (Massachusetts, Connecticut, New York, New Jersey, Maryland, Iowa, Minnesota, and Delaware) provided money to deal with problem gambling. Three of those states (Connecticut,

Maryland, and Delaware) spent less than $100,000 per year each. More recently Volberg, Dickerson, Ladouceur, and Abbott (1996) noted that 17 states currently provide some financial support for education, prevention, treatment, or research in the area of problem gambling (their analysis preceded the funding of this Michigan study). They also noted that the amount of money provided tends to be small relative to gaming revenues or profits, "ranging from $20,000 in Maryland to $2 million in Texas with most allocations around $100,000" (p. 225). Notably, the Minnesota State Lottery *FY 1995 Annual Report: Income and Expenses* shows that in 1995 Minnesota allocated $1 million of its lottery revenue to compulsive gambling treatment (up from $0 in 1994) with an additional $690,000 of its operating expenses to "Compulsive Gambling and Public Safety" (http://www.lottery.state.mn.us/incexp.html). While that amount is still only .5 percent of total revenues and less than 3 percent of net proceeds, such allocations suggest states are beginning to take seriously the problems associated with gambling.

In Michigan race track betting was legalized in 1933, but other forms of gaming (e.g., lottery and bingo) were illegal until the state constitution was changed in 1972. That change opened the door to major increases in legalized gambling activities (see Table 2).

Gambling in Michigan

Table 2. A Chronology of Michigan's 20th Century Gambling Laws

- 1933 Public Act 199 legalized pari-mutuel gambling on horse racing. This act has been revised several times.
- 1972:
  - •Repeal of constitutional prohibition on lottery (May 1972)
  - •Public Act 239 authorized a state lottery
  - •Public Act 382 legalized bingo for charitable purposes
- 1981 Public Act 229 added other forms of charitable gaming (raffles and Las Vegas nights).
- 1984 Opening of the first Indian gambling facilities
- 1993 Native American tribe compacts with the state
- 1996 Citizens' Initiative (Proposal E). This initiative allows up to 3 casinos within the city of Detroit.

Since 1972 the number and type of legal gambling activities have consistently increased. As Table 3 shows, an adult in Michigan now has direct opportunity to legally gamble in more than 20 ways. These gambling opportunities, in turn, result in huge revenues. This past year an excess of $5 billion was gambled in those gaming activities (see Table 4). Using the state lottery as an

Table 3.
Legal Gambling Activities in Michigan in 1996[5]

- Lottery
  - •on-line (Michigan Lotto, Daily 3 and Daily 4, Keno, Cash 5, and The Big Game)
  - •instant (various scratch-off games)
- Charitable Gaming
  - •bingo
  - •charity game tickets (aka “break-open” or “pull-tab”)
  - •Las Vegas nights (or “millionaire parties”)
  - •raffles
- Pari-mutuel horse racing
- Indian Reservation
  - •high stakes bingo
  - •roulette
  - •slot machines
  - •dice games
  - •card games
  - •break-open tickets

Table 4. U.S. and Michigan Legal Wagers in 1995 (in millions of dollars)		
Type of Gambling	**Handle**	**House* Win**
The U.S. (all forms of legal gambling)	$550,300	$44,386
Michigan wagers		
Lottery games	$1,379	$673
Charitable gaming events	$320	$101
Pari-mutuel wagering	$310	$ 62
Tribal casinos — devices only	$3,231	$323
Data obtained from the Michigan Bureau of State Lottery Report on Compulsive Gambling, October 22, 1996, and Mr. Mark Hoffman, Michigan Bureau of State Lottery, in February 1997		

*Gross wagers minus player winnings

example, it is noteworthy that in 1995 Michigan's lottery sales ($1.3 billion) were more than the total U.S. lottery revenue in 1978. Additionally, individuals wager millions, perhaps billions, of dollars illegally in the state. In an effort to better understand gambling and to assist persons with gambling problems, the state, through the Bureau of State Lottery, funded this statewide study of gambling, provides support to the Michigan Council on Problem Gambling, and is supporting an 800 number telephone hot line for persons seeking help with gambling problems (1-800-270-7117).

What are the Characteristics of Gambling and Compulsive Gambling?

Definitions

Webster's Ninth New Collegiate Dictionary (1991) in its first of several gambling definitions, defines gambling as "to play a game for money or property." This study employs that simple definition, which excludes a wide array of other risk-taking behaviors often referred to as gambling. As suggested in Webster's definition, gambling is commonly viewed as having three primary components: (a)

chance–there is some uncertainty or randomness involved; (b) prize–something of value (goods, money, or service); and (c) consideration–what you stake on the outcome.

Among people who gamble, two types of persons are generally distinguished: those who constrain gambling to reasonable and personally affordable bounds and those who cannot contain or constrain their impulse to gamble. Professionals and lay people alike describe those who do not adequately constrain their gambling activities (i.e., gambling losses) as compulsive gamblers (Lesieur, 1992). Lesieur adds that those who study gambling and who work with "compulsive gamblers" (e.g., psychiatrists) recognize that compulsion refers to an involuntary behavior and does not properly describe the problem gambler's condition except in the latter stages of the problem gambler's career. The more appropriate term, "pathological gambling," is defined by the American Psychiatric Association (1987, p. 324):

> The essential features of this disorder are a chronic and progressive failure to resist impulses to gamble, and gambling behavior that compromises, disrupts, or damages personal, family or vocational pursuits. The gambling preoccupation, urge and activity increase during periods of stress. Problems that arise as a result of the gambling lead to an intensification of the gambling behavior. Characteristic problems include extensive indebtedness and consequent default on debts and other financial responsibilities, disrupted family relationships, inattention to work, and financially motivated illegal activities to pay for gambling.

Probably because the term "compulsive gambling" is used widely by the lay public to describe the gambling addictions, and despite their differences in technical/medical meaning, *the two terms "compulsive gambling" and "pathological gambling" are used interchangeably* by most researchers. To further complicate matters, a third term, *"problem gambling"* has been coined by researchers to describe individuals who do

not have as many of the symptoms as pathological gamblers, but do evidence some of the problems associated with the gambling pathology.

Both terms, "pathological" and "problem" gambling, are relatively new. Gambling pathology was first defined and described in 1970 by Emmanuel Moran from the U.K. in his article "Varieties of Pathological Gambling" (*British Journal of Psychiatry 116*, cited by Lesieur in a private communication dated February 14, 1997). In 1980 the American Psychiatric Association (APA) recognized pathological gambling as a mental disorder by including it in the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition* (DSM-III, 1980). Problem gambling, though never formally defined by the APA, has regularly been used by researchers to describe individuals who do not fully meet the criteria for pathological gambling but do evidence some of the symptoms (see, for example, Sommers, 1988).

The definitions of both pathological and problem gambling continue to evolve as studies of gambling increase our understanding of gambling and its effects on individuals. Problem gambling has consistently followed in the stead of pathological gambling, as a less severe problem than pathological gambling.

Because the APA has recognized and formally described pathological gambling in its diagnostic and statistical manuals of mental disorders, the history and development of pathological gambling are readily traced and help to clarify our growing understanding of gambling problems. The APA's 1980 *DSM-III* includes pathological gambling as an impulse control disorder. In that first attempt to provide diagnostic criteria, the criteria specify that pathological gambling is a chronic and progressive condition marked by at least three of seven factors that focus on the disruptive effects of gambling (see Table 5). By 1987 the list of criteria had grown to nine, of which the *DSM-III-R* specifies that at least four must be met. These nine criteria focus much more directly on the characteristics of the gambler

and his/her relationship to gambling than on the ultimate effects of gambling.

These criteria were again revised and extended with the publication of *DSM-IV* in 1994 (Table 5). Examination of Table 5 shows that criteria numbered 2 and 3 of the *DSM-III-R* were collapsed into a single criterion, number 2 of *DSM-IV*. Similarly, criteria 7 and 8 of *DSM-III-R* were collapsed into criterion 9 of *DSM-IV*. The result is that six of the criteria in *DSM-IV* are comparable to eight of the *DSM-III-R* criteria. The ninth *DSM-III-R* criterion " . . . continuation of gambling despite inability to pay mounting debts . . . " is not apparent in *DSM-IV*. Also, *DSM-IV* introduced three new criteria addressing lying, illegal acts, and reliance on others to gain money to relieve a desperate financial situation. As such, the *DSM-IV* much more strongly focuses on the impact that gambling has on an individual's relationship with others. Additionally, the *DSM-III* manual requires that only four of the criteria be met for an individual to be categorized as having the pathology, while the *DSM-IV* manual requires at least five.

Table 5. The Diagnostic Criteria for Pathological Gambling as Presented in the *DSM-III*, *DSM-III-R* and *DSM-IV* Manuals

Diagnostic Criteria for 312.31 Pathological Gambling (DSM-III)

A. The individual is chronically and progressively unable to resist impulses to gamble.

B. Gambling compromises, disrupts, or damages family, personal, and vocational pursuits, as indicated by at least three of the following:

   1. arrest for forgery, fraud, embezzlement, or income tax evasion due to attempts to obtain money for gambling
   2. default on debts or other financial responsibilities
   3. disrupted family or spouse relationship due to gambling
   4. borrowing of money from illegal sources (loan sharks)
   5. inability to account for loss of money or to produce evidence of winning money, if this is claimed
   6. loss of work due to absenteeism in order to pursue gambling activity
   7. necessity for another person to provide money to relieve a desperate financial situation

C. The gambling is not due to Antisocial Personality Disorder.

Diagnostic Criteria for 312.31 Pathological Gambling (DSM-III-R)

Maladaptive gambling behavior, as indicated by at least four of the following:

1. frequent preoccupation with gambling or with obtaining money to gamble
2. frequent gambling of larger amounts of money or over a longer period of time than intended
3. a need to increase the size or frequency of bets to achieve the desired excitement
4. restlessness or irritability if unable to gamble
5. repeated loss of money by gambling and returning another day to win back losses ("chasing")
6. repeated efforts to reduce or stop gambling
7. frequent gambling when expected to meet social or occupational obligations
8. sacrifice of some important social, occupational, or recreational activity in order to gamble
9. continuation of gambling despite inability to pay mounting debts, or despite other significant social, occupational, or legal problems that the person knows to be exacerbated by gambling

Diagnostic Criteria for 312.31 Pathological Gambling (DSM-IV)

A. Persistent and recurrent maladaptive gambling behavior is indicated by five (or more) of the following:

1. is preoccupied with gambling (e.g., preoccupied with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble)
2. needs to gamble with increasing amounts of money in order to achieve the desired excitement
3. has repeated unsuccessful efforts to control, cut back, or stop gambling
4. is restless or irritable when attempting to cut down or stop gambling
5. gambles as a way of escaping from problems or of relieving a dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, depression)
6. after losing money gambling, often returns another day to get even ("chasing" one's losses)
7. lies to family members, therapist, or others to conceal the extent of involvement with gambling
8. has committed illegal acts such as forgery, fraud, theft, or embezzlement to finance gambling
9. has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling
10. relies on others to provide money to relieve a desperate financial situation caused by gambling

B. The gambling behavior is not better accounted for by a Manic Episode.

1. It is noteworthy that there are sufficient studies of gambling and issues surrounding gambling to support a jorunal, the *Journal of Gambling Studies*.

2. As of *December 1994, GAMBLING FACTS*, photocopied material provided in personal correspondence on February 14, 1994.

3. See endnote number 2.

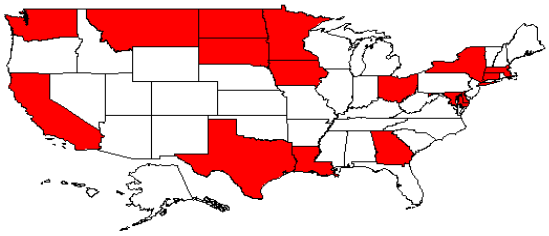
4. This category includes Indian casionos, legal in 21 states; riverboat gambling, legal in 7 states; and land-based non-Indian casinos in 5 states.

5. Information for this table was provided by Mr. Mark Hoffman, Executive Assistant for Policy and Programs, Michigan Bureau of State Lottery (personal correspondence, November 1996).

In What Ways Has Our Understanding of Gambling Problems Grown and Changed?

Over 30 empirical studies of gambling have been conducted since 1976, when researchers at the University of Michigan conducted a survey of gambling in the U.S. concentrating on the state of Nevada. Several studies were conducted in foreign countries (e.g., Australia, Canada, New Zealand, and Spain). As noted in Figure 1, we found recent studies on gambling and compulsive gambling conducted in 17 states. In at least 6 states (Connecticut, Iowa, New York, Minnesota, New Jersey, and South Dakota) there have been multiple studies. Three states have completed replication or follow-up studies: Iowa (Volberg, 1995), New York (Volberg, 1996b) and Minnesota (Emerson, Laundergan, & Schaefer, 1994). Findings from all three suggest that the incidence of gambling and problems associated with it have increased along with increased opportunities for gambling.

Studies of Gambling Prevalence
State Surveys



States Conducting Surveys

California, Connecticut, Delaware, Georgia, Iowa, Lousiana, Maryland, Massachusetts, Minnesota, Montana, New Jersey, New York, North Dakota, Ohio, South Dakota, Texas, Washington

Figure 1

One indicator of the research interest in and grass-roots attention to gambling issues is reflected in a recent Gambling and the Family Conference held at Iowa State University on October 31, 1996. That conference provided a forum for reporting a series of studies that address a wide array of gambling issues including prevalence of gambling in

Iowa (*An Overview of the Family and Consumer Sciences Poll on Gambling and the Family,* MacDonald),

- the economic impact of gambling *(Small Business Retail Performance and the Perceived Impact of Riverboat Gambling*, Gaskill & Littrell; *The Impact of Gambling on Iowa Tourism and Rural Business*, Hsu),
- the impact of gambling on the family (*Gambling: Impact on Family and Family Finances*, Hira),
- the effects of gambling on the young (*Learning from Las Vegas–Childcare and Casinos, Petersen;*
- *Gambling Among College Students–Some Insights*, Hira, Ingram, & Monson*)*
- the old (*Gambling Habits of Older Adults; Larpenteur-Gradwell, et al.)*.

(This information was provided in a private communication by Dr. Beverly J. Crabtree, Dean of the College of Family and Consumer Sciences. However, abstracts from those presentations are currently available on the World Wide Web at http://www.public.iastate.edu/~cfcs/gamble/ brointro .html.)

Findings from the state surveys[6] (Fig. 2) suggest that a large majority of individuals (80 percent or more) in the U.S. have gambled one or more times in their lifetime (see Appendix A for a summary of individual state studies). Though the estimated prevalence of gambling varies from study to study, reflecting the specific questions asked, geographical differences, and variables such as availability of legal gambling opportunities, the large majority of studies report that 80 percent or more people have gambled at some point in their lifetime. [One of the Iowa conference's more provocative findings was provided by the Larpenteur-Gradwell et al., presentation on *Gambling and the Effects on Older Iowans.* They found that 70 percent of the gamblers over 55 years in age started gambling in the last 10 years.]

Fewer studies have investigated the prevalence of current gambling (i.e., within the past year), but even in those

studies prevalence is consistently reported as 65 percent or greater. These findings suggest that gambling is practiced and at least tacitly condoned by the large majority of adults in our country.

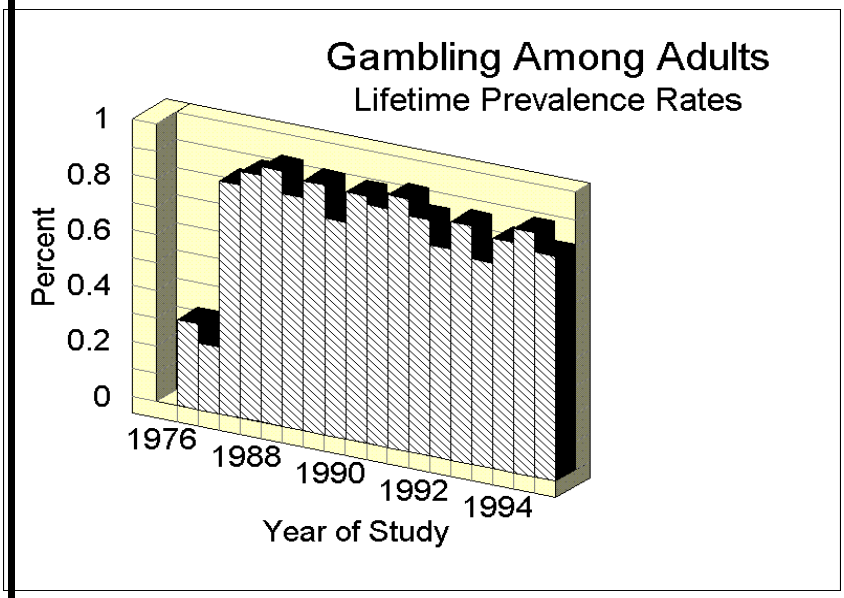


Figure 2

The majority of the statewide studies noted in Figures 3-4 used the APA's *DSM-III* and *DSM-III-R* criteria as the bases for determining problem and pathological gambling. Also, the early studies (prior to 1991) addressed compulsive gambling from a lifetime perspective. That is, questions related to the incidence of gambling and the *DSM-III* criteria asked the individual to respond positively if he or she had, for example, ever gambled or had ever repeatedly tried to reduce or stop gambling. After 1991 the surveys began to focus more directly on recency (i.e., acts within the last year).

Figure 3 depicts the incidence of lifetime problem and pathological gambling across an array of studies. Like Figure 2 this chart displays the study findings in chronological order. As typically defined by the respective researchers, problem gamblers must report meeting three or more conditions. Probable pathological gamblers meet five or more of the conditions (i.e., they score five or more on the SOGS). Figure 4 provides incidence information for "current prevalence" (i.e., persons who reported gambling-related problems within the past 12 months) and is probably the more pertinent perspective.

