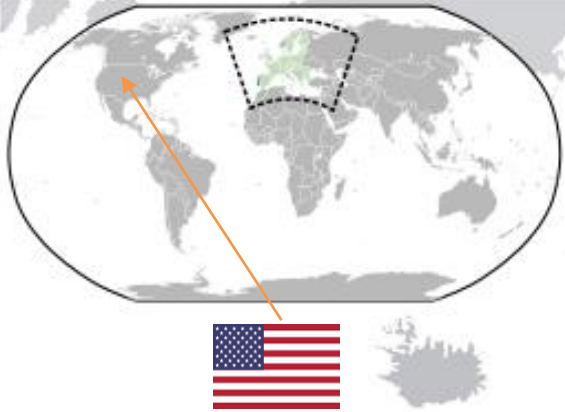

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THE PREVALENCE OF DISORDERED GAMBLING AMONG ADULTS IN OREGON: A REPLICATION STUDY

2006

Thomas L. Moore, PhD

This research was sponsored by the Oregon Gambling Addiction Treatment Foundation www.gamblingaddiction.org or info@gamblingaddiction.org.

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EXECUTIVE SUMMARY

This study was conducted by the Oregon Gambling Addiction Treatment Foundation as part of an ongoing effort to provide empirical evidence to policy and decision makers, program managers, and the interested public regarding the estimated prevalence of problem and pathological gambling among Oregonians. Over the past 10 years, the Foundation has commissioned 6 major studies including the first adult gambling prevalence study in 1997, the first adolescent gambling prevalence study in 1998, the first older adult gambling prevalence study and an adult gambling prevalence replication study in 2001, an etiological study of pathological gambling in 2002, and this adult gambling prevalence replication study.

Findings from the 1997 adult prevalence study estimated that 3.3% of the adult population were experiencing problems with their gambling during the previous 12 months. The 2001 replication found a statistically significant decrease in that overall rate to 2.3%. The adolescent study estimated that up to 15.3% of youth were experiencing problems with gambling and the older adult study estimated a problem gambling rate of 1.2%.

Highlights from this study include:

- Combined prevalence was 2.7%. This rate is statistically not different from the rate estimated in the 2001 study (2.3%), but, as with the 2001 study, the difference in the rates from the 1997 study (3.3%) were statistically significant.
- The estimated rate of problem gambling rose to 1.7% from 1.4% in 2001 and dropped from 1.9% in 1997. These differences were not statistically significant.
- The estimated rate of probable pathological gambling was 1.0% up from 0.9% in 2001 and down from 1.4% in 1997. These differences were not statistically significant.
- The change in reported lifetime ever gambled rate (82.9%) was higher than that reported in the 2001 study and lower than the findings from the 1997 study. Both differences were statistically significant.
- The rate in past year gambling activity (64.5%) was higher than that reported in 2001 and lower than the findings from the 1997 study. Both differences were statistically significant.
- Preferred gambling activity saw a shift away from casino gambling that had been previously reported as the primary choice with traditional lottery games moving from the second choice to the number one position.
- As with the other studies, males were more likely to report gambling as were younger adults.

This study confirms the finding previously reported by Volberg (2001) that the prevalence rate of disordered gambling is being kept in check. This is most likely due to ongoing aggressive “play responsible” media efforts by the Lottery and the largest prevention and treatment system in the nation.

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INTRODUCTION

This study of adult gambling behaviors in Oregon is the most recent in a series of five epidemiological studies commissioned by the Oregon Gambling Addiction Treatment Foundation (OGATF) since 1997. The purpose of these studies was to establish a foundation of empirical evidence estimating the rate of disordered gambling among Oregonians. The objective in making this information available to the public was to create an impetus for statewide, evidence-based strategic planning to better ensure adequate allocation of resources for prevention, identification, referral, and treatment of disordered gamblers and their families.

The first three of these studies were designed to establish baseline information regarding gambling behaviors for adult, adolescent, and older Oregonians. The first study, conducted in 1997, established an estimate of the prevalence of disordered gambling among adult Oregonians (Volberg, R., 1997). The second study, in 1998, estimated the prevalence of disordered gambling among Oregon youth between the ages of 13 and 17 years old (Carlson, M. & Moore, T., 1998). The third study estimated the prevalence of disordered gambling in older adult Oregonians (age 62 and over) and was conducted in 2000 (Moore, T., 2001). These three studies together completed the initial goal of the Foundation to create an empirical baseline of estimated rates of disordered gambling across a wide spectrum of ages.

In 2001, the first replication of the 1997 adult study was conducted to document any changes in the prevalence of disordered gambling and gambling behavior in the adult population since publication of that study. The timing of this current study was driven by the

fact that the State Lottery was adding line games[1] to the existing video lottery terminals (VLTs) distributed throughout the state that were previously only offering video poker games.

BACKGROUND

Gambling Opportunities

Oregon, like most states, has dealt with illegal and gray gambling[2] since statehood was achieved in 1859. In the 1930's, the state passed legislation that allowed for pari-mutuel wagering and in 1984 initiated the Oregon Lottery®. Within the Lottery's initial purview, a variety of traditional lottery games were allowed, such as regular sweepstakes (lotto) drawings and scratch-its[SM] tickets. Over the years following the introduction of the Oregon Lottery®, the state allowed for the expansion of the games available, which came to include Megabucks[SM] and Powerball®[3]; several varieties of scratch tickets and breakopens (pull-tabs); and the nation's first state-sponsored sports action lottery. September of 1991 ushered in the first Keno machines available for play followed shortly by approval of VLTs[4] that offered several varieties of video poker. In addition to the growth of the Oregon Lottery®, there was also another effort in full swing to establish Indian Gaming Centers (IGC) during the early 90's, resulting from the 1987 U.S. Supreme Court decision in California v. Cabazon Band of Mission Indians, and its influence would soon be felt in Oregon.