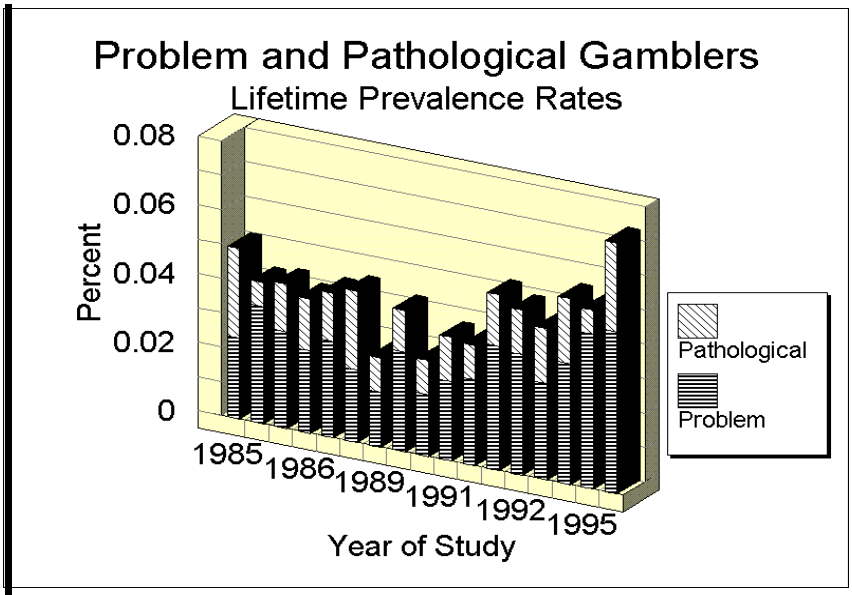


Figure 3

All of the more recent studies have determined the rate of probable pathological gamblers to be approximately 1 percent. Those that meet the less restrictive criteria, with a resulting categorization as problem gamblers, vary from 1 to 4 percent. Combining the two groups as shown in Figure 4 suggests that approximately 2 to 5 percent of the adult population in the states surveyed currently suffer from

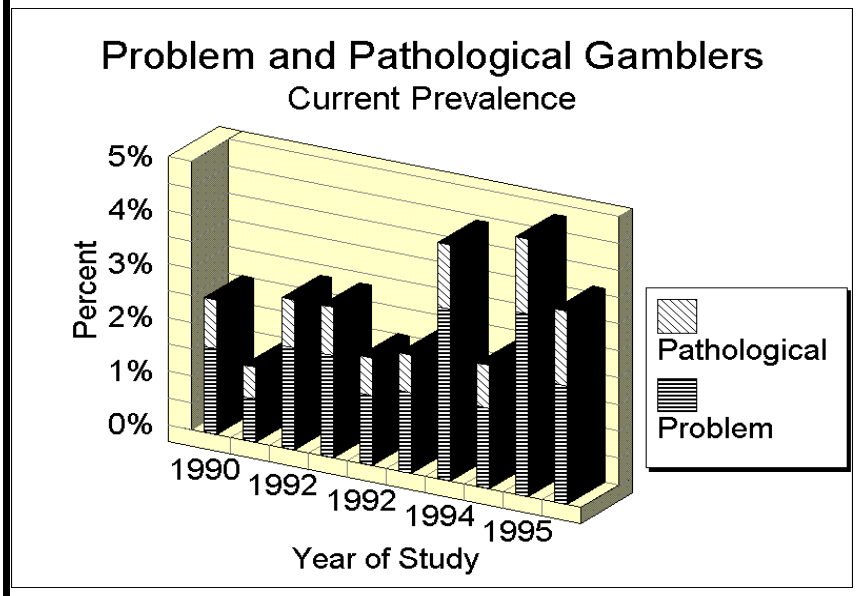


Figure 4

problem or pathological gambling. If one generalizes those estimates to the Michigan adult population[7] of 6,800,000, an anticipated 136,000 to 340,000 persons in this state can be

expected to meet the minimum criteria as problem gamblers. Of those, approximately 68,000 would be expected to have pathological gambling problems.

Other Literature on Pathological Gambling

Virtually every survey on gambling has been preceded by a literature review that describes the characteristics of problem gamblers and problem gambling. Additionally, numerous care providers (psychologist, psychiatrists, etc.) have written about these individuals. The result is a large amount of material describing the pathology, possible causes, and its effects on the individuals, their families, and society as a whole. Rosenthal (1992) provides a rich description of the pathology. In that description he directly compares pathological gambling to substance abuse and describes the pathology as "ego-syntonic." He notes that "most pathological gamblers, at least until later stages of the disorder, love to gamble" (p. 73). He goes on to say[8]:

> While money is important, most say they are seeking 'action,' an aroused, euphoric state comparable to the 'high' derived from cocaine and other drugs. The desire to remain in action is so intense that many gamblers will go for days without sleep and for extended periods without eating or relieving themselves. Clinicians have noted the presence of cravings, the development of tolerance (increasingly larger bets, or greater risks, needed to produce the desired level of excitement), and the experience of withdrawal symptoms.[9, 10, 11, 12] Some gamblers report a 'rush,' characterized by sweaty palms, rapid heartbeat, and sensations of nausea or queasiness, and typically experienced during a period of anticipation. There may also be blackouts.[13]

There are many theories as to what causes compulsive gambling, how it can be prevented, and how it can be treated. Though not the focus of this study, we direct interested readers to articles such as Reilly and Guida (1990), Walker (1992), and Volberg and Steadman (1992). Reilly and Guida provide a helpful historical description of various theories regarding the basis for compulsive gambling behavior (e.g., Freud, learning theorists, and factor

analytic). Walker discusses various treatment strategies and their effectiveness. These include Gamblers Anonymous, group psychotherapy, conjoint marital therapy, psychoanalysis, behavior modification, aversion therapy, in vivo desensitization, imaginal desensitization, satiation therapy, behavior counseling, cognitively based treatment strategies (such as cognitive restructuring), and a number of unusual treatments (e.g., hypnotherapy). Volberg and Steadman add a discussion of the costs and funding for treatment.

As previously noted, Lesieur and his colleagues (e.g., Lesieur, 1992, 1994; Lesieur & Custer, 1984; Lesieur & Rothschild, 1989), have extensively researched this area. Lesieur (1992) provided a thorough review of the characteristics of compulsive gamblers through analysis of available literature and interviews with known compulsive gamblers. He made six major points (see Table 6).

More recent studies conducted in Texas (Wallisch, 1992), Louisiana, Iowa, and Georgia (Volberg, 1995a, 1995b, &1996c) reinforce the conclusions of Lesieur and suggest that persons with gambling problems start gambling at a younger age, are less well educated, and are less likely to be married. Not surprisingly, as those studies show, those reporting gambling problems also gamble more frequently and spend much more money in gambling activities.

It is noteworthy that these studies change the earlier depiction of pathological gamblers. Early descriptions of gamblers (Custer & Custer, 1978, cited in Volberg & Steadman, 1992) drew heavily on a widely cited profile of members of Gamblers Anonymous. This profile characterizes pathological gamblers as predominantly "middle-aged, middle-class white men, with stable family lives and occupational histories prior to the time when their gambling-related problems became severe" (Volberg & Steadman, 1992, p. 403). The summary of Lesieur's findings (Table 6) and the work of these other researchers suggest that such characterizations are wrong in important respects.

Table 6. Characteristics Associated with Compulsive Gambling
Lesieur (1992)

High gambling-related indebtedness (not including auto loan, home mortgages, and other legitimate debts). Precise estimates are difficult to obtain, and estimates range widely (means from studies range from 53 thousand to 92 thousand dollars) [Lesieur, February 14, 1997, in review of this manuscript notes that current estimates are lower].

- Average for women is about 15 thousand dollars, much less than for men.
- Average refers to accumulated debt and does not include indebtedness the gambler was able to pay off.
- The gambling debt resulted in eventual bankruptcies and/or litigation and other defaults on indebtedness for many.
- Indebtedness appears to be due in part to the easy credit and check cashing policies of gambling establishments.

Adverse affects on medical and insurance costs

- People borrow against and let their life insurance plans lapse .
- People operate uninsured vehicles.
- They engage in insurance fraud (estimated amount of 1.3 billion dollars annually).
- In the latter stages of their gambling, compulsive gamblers tend to be sick more often (both physically and emotionally).
- When combined with other chemical dependencies (e.g., alcohol or drugs), compulsive gamblers tend to have more chronic medical problems than those who have other dependencies but are not gamblers.

Psychiatric disorders (e.g., bipolar disorder, depression). Seventy-five percent of pathological gamblers are diagnosed with major depressive disorder. Multiple dependencies (e.g., alcohol and substance abuse) are high in this group. For example, approximately half of the Gamblers Anonymous group has multiple dependencies. Also, studies of substance abusers show a high incidence of problem and pathological gamblers (19 to 28 percent).

Families pay a heavy toll for the dependencies (lies, arguments, stealing, unpaid bills, and many other problems). Children in these families pay an especially heavy price. Apparent outcomes of pathological gambling in the family include risk factors such as higher divorce rates, psychosocial maladjustment in children, increased risk of gambling problems among children, and physical abuse.

Increased crime

- Approximately two-thirds of nonincarcerated and 97 percent of incarcerated pathological gamblers admit engaging in illegal gambling to finance gambling or pay gambling debts.
- A large portion of probationers and inmates report being pathological gamblers (estimates range from 14 to 30 percent).
- The annual costs of these gambling-related crimes to society can be measured in billions of dollars.

Compulsive gamblers are not evenly distributed across society. They tend to be poor and minority. [Other studies add male and less well educated]. There is evidence that the poor, minorities, and women are grossly underserved by available treatment resources.

Additionally, the intense "high" that appears to be common to pathological gamblers may be important to legislators and others who determine what types of gambling to permit and promote. Some games–for example, card games and slot machines–quickly reinforce the gambling behavior and likely promote or prolong it. Other games, such as the lottery, often involve a period of time (several days) between the bet and the judgment. As such, these games may not be as prone to promote the gambler's high. Whether the incidence of pathological gambling can be reduced by restricting the type of legalized gambling was neither directly addressed nor answered in the studies we found. Like studies of smoking where individuals cannot be randomly assigned to treatment groups, the impact of types of games will be difficult to determine.

There is some evidence that it is pathological gamblers who make casino gambling so "profitable." Two recent studies (Grinols & Omorov, 1995; Thompson & Gazel, 1996) assessed the economic impact of riverboat casinos in Illinois. Both concluded that the casinos cost more than they contribute. Grinols' and Omorov's calculations also suggest that:

- "Although they make up less than 5 percent of the total population, pathological and problem gamblers provide more than 50 percent of casino revenues, and each one creates social costs between $15,000 and $33,000 each year."

- " . . . the additional yearly costs of gambling–in terms of increased crime, treatment for gambling addicts, etc.–would range from $112 to $338 per adult, with the most likely figure "somewhere around the $230 range." He applied those costs to U.S. population figures to determine "that the spread of gambling could create national losses of $39 billion to $145 billion each year. Hurricane Andrew, America's costliest natural disaster, cost $32 billion . . . " (this quote of Grinols and Omorov is taken from a news release about the research study by Viccic, November 1995, and available on the World Wide Web at http://www.oc.uiuc.edu/NB/NB_pages/95 .11/01 gambtip.html)

Grinols and Omorov also note that their estimates are likely to understate the cost of pathological gamblers because they do not include hard to find damages such as child abuse, suicide rates, etc.

Grinols' and Omorov's research methods and conclusions have been contested and Lesieur, thinking their figures were high, did his own calculations based on available research findings. He found that for "problem gambler skewed" forms of gambling (i.e., casinos, table games, video machines, horses–especially off-track betting, sports with bookies, and bingo) more than a third of expenditures come from the problem gamblers (Lesieur, 1996).

All of these computations and conclusions serve those who argue against states providing new gambling opportunities.

How Good are the Completed Studies?

Design of a research study routinely includes definition of the variables to be investigated, selection of subjects to be included in the study, procedural steps to be employed in the collection of data, and analysis procedures for summarizing and interpreting data collected. Each has a substantial impact on study findings.

Variable Definitions

The two primary variables addressed in previous research were gambling and compulsive gambling as described above. As those descriptions implied, definitions of both have evolved in recent years. Initially, studies focused on *lifetime* prevalence for both (e.g., whether individuals had ever gambled). More recently, interest has centered on *current* prevalence, with "current" most often defined as the last year (12 months) and with several studies defining it as a shorter period of time (e.g., 6 months or 1 month). As one would expect, these studies consistently produce higher lifetime than current prevalence rates. This was true for both gambling and compulsive gambling.

Instrumentation

As general understanding of gambling and compulsive gambling has evolved, so too have the operational definitions provided in survey instruments. Including an initial national survey of adults conducted in 1976, we identified six major instrument development efforts. Each has been used in one or more large surveys (e.g., statewide), and each has resulted in slightly different operational definitions of

gamblers and associated problem behavior. These efforts include Zimmerman, Meeland & Krug's *Inventory of Gambling Behaviors* (as cited in Reilly & Guida, 1990); *Cumulative Clinical Signs Method (CCSM*) (Culleton, 1985), which is based on the *Inventory of Gambling Behaviors;* the South Oaks Gambling Screen (SOGS) in an original (Lesieur & Blume, 1987) and several revised forms (see Lesieur & Blume, 1993); and a *DSM-IV* based survey instrument.

Nadler (1985) provides an extensive review of the development of the instrument employed for the national study conducted in 1976. This instrument preceded the APA criteria for pathological gamblers. The structured interview was developed through a discriminant analysis procedure where 18 items from an original collection of 119 items were selected and then cross-validated, based on their ability to discriminate between known gamblers and church members. Discriminant analysis weights from the validation study were applied to respondents' scores to classify individuals as compulsive gamblers. Their study yielded a prevalence rate of 0.77 percent compulsive gamblers nationally. Nadler raises a number of questions about the findings based on both the survey itself and the development process. For example, males were oversampled and church members probably were not representative of nongamblers. Nadler notes that only this one study was conducted using the 18-item survey.

Since the publication of the *DSM* criteria for pathological gamblers, survey instruments have used those criteria as the bases for instrument development. Zimmerman, Meeland, & Krug's *Inventory of Gambling Behaviors* (cited in Reilly & Guida, 1990) was the first instrument to be based on the *DSM-III* criteria. Following immediately on its heels, Culleton (1985) prepared the *CCSM* and employed it in two studies of pathological gambling in Delaware Valley and Ohio. Culleton and Lang (1985) reported prevalence of 3.25 percent and 3.4 percent probable and potential pathological gamblers respectively in the Delaware Valley study. Culleton (1985) similarly reported 2.4 and 3.4 percent prevalence for probable and potential pathological gamblers. These findings and Culleton's work generally have been

strongly criticized because the operational definitions he used for potential and probable pathological gamblers were never empirically validated (Volberg, 1996). That is, he never verified the accuracy of his predictions.

Development of the South Oaks Gambling Screen (SOGS) (Lesieur & Blume, 1987) occurred concurrently with development of the CCSM. Like the CCSM instrument, the SOGS is based on *DSM-III* criteria. However, unlike the CCSM developers, Lesieur and Blume did substantial work in a clinical setting to validate their instrument as a tool for identification of pathological gamblers. Lesieur and Blume report they constructed the instrument and initially tested it with a population of inpatients at South Oaks Hospital who had previously been identified as pathological gamblers through an extensive screening process. Items shown to be good predictors were selected and then cross-validated using members of Gamblers Anonymous, university students, and hospital employees. The resulting SOGS instrument included 20 items. Based on a cross-tabulation of patients' scores with counselors' independent assessment scoring, a score of 5 or more affirmative items was chosen as an indication of probable pathological gambling. Lesieur and Blume note this criterion was used to reduce the number of false positives and false-negative codings. In their study, the test resulted in 2 percent false positives (erroneous placement in the pathological gambling group) and 8 percent false negatives (erroneous placement in the nonpathological gambling group). [Those findings suggest the SOGS is likely to provide a conservative estimate of probable pathological gamblers.] As a result of their efforts and their willingness to allow others to use the instrument at no cost, the SOGS has been used widely in the U.S. and foreign countries to study the prevalence of gambling.

The SOGS has been translated into at least 13 foreign languages; and the instrument's initial three items, which are not scored, have been extensively extended and reconstructed to meet concerns of reviewers and to make the items more appropriate for local conditions (Lesieur & Blume, 1993). The first item addresses different forms of gambling, and the authors encourage users to modify the item to best reflect local gambling options. Additionally, this item has been expanded to address prevalence of both

lifetime gambling (i.e., whether they have ever gambled in that way) and current gambling (typically within the past year). The second item refers to the largest amount of money wagered in any one day. This item must be modified to match the local currency of the country where the survey is administered. The third item initially addressed parental gambling problems. This item has been changed and expanded by the authors to include a wider array of significant others (grandparents, siblings, etc.).

Perhaps the most significant change has been in the way that the SOGS is scored. Where initially the scoring process created a dichotomy (above or below a score of 5), most researchers now employ a scoring process that yields three categories: probable pathological gamblers (5 or more), problem gamblers (score of 3 or 4), and others (scores of 0 to 3). This change was apparently made in response to criticism that the dichotomous scoring is artificial and underemphasizes problem gamblers (Dickerson, as cited by Lesieur & Blume, 1993). This additional category of problem gamblers makes intuitive sense, Lesieur and Blume (1993) argue. But they also advocate additional study to establish the validity of the category.

Although the prevalence of problem gamblers is now routinely reported by those who use the SOGS, we found only one study that attempted to validate the modified scoring process currently employed in the SOGS. That study by Abbot and Volberg (1991, 1992) was conducted in New Zealand in a two-stage manner. First, a random sample was surveyed by telephone and then a sample of those initially surveyed was interviewed in person. Results of that study indicate the SOGS is an efficient predictor of gambling pathology.

Two attributes of the SOGS-R, as it is referred to in the Abbot and Volberg study (1992), were investigated: efficiency of the instrument based on whether the respondent reported gambling at any point in life (lifetime) versus whether gambling occurred within the past six months (current). Both characteristics, when used in conjunction with the SOGS-scored items (a score of 5 or more was used as the basis for labeling a respondent as a

pathological gambler), were efficient in predicting gambling pathology; but the lifetime attribute had a substantially higher efficiency value (88 percent vs. 77 percent). Though their findings are positive, more studies, especially U.S.-based studies, are needed to confirm SOGS-R' s appropriateness in this country and to enhance its interpretability. Those findings do support the recommendations of both Lesieur and Volberg (private communications) that lifetime gambling behavior be used as a precursor to the SOGS-scored items.

Lesieur and Blume also report an issue raised by Culleton (1989). That issue stems from research studies on other epidemiological traits that show an increase in false positive rates among the population when base rates for the examined trait are low. To counteract or properly adjust for that tendency, they suggest conducting prevalence studies in two stages, following up individuals who score 5 or more on the initial survey with in-person interviews to verify their scores. Their suggestion was based on results of the New Zealand study (Abbot & Volberg, 1991, 1992) but has not been employed in this country.

Lesieur and Blume (1993) report that the SOGS is highly correlated with the *DSM-III-R* criteria. Because compulsive gambling behavior is a construct that was initially defined and described by the *DSM-III-R* criteria, establishing the relationship between the SOGS and the *DSM-III-R* criteria was important to construct validation and an important indicator of instrument quality. With the revision of the *DSM* criteria, that high relationship also raises questions about the viability of the instrument for identifying individuals who meet the current definition of compulsive gamblers (i.e., *DSM-IV*). Presumably, the APA changed its criteria because the factors associated with pathological gambling are now better understood. From that perspective the SOGS must correlate highly with the *DSM-IV* criteria in order for SOGS to continue to serve as a primary tool for determining prevalence of pathological and problem gamblers. We found only one study that addressed this issue. Volberg (1996a), in her replication study in the state of New York, included both the SOGS and the *DSM-IV* instrument. Her

findings suggest that while the SOGS is strongly related to *DSM-IV* criteria, the two are not interchangeable.

The *DSM-IV* instrument, 10 items in length, exactly parallels the *DSM-IV* criteria. In it each *DSM-IV* criterion is rephrased into a question. For example, criterion 1, shown in Table 5, states that the person "is preoccupied with gambling (e.g., preoccupied with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble)." The corresponding *DSM-IV* question is, "In the past year, have you often found yourself thinking about gambling (e.g., reliving past gambling experiences, planning the next time you will play, or thinking of ways to get money to gamble)?"

Since reliability of a survey tends to increase with increased length, the *DSM-IV* is likely to be less reliable than the 20-item SOGS. Additionally, some of the *DSM-IV* questions are vague or high inference items in which the respondent may have difficulty knowing what, precisely, is meant by the question (e.g., In the past year have you become restless or irritable when trying to cut down or stop gambling?). Other *DSM-IV* questions have obvious social desirability responses (e.g., In the past year, have you been forced to go beyond what is strictly legal in order to finance gambling or to pay gambling debts?). Such questions will likely reduce the reported incidence of problem or pathological gambling. In fact, the *DSM-IV* did yield a slightly lower reported problem and pathological gambling rate in the New York study (Volberg, 1996a). These concerns suggest caution in moving toward use of the *DSM-IV* form, despite the likelihood that the revised *DSM-IV* provides a better construct definition of pathological gamblers.