With the passing of the Indian Gaming Regulatory Act in 1988, Congress provided a statutory basis for the regulation of Indian gaming requiring tribes to negotiate a compact with their respective state in order to offer gaming opportunities. This Act enabled Tribes to

[1] "Line games" refers to the electronic version of mechanical slot machines where winning is based on "lining up" a series of symbols on the machine.
[2] Illegal gambling that is unofficially allowed to continue such as slot machines at private clubs.
[3] The Lottery has also introduced daily drawings as the games' popularity has risen and fallen.

introduce any game otherwise legal, or regulated, in the state (National Gaming Impact Study Commission [NGISC], 1999). By 1992, these compacts between the State of Oregon and sovereign Indian Tribes allowed for the establishment of the first[5] IGC to be opened in Oregon. The initial IGC was followed by eight additional IGCs, the last of which opened in 2004.

The profits accrued from these full scale casinos are substantial, and although IGCs are not required to provide financial support to the state or local governments, they are required by compact to have community funds that provide economic support to a variety of local causes. The largest of these is the Spirit Mountain Community Fund[6] that has been very active within the several contiguous counties surrounding the center and contributes 6% of the profits from Spirit Mountain Casino to organizations in Western Oregon, as well as providing substantial support for statewide scientific efforts.

At the time this study was conducted, Oregonians continued to have a variety of gambling opportunities in which they could participate. These activities ranged from charitable bingo to the full scale casinos. Along with the nine IGCs there were over 800 bars/taverns and 2,085 total retailers with approximately 10,894 VLTs throughout the state, approximately 1,446 traditional lottery retailer locations, and numerous public card rooms and bingo halls. Additionally, there were several off-track wagering facilities available, but live horse racing had been greatly reduced in recent years. Many of these venues were also available in the four states (California, Idaho, Nevada, and Washington) that are contiguous to Oregon. Line games were introduced in the state on the existing Lottery VLTs in 2005.

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[4] It was estimated that approximately 10,000 illegal ("gray") video slot and poker machines were in use in the state. Part of the effort to legalize the VLTs was in conjunction with efforts to eliminate these gray machines.
[5] This IGC was originally named "Cow Creek," then changed its name to Seven Feathers, and was located in a rural area of the state near Canyonville.

As in many states, revenues from gambling are big business for Oregon and Lottery profits are increasing, dramatically at times, over the years. In 1995 the Lottery revenue was approximately $32.3 million and, at the time of this report, the forecasted annual sales for all gambling products in FY 2006 were $1.07 billion. These sales are forecasted to generate a profit of over $475 million and at the time of this report revenues from the Lottery line games were surpassing expectations.

Originally, the Lottery was established by a voter-approved initiative dedicated to support economic development in the state. Subsequently, voters passed a legislative referral in 1995 that disbursed substantial Lottery revenues to public schools and education. In 1998 an initiative was approved to distribute some Oregon Lottery® revenue to the restoration of state parks and salmon populations.

A directive assigning a small portion of the Lottery's proceeds to provide statewide treatment for disordered gambling was attached to the 1991 legislation that authorized video poker on VLTs.[7] At the time of this report, the annual budget for the Problem Gambling Services (treatment and prevention) within the Oregon Department of Human Services was approximately $4.7 million from the Lottery's net proceeds. Additionally, the Lottery also actively supports the state's gambling treatment programs through regular TV advertisements, placards on VLTs, internet banners, and messages on ticket stock regarding the effectiveness of treatment and how to access care. At the time of this report the Lottery was allocating approximately $700,000 to this effort. The Lottery has been very active in voluntarily

[6] Sprit Mountain IGC is owned by the Confederated Tribes of the Grand Rhonde.
[7] This was originally set at 3% of VLT proceeds. Due to the unintended results of a legal challenge to the introduction of VLTs this funding had to be moved from the Lottery revenues to the general fund. In 1999, legislative action successfully reinstituted treatment as 1% of the total lottery proceeds. The reader interested in the gambling treatment within the state is invited to see Moore, T., 2000.

supporting scientific research efforts regarding disordered gambling in the state, and it is the only gambling venue that directly supports the state government financially.

Lottery gambling, except for VLTs, is available to persons 18 years and older in the state. VLTs are required by law to be placed in bars and taverns where access to play is restricted to those 21 years and older. IGCs are required by the compacts to restrict play to individuals 21 years and older for all gaming activity. Another large source of legalized gambling in the state is charitable gambling including bingo, raffles, and "casino nights." By law, gambling in these latter venues was restricted to those 18 years and older, but this mandate was reportedly not strictly adhered to. (Carlson, M., and Moore, T., 1998)

Seasonal pari-mutuel gaming is organized by the Oregon Racing Commission that was established in 1933 as part of the Pari-Mutuel Wagering Act. As of 2003, Oregon residents age 18 and older were permitted to place wagers at most race venues (live or off-track); however, some venues have chosen to keep their age limit at 21 (ORC, 2003). Until recently, both live horse and dog racing tracks were available in Oregon, but over the past several years horse and dog racing has experienced a marked decline in popularity with the only dog track in Oregon closing in 2005 and the last remaining horse track operating live racing on a limited schedule.

Within the national political community, there continues to be an ebb and flow of support for gambling as a generator of revenues to offset a given state's operational budget (Kindt, 2003). There has been lively and heated debate on the subject, with several attempts made within the legislatures to limit or eliminate state supported gambling. There are several anti-gambling platforms ranging from viewing it as a morality issue to simple concerns

stemming from the perception that advertising themes promote “luck over hard work as an avenue to success” (Clotfelter et. al., 1999).

Treatment for Disordered Gambling

The 1991 Oregon legislation that authorized the introduction of VLTs also called for the recognition of problem and pathological gambling, for which the need of treatment programs was recognized and funded. In 1993, several pilot treatment programs were initiated throughout the state.

In 1995, all the state-sponsored gambling treatment programs were consolidated. From July 1, 1995 through June 30, 2005, there had been over 10,500 disordered gambler admissions to the programs with an additional 2002 family member enrollments into family treatment programs components. There were 29 active treatment programs run by 25 agencies. Oregon has been a leader nationally in the development and operation of the gambling treatment programs (Moore T., Marotta, J., 2005).

Definitions of Disordered Gambling

Estimating prevalence of problem and pathological gambling is a complex task that rests on a myriad of operational and conceptual issues. One of the more confounding issues regarding the interpretation of the findings from an epidemiological survey of disordered gambling is the variety of definitions that have seen common use in the popular and scientific gambling literature. The following discussion is provided as background for the terminology used in this report.

For most individuals, gambling is a social activity enjoyed in moderation. *Social gambling* is defined by the American Psychiatric Association (APA) as “gambling [that] typically occurs with friends or colleagues and lasts for a limited amount of time with

predetermined acceptable losses" (APA, 2000, p.673). However, for some people gambling becomes a compulsion, an activity that is carried out in the face of negative consequences. The APA then defines *pathological gambling* as a "persistent and recurrent maladaptive gambling behavior that disrupts personal, family, or vocational pursuits" (APA, 2000, p. 671).

This classification requires individuals to endorse a minimum of five of the ten criteria for the essential features for a clinical diagnosis of pathological gambling. This classification places pathological gambling as an *impulse control disorder* within the same phenotype that includes intermittent explosive disorder, kleptomania, pyromania, and trichotillomania.

Table 1. DSM-IV-TR Diagnostic Criterion for Pathological Gambling[8]

PREOCCUPATION	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)
TOLERANCE	Needs to gamble with increasing amounts of money in order to achieve the desired excitement
WITHDRAWAL	Restlessness or irritability when attempting to cut down or stop gambling
ESCAPE	Gambling as a way of escaping from problems or relieving dysphoric mood (e.g. feelings of helplessness, guilt, anxiety or depression)
CHASING	After losing money gambling, often return another day in order to get even ("chasing one's losses")
LYING	Lies to family members, therapists or others to conceal the extent of involvement with gambling
LOSS OF CONTROL	Made repeated unsuccessful efforts to control, cut back or stop gambling
ILLEGAL ACTS	Committed illegal acts, such as forgery, fraud, theft or embezzlement, in order to finance gambling
RISKED SIGNIFICANT RELATIONSHIP	Jeopardized or lost a significant relationship, job, educational or career opportunity because of gambling
BAILOUT	Reliance on others to provide money to relieve a desperate financial situation caused by gambling

Sometimes confusing the discussion of disordered gambling has been the advent of several terms by epidemiologists attempting to measure the prevalence of gambling in the general population through the use of non-clinical screening instruments. Terms that have found their way into the gambling prevalence literature included "at-risk gambling," "problem gambling," "probable

pathological gambling," "compulsive gambling," and "disordered gambling" (National Research Council, 1999).

Today, there appears to have emerged a continuum of opinions among treatment and research professionals regarding the classification of pathological gambling. Those who tend to favor pathological gambling as similar to substance dependence also view problem gambling in the same frame as substance abuse or addiction. Conversely, when pathological gambling is viewed as an impulse control disorder, problem gambling then emerges with its own classification.[9]

Lesieur and Rosenthal (1991)[10] used the term problem gambling to denote individuals who fell short of the diagnostic criteria for pathological gambling but were assumed to be in a preliminary stage of a progressive disorder. This definition presumes that disordered gambling, which, if left untreated, would eventually escalate to the point of pathological gambling. Many professionals, favoring the addiction model, have embraced this theory. Nonetheless, the National Research Council, in one of the most definitive studies to date regarding disordered gambling, found this unsubstantiated in research. "Although this increasing relationship is often asserted or implied in the literature, neither an increasing association nor a progressive gambling behavior continuum is supported by available research" (National Research Council, 1999. p. 19).

Several studies of the prevalence of adolescent gambling further reinforce the idea that problem gambling is not necessarily a precursor to pathological gambling. Of interest in this discussion was the rationale for the inclusion of the classification of in-transition gambling.

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[8] APA, 2000, p. 674
[9] The APA does not define problem gambling as a disorder.
[10] Researchers and clinicians.