Sampling Procedures

Studies employ sampling to reduce financial costs and the burden on respondents. Both are important considerations. However, whenever an entire population is not included in a study, there are concerns that the sample (persons included in the study) do not properly represent the population in the characteristics (opinions, achievement, etc.) to be studied. It has been established that using random sampling procedures (i.e., techniques that give all persons an equally likely opportunity to be a part of the sample) produce the

best sample for estimating population characteristics. Generally speaking, the larger the sample the more precisely the sample represents the population. Precision can also be increased by subdividing the population–for example, into males and females–and randomly sampling from those groups. That provides assurance that the groups can be effectively compared; when the groups are sampled in proportion to their existence in the population, it also enables more precise estimates of the population characteristics of interest.

If samples are randomly representative of the population, then standard statistical procedures can be employed to develop confidence intervals. Confidence intervals specify both a precision and a level of confidence with regard to accuracy. Those confidence intervals enhance the value of statistics gathered from the sample because they establish the precision of the estimate. Most often researchers employ 95 percent or 99 percent confidence intervals (e.g., .95 probability that the population value is somewhere within the range captured by the upper and lower bounds stated for the confidence interval). [In proposing this study, we selected a sample size of 3,500, which creates a very small confidence interval of approximately 0.01, around the proportion obtained from the sample.]

Most survey research suffers from one or two major problems: (a) a small sample size–leading to imprecise estimates, or (b) unrepresentative samples, caused by poor sampling methods (e.g., not random) or nonresponse, leading to bias. A small sample will yield a statistic that is unreliable (i.e., the population value could be much larger or much smaller). The bias produced by unrepresentative samples causes the statistic to differ from the population value in unique and typically unknown ways. To some extent both problems exist in all surveys. The larger either problem is, the less confidence one has in the statistic as a valid indicator of the population. For example, employing church members as representative of the general population may lead to conservative estimates of gambling in the population (if indeed church members gamble less than the population as a whole), but the researcher will not know the extent to which the results misrepresent the population.

A third important issue is a matter of generalizability. Generalizability addresses the extent to which findings from one population are meaningful with a different population. For example, of particular interest in gambling studies is the extent to which study findings from New Zealand apply to the U.S. population. The New Zealand study findings (Abbot & Volberg, 1991, 1992) suggest inferences (sample estimates) are good because the sample was reasonably, randomly representative of the population. Whether New Zealand adults are representative of U.S. adults is a generalizability question; and, like bias, we can't tell how or in what way the estimates will differ in the U.S. unless we carry out the same study in the U.S.

The rather lengthy introduction to sampling issues is provided here because sampling problems permeate previous studies of gambling. The early validity studies employed ad hoc groups (e.g., inpatients and church members). Those groups raise questions about validity because, for example, while the SOGS validation study (Lesieur & Blume, 1987) showed that the SOGS distinguishes the compulsive gambler inpatient from others, those findings do not ensure that undiagnosed pathological gamblers will also be identified through the SOGS screening process. Lesieur and Blume, who conducted the early validation studies, know those substantial limitations and have called for more studies to confirm their findings. Such validation studies are expensive to conduct, would probably only slightly improve the predictive quality of the SOGS estimates, and are beyond the financial means of most groups interested in compulsive gambling.

Perhaps more disturbing are the bias issues surrounding current prevalence studies (see Lesieur, 1994 for additional discussion of these issues). Virtually all the studies have employed telephone survey techniques. While the telephone is now common in most households, it is less common in homes of the poor. Additionally, telephone surveys will not reach the homeless, the incarcerated, inpatients, and others. Prevalence studies suggest that problem gamblers tend to be poor, sick more often, and engage in illegal acts to support their gambling tendencies. Since these persons tend to be underrepresented in telephone survey samples,

we expect that the telephone surveys provide *underestimates* of the true problem.

Nonresponse from persons included in the sample further compounds the problem. Volberg (1995a), who has conducted or helped to conduct a majority of prevalence studies, reports that response rates have declined in recent years and that response rates are higher in rural states than in urban areas. She reports response rates ranging from 78 percent in South Dakota to 65 percent in New Jersey. Those response rates are calculated by taking the number of completed interviews and dividing it by the number of completed interviews plus the number of partial interviews or terminations in which the respondent initially agreed to be interviewed and then refused to complete the interview. The response rate when calculated by that method is spuriously high because it does not include persons who do not answer the phone or simply refuse to respond when first asked. When corrected for such factors, the response rates drop dramatically. In New York, where Volberg (1996b) reports a 72.4 percent response rate by the first method, the rate drops to 36 percent when calculated by the more conservative, standard method (number completed divided by total sample size). As these response rates get smaller and smaller, concerns about bias and the viability of telephone surveys increase.

These poor response rates in turn produce indeterminate confidence intervals. The low response rates are problematic from two perspectives. First, without knowing who does not respond and why they do not respond, we cannot make good hypotheses as to whether or how the statistics are biased by the nonresponse. Past experience, however, makes us confident that such nonresponse does substantially bias findings. Second, in coping with nonresponse situations, surveyors compensate by calling more individuals to obtain samples (completed interviews) of predetermined sizes. By filling the predetermined quota of completed interviews, the researchers then report confidence intervals based on the sample size. The resultant confidence intervals are precise (small in size) indicating precision in the resultant prevalence rates. In fact, the confidence intervals mask the fact that the sample is biased by a low response rate. The result is a precise

figure (good face validity), with little assurance as to what it represents.

The problem is further confounded (or helped, depending upon your perspective) by oversampling of some groups to achieve a sample that is proportionally consistent with the population characteristics. For example, younger adults are frequently more difficult to reach by phone, as are males. These subgroups are often oversampled in an attempt to reach the proper proportion of that group. In New York, after completing 1,000 interviews, Volberg (1996c) elected to screen for males in the household in order to obtain adequate representation of men in the sample. While such quota sampling is common and probably improves the representativeness of the sample, the actual effect of such sampling processes is unknown.

As noted above, studies of compulsive gambling have relied on survey research methodology. This process obtains self-report information with all the inherent problems attached. Survey research imposes on individuals, often asking them to respond in ways that the respondent knows to be detrimental to self-image. In addition to being intrusive and potentially damaging to the individual's psyche, such questions often prompt answers that are less than truthful. These survey procedures, therefore, result in findings that are likely to be inaccurate (invalid).

Several steps can be taken to improve the quality of survey responses. Strong assurances (e.g., confidentiality of the response) as well as careful introduction to a topic and presentation of questions can both set a person at ease and encourage a truthful response. Carefully worded and delimited items also serve well.

Direct telephone interviews have several advantages over mailed surveys. First, the telephone survey can be conducted more quickly with responses coded for analysis purposes as individuals respond. Second, the interviewer can personally introduce the survey and set the respondent at ease. Third, the interviewer can answer the respondent's questions to reduce misunderstandings. While the first advantage primarily addresses the feasibility of data collection and utility of findings, the second two advantages

have implications for the reliability and validity of study findings.

Hopkins, Stanley, and Hopkins (1990, p. 308) note that the personality and characteristics of the interviewer can have a profound influence on the responses obtained. To reduce the impact of these factors, researchers are cautioned to carefully structure the interview. "The more the interview is structured, the less the interviewer becomes a factor in determining responses." Important also, structuring the interview reduces the likelihood of errors in coding respondent answers.

Telephone surveys regarding compulsive gambling have consistently taken strong measures to improve the quality of survey findings. Interviews routinely are highly structured, requiring brief (e.g., yes or no) answers. The interviews have also been shaped to require low inference rather than high inference answers. For example, the SOGS interview protocol (Lesieur & Blume, 1987) asks a series of questions about gambling, seeking to learn whether the respondent has gambled (have you bet on the lottery?) rather than asking a single question–Have you ever gambled? Answers to those more sharply defined questions makes possible a more accurate determination of the more general, higher inference, question. The interviewer also provides a direct statement regarding confidentiality of the person's response. All these steps help, but do not ensure the quality of the respondent's answers.

Because virtually all major state studies to date have employed a telephone interview technique, it is difficult to change survey procedures. By employing the telephone interview, researchers can be confident that their findings from new studies are comparable to findings of previous studies.

Data Analysis

Previous surveys have followed straightforward, traditional methods for calculating prevalence rates for both gambling and compulsive gambling behaviors. Routinely, gambling has been defined as a yes response to one or more of the gambling activity items. Problem and compulsive gambling are similarly determined by the number of items with affirmative responses in the SOGS or similar instrument.

The percent of individuals in each category–gambler, current gambler, problem gambler, and compulsive gambler– is then calculated as a ratio of the number of individuals with the characteristic divided by the total number *responding* to the survey. In most cases researchers have employed tabular displays to report the percent responding affirmatively to various questions. They then employ chi square analysis or t-tests to determine if subgroups (males, minorities, etc.) differ from one another; routinely, multiple correlation has been applied as a means to predict gambling behavior based on individual attributes.

As noted in the instrument design sections, those designing the instruments employed discriminant analysis to select items to include in the "compulsive-gambling test" portion of the surveys. Also, at least one study (Volberg, 1996a) employed factor analysis techniques to address the construct validity of the SOGS. While one can argue the meaning of the statistical analysis findings, given the sampling and response rate problems noted above, the statistical analyses themselves appear to be reasonable.

Summary and Implications for this Michigan Study

We can expect the incidence of gambling to be high in Michigan. The estimates from other states suggest that roughly 80 percent of Michigan adults have gambled at some point in their lives and at least 65 percent have gambled within the past year. More importantly, we can also expect that approximately 68,000 individuals who meet the criteria for pathological gambling are currently experiencing significant problems (personal and legal) as a result of their gambling habits. Also, probably at least double that number meet a lesser standard for problem gambling as a result of their gambling activities.

While previous studies have been conducted with care, there remain significant questions about the techniques employed. The instruments, although developed from strong conceptual foundations, have not been adequately validated. The sampling procedures used have not reached fully representative groups of individuals within the states studied. The telephone interview procedures commonly employed result in additional biases. All of those factors make it clear that much work remains to be done before

definitive statements can be made about the state of gambling pathology in the states studied.

It is equally important to note that previous studies do provide strong evidence that gambling behaviors of individuals too often result in a gambling pathology that is damaging to the individuals, their families, and to society. Further, the group of individuals who report pathological symptoms is not a nice, tightly knit, homogeneous group, but rather cuts across society–too often involving those who suffer from other economic, medical/psychological, and habit problems. While we expect that our study of Michigan residents will confirm previous studies in major aspects, we also believe that this study will provide direct information about the magnitude and perhaps unique characteristics of gambling problems in this state. Information gained from this statewide study is likely to be more informative than external data, when the policymakers are debating the need for new programs or additional funding for current programs. Such direct information will also help in tailoring programs to meet Michigan's needs.

The instruments reviewed here barely scratch the surface of the many available, but they appear to be the best validated and most frequently employed instruments. Because this study is modest in size and has a short time line for completion (less than a year from start to finish), it is not feasible for us to develop and validate a new instrument. Of the currently available options, the SOGS appears to be the strongest and best validated (despite the fact that it is outdated by the new criteria for pathological gambling). As such, it becomes the instrument of choice. Because the previous literature shows demographic characteristics (e.g, income, race, and sex) as well as personal behavior variables to be important predictors of gambling behavior, it seems prudent to supplement the SOGS with items addressing those matters.

Knowing the response rate problems of previous studies, it will be essential to take strong measures to obtain responses from individuals included in the sample. Additionally, maintaining a large sample seems prudent as well. The large sample (n=3,500) will not fully resolve bias issues, but will, we believe, mitigate their effects.

Endnotes

1. It is noteworthy that there are sufficient studies of gambling and issues surrounding gambling to support a journal, the *Journal of Gambling Studies*.

2. *GAMBLING FACTS* as of December 1994, photocopied material provided in personal correspondence on February 14, 1994.

3. See Endnote number 2.

4. This category includes Indian casinos, legal in 21 states; riverboat gambling, legal in 7 states; and land-based non-Indian casinos in 5 states.

5. Information for this table was provided by Mr. Mark Hoffman, Executive Assistant for Policy and Programs, Michigan Bureau of State Lottery (personal correspondence, November 1996).

6. The two earliest studies included in this figure defined gambling in a much more restrictive way than is typically done.

7. The 1990 census lists the population of Michigan as 9,295,297, of which the Michigan Aging Services System reports that 26.6 percent were adults 18 years or older. These data are provided at the MASS Web site (http://mass.iog.wayne.edu/DAIM /daimttbs.html) in Tables 1 and 8.

8. Rosenthal cites several sources in this quote. Each reference is provided here as cited by Rosenthal, together with the reference number provided in his text.

9. Wray, J., & Dickerson, M. (1981). Cessation of high frequency gambling and "withdrawal" symptoms. *Br J Addict. 76*: 401-405.

10. Custer, R.L. (1982). An overview of compulsive gambling. In P.A. Carone, S.F. Yoles, S.N. Kiefer, & L. Krinsky, (Eds.). *Addictive disorders update: Alcoholism, drug abuse, gambling.* New York, NY: Human Sciences Press;.

11. Meyer, G. (1989). *Gluecksspieler in Selbsthilfegruppen: Erste Ergebnisse Einer Empirischen Untersuchung*. Hamburg, Germany: Neuland.

12. Rosenthal, R.J., Lesieur, H.R. (In Press.) Self-reported withdrawal symptoms and pathological gambling. *American Journal on Addiction*.

13. Jacobs, D.F. (1988). Evidence for a common dissociative-like reaction among addicts. *Journal of Gambling Behavior 4*, 27-37.

Compulsive Gambling in Michigan
Focus Groups

David Hartmann and Thomas Van Valey

Following the initial design of the project, one of the first steps in data collection was a series of focus groups. These were held with people having specific types of interest in the topic (e.g., individuals self-identified as compulsive gamblers or as spouses of compulsive gamblers, employees of the state criminal justice system, university students, and health care providers). These focus groups were held on four separate dates at four locations:

1. November 20, 1996, in Detroit, MI at the Novi Hilton
2. January 15, 1997, in Lansing, MI at the State Police Barracks
3. January 22, 1997, in Kalamazoo, MI at Western Michigan University
4. February 4, 1997, in Grand Rapids, MI at the WMU Grand Rapids Regional Center

Dave Hartmann and Tom Van Valey both conducted/observed the first focus group in Detroit. It included six individuals self-identified as compulsive gamblers or as spouses of compulsive gamblers, plus one health care provider. Dave Hartmann managed the Lansing group, which included six State Police officers (Mark Hoffman observed). Dave Hartmann and Tom Van Valey conducted the third group, in Kalamazoo, with five students from Western Michigan University (there were also two observers: Carol Groves from the Kercher Center for Social Research and Arlen Gullickson from The Evaluation Center). Dave Hartmann carried out the fourth group with five Grand Rapids-area health care providers.

The Detroit Focus Group– Compulsive Gamblers

Tom Van Valey

As do most focus groups, the session began with a few minutes of introductions. The participants "told their stories," then responded to a series of issues that were raised. The first issue was types of gambling. "Recreational gamblers" were identified first. These are the people who will gamble every now and then, without getting hooked on it. "It's like somebody that takes a drink once in a while." Participants also indicated that this form of

gambling most likely makes up a large part of all gambling. Within the broad category of problem gambling the participants clearly distinguished between the "binge gamblers" and the "compulsive gamblers." As one participant put it, ". . . some people are binge gamblers. They only gamble when they go on vacation, and they only go on vacation once a year, whereas I was the kind of compulsive gambler who gambled every day."

There was also some discussion of "pathological gamblers," those people who will break the law to gamble or to support their gambling. There appeared to be consensus that these were the people with the most serious problem.

The next issue had to do with the range of activities on which people bet. The participants quickly listed a wide range: horse racing, lottery, casino, bingo, dice, bowling, after hours clubs (poker), office pools, liars poker, machines (both legal and illegal), sports, fantasy football (or baseball, or hockey, etc.), numbers, pull tabs, and bets with bookies (which themselves might cover a wide range), betting on the Internet. They even included the stock market.

In addition to the kinds of activities, the participants readily identified certain types of gambling with characteristics of the gamblers. For example, primarily female-oriented forms of gambling are bingo and slot machines, while male-oriented forms would include the use of bookies and sports betting. They thought that pools and casino gambling (primarily because of the ease of access), in contrast, were more or less generic, applying to males and females alike. There was also some discussion that gambling is inversely related to the social status of the individual. Nevertheless, they were also able to identify the forms of gambling that were the most popular: pools, sports betting, and lotteries.

There was also some discussion about the difference between betting based on some skill or knowledge (e.g., poker or horse racing) and betting based on luck (e.g., lottery and machines). While the participants agreed that there was a difference, they also indicated that gamblers often delude themselves into thinking that their betting is based more on skill than luck. Indeed, in this context, the notion of "a system" was introduced as the gambler's way to improve his/her odds. The participants agreed that

gamblers with a system were more likely to be problem gamblers than those without such systems. By the same token, gamblers who lie about their gambling (i.e., about how much they win or lose, about whether they gamble or not, or even about what they had for lunch) are more likely to be problem gamblers.

When asked about the reasons for gambling, the participants were able to identify several: to relieve depression, for the action or the "high," for the challenge, to alter one's mood, to get extra money, to prove something about yourself, for the social component, for competition, for entertainment. "I define it as a disease of more–that if one is good, two is better, and three is better yet." Along a similar line, some of the kinds of things that encourage people to gamble include easy credit, ease of filing for bankruptcy, state support of gambling (e.g., lotteries), support of gambling by other institutions such as the church (or MacDonald's), moral acceptance of gambling, the value placed on instant gratification, peer pressure, the media, ease of access, improved technology. A major issue was the encouragement of gambling by the gambling establishments themselves (including the state). It is simply part of today's society. As one participant put it, "Most gamblers that I knew held jobs, had families; they weren't doing gambling–they were just regular people . . . they were intelligent, and they were . . . looking to enhance their income, and without paying tax on this enhancement."

When asked about the possibility of stages in the gambling process, the participants were quick to point out that the process begins with social and recreational gambling. At some point, perhaps associated with a big win, an analysis stage occurs next (when the gambler is trying to rationalize the process). This is often followed by a stage characterized by anger or desperation (because the gambler is committing substantial portions of his/her resources). Next is compulsion and then bottoming out. Denial is also part of it. After all of these comes the process of recovery, and the gambler is often forced into it (by a friend, family member, employer, or other). Very few realize that they need help all by themselves.

Some of the consequences of compulsive gambling noted include marital/family problems, employment problems, legal

problems, financial problems; even health can be an issue. Indeed, it appears that multiple problems are likely, especially among those people who have been compulsive gamblers for a long period of time. Self-destructiveness is at the extreme.

When asked where gamblers go for help, Gamblers Anonymous was mentioned by several participants, along with the Veterans Administration, other treatment centers, and state and national councils (like the Michigan Council on Problem Gambling). Common referral sources were family members, churches, therapists, a gambler's telephone hot line, even regular medical doctors.

In this same vein, the participants clearly indicated that there is a need for more treatment programs and facilities that focus on problem gambling as well as more people trained to deal with problem gambling (along with other kinds of addictive behaviors). One participant was quite graphic about the need for treatment in the context of explosive growth:

> . . . you're putting in all these casinos everywhere, and everybody looks at the up side. But out of all those casinos, there's still gonna be that 1 or 2 percent of people that get hooked, and they're gonna be walking around with nothing. They're gonna be devastated. And the only way it's gonna hit the forefront is gonna be like an O.J. thing. There's gonna have to be something like this crazy dude walkin' around with his gun and shootin' people. It's gonna have to be a compulsive gambler that goes completely nuts before somebody says, 'Hey, maybe we ought to put in a treatment center for these guys.'

The introduction for the student group made it clear that the point of view of younger people was important because anecdotal evidence indicates that people begin gambling before they are 21 years old. Thus, the first topic of discussion was the types of gambling that are important to college students. The participants quickly identified casino

The Kalamazoo Focus Group–University Students
Tom Van Valey

gambling (in Mt. Pleasant), presenting it primarily as a social activity. " . . . it's just like the place to go, you know; possibly pick up some women or whatever, and just go and have fun." In addition, they identified the lottery, sports gambling, card games, and pools (e.g., the Super Bowl and the basketball championships) as popular types of gambling. As one student put it, "It's huge. I mean, it's unbelievable how many different pools–even at high school. I mean, there are huge, huge pools for the NCAA tournament. And, I mean, starting at–even at such a young age as 14 up through 18 in high school . . ."

When asked about the connection between gambling and drinking, the students reported that the two often occur together, although there was some support for the position that drinking was the more important social activity for most students. They also indicated that there appears to be a trend for people to start gambling at younger ages (5th and 6th grades). When asked why, they pointed to the proliferation of electronic games and computers, the access to gambling activities (like the NCAA pools), the legalization of gambling, and the fact that young people see so many adults routinely involved in it.

With respect to motivating factors, the participants suggested that novelty is one important element, especially for casino gambling, but it wears off. They also indicated that among college students, some people gamble to relieve depression or to feel good about themselves. Greed and the "thrill" of winning were also major motivating factors–the possibility of actually winning a large amount of money. Along with the social aspects of gambling (gambling is a way to be "cool"; it is a symbol of adulthood, the fame and status associated with winning), the possibility of winning a lot of money seems to be particularly attractive to young people, even though most of them do not gamble much money at any one time. “Everyone wants the Big Pot–to change your life.” Other motivations for gambling included the competitiveness among college students and the excitement associated with it, especially if you are winning.

With respect to the kinds of people that engage in different kinds of gambling, the students indicated that, in addition to college students, casino gambling appears to draw from all segments of society, especially the older generations.

However, they also noted that there appears to be a clear gender difference in other forms of gambling, such as sports betting.

In trying to summarize, one of the students said, "There is no solution to gambling. . . . gambling is only one of many options that are available to the college student. Just like alcohol, it is a part of college life. However, there doesn't seem to be as strong a support structure for gambling as there is for alcohol." The sentiment that gambling was an important issue was clear. The students indicated that people do need to become aware of gambling, because it can produce problems as serious as alcohol (although lots of people do not seem to realize it). As gambling becomes more common, though, more people are likely to become aware of the potential problems. Therefore, like alcohol, problem gambling will be increasingly recognized and treated.

State Police Focus Group

David J. Hartmann

This focus group was conducted on January 15, 1997, at the State Police Headquarters in Lansing, Michigan. Participating detectives were from the Criminal Investigation Division, and most were assigned to the Organized Crime Team. Because their professional experience focused heavily on particular aspects of gambling in Michigan, a modified protocol was used for this group. Our concentration was on the nature, extent, and repercussions of illegal gambling, especially those linked to organized crime. There was less emphasis on the personal experience of gambling (attractions, life cycle of gambling) and more on the negative impacts of gambling that would involve interventions on the part of law enforcement or other parts of the criminal justice system.

We opened the group by asking about the range of gambling activities that participants were professionally concerned with. The working definition of relevant gambling activity for these men revolves around the idea of organization as a business. Although there are exceptions, as one respondent put it, “Organized conspiracy is our criteria.” A second joined in, “Another thing is the continuing criminal enterprise, that they don’t just do it as a one-time or a two-time thing. They continue the enterprise just for that purpose. . . . the people we target, that is their source of income.”

As in the other groups, a discussion of types of gambling ensued, again with the special restriction that we would discuss the types of gambling they most often see as leading to legal interventions. Sports betting was mentioned most often and was the basis for the majority of anecdotes. Illegal numbers was also mentioned. Numbers was thought to compete with the legal lottery games in Michigan, and one respondent remarked that he thought numbers activity had actually expanded with the growth of the lottery. Better odds and the ability to make small bets were thought to be attractions of the numbers racket. An additional factor may be the tradition of play in some areas of the state–one participant talked about "generation after generation following numbers." The legitimization of the winning number through use of the legal lottery numbers may also be an inducement for expanded popularity.

But if numbers play is a recognized illegal activity, it is not one that attracts a large share of official attention. One respondent said, " A bigger issue than that (untaxed income), particularly in a numbers situation–'cause no one really attaches a lot of importance to illegal numbers in Michigan–is the amount of revenue they suck out of a community or out of an area on a weekly basis."

Another illegal gambling activity that the police often deal with is video poker. This was believed to be a widespread activity wherein the machines are marked "for amusement only," but bar owners and other proprietors do pay off to known patrons. The distributor of the games and the proprietor generally split profits. The complexity of identifying and proving that the operation is illegal was stressed. "Well, the problem is–the experience that we've had, it's run the gamut. You have some distributors that distribute other vending equipment such as jukeboxes and an array of things, and the video poker may just be one part of their operation or equipment they supply. I think we can almost universally say that when those distributors of video poker machines start installing and they have a multitude of different accounts around the state, they will tell them right up front, "You can use this game legitimately or you can use it as a gambling device and make all kinds of money, where you will not make that money if you stick to legitimate purposes."

A final set of gambling activities, the 800 number betting lines to overseas locations, gives a flavor of the sophistication of the operations the police must cope with and the jurisdictional complexity of the necessary approaches. Federal, state, and even international levels are involved. One respondent pointed out that these problems are getting even tougher as the technology changes. "Especially as they start dealing with computers and the Internet. I mean, you try and figure out where these accounts are and how–you know, who's involved. I mean, they can be in any number of countries, any number of states. You know, it's gonna make it all that much more difficult."

The group then discussed the types of people who have gambling problems and concluded that all types are involved. Several comments suggested that gambling is reaching into more and more parts of the social environment. The following quote is instructive. "A definite percentage are women. You see all through the state. There are a lot of sports bars, and we've had a lot of gambling there. It either starts there or takes off because of–you know, they've got 20 TVs, different games going on, all talking sports. Sports bars have generated a lot of interest in sports gambling."

The discussion continued that there is a range of "low level" or "recreational betting" such as on poker machines in bars, or a neighborhood with a tradition of numbers playing, or working class participation in parlay cards at work or lodges. While people may lose money they can ill afford to, the betting tends to be smaller. "Then you go up to the sports betting that some of the guys are involved with and they're structured. You're talking about big dollar bets. A lot of losses. A lot of professional people in there that have the ability to place large bets and then some nonprofessionals that don't have it, and they usually get hurt pretty bad. And that's probably when they start coming to us, when they've got a really big tab."

The next topic was the effects of gambling. Again, most examples and experience were drawn from sports betting. For example, "They (sports bettors) get so deeply in debt that they can't pay. And you have situations where they've been threatened and they don't have any alternative but to

come to us. I guess from my experience, we've dealt with people who've paid thousands and thousands of dollars in gambling debts and they still owe thousands and can't pay it. It affects their family, it affects their job."

When pressed for the nature of the effects, a participant said, "(There was an individual who lost) I'd say at least $100,000 or more than that over probably a 4-year period. It totally consumed his life. . . . It bankrupted him." Another continued, "I can give another example. The guy already went to prison and came out. This guy worked for . . . his brother's business. He was the comptroller and was in a position to have control of the money. He siphoned out $565,000 and spent almost virtually all that money on gambling–sports gambling in this case. So, in that case, he almost killed his brother's business. It's taken 7 years to replace that money. It was a very successful business, but was hanging on by a thread until they finally replaced those monies. So that affected–it almost wiped out–he had like 40 employees that would have lost their jobs."

Another participant continued about a man with a minimum wage job who ran up significant gambling debts (again, on sports) and was ". . . encouraged by the bookie to do whatever it takes to get the money. One of the suggestions was to commit insurance fraud. . . There's another example. We've done investigations in the past on groups of individuals who travel all over the country and do breaking and entering and those types of things. And their weekend activity–when they come back to Michigan, and they finally go to a casino and that's where they spent their (money)."

So if illegal gambling activities are the focus of law enforcement, the legal-illegal distinction becomes less important when the effects of gambling are discussed. Law enforcement officers see and deal with effects on families, on business, and on crime to pay for gambling. The types of gambling include, but are not limited to sports betting with both legal and illegal types being mentioned. One participant summed up the problem very well. "I sit here thinking, you know, where are we going? We're gonna have a lot of legitimized gambling, not only in Michigan but, you know, the surrounding states. And then we have the illegal part. But the bottom line is that people are going to get into debt." Another continued, "There was a man down in Texas

that was robbing banks . . . The reason he was robbing those banks was because he had a gambling debt. Now the last sentence (of the news story) didn't say "illegal gambling" or "legal gambling" or whatever, you know. A Livonia police officer was robbing a bank. Another gentleman, a prosecutor, who was very well thought of–but he embezzled $140,000 and ended up shooting himself in a motel room. These are stories within the last couple of months. . . . We all think that it's a victimless crime. But not only the family . . . "

The increase in legal gambling was certainly thought to contribute to the opportunity for problems. A related problem is the possibility that there is a growing tolerance for gambling behavior, even that with negative effects. One officer remarked that they try to prosecute cases with obvious victims because of the notion that gambling itself, even illegal, is tolerable. One officer said, "What really put the foothold is the darn lottery. And now, to confound the problem, are the casinos–especially the deal in Detroit." Another continued, "And that's the problem we have to confront when we take cases to court. That's the first thing that comes up from the defense. The state gambles, so–." When the moderator pressed the point, saying, "Certainly judges aren't receptive to that argument. Juries, yeah, that I could see," the participant answered, "You get both. Judges are people too. You've gotta convince them as well. They might have their neighborhood card game that they go to as well. And they sit there and say, 'Well, gee. That's rather hypocritical if I'm going to sentence somebody who enjoys another form of gambling.'"

Several participants suggested that the state's role in gambling also suggests a state responsibility. "The state has got their foot in the door here with the start of the lottery and now these casinos are gonna be all over. I think that the state, by legalizing it, has really created a lot of problems for people in the state of Michigan." Again, the law enforcement perspective is tightly focused on criminal implications. The discussion continued, "Let 'em go to Canada. You'll find that prostitution will pop up around the casinos. You'll find narcotics will be in the back door. You'll find loan sharks or whatever. You'll find all kinds of illegal activity. We've already experienced some at Mount Pleasant, all these things I've just mentioned." Another

officer concurred, saying, “That will be a major concern, a problem, to keep organized crime out of these casinos. You know, keep ’em legitimate.”

That same issue of state responsibility led to a discussion of resources to help problem gamblers. As a whole, participants were not aware of many places they could turn for information or to refer people to. Law enforcement regularly deals with people with significant problems, so a referral network would be a welcome resource. As one participant put it, “I was sitting here thinking that the whole bottom line was that where does the gambler seek help and what time in his life does he seek help.” Another continued, “I wouldn’t know right now where exactly to send somebody.”

This gap is starting to be addressed, but the progress has been slow. One officer said, “We’ve got a meeting coming up where the fellow that does our substance abuse (training) is just going to be going to a school for gambling addiction, going to a seminar or something. So we’ve got him incorporated to come in and do that presentation to our folks. But that’s a first. I mean, we haven’t been exposed to that.”

At this point in the group, the moderator introduced a person who is helping to organize and inform on the issue of helping resources for gambling problems. This individual briefly described the hopes and plans of this effort. The group was very receptive to the idea of a referral network and applauded the idea of working with judges to get help for problem gamblers. The alternative is continued recidivism, from their perspective. “And we have seen that happen (without treatment). Bail him out. He’s into a loan shark. He’s in big trouble. We bust the loan shark. And a year later he’s calling us back, saying, ‘I’m in trouble again.’” Another officer suggested that law enforcement has tended not to focus on the gambler at all. They simply use the gambler as a witness or a tool to go after extortion or other criminal activity. This leaves the gambler with the same problem and the same propensity to again get in trouble. “The gambler himself tends to get looked at as the victim and not [as] the person who’s responsible.”

Programs involving education, treatment, and even the equivalent of Employee Assistance Programs at businesses like casinos were held up as models to pursue. The whole treatment perspective was a welcome new insight to many of the group members, and a willingness to work on referrals was present.

Especially since budget restrictions often signal a reduced law enforcement presence on nonviolent crimes, addressing root causes is a necessary approach. The moderator summarized, "That's interesting. The resources are cutting back; it's becoming a low priority. The culture is saying maybe it's not so bad and at the same time gambling is growing by leaps and bounds." A group member responded, "That's exactly it. I mean, we go to the legislature to justify our budget . . . We've gotta persuade the legislators that this is a problem. This is something, you know, that the State Police should be involved in."

That idea of documenting the case for resources brought up a discussion of the need for a better understanding of the links of gambling to other crimes. While officers see the link routinely, systematic research and documentation, as in the substance abuse field, is lacking.

A final summary to the range of issues discussed was made at closing by one participant. The issues of problems, changing culture of legitimation, and lack of treatment and referral resources were summarized. "I think we're in a great period of change for this state with this new situation (of legal gambling), and we're gonna face a lot of problems. And if we have to meet 'em, everybody has to be educated. . . . If somebody came to me and said, 'I need help. I've got this situation,' I want to be able to say, 'Okay. Here's a number that you can call.'"

We are deeply indebted to these officers and to the participants in the other focus groups. Through their honest and thoughtful discussion, we have gained needed insight into the scope and nature of gambling in Michigan.

This focus group was conducted on February 4, 1997, in Grand Rapids, Michigan. Since all participants were from the Grand Rapids area, issues surrounding regional variation were not addressed. Also, because these professionals

Therapist and Counselors Focus Group

David J. Hartmann

were in private practice, they tended to see a middle to upper class client base; so again, issues of generalizability are significant. As with the state police group, because therapists have a particular professional involvement with gambling, the protocol was modified to reflect their emphasis. We hoped to address issues of the nature of gambling problems, patterns of presentation and recovery, and types of resources available to assist problem gamblers. We expected a more psychological rather than social forces perspective to dominate and consequently asked specifically about those perspectives.

As with the other groups, we opened by asking about the range of gambling activities that participants were professionally concerned with. A significant difference in perspective from the gamblers group became evident. While the gamblers group tended to define themselves and their problem around gambling, the therapists tended to see gambling as one of several manifestations of a deeper underlying issue such as a manic-depressive diagnosis, obsessive/compulsive characteristics, or simply one of a broad range of addictive behaviors. Most of their clients present a range of problems including substance abuse, and gambling is considered to be a secondary or tertiary problem. This perspective dominates among the therapists and is either present or becomes accepted by their clients. One participant said, “In my experience, none of the people I’ve worked with that actually did have a gambling problem ever presented that as the presenting problem.” Two other participants agreed.

When asked if at least some of their clients are more concerned about their gambling than other problems, the two therapists who answered said no. When asked about individuals who do define their problem as a gambling problem, one said, “I don’t think those people make it to therapists.” Another continued, “I think they might see that as their primary problem because that’s what got them into trouble. Whereas therapists often say ‘Is this a symptom of something else,’ they don’t want to hear that and so you see ’em one time and then they’re out the door.” There appears to be a conflicting perspectives problem that might prevent proper assistance for some clients. The moderator suggested that a closer working relationship with groups that accept the fundamental rather than symptomatic

importance of gambling problems might be possible (e.g., Gamblers Anonymous or the Michigan Council on Problem Gambling). A participant remarked, "I don't think it's happening. I've never gotten a referral from them–from GA to the therapist, I mean. It's like the infancy of AA where they would never use a therapist. I've gotten more support from that now." Several then commented on the traditional lack of coordination between self-help groups and therapists. A potential class bias was also mentioned for the lack of referrals and coordinated work. "I think–you know, because we're in private practice and we're probably getting at least working class and upper middle class people–." The implication is that people with different income and education levels may also have different orientations to professional help.

Another part of the issue may be the notion of a "billable diagnosis." Some of the GA participants had remarked about lack of insurance coverage. Here, a therapist said, "I think we have to be really clear about that because there are some insurance companies that won't pay for a diagnosis." Another continued, ". . . even for substance abuse." And another, ". . . behavioral problems."

This discussion led to a worry that it is indeed difficult to know how many people actually have a diagnosable gambling problem. "But looking at this, it's really hard to get a figure on what we have in terms of–the figure of problem gambling." There was some murmuring of agreement with that statement so the moderator asked about the South Oaks, the DSM-IV, and other screens. A relative lack of familiarity with standardized screening instruments was admitted, though discussion quickly established that the DSM-IV diagnostic criteria were well known and used in practice.

Perhaps because of the middle class nature of the clientele, most of the clients tended to gamble in casinos, although one participant had clients who bet with bookies. Significant problems tend to be associated with running up debt and interfering with family and job responsibilities. One participant said, "In most of the cases, even at the end, it's just like the denial with an alcoholic. It was never seen as a problem until either the money ran out or it caused some other problems."

Michigan-based casinos were seen as an increasing venue for these problem gamblers although, again, many of the wealthier ones could also go to Las Vegas or Atlantic City if local options were unavailable. For others, however, "I think what's especially–I would call them more working class people. They seem to really think that this (a local casino) is a–they can do this in a weekend." Another continued, "As a matter of fact–or a day. I know people who do day trips, I mean with a group of couples. I mean it's really becoming–it's like a social event. For many people it's not problematic." But for others it is. "I've noticed with clients that they're not as impressed with the exterior and all the amenities (of the casino). What they're impressed with is their credit line." Another added, later in the session, "I think it's undeniable–I've lived here all my life. It's undeniable that more people that I know gamble now because of the proximity of casinos. That is an undisputable fact."

The social legitimacy of gambling was also perceived to be changing. "The casinos give it legitimacy to the family system. So a lot of people can go for the fun and entertainment . . . and that would not have been true with the bookies going in and playing on the sports or more of the hide-away things." This has also led to a broader cross-section of gamblers as opportunity increases and social stigma declines.

One of the dimensions we wanted to explore with therapists was the issue of motivation to gamble–what brings people to gambling? Because of their professional training, therapists were particularly attuned to this dimension. Not surprisingly, motivations for gambling were thought to be diverse. For example, "I think they come into it (gambling) with a certain set of dynamics which it does something to help them feel more adequate, more in control, that sort of thing." Another continued, "It's pretty wide, especially for the non (nonproblem gambler)–like where it's not a family history of it or it's not a cultural thing in the family. The people–I mean, I've known people, have dealt with people who kinda began innocently. I mean, their family didn't do it. . . . I mean they did it for fun. You know, it became a social thing, then it became a hobby, then it became a real interest, then it became a habit . . . ."

The impact of casinos on decreasing social stigma and making gambling accessible to a broader clientele was stressed. One participant said, "I think with women, the casinos have given them another place to be social." Another continued, "It's easier to go into a casino versus going into a bar alone." And a third, "So for women, in terms of the prevalence of that gaining for women, I think it's just a more socially acceptable place to go. They can do entertainment for a number of hours, sometimes gain money and sometimes lose money, and I think this just started that way."

The links of accessability and acceptability to eventual problem gambling were also stressed. "Maybe it starts with a kind of interest or hobby, and then it becomes a pattern, and then it becomes maybe a sense of wanting social connections. . . . They make it very convenient. I mean, we're talking about these hotels. One of the things you can do–if you drink in these casinos and you don't have to drive back to your hotel because they offer one-stop shopping." Another continued, "Yes. The longer you stay–well, a woman I know who goes with a group–and I'm sure she would never think of it as a problem for her. She goes with a group and she really likes to stand at the slot machines. Well, her husband gets tired. He goes back to the hotel. And she doesn't have to be concerned about drinking or her safety. It's very conducive. It's seductive." Another, "That's a good word for it."