The study authors found that the high prevalence rates of problem gambling among adolescents did not appear to progress to pathological gambling in the adult population. Therefore, their definition of problem gambling included the flexibility that the individual may be either moving toward problem gambling, or may be moving away from problem gambling. (Shaffer and Hall, 1996; Stinchfield and Winters, 1998; Westphal, Rush, Stevens, Horswell & Johnson, 1998; Carlson and Moore, 1998)

In an effort to overcome these definitional conflicts, Shaffer, Hall and Vander Bilt (1997, p. 21.) proposed a tri-level classification of disordered gambling. This system incorporated terminology that was inclusive of both the addiction and mental health models. They included non-gambling and non-problem (social) gambling[11] as the first level, gamblers with sub-clinical problems[12] as the second, and pathological gambling as the third level.

In order to achieve consistency with the earlier prevalence studies conducted in Oregon, this effort employed the following definitions:

> *Non-gambler*: Persons responding to the survey that indicated no past year gambling activity.
>
> *Gambler:* Persons responding to the survey that indicated they had gambled within the past year, but did so without negative consequences or with consequences that were sub-clinical.
>
> *Problem gambler:* Persons responding to the survey that indicated they had gambled and their score on the standardized instrument[13] indicated they had experienced problems associated with their gambling but the level of problems was yet sub-clinical (Lesieur and Rosenthal (1991)).
>
> *Probable pathological gambler:* Persons responding to the survey who achieved scores commensurate with a classification of pathological gambling.[14] Employment of this term is to "distinguish the results of

[11] Gambling that caused no problems.
[12] e.g., a score of 2 to 4 points on the DSM-IV screen.
[13] The instrument and the scoring are discussed in detail below. This classification includes individuals that attained a score of 3 or 4 points, of 20 possible points, on the South Oaks Gambling Scale.
[14] South Oaks Gambling Scale score of 5 points or greater.

> prevalence surveys, where classification is based on responses to questions in a telephone interview from a clinical diagnosis" (Volberg, 1997. p. 3.)

The term, *disordered gambling*, for this study, then included individuals both classified as problem and probable pathological gamblers.

DESIGN AND METHODOLOGY

The design and methodology for the replication study was consistent with the initial baseline study conducted in 1997 and the replication study conducted in 2001, and was based on a randomized telephone survey of 1554 adults (18 years and over) residing in Oregon. The data was collected during mid-2005 just as the Lottery was beginning to enable the VLTs to run line games.

The survey consisted of four sections addressing: 1) gambling behaviors; 2) demographic characteristics; 3) South Oaks Gambling Screen (SOGS); and, 4) National Opinion Research Center (NORC) DSM Screen for Gambling Problems (NODS). The positions of the SOGS and NODS in the interview were rotated to ensure no question order bias existed.

Item Nonresponse

As with nearly all surveys of this type, it is inevitable that some respondents either refuse to answer some questions or indicate that they do not know the answer to other questions. Although the level of non-response to critical items such as the SOGS and NODS was not problematic, some questions, most notably those relating to income experienced a higher rate of nonresponse. In lieu of attempting imputing or weighting of data elements with missing responses, this report bases all calculations on actual responses for all categories except for the estimations of prevalence discussed below.

FINDINGS

The Sample

The sample consisted of 1,554 completed interviews. As happened with the 1997 study, the sample was somewhat under-representative of the population between the ages of 18 and 44. (Table 2) Weighting the sample to more closely align the prevalence estimates by age with the population had a slight effect of increasing the rates of lifetime gambling, past year gambling, and weekly gambling as well as very slightly increasing the estimates of disordered gambling due to the very small number of disordered gamblers identified. All other statistics reported were not weighted.

Table 2. Sample by Age Range (In Percent) (n=1505)

Age (years)	All	Male	Female
18-24	6.7	8.8	4.8
25-34	13.6	14.3	13.0
35-44	14.5	15.4	13.6
45-54	25.5	24.1	26.8
55-64	18.8	18.0	19.6
65-74	12.2	11.4	13.0
Over 75	8.6	8.0	9.2

Estimates of Disordered Gambling

Utilizing a weighted product as discussed above, the probable pathological gambler prevalence estimate was 1.0% (±0.4%) as determined by a past year SOGS score of 5 points or greater. The past year estimate for problem gambling, as determined by a SOGS score of 3 or 4 points, was 1.7% (±0.5%) and the combined estimate for disordered gambling was 2.7% (±0.7%). Those under the age of 45 were only slightly more likely to score as probable pathological gamblers while that same age group was twice as likely to score as problem gamblers. This finding is consistent with other research that demonstrates as age increases the likelihood of risky behavior associated with problem gambling declines.

The lifetime estimated rate for pathological gambling was 1.9% and that for problem gambling was 2.4% with a combined estimate of disordered gambling of 4.3. Lifetime estimates are a very coarse measure as they do not account for all of the endorsed criteria occurring during the same 12-month period.

Age and Gender

Of the 1554 individuals responding to the survey, 47.4 % were male and 52.6 % were female. The average age overall was 50.4 years. Females were older (51.6 years)[15] than males (49.0 years). (Table 3) Forty-nine of the respondents refused to give their age, of these none were classified as disordered gamblers.