In addition to these paths into gambling, participants stressed that the chasing of losses becomes a motivation at some point for a great many gamblers. One summarized, "Sure. Chase winnings or chase losses. I mean, it's kind of a fine line, you know, as far as the motivation or the compulsion to keep winning and keep winning, or, 'I've gotta gain it back. I've gotta gain it back.' I mean, compulsion is driving in either one of these scenarios." Another continues, "It's a life of its own. Chasing the gains they made, but they're also chasing the loss of that; but it was never their money." When asked what they are chasing, one responded, "The arousal. The excitement, yeah. That's the addiction." Another continued, "That's the addiction, yeah. Sometimes the money becomes secondary to the arousal and the excitement." It is important to realize that this description closely parallels that of the problem gamblers

themselves in our focus group. This notion of the compulsion and the chase are clearly central to the experience of problem gambling for many people.

Also like the gamblers and the police groups, the therapists note that a problem is often defined only when someone else complains or an obvious deficit in family or job or health occurs. "When it becomes a problem in everyday life. When it affects relationships, when it affects work, when it affects function." Another added, "In terms of functioning it would be in terms of the total preoccupation."

The next topic concerned the motivation to change on the part of the gambler. The therapists again stressed that they did not generally see the client who recognized his problem and was bottomed out and ready to change. The cycle of deceit and family problems and debt and illegal activity discussed by both the gamblers group and the police group was not a presenting scenario with the clients of these therapists. They talked more about straining of the social networks rather than breakdowns. One must wonder if these clients are indeed different or simply at an earlier stage of the more serious pattern. One therapist said, "I've never had a gambler bottom out much. They seem–they've gotten close . . . but then they pull back for awhile. . . ." Again, as opposed to the model of the increasingly isolated problem gambler, two therapists described a very social and interactive pattern. "There's a gregariousness about a lot of them. They're very social–you know, some of them. I'm just thinking of a lot of these people who are–it's a group . . . it's not like the drinkers who can sit in their room alone and drink themselves into oblivion. You can't do this with gambling 'cause more often than not you're gonna be out with people. It's just slightly different. I mean, you can be alone and still be in a group and be isolated. But so much of it's got a social connection to it." Another continued, "And I wonder if that isn't one of the dynamics about it. It seems like a lot of these gamblers, when they win they've gotta tell someone. They've gotta show somebody what they've won. So maybe that's a piece of it."

Among solutions discussed were education and prevention efforts such as we now sponsor for substance abuse. There was wide agreement on the appropriateness of an information-based approach to young people. There was

some worry about allowing the government that sponsors and supports gambling to also be in charge of forming the antigambling or (at least) the gambling information message. The difficulty of forming the message at all was stressed. One participant said, "I want to say one more thing about education. Keep in mind that this is a state that has never been able to agree on curriculum per se. I mean, we can't even decide on what should be taught in grade three and come to an agreement. I always thought it was multiplication tables, but no. So what is there to say? If we can't even agree on basic core curriculum, we could never agree on what to say about gambling. I think prevention could really work in helping people make choices, but we can't do that anymore. . . . And as long as we've got an instant gratification society–is it (the prevention message) gonna do any good? I don't know."

Others thought prevention was certainly worth a try. "It may stop the progression. And because we know that a lot of this–the onset is insidious. It's slowly over time. There are the warning signs. There are the things that could be problems, that could signal trouble. It may cause some people before they're in that total compulsive thing and that arousal to say, 'Wait, you know, I do see some of this.'" Another, "Or even the checklist (of symptoms) available somewhere or published somewhere. Just as an awareness, you know." And another, "I kind of agree . . . in that the government or the casino operators corporation–you know, but there is some responsibility that lies there for basic education, for basic–you know, like 'This could be problematic and here are some signs that it might be.'"

In summarizing their thoughts, one therapist returned to the theme of complex motivations but a definite, identifiable contributing factor in state sponsorship of gambling and the legitimation of the activity. "I just think one of the critical pieces that I'm hearing and saying, which we touched on it before–we call it a collusion effect or a contagion effect, or whatever. But here I see it growing stronger and stronger that there is a social aspect of this, where it's a legitimate, fun, group thing to do. Entertainment is growing and growing. That is going to–my clinical intuition is that that is gonna heighten the incidence of people who normally would

not be problem gamblers to be taken down that insidious path where they become problem gamblers."

In sum, the therapists group saw problem gambling as a significant and growing problem in Michigan. They tended to see root causes in increasing acceptance and social legitimation of gambling as well as easier access for traditionally excluded groups like women. Problem gambling itself, however, was generally seen as a manifestation of a deeper disorder that requires identification and treatment. Approaches to addressing these issues must involve awareness, education, and a strong prevention message.

As we expected and hoped, the four focus groups evidenced a variety of backgrounds and opinions with regard to gambling in Michigan. The strength of the focus group approach is that we could look for and tease out those differences, in light of the known experiences of the participants. The perceptions and insights of a group of college students, a group of therapists, a group of State Police officers, and a group of recovering gamblers and family members would not have come out in a general population survey. Yet each of these groups had much to tell us about gambling. We are grateful to these individuals for the time they gave us and even more so for the wisdom they shared.

Focus Groups Summary

David J. Hartmann

Specifically, the problem gamblers group showed a remarkable ability to express the plight of the gambler and the family, job, and health problems related to the pathology. These individuals tend to see the problem as a disease requiring treatment, social support, and abstinence. Stages of the problem and the need to honestly desire help were stressed. Family members shared this disease model and the need for helping resources in the state.

The student group had less direct experience with significant gambling problems, but were aware of very young people entering into the early stages of gambling participation. While this particular group did not have many personal problems or know many associates with problems, they did describe a culture of acceptance of gambling and the socialization around it. The legal-illegal distinction was not stressed, since many saw a tacit acceptance of gambling as a whole in their environment.

The State Police group focused on the interactions of law enforcement with gambling. The distinction of legal and illegal gambling was quite important to these men when it came to the types of gambling they tend to scrutinize. But that distinction was far less important when it came to the legal implications of gambling problems. Gambling debt and the pursuit of winning lead to family, job, and crime problems both as victims (of extortion, for example) and as perpetrators (to secure funds to pay debts or gamble anew). From the perspective of these officers, all types of gambling are linked in contributing to an environment where gambling-related problems, especially those involving criminal activity, will become an increasingly significant problem in Michigan.

The therapist and counselor group also saw problem gambling as a significant and growing problem in Michigan. They tended to see root causes in increasing acceptance and social legitimation of gambling as well as easier access for traditionally excluded groups like women. Problem gambling itself, however, was generally seen as a manifestation of a deeper disorder that requires identification and treatment. Approaches to addressing these issues must involve awareness, education, and a strong prevention message.

In sum, members of these groups told us that (1) gambling is a significant and growing problem in Michigan, although its size is unclear; (2) problem gambling is a disease requiring prevention, treatment, social support, and abstinence; (3) control of gambling-related problems is becoming more difficult, due to gambling's increased social legitimacy, public acceptance, and technological sophistication (e.g., off-shore phone lines and Internet opportunities); (4) the state is compounding the problem through its sponsorship of the lottery and casinos; (5) more women and young people are gambling because of socially acceptable opportunities such as casinos; (6) there is some help for problem gamblers, but not enough. More should be done in the areas of education and prevention as well as in establishing a referral network of helping resources; (7) illegal gambling and excessive gambling are not victimless. They lead to debt, bankruptcy, crime, poor support of families, and poor job performance; (8) problem gambling is often a manifestation of some

deeper psychological problem; and (9) support groups and many therapists still do not work well together.

All the groups added to our understanding in particular ways, as discussed above. They all tended to agree on certain points as well: that access to gambling is easier, that social approval of gambling is perceived to be increasing, that there is insufficient understanding of the problems associated with gambling, that among those problems are disruptive effects on individual health and well-being and on families and workplaces, that criminal involvement may be related to gambling in ways we are not fully able to document, and that necessary remedial actions will include a widening net of services and referrals for problem gamblers and a clear and strong educational program.

A Survey of Gambling Behaviors in Michigan, 1997

By
David J. Hartmann
Assisted by
Carol Frazee Groves

The 1997 Survey of Gambling Behaviors in Michigan was carried out as part of a larger project designed to understand the nature, extent, and implications of gambling in the state. The survey piece had as its primary aim to establish a precise estimate of problem gambling in the population. The survey was administered through a computer assisted telephone interviewing approach utilizing a random-digit dialing telephone sample obtained from Survey Sampling Inc. This approach has been used in virtually all state level studies of gambling prevalence. The approach is economically efficient, maximizes response rates, and eliminates most sources of response bias.

In practice, this approach meant that the interviewer dialed the telephone number that was randomly generated. After the respondent agreed to participate, the interviewer read the questions from the computer screen and entered the respondent's answers directly into the computer. Skip patterns and contingency questions were automatically invoked based on the answers provided. When the interviews were completed, the data from the various interviewer's disks were accumulated into a single file and translated for analysis in a statistical software program. Then they were carefully checked for accuracy and analyzed.

The original form of the survey instrument was adapted from Rachel Volberg's survey of New York State in 1996 (Volberg, 1996a). Most of the survey items, including the standardized scale of problem gambling in the South Oaks Gambling Screen, were taken directly from this survey to facilitate comparisons to the large number of states that have used these questions. Some modifications and additional items were included to address questions of special concern in Michigan. The instrument was reviewed by Evaluation Center and Kercher Center staff, by Dr.

Volberg, and by representatives of the Michigan Bureau of the State Lottery. It was pretested in January 1997 without incident or cause for revision.

The South Oaks Gambling Screen (Lesieur & Blume, 1987) asks about a range of behaviors and orientations toward gambling and is highly correlated with the APA's DSM-III-R criteria for pathological gambling. It has possible scores of 0 to 20 with 0 through 2 considered nonproblem gambling, 3 through 4 identified as "problem gambling", and 5 or more identified as "probable pathological gambling." Although conventional use of these terms is as presented here, the 3 through 4 score, like the higher score, is only an indicator of a problem condition and could also reasonably be presented as "probable problem gambling."

As have almost all statewide studies since 1991, we used both a "lifetime" and a "current" (operationalized as the past year) version of the scale. The SOGS was originally scored as a dichotomy, 0 to 4 being nonpathological and 5 or more being pathological. This scoring was validated in a clinical setting with pathological gamblers and cross-validated with members of Gamblers Anonymous, university students, and hospital employees. While the 3-part scoring of the SOGS has not been subject to the intense validation of the original dichotomy, it has received rigorous review and testing, especially in New Zealand (Abbot & Volberg, 1991, 1992). It has become the instrument of choice for large scale prevalence studies in the United States and in several foreign countries.

Student interviewers were trained, and interviewing began in early February 1997 and continued until April 21, 1997. Two weeks, one in March and one in April, saw no interviewing activity because of spring break and Finals Week respectively. Calls were made on Monday through Friday from 5:00 p.m to 9:00 p.m. and on Saturdays from 10:00 a.m. to 2:00 p.m. Weekday morning or afternoon calls were made at regular intervals and at the request of people contacted during the regular calling hours.

Characteristics

of the Sample

Since males are less likely to answer the telephone in households with both male and female adult residents and since males are less likely to participate when contacted, the survey design called for monitoring of responses by gender and imposition of a screen to increase male respondents if needed. Results as of mid-March indeed showed the need for this step, which was subsequently instituted. This monitoring and screening has routinely been used in statewide studies of gambling prevalence in recent years (Volberg 1996a; 1995a; 1995b; 1996b).

A total of 3,942 responses were obtained, while 5,144 people refused to participate and 171 terminated the interview before its completion. Therefore, the response rate was 43 percent. This rate is within the expected range for telephone surveys over the past 5 years and is somewhat better than the last 2 statewide surveys reported by Volberg: a 36 percent rate in New York in 1996 and a 40 percent rate for Louisiana in 1995. Nevertheless, when half or more of potential respondents do not participate, direct checks on the representativeness of respondents must be provided. Table 7 addresses these data quality issues.

The sample of 3,942 Michigan residents over the age of 18 is among the largest of its kind collected for a statewide gambling survey. While telephone surveys are acknowledged to have the best response rates and random digit approaches to yield the most representative samples, these approaches do have known weaknesses as well. Typically, telephone surveys underrepresent poor people and therefore tend to underrepresent characteristics associated with low income. This is due to two established factors. First, the poor simply are less likely to own a telephone. Second, participation rates in survey research are directly related to education. Other, less well-documented factors include the possibility that poorer families are less likely to have an adult at home in the evening when the bulk of contact attempts are made (due to one adult households and late shift work), a younger age structure (also related to presence in the home and willingness to participate), and possibly a distrust of answering questions in general (because of less experience and a perception of lesser verbal skills). In any event, most telephone surveys expect to underrepresent the poor and

less educated and, consequently, black and inner-city residents as well.

Each of the statewide gambling studies we reviewed over the past three years report these biases, especially with regard to education and income. A standard correction for such response rate variation is to weight the underrepresented category for analyses. Most of the statewide gambling studies did not do this, however. In her Iowa report Volberg contends that, "To maintain comparability with results from the 1989 survey from Iowa, as well as with results from surveys in other United States jurisdictions, it was deemed advisable to caution readers regarding these prevalence estimates rather than weight the results from the 1995 sample." (Volberg, 1995b, p. 5).

Table 7 shows the characteristics of respondents to the Michigan survey and of census descriptors for Michigan's adult population. The screen for males corrected the gender representation issue to within 1.9 percentage points. As expected, however, there are deviations suggesting an underrepresentation of African-American respondents, of the lowest education category (those with less than a high school education), and of the lowest income category (those reporting household incomes below $25,000). Also as expected, the deviation is largest for income where a substantial part of the gap is due to inflation since the 1990 Census. Nevertheless, the sample does underrepresent the poorest residents of Michigan.

Although comparability to other state data is important, we also wanted to know what the potential size of the weighting correction was for Michigan. We therefore ran the major outcome variables, the prevalence rates for lifetime and past year problem gambling as measured by the South Oaks Gambling Screen, both unweighted and with weights to completely correct for race, income, and education deviations from census figures. On a geographic basis, the only substantial underrepresentation is for Wayne County (Table 7). This was highly correlated with the weights just discussed and was not corrected separately.

Table 8 shows, at best, a modest underestimation of the outcome variables, problem and probable pathological gambling, by using the unweighted scores. The difference

in these estimates associated with the weightings is typically on the order of two- or three-tenths of a point and is never larger than five-tenths of one percentage point. The five-tenths difference is for income where the weighting to 1990 Census figures is known to overcorrect since incomes have risen in the state since 1990. Even

SEE SEPARATE FILE CALLED 1997 SURVEY TABLES 7-18

SEE SEPARATE FILE CALLED 1997 SURVEY TABLES 7-18

SEE SEPARATE FILE CALLED 1997 SURVEY TABLES 7-18

Results

that difference, however, is well within the sampling errors even for so large a sample as this one. Following the lead of other statewide studies, we did not weight the sample in the remainder of this report.

The sample size of 3,942 has a sampling error of less than 1 percent. As already presented in Table 8, the main variables of interest in this survey are the estimated rates of problem and probable pathological gambling as derived from the South Oaks Gambling Screen. Table 9 presents the number and percentage of those who ever gambled and those who gambled in the past year as well as the unweighted SOGS estimates for lifetime and current (last 12 months) periods. The percent of those who ever gambled and those who gambled in the past year are well within the expected ranges based on previous statewide surveys. Table 9 also presents the SOGS scores for geographic regions of the state defined by counties (see Appendix C). Higher rates for Wayne County are evidenced as is a lower lifetime rate for the Upper Peninsula (UP), while the current rates for the UP are comparable to the statewide rates. These rates for geographic regions, of course, are based on smaller numbers than the statewide rates and so are less precise.

An important result of Table 9 is that, based on a 1990 Census count of 6,833,574 residents 18 years of age and older, the SOGS survey estimates would yield more than 355,000 adult Michigan residents with a lifetime history of a gambling problem, with more than 130,000 of those estimated to have had a probable pathological condition as indicated by a score of 5 or more on the Lifetime SOGS. Similarly, extrapolation of the survey estimates to the adult population yields more than 200,000 people with a current problem, with more than 85,000 of those having a severe or "probable pathological" problem. These population figures, of course, do not include anyone under the age of 18 who might have a problem since they were excluded from the survey. Our focus groups and literature reviews suggest a not insubstantial problem among this young age group.

Comparison with Figures 1-3 and 1-4 and with Appendix Table A shows the Michigan estimates to be well within the range found in other states. Table 10 (derived from Volberg, 1996a) summarizes this comparison both

SEE SEPARATE FILE CALLED 1997 SURVEY TABLES 7-18

SEE SEPARATE FILE CALLED 1997 SURVEY TABLES 7-18

chronologically and by magnitude of the lifetime rate of problem and probable pathological gambling.

Panel B shows that Michigan is in the top third of states on lifetime prevalence, but Panel A shows it is relatively low among states that most recently conducted a survey. Those recent surveys in New York, Iowa, and Louisiana may reflect both a rise in gambling overall and the fact that those particular states either contain or are adjacent to a large casino presence. This tendency is even more dramatically reflected in "current" (past year) problems. Note that no study prior to 1994 showed as high as a 3 percent current prevalence rate. Every study since then, including Michigan, has exceeded the 3 percent figure, with Louisiana topping the list at 4.8 percent. As the availability of casinos increases in Michigan, changes in the state's prevalence rates for problem and pathological gambling should be closely monitored.

Detailed Results

Table 11 begins the analysis of the detailed results of the survey. It shows variation in participation in various types of gambling by categories of the demographic variables. As expected, for example, we see that men have a substantially higher rate of lifetime participation in most forms of gambling. The exceptions are charitable gaming, which includes bingo, and noncharitable bingo. Among the activities where male dominance is least pronounced are the lottery, where a clear majority of both genders have participated, and horse and dog racing, office pools, and casino games. Each of these is held in safe, legal venues. The male dominance of the activity is most pronounced for sports betting and betting on one's own performance in pool, bowling, golf, or other games of skill.

Table 12, which focuses on current gambling, shows that the male to female differential may be less pronounced for casino gambling. This supports the recent national reporting of increased women's participation at legal venues.

Another interesting result in Tables 11 and 12 is the general tendency for higher participation rates among white respondents. Only on illegal numbers games does a statistically significant difference show a higher black than

SEE SEPARATE FILE CALLED 1997 SURVEY TABLES 7-18

SEE SEPARATE FILE CALLED 1997 SURVEY TABLES 7-18

white rate. The youngest respondents, those between 18 and 29 years of age, had the highest lifetime gambling rates for sports betting, numbers, noncasino games, and betting on their own performance in games of skill. Obviously, their rates were even more dominant over the past year, when they also led in casino gambling, as shown in Table 12. Surprising to some observers, but consistent with most of the scientific literature, the lower education groups tend to have somewhat lower rates of lifetime and past year gambling. Similarly, the lowest income groups gamble at a lower rate than middle income respondents. Where statistically significant differences exist, the lifetime exception is for education with noncharitable bingo and in the past year for education and noncasino games. This lower gambling rate across almost all types of gambling, including the lottery, is an important result but does not deny two potential counterarguments. First, poorer people can less afford to play, so that even slightly lower rates are not cause for complacency. Second, in part because of their lesser ability to afford the loss, poorer people may have rates of problem gambling as high or higher than other residents even though a smaller percentage actually gamble at all. This second issue is addressed in Table 13.

Table 13 shows variation in SOGS scores for lifetime and current periods by categories of the demographic variables. As expected, males have a higher rate of problems than females, especially for probable pathological gambling, and younger people had higher rates than older people. This is consistent with their higher gambling participation overall.

As discussed above, however, lower participation rates by blacks and other nonwhites and by those with less education did not prevent them from scoring in the problem categories of the SOGS more often than whites and those with more education. The differences were statistically significant for race on both lifetime and current SOGS, but for education only on the current SOGS. Low income respondents had comparable rates of gambling problems to other income groups. Small numbers make Hispanic comparisons unreliable.

SEE SEPARATE FILE CALLED 1997 SURVEY TABLES 7-18

Using the current SOGS to assign groups, Table 14 shows the percentage of people who participated in each type of gambling over the past year who measured as nonproblem, problem, and probable pathological gamblers on the past year SOGS. For example, 95 percent of past year lottery players scored as nonproblem gamblers on the current SOGS. But only 85 percent of horse or dog race players and only 88 percent of people who bet on cards, dice, or video poker outside of legal casinos scored as nonproblem gamblers.

Table 15 uses the lifetime and current SOGS scores to examine differences in respondents' typical gambling behaviors over the past year. In terms of who the respondent gambled with, only in gambling with friends did the problem and probable pathological gambler appear to differ from other respondents. But there are dramatic differences in how long they typically gamble and in the largest amount of money they lost. Among current (past year) probable pathological gamblers, for example, fully 1 in 6 typically gamble for more than 6 hours at a time and almost 1 in 8 lost more than $1,000 at least once in the past year.

Results for Problem Gamblers

Tables 16-18 display results for those respondents who scored as having a problem on the lifetime SOGS. Sampling errors are much larger here, of course, since such a small number of respondents fell in these categories. Table 16 shows the number and percentage of respondents who scored as problem or probable pathological gamblers who participated in each type of gambling at least once a week. The first set of columns groups respondents on their lifetime SOGS scores. The second set groups on the current SOGS and, as expected, shows higher rates of participation. The third set of columns compares male and female participation in the different types of gambling, again only for those respondents scoring as problem or pathological gamblers on the lifetime SOGS.

Concentrating on more recent behavior, Table 16 shows a three to four times increase in weekly betting on sports, in casinos, and on horse or dog racing as one moves from "problem" to "probable pathological" gamblers as measured

SEE SEPARATE FILE CALLED 1997 SURVEY TABLES 7-18

SEE SEPARATE FILE CALLED 1997 SURVEY TABLES 7-18

SEE SEPARATE FILE CALLED 1997 SURVEY TABLES 7-18

SEE SEPARATE FILE CALLED 1997 SURVEY TABLES 7-18

SEE SEPARATE FILE CALLED 1997 SURVEY TABLES 7-18

for the past year. As discussed earlier, gender differences are powerful for sports betting, horse and dog racing, betting on one's own performance in games of skill, and noncasino gaming but almost nonexistent for legal casinos.

For lifetime problem or pathological gamblers, Table 17 shows the average amount spent in a typical month for each type of activity by those who report at least some spending. For example, Table 17 shows that there are 177 problem or probable pathological gamblers in our sample who report at least some spending on the lottery in a typical month. They report an average spending of $60 per month. The largest mean spending on gambling by type of gambling is for casino bettors with an average of almost $250. The 132 respondents who scored as problem or probable pathological gamblers on the current SOGS had an average expenditure across all types of gambling of $520 per month or more than $6,000 per year.

Finally, Table 18 lists some important descriptive information for respondents who scored as problem or probable pathological gamblers on the Lifetime SOGS. Across categories of gambling problem and gender, problem gamblers started gambling at a young age, though men started younger than women. Much larger percentages of probable pathological gamblers than problem gamblers reported that the amount they were gambling made them nervous. This is also true of men as opposed to women, perhaps reflecting the greater proportion of probable pathological gamblers who are male (Table 13 above). However, it is also interesting that the percentages are so low. Similarly, the percentages of probable pathological gamblers who have desired to stop and sought help to stop are much higher than for problem gamblers and for men than women, but all groups have very low rates.

Summary

Because so few gamblers have sought help, the type of help breakdown (see Appendix A) is not presented. Finally, as expected, a substantial minority of people who score as

having a gambling problem also report a substance abuse or mental health problem.

Michigan's prevalence rates for gambling among adults and for lifetime and current problems with gambling (SOGS scores of 3 or more) are all within the expected range based on other statewide surveys. The Michigan survey also elaborated a series of detailed results that may contribute to policy discussions on this timely issue. But perspective is important. The survey results are only part of the data gathered in this study. It is that combination of methods and sources in the larger study that provides the best guidance that we can offer for the present.

With this caveat in mind, the key results of the survey may be presented. The 3,942 respondents to the Michigan survey make it one of the largest ever conducted in a study of gambling prevalence. The response rate and representation of the population were consistent with past statewide studies. The Michigan results, therefore, provide a baseline for understanding current rates and future changes in the state as well as supporting comparisons with other states.

Among adult residents of Michigan who answered this survey, 85 percent have gambled at some point in their lives. We used the South Oaks Gambling Screen as a measure of compulsive gambling. This screen is the preferred indicator of gambling problems in prevalence studies and is available in a lifetime and current version, both of which were used in the Michigan survey. Over their lives, about 95 percent of respondents scored as social gamblers, 3 percent as problem gamblers, and an additional 2 percent as probable pathological gamblers. For the "Current SOGS," which asked about the past 12 months, about 97 percent scored as social or nonproblem gamblers, 2 percent as problem gamblers, and 1 percent as probable pathological gamblers. Those numbers are well within the range reported in other statewide studies. When extrapolated to the adult population of Michigan, they suggest that more than 350,000 residents would score as problematic on the lifetime measure and more than 230,000 have a current problem. When combined with the focus group and other information on the economic, personal, work, and family problems

associated with problem gambling, these numbers begin to convey the seriousness and scope of the problem in Michigan.

There is additional evidence that prevalence rates increased in recent years and that states with large numbers of casinos have higher prevalence rates. Both factors suggest Michigan should closely monitor prevalence and associated problems. Furthermore, the low reported use of helping services among respondents with problems suggests additional examination of education, coordination, and referral efforts may be needed.

Rates of gambling participation vary by type of gambling and by population subgroup. For example, men tend to have higher rates than women (with notable exceptions like bingo). The male dominance of participation rates is least pronounced in legal secure games like the lottery and casino gambling and most pronounced in activities like sports betting and betting on one's own performance in a game of skill.

Variation in the rate of gambling problems are also interesting. Education and income are modestly, if at all related to rates of problem gambling. On the other hand, males, nonwhites, and younger respondents do tend to have higher rates of gambling problems as measured by the lifetime and current SOGS.

It is important, if not surprising, that problem gamblers tend to gamble longer at a time and to lose more money than social gamblers. They report starting to gamble when quite young and a significant proportion have at some point been nervous about the amounts they gambled. Even more importantly, however, relatively few report a desire to stop gambling and even fewer report seeking help to stop. Finally, a significant minority of problem gamblers also report a substance abuse or mental health problem.

This first survey of Michigan residents is now over. But it will have served its purpose only if it marks a beginning rather than an end of public interest, concern, and scrutiny of the implications of gambling for the state and its citizens.

APPENDIX A
RESEARCH DATA AND SOURCES USED IN DEVELOPMENT OF FIGURES 1-4 OF THE LITERATURE REVIEW

SEE SEPARATE FILE CALLED 1997 APPENDIX A

APPENDIX B
SURVEY FORM FOR
MICHIGAN SURVEY OF
COMPULSIVE GAMBLING

Appendix B: SURVEY FORM FOR
MICHIGAN SURVEY OF COMPULSIVE GAMBLING

Format and interviewer instructions are slightly different than in the CATI instrument.

Hello, my name is _____ and I am calling from the Kercher Center for Social Research at Western Michigan University. We are working with The Evaluation Center here at the University in a state-funded study of the gambling practices of Michigan residents.

Your number was randomly selected by a computer and your answers will be completely anonymous. Your participation is necessary if this survey is to present a true picture of this issue in Michigan.

In order to interview the right person, I need to speak with the member of your household who is aged 18 or over and has had the most recent birthday. Would that be you?

IF NO, ASK TO SPEAK TO THAT PERSON - RE-READ FIRST TWO PARAGRAPHS
IF NOT AVAILABLE, ARRANGE CALL-BACK

SECTION 1: GAMBLING INVOLVEMENT

People spend or bet money on a variety of things including lottery, charitable games such as raffles or church-sponsored bingo, horse races, casinos, sports, cards, and dice. We will ask you both about whether you have ever participated in these activities and whether you have participated in the past 12 months.

IF PERSON SAYS THEY NEVER GAMBLE, DON'T BELIEVE IN IT, ETC., SAY: We understand that not everyone gambles, but your opinions are still very important to us.

1. Have you ever bet or spent money on the Lottery including LOTTO, The Big Game, Daily 3 and 4, Cash 5, Keno, or instant tickets?
   Yes **(go to 1a)**
   No **(go to 2)**
   Don't know/Refused **(go to 2)**

1a. Have you done so in the past year?
   Yes
   No
   Don't know/Refused

2. Have you ever bet on charitable group events such as local bingos, pulltab tickets, Las Vegas Nights, or raffles?
   Yes (**go to 2a**)
   No (go to 3)
   Don't know/Refused (**go to 3**)

2a. Have you done so in the past year?
   Yes
   No
   Don't know/Refused

3. Have you ever bet on the outcome of sports events?
   Yes (**go to 3a**)
   No (**go to 4**)
   Don't know/Refused (**go to 4**)

3a. Have you done so in the past year?
   Yes
   No
   Don't know/Refused

4. Have you ever bet on horse or dog racing?
   Yes (**go to 4a**)
   No (**go to 5**)
   Don't know/Refused (**go to 5**)

4a. Have you done so in the past year?
   Yes
   No
   Don't know/Refused

5. Have you ever bet or spent money on a numbers game not sponsored by the state lottery?
   Yes (**go to 5a**)
   No (**go to 6**)
   Don't know/Refused (**go to 6a**)

5a. Have you done so in the past year?
   Yes
   No
   Don't know/Refused

6. Have you ever bet at casinos (including slots, video machines, and table games)?
   Yes (**go to 6a**)
   No (**go to 7**)
   Don't know/Refused (**go to 7**)

6a. Have you done so in the past year?
   Yes
   No
   Don't know/Refused

7. Have you ever played noncharitable bingo for money?
   Yes (**go to 7a**)
   No (**go to 8**)
   Don't know/Refused (**go to 8**)

7a. Have you done so in the past year?
   Yes
   No
   Don't know/Refused

8. Have you ever bet on cards or dice games or on video poker or other machines not at a casino?
   Yes **(go to 8a)**
   No **(go to 9)**
   Don't know/Refused **(go to 9)**

8a. Have you done so in the past year?
   Yes
   No
   Don't know/Refused

9. Have you ever bet on your performance at games of skill such as pool, golf, bowling, darts or other games?
   Yes **(go to 9a)**
   No **(go to 10)**
   Don't know/Refused **(go to 10)**

9a. Have you done so in the past year?
   Yes
   No
   Don't know/Refused

10. Have you ever bet in office pools or 50/50 raffles?
Yes **(go to 10a)**
No (**go to 11)**
Don't know/Refused **(go to 11)**

10a. Have you done so in the past year?
Yes
No
Don't know/Refused

11. Have you ever bet or spent money on the stock or commodities markets?
Yes **(go to 11a)**
No **(go to 12)**
Don't know/Refused **(go to 12)**

11a. Have you done so in the past year?
Yes
No
Don't know/Refused

12. Have you bet or spent money on any other type of gambling?
Yes **(go to 12a)**
No (skip 13)
Don't know/Refused **(skip 13)**

12a. Have you done so in the past year?
Yes
No
Don't know/Refused

IF “NO” OR “DON’T KNOW/REFUSED” TO ALL GAMBLING ACTIVITIES, SKIP TO SECTION 4: DEMOGRAPHICS, Q75.

13. When you gamble, do you usually do so:
Alone
With your spouse or partner
With other family members
With friends
With co-workers
With some other individual or group
Refused

14. When you gamble, do you usually do so for:
Less than 1 hour
1-2 hours
3-5 hours
6-12 hours
More than 12 hours
Refused

15. In the past year, what is the largest amount of money you have ever lost gambling in one day?
Less than $1
$1 - $9
$10 - $99
$100 - $999
$1,000 - $9,999
$10,000 or more

SECTION 2: SOUTH OAKS GAMBLING SCREEN

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. Pleas try to be as accurate as possible in your answers and remember that all this information is confidential.

IF INTERVIEWER ENCOUNTERS DIFFICULTIES WITH RESPONDENTS IN COMPLETING THIS SECTION, SAY: We realize these question may not apply to everyone, but we do need answers to all of the questions. It will only take a few more minutes.

16A. 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
Every time
Don't know/Refused

16B. How often have you done this in the past year?
Never
Some of the time
Most of the time

Every time
Don't know/Refused

17A. Have you ever claimed to be winning money from these activities when in fact you lost?
Never
Some of the time
Most of the time
Every time
Don't know/Refused

17B. How often have you done this in the past year?
Never
Some of the time
Most of the time
Every time
Don't know/Refused

18A. Do you ever spend more time or money gambling than you intended?
Yes
No
Don't know/Refused

18B. Have you done this in the past year?
Yes
No
Don't know/Refused

19A. Have people ever criticized your gambling?
Yes
No
Don't know/Refused

19B. Have people criticized your gambling in the past year?
Yes
No
Don't know/Refused

20A. Have you ever felt guilty about the way you gamble or about what happens when you gamble?
Yes
No
Don't know/Refused

20B. Have you felt this way in the past year?
Yes

No
Don't know/Refused

21A. Have you ever felt that you would like to stop gambling, but didn't think that you could?
Yes
No
Don't know/Refused

21B. Have you felt this way in the past year?
Yes
No
Don't know/Refused

22A. 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?
Yes
No
Don't know/Refused

22B. Have you done so in the past year?
Yes
No
Don't know/Refused

23. Have you ever argued with people you live with over how you handle money?
Yes
No
Don't know/Refused

IF YES, **ASK Q24A**. IF NO, **GO TO Q25A**.

24A. Have these arguments ever centered on your gambling?
Yes
No
Don't know/Refused

24B. Have you had any of these arguments in the past year?
Yes
No
Don't know/Refused

25A. Have you ever missed time from work or school due to gambling?
Yes
No
Don't know/Refused

25B. Have you missed time from work or school in the past year due to gambling?
Yes
No
Don't know/Refused

26A. Have you ever borrowed money from someone and not paid them back as a result of your gambling?
Yes
No
Don't know/Refused

26B. Have you done so in the past year?
Yes
No
Don't know/Refused

Next, I am going to read a list of 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?

27A. Have you ever borrowed from household money to gamble or pay gambling debts?
Yes
No
Don't know/Refused

27B. Have you borrowed from household money in the past year?
Yes
No
Don't know/Refused

28A. Have you ever borrowed money from your spouse or partner to gamble or pay gambling debts?
Yes
No
Don't know/Refused

28B. Have you borrowed money from your spouse or partner in the past year?
Yes
No
Don't know/Refused

29A. Have you ever borrowed from other relatives or in-laws to gamble or pay gambling debts?
Yes
No
Don't know/Refused

29B. Have you borrowed from other relatives or in-laws in the past year?
Yes
No
Don't know/Refused

30A. Have you ever gotten loans from banks, loan companies or credit unions to gamble or pay gambling debts?
Yes
No
Don't know/Refused

30B. Have you gotten loans from banks, loan companies or credit unions in the past year?
Yes
No
Don't know/Refused

31A. Have you ever made cash withdrawals on credit cards to get money to gamble or pay gambling debts? (DOES NOT INCLUDE INSTANT CASH CARDS FROM BANK ACCOUNTS)
Yes
No
Don't know/Refused

31B. Have you made cash withdrawals on credit cards in the past year?
Yes
No
Don't know/Refused

32A. Have you ever gotten loans from loan sharks to gamble or pay gambling debts?
Yes
No
Don't know/Refused

32B. Have you gotten loans from loan sharks in the past year?
Yes
No
Don't know/Refused

33A. Have you ever cashed in stocks, bonds or other securities to finance gambling?
Yes
No
Don't know/Refused

33B. Have you cashed in stocks, bonds or other securities in the past year?
Yes
No
Don't know/Refused

34A. Have you ever sold personal or family property to gamble or pay gambling debts?
Yes
No
Don't know/Refused

34B. Have you sold personal or family property to gamble or pay gambling debts in the past year?
Yes
No
Don't know/Refused

35A. Have you ever borrowed from your checking account by writing checks that bounced to get money for gambling or to pay gambling debts?
Yes
No
Don't know/Refused

35B. Have you borrowed from your checking account by writing checks that bounced in the past year?
Yes
No
Don't know/Refused

36A. Have you ever delayed or missed payments on insurance policies, such as life, car household or medical insurance, to get money to gamble or pay gambling debts?
Yes
No
Don't know/Refused

36B. Have you delayed or missed payments on insurance policies to gamble or pay gambling debts in the past year?
Yes
No
Don't know/Refused

37A. Have you ever cashed in life insurance premiums to get money to gamble or pay for gambling debts?
Yes
No
Don't know/Refused

37B. Have you cashed in life insurance premiums to get money to gamble or pay for gambling debts in the past year?
Yes
No
Don't know/Refused

38A. Do you feel that you have ever had a problem with betting money or gambling?
Yes
No
Don't know/Refused

38B. Do you feel that you have had a problem with betting money or gambling in the past year?
Yes
No
Don't know/Refused

39. Do you feel that either of your parents ever had a problem with betting money or gambling?
Yes
No
Don't know/Refused

39a. IF YES, ASK: Which parent was that? (TAKE MULTIPLE RESPONSES)
Father
Mother
Stepfather
Stepmother

Ask Section 3 only of those who score as Problem Gamblers on the SOGS (generated by the computer here).

SECTION 3: IN-DEPTH ANALYSIS OF PROBLEM GAMBLERS

A. For each of the gambling activities in which you participated in the past year, we would like your estimate of the amount of time and money you spent.

List of activities generated by computer at this point.