Table 3. Age and Gender
(n=1505)

	Percent of Sample	Age (Years)
All	100.0	50.4
Males	47.4	49.0
Females	52.6	51.6

Race and Ethnicity

Approximately 7.7% of the sample identified themselves as a racial or ethnic minority. As has been the case with the four previous gambling prevalence studies, minorities were under-represented in the sample when compared to the 2004 American Community Survey which indicates a 12.6% minority population (American Community Survey, 2004). Also as found in previous Oregon studies, non-Whites appeared to be underrepresented as disordered gamblers (0.8%) due to the very small number of individuals in the non-White groups. (Table

Table 4. Race/Ethnicity by Gender
(In Percent)
(n=1530)

Category	All	Males	Females
White (non-Hispanic)	92.3	91.9	92.7
Native American	2.3	2.2	2.4
Hispanic	1.5	1.3	1.7
Black (non-Hispanic)	0.9	0.8	1.0
Southeast Asian	0.1	0.1	0.1
Alaskan Native	0.1	0.0	0.2
Asian or Pacific Islander	1.1	1.7	0.6
Other	1.7	2.0	1.3

4) This low prevalence of minority disordered gamblers is in direct contrast with studies other than prevalence (e.g., recent qualitative study in Oregon found that minority populations most likely have much higher prevalence rates than Whites (Moore, T., Jadlos, T., Carlson, M., 2000).

Education

Of those responding to the highest level of education attained question, 4.1% indicated elementary or some high school, 28.1% indicated they had completed high school or received a General Education Diploma (GED), 39.0% had completed some college, 14.3% had completed college, and approximately 14.5% had completed at least some graduate studies. (Table 5) Females were more[16] likely to report attending some college or receiving their degree.

Table 5. Education
(In Percent)
(n=1538)

	All	Males	Females
Elementary/Some HS	4.1	4.4	3.8
High School/GED	28.1	28.1	28.1
Some College	39.0	35.7	42.0
College Graduate	14.3	16.4	12.3
Graduate Studies	14.5	15.4	13.7

Marital Status

Approximately 15.6% of the sample indicated they were never married, 58.9% indicated being married or co-habitating with a partner, 14.7% were divorced, 2.0% separated, and approximately 8.9% were widowed. (Table 6) There were no significant differences between the marital status strata and likelihood of being classified as a disordered gambler; nonetheless, individuals reporting being divorced or separated were slightly more likely, but not significantly, to be classified as disordered gamblers than those who were married or living with a partner. Gender differences in marital status indicated that women were more

[15] t test $p < 0.1$
[16] chi square $p < .01$

likely to be widowed or divorced and men were more likely to never be married than women.[17] This latter finding is consistent with other studies.

Table 6. Marital Status (In Percent) (n=1527)

	All	Males	Females
Never Married	15.6	21.1	10.6
Married/Co-habitating	58.9	62.1	55.9
Divorced	14.7	12.0	17.1
Separated	2.0	1.4	2.5
Widowed	8.9	3.4	13.9

Household Size

The average number of adults living in the household was approximately two individuals. (Table 7) Interestingly, overall, females were more likely to live in smaller households than males.[18] Disordered gamblers were more likely to live in households with more persons 18 and over than the general sample.[19] As would be expected, as age increased, the number of individuals 18 and over living in the household decreased.

Table 7. Household Size (n=1527)

	All	Males	Females
Number of Adults in Household	2.0	2.0	1.9

Employment Status

Approximately 47.5% of the respondents reported being employed full-time, 9.8% reported part-time employment, and 2.4% indicated they were students. Approximately 10.2% indicated they were homemakers, 2.5% were disabled, 24.8% were retired, and 2.9% indicated they were unemployed. (Table 8a) Males were more likely to be working,

Table 8a. Employment Status (In Percent) (n=1527)

	All	Males	Females
Full-Time	47.5	58.3	37.8
Part-Time	9.8	6.1	13.2
Student	2.4	1.8	2.9
Home Maker	10.2	2.9	16.6
Disabled	2.5	3.2	1.9
Retired	24.8	25.5	24.2
Unemployed	2.9	2.2	3.5

[17] chi square $p < .01$ for both statistics
[18] t test $p < .05$
[19] t test $p < .05$

Table 8b. Field of Employment and Gender
(In Percent)
(n=982)

Category	All	Males	Females	Category	All	Males	Females
Professional/Technical	37.1	36.9	37.2	**Retail**	4.0	4.1	3.8
Other Service	13.3	9.6	17.3	**Craftsman**	4.0	6.7	1.1
Manager/Proprietor	10.1	8.8	11.4	**Farm AG**	1.9	2.9	0.8
Laborer	8.5	13.0	3.6	**Semi-Skilled**	1.6	2.8	0.4
Clerical	7.0	0.8	13.7	**Other**	6.9	8.3	5.6
Sales	5.6	6.1	5.1				

and more likely to be working at full-time jobs than females.[20] At the macro level of employment (full-time and part-time) compared with all other categories there was a statistically significant[21] difference in the portion of disordered gamblers, with a greater likelihood of disordered gambling for individuals who work. (Table 8b)

Of those who reported working at some point in their lives, the largest group of survey participants reported working in professional and technical fields (37.1%). This was followed by the service sector (29.9%) including clerical, sales, retail, and other service, manager or proprietor (10.1%), laborer (8.5%), craftsman (4.0%), semi-skilled (1.6%), farm and agriculture (1.9%), and other (6.9%).

Males were more likely than females to work in the labor field, whereas females were more likely to work in the clerical field.[22] Males and females showed no proportional difference in the professional/technical or managerial/proprietor fields. There was a difference between individuals in sales and in individuals in the professional/technical field,

[20] Both statistics - chi square $p < .01$
[21] chi square $< .05$

[22] chi square $p < .05$

with the latter having a higher likelihood[23] of disordered gambling. Nonetheless, no significant difference in the representation of disordered gamblers was found when comparing the combined professional and manager groups with all other groups.