40. For the Lottery including LOTTO, The Big Game, Daily 3 and 4, Cash 5, Keno, or instant tickets, can you give me an estimate of the amount you spend in a typical month? [If needed, say] I am only looking for an approximate amount, rounded to the nearest 5 dollars or so.
[000,000]

41. Did you play the lottery at least once a week?
Yes
No
Don't know/Refused

42. For charitable group events, such as bingo or Las Vegas nights, can you give me an estimate of the amount you spend in a typical month? [If needed, say] I am only looking for an approximate amount, rounded to the nearest 5 dollars or so.
[000,000]

43. Did you play charitable group events at least once a week?
Yes
No
Don't know/Refused

44. For sports betting, can you give me an estimate of the amount you spend in a typical month? [If needed, say] I am only looking for an approximate amount, rounded to the nearest 5 dollars or so.
[000,000]

45. Did you bet on sports at least once a week?
Yes
No
Don't know/Refused

46. For betting on horse or dog racing, can you give me an estimate of the amount you spend in a typical month? [If needed, say] I am only looking for an approximate amount, rounded to the nearest 5 dollars or so.
[000,000]

47. Did you bet on horse or dog racing at least once a week?
Yes
No
Don't know/Refused

48. For non-Lottery numbers games, can you give me an estimate of the amount you spend in a typical month? [If needed, say] I am only looking for an approximate amount, rounded to the nearest 5 dollars or so.
[000,000]

49. Did you play non-Lottery numbers or policy at least once a week?
Yes
No
Don't know/Refused

50. For betting at casinos, can you give me an estimate of the amount you spend in a typical month? [If needed, say] I am only looking for an approximate amount, rounded to the nearest 5 dollars or so.
[000,000]

51. Did you bet at casinos at least once a week?
Yes
No
Don't know/Refused

52. For card, dice, or machine games not in a casino, can you give me an estimate of the amount you spend in a typical month? [If needed, say] I am only looking for an approximate amount, rounded to the nearest 5 dollars or so.
[000,000]

53. Did you bet on cards, dice, or machines not in a casino at least once a week?
Yes
No
Don't know/Refused

54. For betting on your performance at games of skill like pool, golf, bowling or darts, can you give me an estimate of the amount you spend in a typical month? [If needed, say] I am only looking for an approximate amount, rounded to the nearest 5 dollars or so.
[000,000]

55. Did you bet on your performance at games of skill at least once a week?
Yes
No
Don't know/Refused

56. For office pools or 50/50 raffles, can you give me an estimate of the amount you spend in a typical month? [If needed, say] I am only looking for an approximate amount, rounded to the nearest 5 dollars or so.
[000,000]

57. Did you bet on office pools or 50/50 raffles at least once a week?
Yes
No
Don't know/Refused

58. For the stock or commodities markets, can you give me an estimate of the amount you spend in a typical month? [If needed, say] I am only looking for an approximate amount, rounded to the nearest 5 dollars or so.
[000,000]

59. Did you play the stock or commodities markets at least once a week?
Yes
No
Don't know/Refused

60. For other types of gambling, can you give me an estimate of the amount you spend in a typical month? [If needed, say] I am only looking for an approximate amount, rounded to the nearest 5 dollars or so.
[000,000]

61. Did you bet on other forms of gambling at least once a week?
Yes
No
Don't know/Refused

62. Which type of gambling is the one you would find most difficult to give up?

B. History and Treatment

63. How old were you when you first gambled?
IF RESPONDENT REFUSES TO ANSWER, RECORD 99 AND SKIP TO Q67.

64. What type of gambling was that?

_____
CODE SAME AS TYPES OF GAMBLING (SECTION 1)

65. Was there any time when the amount you were gambling made you nervous?
Yes
No
Don't know/Refused

66. How old were you when that happened?
IF RESPONDENT REFUSES TO ANSWER, RECORD 99 AND SKIP TO Q70.

67. What type of gambling were you doing when that happened?

_____
CODE SAME AS TYPES OF GAMBLING (SECTION 1)

68. Have you ever desired help to stop gambling?
Yes
No
Don't know/Refused

69. Have you ever sought help to stop gambling?
Yes
No
Don't know/Refused

70. IF YES, ASK: What type of help was that? (DO NOT READ?)
Family member
Friend
Family doctor
Gamblers Anonymous
Problem gambling treatment program in Michigan
Problem gambling treatment program outside Michigan
Veterans Administration
Employee assistance program (EAP)
Psychologist or psychiatrist
Other counselor
Minister/priest/rabbi
Alcohol or drug abuse treatment program
Other
Refused

C. Cross-Addictions

71. Have you ever experienced or been treated for an alcohol or other drug abuse problem?
Yes
No

72. Have you ever experienced or been treated for a mental health problem?
Yes
No

SECTION 4: DEMOGRAPHICS

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 confidential.

73. Are you currently married, widowed, divorced, separated, or have you never been married?
    Married, common-law, co-habitation
    Widowed
    Divorced
    Separated
    Never married
    Refused

74. Including yourself, how many people aged 18 and over live in your household?

75. What is the last grade of school you completed?
    (CODE INTO FOLLOWING CATEGORIES)
    Elementary or some high school
    High school graduate or G.E.D.
    Some college or Associates degree (vocational, technical or trade school)
    Bachelors degree
    Graduated study or degree
    Refused

76. Last week, were you working full-time, part-time, going to school, keeping house, or something else?
    Working full-time
    Working part-time
    Going to school
    Keeping house
    Disabled
    Retired
    Unemployed
    Refused

77. How old are you?
    ALTERNATE WORDING: What is your age?

78. Do you consider yourself Hispanic?
    Yes
    No
    Refused

79. Which of the following best describes your racial or ethnic group?
White/Caucasian
Black
Native American
Asian
Other
No opinion/Refused

80. What was your total household income last year?
Under $15,000
$15,001 to $25,000
$25,001 to $35,000
$35,001 to $50,000
$50,000 to $75,000
$75,000 to $100,000
$100,000 to $125,000
Over $125,000
No opinion/Refused

81. In what county do you live?

82. RESPONDENT SEX (DON'T ASK)
Male
Female
Cannot tell

That was the last question. Thank you very much for your time and cooperation.

APPENDIX C
COUNTIES IN GEOGRAPHIC REGIONS

Counties in Geographic Regions

1 = Upper Peninsula

Delta
Mackinac
Luce
Menominee
Marquette
Braga
Keweenaw
Gogebic
Schoolcraft
Chippewa
Alger
Dickinson
Iron
Houghton
Ontonagon

2 = Wayne County

3 = Detroit Metro Area excluding Wayne County

St. Clair
Lapeer
Macomb
Oakland
Livingston
Washtenaw
Monroe

4 = East region of the state

Cheboygan
Presque Isle
Otsego
Montgomery
Alpena
Crawford
Oscoda
Algona
Roscommon
Ogemaw
Iosco
Clare
Gladwin
Arenac
Isabella
Bay
Huron
Sanilac
Tuscola
Saginaw
Gratiot
Clinton
Shiawassee
Genesee
Eaton
Ingham
Jackson
Hillsdale
Lenawee
Midland

5 = West region of the state

Emmet
Charlevoix
Antrim
Leelanau
Benzie
Grand Traverse
Manistee
Missaukee
Lake
Oceana
Mecosta
Ionia
Ottawa
Allegan
Calhoun
St. Joseph
Cass
Berrien
Van Buren
Kalamazoo
Kalkaska
Wexford
Mason
Osceola
Newaygo
Montcalm
Kent
Muskegon
Barry
Branch

Table 7
Data Quality

Demographics		Respondents	%	1990 Census	%
Gender					
	Male	1776	45.7	3,251,169	47.6
	Female	2111	54.3	3,582,405	52.4
Race					
	White	3349	86.8	5,802,381	84.9
	Black	305	7.9	870,871	12.7
	Other	206	5.3	160,322	2.3
Hispanic		78	2.0	114,980	1.7
Age					
	18-29	735	19.0	1,754,412	25.7
	30-49	1796	46.4	2,750,652	40.3
	50-64	826	21.3	1,221,492	17.9
	More than 65	514	13.3	1,107,018	16.2
Education					
	Less than High School	214	5.5	1,056,749	19.1
	High School/GED	1456	37.5	1,887,448	34.1
	Some College	1198	30.8	1,584,387	28.6
	Bachelors Degree	557	14.3		
	Graduate Study/Degree	459	11.8	1,014,047	18.3*
Household Income**					
	Less than $25,000	814	26.5	1,389,239	40.6
	$25,000 to $49,999	1102	35.8	1,164,313	34.0
	$50,000 to $99,999	926	30.1	741,897	21.6
	$More than $100,000	232	7.5	128,673	3.8

* The census reports the top category as “bachelors, graduate, or professional degree.”

**The deviation of respondents from census income categories is due in part to inflation since 1990.

Table 7–Data Quality, continued
Geographic Distribution

	Projected		Actual			Projected		Actual	
County	Count	%	Count	%	County	Count	%	Count	%
Algona	4	0.1	5	0.1	Lake	4	0.1	5	0.1
Alger	4	0.1	5	0.1	Lapeer	32	0.8	40	1.0
Allegan	39	1.0	42	1.1	Leelanau	8	0.2	9	0.2
Alpena	12	0.3	10	0.3	Lenawee	35	0.9	33	0.8
Antrim	8	0.2	9	0.2	Livingston	51	1.3	73	1.9
Arenac	4	0.1	7	0.2	Luce	4	0.1	3	0.1
Baraga	20	0.5	3	0.1	Mackinac	4	0.1	7	0.2
Barry	47	1.2	23	0.6	Macomb	311	7.9	263	6.7
Bay	8	0.2	55	1.4	Manistee	12	0.3	7	0.2
Benzie	67	1.7	8	0.2	Marquette	28	0.7	47	1.2
Berrien	16	0.4	79	2.0	Mason	12	0.3	19	0.5
Branch	59	1.5	20	0.5	Mecosta	16	0.4	23	0.6
Calhoun	20	0.5	47	1.2	Menominee	12	0.3	22	0.6
Cass	12	0.3	23	0.6	Midland	35	0.9	39	1.0
Charlevoix	12	0.3	14	0.4	Missaukee	4	0.1	7	0.2
Cheboygan	12	0.3	11	0.3	Monroe	55	1.4	40	1.0
Chippewa	12	0.3	17	0.4	Montcalm	20	0.5	22	0.6
Clare	12	0.3	19	0.5	Montmorency	4	0.1	4	0.1
Clinton	24	0.6	42	1.1	Muskegon	67	1.7	76	1.9
Crawford	4	0.1	2	0.1	Newaygo	16	0.4	27	0.7
Delta	16	0.4	29	0.7	Oakland	505	12.8	411	10.4
Dickinson	12	0.3	13	0.3	Oceana	8	0.2	11	0.3
Eaton	39	1.0	38	1.0	Ogemaw	8	0.2	10	0.3
Emmet	12	0.3	8	0.2	Ontonagon	4	0.1	4	0.1
Genesee	181	4.6	191	4.8	Osceola	8	0.2	9	0.2
Gladwin	12	0.3	13	0.3	Oscoda	4	0.1	12	0.3
Gogebic	8	0.2	5	0.1	Otsego	8	0.2	3	0.1
Grand Traverse	32	0.8	32	0.8	Ottawa	79	2.0	99	2.5
Gratiot	16	0.4	16	0.4	Presque Isle	8	0.2	4	0.1
Hillsdale	16	0.4	23	0.6	Roscommon	12	0.3	37	0.9
Houghton	16	0.4	23	0.6	Saginaw	87	2.2	126	3.2
Huron	16	0.4	8	0.5	St. Clair	63	1.6	91	2.3
Ingham	114	2.9	100	2.5	St. Joseph	24	0.6	2	0.1
Ionia	20	0.5	14	0.4	Sanilac	16	0.4	1	0.0
Iosco	8	0.2	9	0.2	Schoolcraft	4	0.1	6	0.2
Iron	8	0.2	25	0.6	Shiawassee	28	0.7	26	0.7
Isabella	20	0.5	32	0.8	Tuscola	24	0.6	23	0.6
Jackson	63	1.6	68	1.7	Van Buren	28	0.7	28	0.7
Kalamazoo	99	2.5	87	2.2	Washtenaw	122	3.1	112	2.8
Kalkaska	4	0.1	12	0.3	Wayne	840	21.3	673	17.1
Kent	213	5.4	198	5.0	Wexford	12	0.3	13	0.3
Keweenaw	0	0.0	0	0.0					

Table 8
Comparison of Weighted and Unweighted SOGS Scores

	Lifetime Prevalence			Current Prevalence		
	0-2	3-4	5+	0-2	3-4	5+
unweighted	94.9	3.2	2.0	96.7	2.1	1.3
weight by race	94.3	3.5	2.2	96.1	2.4	1.5
weight by income	94.1	3.7	2.2	96.1	2.4	1.5
weight by education	94.4	3.4	2.3	96.2	2.4	1.3

Table 9
Gambling Prevalence and
South Oaks Gambling Screen Scores for Michigan

A. State of Michigan

Gambling Experiences	n	%
Ever		
Yes	3331	84.5
No	611	15.5
Past Year		
Yes	3031	76.9
No	911	23.1

	Lifetime SOGS Score			Current SOGS Score		
	0-2	3-4	5+	0-2	3-4	5+
n	3740	125	77	3810	82	50
percent	94.9	3.2	2.0	96.7	2.1	1.3
Estimate in state		218,674	136,672		143,505	88,837
Estimated total problem gamblers		355,346			232,342	

B. Geographic Regions of Michigan

	Lifetime SOGS Score %			Current SOGS Score %			n
	0-2	3-4	5+	0-2	3-4	5+	
Upper Pen.	97.1	1.9	1.0	96.7	2.4	1.0	209
Wayne Cnty	92.0	5.1	3.0	95.2	2.1	2.7	673
Det. Metro/ excl. Wayne Cnty.	94.3	3.9	1.8	96.4	2.8	0.8	1,030
East Region	96.3	1.9	1.7	97.3	1.9	0.7	977
West Region	95.6	2.9	1.5	97.3	1.4	1.2	972

Table 10
Estimates of Statewide Prevalence of
Problem and Probable Pathological Gambling

		Lifetime Prevalence (%)	Current Prevalence (%)
Panel A. Chronological Order			
1986	New York	4.2	
1988	New Jersey	4.2	
1988	Maryland	3.9	
1989	Massachusetts	4.4	
1989	Iowa	1.7	
1990	California	4.1	
1990	Minnesota		1.6
1991	South Dakota	2.8	1.4
1991	Connecticut	6.3	
1992	Texas	4.8	2.5
1992	Washington	5.1	2.8
1992	Montana	3.6	2.2
1992	North Dakota	3.5	2.0
1993	South Dakota	2.3	1.2
1994	Georgia	4.4	2.3
1994	Minnesota		3.2
1995	Louisiana	7.0	4.8
1995	Iowa	5.4	3.3
1996	New York	7.3	3.6
1997	**Michigan**	5.2	3.4
Panel B. Ranked by Lifetime Prevalence			
1996	New York	7.3	3.6
1995	Louisiana	7.0	4.8
1991	Connecticut	6.3	
1995	Iowa	5.4	3.3
1997	**Michigan**	5.2	3.4
1992	Washington	5.1	2.8
1992	Texas	4.8	2.5
1989	Massachusetts	4.4	
1994	Georgia	4.4	2.3
1986	New York	4.2	
1988	New Jersey	4.2	
1990	California	4.1	
1988	Maryland	3.9	
1992	Montana	3.6	2.2
1992	North Dakota	3.5	2.0
1991	South Dakota	2.8	1.4

1993	South Dakota	2.3	1.2
1989	Iowa	1.7	

Table 11
Percentage of Individuals Who Have Ever Gambled, Type by Demographic Characteristics

Demographics	Type of Gambling>											
	Lottery	Charitable Events/Bingo	Sports Events	Horse/ Dog Racing	Numbers Game	Casino Games	Noncharitable Bingo	Noncasino Games	Games of Skill	Office Pools	Stock Market	Other
Gender (n$3,978)	**		**	**	**	**	**	**	**	**	**	.**
Male	75.4	41.9	35.2	28.9	10.8	56.2	6.4	27.9	41.2	57.0	35.9	4.5
Female	68.7	43.7	13.6	23.3	5.2	48.7	10.2	10.8	11.8	40.9	24.6	1.3
Race (n$3,851)	**	**		**	**					**	**	
White	72.8	44.9	24.0	27.3	7.2	52.8	8.4	18.6	25.2	50.0	31.8	2.8
Black	65.9	33.4	21.0	17.7	11.8	49.8	8.2	20.7	22.3	36.2	16.1	2.3
Other	67.0	30.1	18.0	18.9	10.7	45.4	9.8	15.5	30.1	40.0	19.0	3.9
Hispanic (n$3,875)	70.5	37.2	15.4	21.8	9.0	46.2	9.0	17.9	24.4	41.0	15.4**	1.3
Age (n$3,862)	**	**	**	**	**	**		**	**	**	**	
18-29	68.3	38.8	33.3	18.9	9.3	51.8	8.3	29.3	36.9	42.7	17.2	3.4
30-49	76.3	48.8	26.1	27.6	8.9	54.1	8.2	20.0	27.8	54.9	32.4	3.1
50-64	73.7	44.8	19.3	31.2	5.9	56.7	9.8	13.9	19.2	49.0	37.5	2.1
>65	58.4	27.0	6.8	22.8	5.1	38.9	7.0	6.6	9.4	32.0	25.9	1.9
Education (n$3,875)	**	**	**	**		**	*		**	**	**	
Some High School	62.6	29.0	11.7	14.0	7.9	33.6	11.2	17.3	22.9	27.6	6.5	1.9
High School/GED	73.5	40.0	21.1	21.9	7.4	47.7	10.1	18.1	22.4	44.6	19.7	2.8
Some College	73.9	46.4	24.4	26.7	7.9	56.8	7.1	19.4	25.9	52.5	30.9	2.3
Bachelors Degree	72.9	48.3	28.9	37.5	9.2	59.1	7.2	21.4	33.0	54.1	45.4	2.9
Graduate Study/Deg	64.7	44.2	27.9	29.6	7.2	54.7	6.8	16.1	24.2	51.2	50.3	4.1
Income (n$3,067)	*	**	**	**		**		*	**	**	**	*
Less than $25,000	69.9	35.3	14.5	17.1	7.4	42.1	9.7	17.3	18.8	36.8	13.8	1.7
$25,000 to $49,999	75.3	46.4	26.9	27.5	9.4	52.8	8.1	21.6	28.8	52.0	27.5	3.1
$50,000 to $99,999	74.2	51.4	29.9	31.5	8.2	59.1	8.7	19.5	28.2	59.3	41.6	4.2
More than $100,000	78.4	51.3	34.5	41.8	9.9	71.4	8.2	25.9	44.0	62.1	65.8	3.9

> See Appendix A, items 1 through 12 for full definitions of gambling types.
*chi square significant at .05
**chi square significant at .01

Table 12
Percentage of Individuals Gambling During the Last 12 Months, Type by Demographic Characteristics

Demographics — Type of Gambling>

	Lottery	Charitable Events/Bingo	Sports Events	Horse/ Dog Racing	Numbers Game	Casino Games	Noncharitable Bingo	Noncasino Games Skill	Games of Pools	Office Market	Stock Other#	
Gender (n$3,881)	**		**	**	**	**	**	**	**	**	**	
Male	63.8	31.2	26.3	7.4	7.4	34.3	2.6	17.7	27.8	38.1	29.1	3.7
Female	56.2	31.5	9.1	4.4	3.5	29.8	3.8	7.2	7.4	25.8	20.0	1.0
Race (n$3,854)	*	**		**	*	*				**	**	
White	60.3	32.8	17.2	5.8	4.9	31.8	3.1	11.8	16.6	32.3	25.7	2.2
Black	55.7	24.3	16.4	4.9	7.9	35.1	3.6	13.1	16.4	25.6	13.4	1.3
Other	56.8	23.3	13.1	6.3	7.3	30.1	4.4	11.7	19.0	25.4	6.5	3.9
Hispanic(n$3,878)	62.8	29.5	10.3	9.0	6.4	28.2	5.1	14.1	19.2	28.2	15.4**	1.3
Age (n$3,865)	**	**	**	**	**	**	**	**	**	**	**	
18-29	57.9	30.0	27.6	5.7	8.0	37.3	4.9	23.9	29.5	33.6	15.2	3.3
39-49	64.8	36.5	19.3	6.1	6.3	31.2	2.8	11.5	18.2	37.9	27.0	2.6
50-64	60.7	30.9	11.5	6.5	2.5	35.2	3.1	7.5	10.2	27.8	29.8	1.0
>65	42.8	17.5	2.7	3.7	2.1	22.2	1.9	3.9	3.9	11.5	17.9	1.4
Education (n$3,878)	**	**	**	**		**	*	*	**	**	**	
Some High School	52.3	23.8	8.9	3.3	6.1	22.5	4.2	13.1	16.8	18.7	4.2	1.9
High School/GED	63.0	30.2	16.8	5.2	5.3	32.9	4.3	12.2	15.3	29.4	15.6	2.0
Some College	62.6	34.9	17.0	6.1	5.3	34.2	2.8	12.9	17.6	34.3	24.2	2.0
Bachelors Degree	58.9	34.7	20.3	7.0	5.4	32.1	2.0	11.8	20.0	34.8	39.0	2.3
Graduate Study/Deg	46.8	27.0	18.1	6.8	4.8	27.7	2.2	8.9	15.3	31.8	42.0	3.5
Income (n$3,069)	*	**	**	**		**			**	**	**	
Less than $25,000	58.1	25.1	10.3	3.6	4.2	27.6	3.7	11.4	11.4	22.0	8.2	1.5
$25,000 to $49,999	62.7	34.2	19.8	6.7	6.9	33.7	3.5	13.7	19.6	33.6	21.7	2.2
$50,000 to $99,999	63.5	38.8	21.8	6.8	5.8	35.4	3.2	12.2	19.5	41.7	35.4	3.6
More than $100,000	62.9	38.1	25.4	10.8	7.3	40.5	2.6	14.7	31.0	42.0	61.6	3.4