Income

Approximately 20.9% of those responding to the question regarding annual income had an estimated annual household income of $25,000 or less a year. A little over 30.2% indicated an annual household income of between $25,001 and $50,000, 21.9% between $50,001 and $75,000, 13.9% between $75,001 and $100,000, and 13.0% reported an estimated annual household income of over $100,001. (Table 9) Disordered gamblers were evenly distributed among these income groups and no significant differences were found between the income strata. Females were more likely than males to report an estimate annual household income of $35,000 or less and males were significantly more likely to report a household income of greater than $35,000 than females. [24]

Table 9. Income and Gender (In Percent) (n=1149)

Income	All	Males	Females
$ 0 - 15,000	10.5	7.4	13.6
$ 15,001-25,000	10.4	8.6	12.2
$25,001-35,000	11.1	9.7	12.5
$ 35,001-50,000	19.1	19.6	18.6
$ 50,001-75,000	21.9	23.5	20.4
$75,001-$100,000	13.9	15.7	12.2
$100,001-125,000	6.7	8.3	5.2
Over $125,000	6.3	7.2	5.3

[23] chi square $p < .05$
[24] chi square $p < .01$ for both statistics

Religious Preference

Nearly 47% indicated their religious preference was Protestant, 13.2% Catholic, 1.3% Jewish, 1.2% Buddhist, 0.2% Muslim, and 37.1% indicated other religious preferences. (Table 10) Females were significantly[25] more likely to report a protestant religious preference than males. There was no significant difference in the representation of disordered gamblers among the categories of religious preference.

Table 10. Religious Preference and Gender
(n=1436)

Preference	All	Males	Females
Protestant	46.9	43.3	50.1
Catholic	13.2	13.1	13.3
Jewish	1.3	1.9	0.8
Buddhist	1.2	1.5	0.9
Muslim	0.2	0.3	0.1
Other	37.1	39.9	34.7

Location Density

Approximately 55.7% (n=866) of the respondents were from counties considered urban (Clackamas, Lane, Marion, Multnomah, and Washington) while the remainder were from rural counties. There was no statistical difference in the distribution of disordered gamblers between the rural and urban samples.

Gambling Behaviors and Preferences

Respondents were asked a series of questions regarding 14 types of gambling opportunities in the state. The question series started with a question to determine if the respondent had ever participated in the particular gambling venue. If the respondent endorsed this question, a follow up question was asked to determine if they had participated within the past year. If the second question was also affirmed, the respondents were then asked if they participated in the game at least once a week, number of days per month, and finally, an estimate of the amount spent in a typical month. Respondents were also asked what their

[25] chi square $p < .01$

preferred gambling activity was as well as the location where they usually engaged in that activity.

Lifetime Gambling

The weighed lifetime gambling rate was 82.9%. Males (83.9%) were more likely[27] to report lifetime gambling than females (75.5%).

Table 11. Lifetime Gambling Activity[26] (In Percent)
(n=1148)

Age (years)	All	Male	Female
18-24	7.5	9.4	5.5
25-34	15.1	15.5	14.8
35-44	15.5	17.1	14.1
45-54	26.8	25.2	28.3
55-64	19.0	16.9	21.2
65-74	9.8	9.6	10.0
75 >	6.3	6.4	6.2

Preferred Lifetime Gambling Activity

Lottery games (traditional lottery games 23.2% and lottery video poker 3.9%) were reported by 27.1% of those responding as a favored gambling activity. This was followed very closely by casino gambling (casino - not video poker 15.8% and casino video poker 3.3%) reported at 19.1% and by cards (15.0%), non-casino slot machines (7.6%),[28] organized sports games other than the Lottery's Sports Action game (3.0%), and games of skill (2.6%). All other types of gambling activity each accounted for a small portion of the distribution of preferences. (Table 12a)

[26] The percentages noted in this table are based on respondents reporting both an age and any lifetime gambling which was 72.4% of the sample.
[27] chi square $p < .01$
[28] Oregon had an extensive network of "gray" machines estimated by some to be in excess of 10,000 machines before they became operationally illegal with the introduction of Lottery video poker machines.

Overall, there was a significant gender difference in the proportion of males or females reporting preference for a given game. Females reported their preferred gambling activity to be bingo in a non-Indian bingo hall more frequently[29] than males. Additionally, females also reported a preference for traditional lottery games (Scratch-Its[SM], Tears Offs, and Keno) more frequently[30] than males. Males tended to indicate a preference for card games outside of the casino more often[31] when compared to females, and males responded more frequently[32] than females that games of skill played for money (i.e. bowling, golf, or pool) were their preferred gambling activity. Responses by females also indicated a greater likelihood[33] to prefer playing slot machines not at a casino or IGC when compared to responses by males. Lastly, males were more likely to prefer gambling using the stock or commodities market when compared to females.[34] (Table 12b)

Table 12a. Preferred Gambling Activity - Lifetime Gambling (In Percent)
(n=1090)

Activity	%	Activity	%
Traditional Lottery	23.2	**Skill Games**	2.6
Casino-not Video Poker	15.8	**Animals**	1.6
Non-Casino Cards	15.0	**Lottery Line Games**	1.1
Non-Casino Slots	7.6	**Stock/Commodities**	1.0
Lottery Video Poker	3.9	**Non-Casino Dice**	0.8
Non-Casino Bingo	3.9	**Phone/Computer**	0.1
Casino Video Poker	3.3	**Other**	2.5
Sports Games	3.0	**No Favorite**	11.8
Charitable	2.8		

[29] chi square $p < .01$
[30] chi square $p < .05$
[31] chi square $p < .01$
[32] chi square $p < .01$
[33] chi square $p < .01$
[34] chi square $p < .01$

Table 12b. Preferred Gambling Activity by Gender (In Percent)

Activity	Males	Females	Activity	Males	Females
Traditional Lottery	19.7	26.8	**Skill Games**	4.3	0.9
Casino-not Video Poker	14.5	17.1	**Animals**	1.6	1.5
Non-Casino Cards	19.9	10.0	**Lottery Line Games**	0.5	1.7
Non-Casino Slots	5.2	10.0	**Stock/Commodities**	1.4	0.6
Lottery Video Poker	3.8	3.9	**Non-Casino Dice**	1.1	0.6
Non-Casino Bingo	1.6	6.1	**Phone/Computer**	0.2	0
Casino Video Poker	3.1	3.5	**Other**	2.7	2.2
Sports Games	5.2	0.7	**No Favorite**	12.7	11.0
Charitable	2.4	3.3			

Distance Traveled to Favorite Gambling Activity

Slightly over 58% of those responding to the question regarding the distance traveled to participate in their favorite gambling activity indicated up to 15 miles while 24.8% indicated traveling over 60 miles. Approximately 55.6% of those classified as past year disordered gamblers reporting traveling 15 or less miles. There were no statistically significant differences in the representation of males to females in each of these mileage categories. (Table 13)

Table 13. Distance Traveled to Favorite Gambling Activity (In Percent) (n=1055)

	0-15 Miles			16-30 Miles			31-45 Miles			46-60 Miles			Over 60 Miles		
Age (years)	**All**	**M**	**F**	**All**	**M**	**F**	**All**	**M**	**F**	**All**	**M**	**F**	**All**	**M**	**F**
18-24	11.0	12.9	9.0	9.6	16.2	2.8	0	0	0	0	0	0	2.1	2.8	1.6
25-34	17.6	17.9	17.3	16.4	21.6	11.1	5.4	5.9	5.0	18.8	27.8	9.1	10.1	8.3	11.6
35-44	14.5	15.4	13.6	21.9	29.7	13.9	10.8	11.8	10.0	11.6	8.3	15.2	21.4	26.6	17.1
45-54	26.6	24.5	28.9	23.3	16.2	30.6	29.7	41.2	20.0	29.0	22.2	36.4	29.0	29.4	28.7
55-64	16.8	16.3	17.3	13.7	5.4	22.2	40.5	29.4	50.0	26.1	30.6	21.2	21.8	15.6	27.1
65-74	8.4	7.2	9.6	12.3	10.8	13.9	10.8	11.8	10.0	10.1	11.1	9.1	8.8	10.1	7.8
75 >	5.2	6.0	4.3	2.7	0	5.6	2.7	0	5.0	4.3	0	9.1	6.7	7.3	6.2

Past Year Gambling Activity

The weighted rate of past year gamblers was 64.5%. Males were more likely[35] to report past year gambling than females. Nearly 48% of those who reported past year gambling reported participating in only one activity. The average number of gambling activities played was 2.5. Males were more likely[36] to report participating in a greater variety of activities than females. Those identified as probable pathological gamblers reported playing an average 4.2 games.

Table 14a. Past Year Gambling – Any Activity(In Percent)
(n=890)

Age (years)	All	Male	Female
18-24	8.2	10.2	6.2
25-34	16.5	17.5	15.4
35-44	14.6	16.2	13.0
45-54	27.5	25.9	29.1
55-64	18.8	15.3	22.5
65-74	9.2	9.3	9.0
75 >	5.3	5.8	4.7

Weekly gambling (gambling at least on a weekly basis) on any activity was reported by 20.9% of those who reported any past year gambling. Males reporting weekly gambling represented 23.5% of the males who were past year gamblers and females reporting weekly gambling represented 18.0% of the females who reported past year gambling. Males were more likely[37] to be weekly gamblers.

Table 14b. Weekly Gambling (In Percent)
(N=186)

Age (years)	All	Males	Females
18-24	7.0	6.4	7.9
25-34	17.8	18.3	17.1
35-44	7.6	10.1	3.9
45-54	27.6	27.5	27.6
55-64	22.2	18.3	27.6
65-74	12.4	13.8	10.5
75 <	5.4	5.5	5.3

[35] chi square $p < .01$
[36] t test $p < .01$

Traditional Lottery Gambling Activity

Nearly 68% of those reporting past year gambling indicated they had engaged in traditional lottery (not video poker) games in the past year. Approximately 63.8% of males who gambled in the past year reported engaging in these activities and 72.1% of females so reported. Females were more likely[39] to gamble with this activity than males. This difference was not apparent for individuals indicating weekly gambling for this activity. An average expenditure[40] of $12.20 was reported overall with no significant differences between males and females. (Table 15a)

Of past year gamblers, individuals reporting past year traditional lottery activity were younger (47.8 years) than those not

Table 15a. Traditional Lottery Activity

Age (years)	Past Year (%) (n=604)	Gambled Weekly (%) n=124)	Monthly Amount[38] ($) (n=604)
All	66.6	13.8	12.2
Males	62.2	14.9	13.5
Females	71.4	12.6	10.9

Table 15b. Past Year Gambling – Traditional Lottery Activity (In Percent)