> See Appendix A, items 1 through 12 for full definitions of gambling types.
*chi square significant at .05
**chi square significant at .01
#small cell frequencies prevent a test of significance

Table 13
Percent in SOGS Groupings by Demographic Categories

	Lifetime Prevalence				Past Year Prevalence			
	0-2	3-4	5+	sig.	0-2	3-4	5+	sig.
Gender (n=3,887)				**				**
Male	92.8	4.1	3.1		95.5	2.5	2.0	
Female	96.6	2.5	0.9		97.7	1.8	0.6	
Race (n=3,860)				**				**
White	95.4	3.0	1.6		97.1	1.9	1.0	
Black	90.8	4.9	4.3		94.4	3.0	2.6	
Other	91.7	4.9	3.4		92.2	4.4	3.4	
Age (n=3,871)				**				**
18-29	91.8	4.5	3.7		93.7	3.7	2.6	
30-49	95.2	3.2	1.6		96.8	2.2	1.0	
50-64	96.6	2.3	1.1		98.3	0.8	0.8	
>65	95.1	3.1	1.8		97.7	1.6	0.8	
Education (n=3,884)								*
Some High School	91.6	4.2	4.2		93.9	4.2	1.9	
High School/GED	94.2	3.6	2.2		95.6	2.7	1.6	
Some College	95.2	3.0	1.8		97.3	1.7	1.0	
Bachelors Degree	95.7	2.9	1.4		97.5	1.4	1.1	
Graduate Study/Deg	96.7	2.4	0.9		98.5	1.1	0.4	
Income (n=3,074)								
Less than $25,000	94.2	3.2	2.6		95.8	2.7	1.5	
$25,000 to $49,999	94.1	4.0	1.9		96.5	2.4	1.2	
$50,000 to $99,999	94.3	3.5	2.3		95.9	2.5	1.6	
More than $100,000	93.1	4.3	2.6		96.1	2.2	1.7	

*chi square significant at .05
**chi square significant at .01

Table 14
Percent Distribution of Current SOGS Score
by Gambling Type in the Past Year

	Current Prevalence			
	n	0-2	3-4	5+
Lottery	2,346	95.0	3.1	1.9
Charitable Group Events	1,234	93.9	3.7	2.4
Sports Events	671	91.4	5.1	3.6
Horse/Dog Racing	229	85.2	7.0	7.9
Numbers Game	211	86.7	5.7	7.6
Casinos	1,258	92.3	4.7	3.0
Noncharitable Group Events	129	83.7	10.9	5.4
Noncasino Events	473	87.5	6.8	5.7
Games of Skill	659	90.1	6.1	3.8
Office Pools	1,231	94.2	3.6	2.3
Stock/Commodities Market	948	97.0	1.8	1.2
Other	87	85.1	6.9	8.0

Table 15
Typical Gambling Behaviors by SOGS Scores, Percent Distributions

	Lifetime Prevalence			Past Year Prevalence		
	0-2	3-4	5+	0-2	3-4	5+
When you gamble, do you usually do so: (n=3,809)						
don't gamble	17.5	--	--	17.1	--	--
alone	20.5	25.6	17.1	20.7	14.8	20.0
with spouse or partner	23.1	23.2	22.4	23.0	28.4	20.0
with other family members	9.0	10.4	14.5	9.0	9.9	18.0
with friends	23.1	35.2	35.5	23.2	42.0	34.0
with coworkers	4.1	1.6	7.9	4.1	1.2	6.0
with others	2.7	4.0	2.6	2.7	3.7	2.0
When you gamble, do you usually do so for: (n=3,313)						
don't gamble	17.5	--	--	17.1	--	--
less than 1 hour	41.9	21.8	18.7	41.5	22.0	16.7
1-2 hours	25.4	31.5	13.3	25.5	26.8	16.7
3-5 hours	12.5	33.9	45.3	12.8	36.6	50.0
6-12 hours	2.1	8.1	14.7	2.3	6.1	16.7
more than 12 hours	0.6	4.8	8.0	0.8	8.5	--
In the past year, what is the largest amount of money you have ever lost gambling in one day? (n=3,759)						
Don't gamble	17.8	--	--	17.4	--	--
Less than $1	12.4	5.6	10.5	12.5	2.4	4.1
$1-$9	25.7	6.5	3.9	25.3	6.1	2.0
$10-$99	33.1	47.6	25.0	33.4	42.7	20.4
$100-$999	9.9	31.5	48.7	10.3	34.1	61.2
$1000-$9999	0.8	8.9	11.8	0.9	14.6	12.2
$10,000 or more	0.2	--	--	0.2	--	--

Table 16
Percent of Problem (SOGS Score 3-4) and Probable Pathological Gamblers (SOGS Score 5+) Who Participated in Each Gambling Activity at Least Once Per Week

	Lifetime Prevalence			Current Prevalence			Gender Lifetime Prevalence		
Type of Gambling	n	3-4 %	5+ %	n	3-4 %	5+ %	n	Male	Female
Lottery	78	36.8	41.6	54	45.6	46.0	77	40.9	34.7
Charitable Group Events	4	.8	3.9	3	—	6.0	4	.8	4.2
Sports Events	27	7.2	23.4	19	7.4	28.0	27	19.7	2.8
Horse/Dog Racing	12	4.0	9.1	9	4.4	12.0	12	8.7	1.4
Numbers Game	13	3.2	11.7	11	8.8	10.0	13	7.9	4.2
Casinos	18	4.8	15.6	16	7.4	22.0	17	8.7	8.3
Noncasinos	20	6.4	15.6	16	8.8	20.0	20	12.6	5.6
Games of Skill	33	10.4	26.0	22	14.7	24.0	33	22.8	5.6
Office Pools	15	6.4	9.1	9	5.9	10.0	15	8.7	5.6
Stock/Commodity Markets	9	4.8	3.9	6	4.4	6.0	9	5.5	2.8
Other	6	.8	6.5	4	---	8.0	6	4.7	---

Table 17
Mean Dollars Per Month for Lifetime Problem
and Probable Pathological Gamblers by Activity

	n	Mean $/Month
Type of Gambling		
Lottery	177	$60.25
Charitable Groups Events	100	$41.65
Sports Events	81	$117.67
Horse/Dog Racing	75	$63.20
Numbers Game	44	$62.36
Casinos	138	$249.02
Noncasinos	92	$104.52
Games of Skill	93	$52.33
Office Pools	116	$19.53
Stock/Commodity Markets	48	$157.08
Other	17	$48.88

Table 18
Descriptive Characteristics of Problem and Probable Pathological Gamblers

	Lifetime Prevalence			Past Year Prevalence			Gender Lifetime Prevalence		
								Male	Female
	n	3-4	5+	n	3-4	5+	n	3-4	5+
Age First Gambled	200			129			199		
14 or younger		23.4	34.2		25.0	28.6		34.9	13.9
15-18		37.1	28.9		39.7	28.6		39.7	25.0
19-29		24.2	25.0		22.1	26.5		13.5	44.4
30 or older		15.3	11.8		13.2	16.3		11.9	16.7
Has Gambling Made You Nervous?	200	38.4	67.5	116	40.2	72.0	198	53.1	28.6
Age First Nervous	99			65			98		
14 or younger		6.4	7.7		6.9	5.6		6.7	4.3
15 - 18		31.9	30.8		34.5	25.0		38.7	8.7
19-29		31.9	38.5		27.6	41.7		30.7	52.2
30 or older		29.8	23.1		31.0	27.8		24.0	34.8
Desired to Stop	201	2.4	22.4	129	3.8	22.4	199	12.6	4.2
Sought Help	201	.8	7.9		2.5	6.1	199	5.5	---
Experience or Treatment									
Alcohol or other drug abuse problem	200	6.5	23.7	129	8.8	14.3	198	17.5	5.6
Mental health problem	199	8.1	16.0	128	10.0	12.5	197	12.8	8.3

References

Abbott, M. W., & Volberg, R. A. (1991). *Gambling and problem gambling in New Zealand.* Research Series No. 12. Wellington: New Zealand Department of Internal Affairs.

Abbott, M. W., & Volberg, R. A. (1992). *Frequent gamblers and problem gamblers in New Zealand.* Research Series No. 14. Wellington: New Zealand Department of Internal Affairs.

Abbott, M. W., & Volberg, R. A. (1996a). The New Zealand national survey of problem and pathological gambling. *Journal of Gambling Studies, 12*(2), 143-160.

Abramson, J. (1996, December 30). As gambling issue moves into the spotlight, rival forces place their bets on U.S. study. *Wall Street Journal*, p. A14.

American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders (3rd ed.).* Washington, DC: Author.

American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders (3rd ed.-rev).* Washington, DC: Author

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders (4th ed.).* Washington, DC: Author.

Commission on the Review of the National Policy Toward Gambling. (1976). *Gambling in America.* Washington, DC: U.S. Government Printing Office.

Congressional Record, 104-141, No. 125, p. S10912-S10916.

Culleton, R. P. (1985). *A survey of pathological gamblers in the state of Ohio.* Philadelphia: Transition Planning Associates.

Culleton, R. P. (1989). The prevalence rates of pathological gambling: A look at methods. *Journal of Gambling Behavior*, *5* 22-41.

Culleton, R. P., & Lang, M. H. (1985). *The prevalence rate of pathological gambling in the Delaware Valley in 1984.* New Brunswick, NJ: Rutgers/Camden Forum for Policy Research and Public Policy.

Emerson, M. O., Laundergan, J. C ., & Schaefer, J. M. (1994). *Adult Survey of Minnesota Problem Gambling Behavior: A Needs Assessment: Changes 1990 to 1994.*

(Report to the Minnesota Department of Human Services, Mental Health Division). Duluth, MN: Center for Addiction Studies; University of Minnesota, Duluth.

Gaudia, R. (1987, May-June). Effects of compulsive gambling on the family. *Social Work*, 254-256.

Grinols, E. L., & Omorov, J. D. (1995, September). *Development or dreamfield delusions?: Assessing casino gambling's costs and benefits*. Unpublished manuscript. Department of Economics, University of Illinois, Champaign, IL.

Hopkins, K. D., Stanley, J. C., & Hopkins, B. R. (1990). *Educational and psychological measurement and evaluation, (7th ed).* Englewood Cliffs, NJ: Prentice-Hall, Inc.

International Gaming Institute. (1996). *The gaming industry - introduction and perspectives.* New York: John Wiley & Sons, Inc.

Karcher, A. J. (1992, May/June). State lotteries. *Society*, 51-56.

Lesieur, H. R. (1992, May/June). Compulsive gambling. *Society*, 43-50.

Lesieur, H. R. (1994). Epidemiological surveys of pathological gambling: Critique and suggestions for modification. *Journal of Gambling Studies, 10* (4), 385-398.

Lesieur, H. R. (1996, September). *Measuring the costs of pathological gambling: Saying too much with too little*. Paper presented at the National Conference on Gambling Behavior of the National Council on Problem Gambling, Chicago.

Lesieur, H. R., & Blume, S. (1987) . The South Oaks gambling screen (SOGS): A new instrument for the identification of pathological gamblers. *American Journal of Psychiatry, 144*(9), 1184-1.

Lesieur, H. R., & Blume, S. B. (1993). Revising the South Oaks gambling screen in different settings. *Journal of Gambling Studies, 9*(3), 213-221.

Lesieur, H. R., & Custer, R. L. (1984). Pathological gambling: Roots, phases, and treatment. *The Annals of The American Academy of Political and Social Science, 475*, 146-156.

Lesieur, H. R., & Rothschild, J. C. (1989). Children of Gamblers Anonymous members. *Journal of Gambling Behavior, 5*(4), 269-281.

Merriam-Webster Inc. (1991). *Webster's ninth new collegiate dictionary*. Springfield, MA: Author.

Microsoft Bookshelf [computer software]. (1987-1995). *The Columbia dictionary of quotations*. [CD-ROM]. Redmond, WA: Microsoft Corporation.

Minnesota State Lottery. (1996). *FY 1995 annual report: Income & expenses*. http://www.lottery.state.mn.us/incexp.html 12/2/96.

Nadler, L. B. (1985). The epidemiology of pathological gambling: Critique of existing research and alternative strategies. *Journal of Gambling Behavior*, *1*(1), 35-50.

Reilly, P., & Guida, F. (1990). *Pathological gambling prevalence in New Jersey.* (Report for the New Jersey Department of Higher Education). Trenton, NJ: Council on Compulsive Gambling of NJ, Inc.

Rosenthal, R. J. (1992). Pathological gambling. *Psychiatric Annals, 22* (2), 72-78.

Sommers, I. (1988). Pathological gambling: Estimating prevalence and group characteristics. *International Journal of the Addictions, 23*, 477-490.

Thompson, W. N. (1994). *Legalized gambling: A reference handbook*. Santa Barbara, CA: ABC-CLIO.

Thompson, W. N., & Gazel, R. C. (1996). *The monetary impacts of riverboat casino gambling in Illinois*. Unpublished manuscript, University of Las Vegas.

Thompson, W. N., Gazel, R. C. & Rickman, D. (1995). The economic impact of native American gaming in Wisconsin. *Wisconsin Policy Research Institute Report, 8*(3).

Volberg, R. A. (1993). *Establishing treatment services for problem and pathological gamblers in Manitoba*. (Report to the Manitoba Lotteries Foundation). Roaring Spring, PA: Gemini Research.

Volberg, R. A. (1994). The prevalence and demographics of pathological gamblers: Implications for public health. *American Journal of Public Health, 84* (2), 237-241.

Volberg, R. A. (1995a). *Gambling and problem gambling in Georgia*. (Report to the Georgia Department of Human Resources). Roaring Spring, PA: Gemini Research.

Volberg, R. A. (1995b). *Gambling and problem gambling in Iowa: A replication survey*. (Report to the Iowa Department of Human Services, Division of Mental Health and Developmental Disabilities, Gambling Treatment Program). Des Moines: Iowa Department of Human Services.

Volberg, R. A. (1996a). Prevalence studies of problem gambling in the United States. *Journal of Gambling Studies, 12* (12), 111-128.

Volberg, R. A. (1996b). *Wagering and problem wagering in Louisiana*. (Report to the Louisiana Economic Development & Gaming Corporation). Roaring Spring, PA: Gemini Research.

Volberg, R. A. (1996c). *Gambling and problem gambling in New York: A 10-year replication survey, 1986 to 1996.* (Report to the New York Council on Problem Gambling). Roaring Spring, PA: Gemini Research.

Volberg, R. A., & Abbott, M. W. (1994). Lifetime prevalence estimates of pathological gambling in New Zealand. *International Journal of Epidemiology, 23*(5), 976-983.

Volberg, R. A., Dickerson, M. G., Ladouceur, R., & Abbott, M. W. (1996). Prevalence studies and the development of services for problem gamblers and their families. *Journal of Gambling Studies, 12*(2), 215-231.

Volberg, R. A., & Silver, E. (1993). *Gambling and problem gambling in North Dakota.* (Report to the North Dakota Department of Human Services, Division of Mental Health.)

Volberg, R. A., & Steadman, H. J. (1992). Accurately depicting pathological gamblers: Policy and treatment implications. *Journal of Gambling Studies, 8*(4), 401-412.

Volberg, R. A., & Stuefen, R. M. (1991). *Gambling and probem gambling in South Dakota.* (Report to the Governor's Office of South Dakota.)

Walker, M. B. (1992). Treatment strategies for problem gambling. *The Psychology of Gambling*. New York: Pergamon Press.

Wallisch, L. S. (1992). *Gambling in Texas: 1992 Texas survey of adult gambling behavior.* Austin: Texas Commission on Alcohol and Drug Abuse.

Appendix A

Research data and sources used in development of Figures 1-4

Source*	Date	Location	Gambling Prevalence						Sample Size (N)
			Lifetime	Current	Lifetime Problem	Lifetime Pathological	Current Problem	Current Pathological	
Adolescent									
Lesieur, H. R. & Blume, S. B.	1987	New Jersey			5.7%				892
Wallisch,L. S.	1992	Texas			12.4%				924
Adult									
Culleton, R. P.	1985	Ohio	24%		2%				
Emerson, M., Laundergan, J. & Schaefer, J. 1994	1990	Minnesota	78%	83%			2%	1%	1251
Emerson, M., Laundergan, J. & Schaefer, J.	1994	Minnesota	83%	65%			3%	1%	1028
Reilly, P. & Guida, F.	1976	Nevada			2%	3%			
Reilly, P. & Guida, F.	1976	U.S.				1%			
Reilly, P. & Guida, F.	1990	New Jersey					6%	2%	858
Roberts, G.	1996	Iowa		68%					632
Sommers, I. 1988	1984	Delaware Valley (NJ and PA near Philadelphia)	31%		3%	.7%			

Source*	Date	Location	Gambling Prevalence						Sample Size (N)
			Lifetime	Current	Lifetime Problem	Lifetime Pathological	Current Problem	Current Pathological	
Volberg, R. A. & Steadman, H. J.	1986	New York	84%		3%	1%			1000
Volberg, R. A.	1988	Maryland	89%		2%	2%			750
Volberg, 1993a; Volberg, 1994	1988	New Jersey	92%		3%	1%			1000
Volberg, 1993a; Volberg, 1994	1989	Iowa	84%		2%	1%			750
Volberg, 1993a; Volberg 1994	1989	Massachusetts	90%		2%	2%			750
Volberg, 1993a; Volberg 1994	1990	California	89%		3%	1%			1250
Volberg, R. A. & Steufen, R.	1991	South Dakota	86%		2%	1%	1%	1%	1560
Volberg, R. A. 1993b	1992	Washington	91%		4%	2%	2%	1%	1502
Volberg, R. A. 1992	1992	Montana	86%		2%	1%	2%	1%	1020
Volberg, R. A. & Silver, 1993	1992	North Dakota	85%		2%	1%	1%	1%	1517
Volberg, R. A.	1994	Georgia	74%	65%	3%	2%	2%	1%	1550
Volberg, R. A.	1995	Iowa	88%		4%	2%			1500
Volberg, R. A.	1995	Louisiana	81%		4%	1%	3%	1%	1819
Volberg, R. A.	1996	New York	90%		5%	3%	2%	1%	
Wallisch, 1993	1992	Texas	76%		4%	1%	2%	1%	6308

*Sources may be secondary. The dates, when given, are those of the sources from where the information was obtained. The “date” column refers to the actual study.