Age (years)	All (n=604)	Male (n=296)	Female (n=308)
18-24	7.8	9.0	6.6
25-34	16.4	16.3	16.4
35-44	16.9	18.1	15.7
45-54	29.0	27.1	30.8
55-64	17.7	16.0	19.3
65-74	8.9	9.4	8.5
75 >	3.4	4.2	2.6

Table 15c. Weekly Gambling – Traditional Lottery Activity (In Percent)

Age (years)	All (n=124)	Males (n=69)	Females (n=55)
18-24	4.9	2.9	7.4
25-34	16.3	15.9	16.7
35-44	7.3	10.1	3.7
45-54	30.9	31.9	29.6
55-64	23.6	23.2	24.1
65-74	13.8	14.5	13.0
75 >	3.3	1.4	5.6

[37] chi square $p < .05$
[38] The average monthly expenditure is a coarse estimate as respondents were provided expenditure ranges.
[39] chi square $p < .01$
[40] Monthly expenditure in a "typical month."

reporting this activity (50.0 years), but this difference was not significant. (Table 15b) .

Of those reporting gambling in the past year on traditional lottery games, 91.9% indicated a preferred traditional Lottery activity. Megabucks[SM] was the most popular, followed closely by Scratch-It games. Females were more likely[41] to prefer Scratch-It games and males more likely[42] to prefer Megabucks[SM] and Powerball®. (Table 15d)

Table 15d. Preferred Traditional Lottery Activities (In Percent)

Activity	All (n=555)	Males (n=268)	Females (n=287)
Megabucks[SM]	40.5	45.1	36.2
Scratch-Its[SM]	33.2	23.9	41.8
Powerball®	15.7	18.7	12.9
Keno	5.9	8.6	3.5
Win for Life[SM]	0.9	1.1	0.7
Breakopens	0.2	0	0.3
Pick 4[SM]	0.2	0	0.3
Other	3.4	2.6	4.2

Lottery Video Poker

Of those reporting past year gambling, 29.8% indicated participating in Lottery video poker. Males were more likely[43] to report past year Lottery video poker playing than females. Males who participated in Lottery video poker were no more likely to report weekly activity than females. The gender differences in the monthly amount spent on video poker did not reach significance, although males did report spending more each month. (Table 16a) Individuals reporting past year video poker activity were younger (45.6 years)[44] than those who did not indicate this activity (49.7 years). (Tables 16b and 16c)

Table 16a. Lottery Video Poker Activity (In Percent)

Gender	Past Year (Percent) (n=265)	Gambled Weekly (Percent) (n=33)	Monthly Amount ($) (n=253)
All	29.8	3.7	60.10
Males	33.0	4.5	71.80
Females	26.2	2.8	44.90

[41] chi square $p < .05$
[42] chi square $p < .05$
[43] chi square $p < .05$
[44] t test $p < .01$

Approximately 52.3% of those who played video lottery poker indicated they did so in a tavern or bar, followed by 26.3% who indicated they played in a restaurant or lounge, 4.6% in a deli, 3.8% in a bowling alley, and 13.0% indicated playing this activity at other locations. Males were more likely[45] to identify their preferred location as a tavern or bar. (Table 16d.)

Eighty-one respondents reported playing Oregon Lottery® line games. The average monthly expenditure was $23.70 with no significant difference between males and females.

Table 16b. Past Year Gambling – Lottery Video Poker (In Percent)
(n=265)

Age (years)	All	Male	Female
18-24	7.7	9.4	5.4
25-34	24.9	24.8	25.0
35-44	15.7	16.8	14.3
45-54	25.7	24.2	27.6
55-64	13.4	10.1	17.9
65-74	9.6	10.1	8.9
75 >	3.1	4.7	0.9

Table 16c. Weekly Gambling– Lottery Video Poker (In Percent)
(n=33)

Age (years)	All	Males	Females
18-24	3.0	4.8	0.0
25-34	9.1	9.5	8.3
35-44	12.1	9.5	16.7
45-54	30.3	28.6	33.3
55-64	24.2	23.8	25.0
65-74	21.2	23.8	16.7
75 >	0.0	0.0	0.0

Table 16d. Preferred Lottery Video Poker Location (In Percent)
(N=262)

Location	All	Males	Females
Tavern/Bar	52.3	60.5	40.9
Restaurant/Lounge	26.3	23.7	30.0
Deli	4.6	2.6	7.3
Bowling Alley	3.8	2.6	5.5
Other	13.0	10.6	16.3

[45] chi square $p < .01$

Casino Gambling

Of those who reported past year gambling, 43.8% indicated they had gambled at a casino or Indian Gambling Center during the past year. Slightly more than 43% of the males who reported past year gambling reported gambling in a casino, and 44.5% of the females so reported. Females reported spending more money per month on this activity; however, this difference was not significant. (Table 17a)

Table 17a. Casino Gambling Activity (In Percent)

Age (years)	Past Year (Percent) (n=390)	Gambled Weekly (Percent) (n=10)	Monthly Amount ($) (n=364)
All	43.8	1.1	110.6
Males	43.2	1.3	62.6
Females	44.5	0.9	129.2

The average age of casino gamblers was older (50.4 years) [46] than the age of individuals not reporting this activity in the past year (47.0 years).

Table 17b. Past Year Gambling – Casino Gambling (In Percent) (n=390)

Age (years)	All	Male	Female
18-24	4.7	5.7	3.7
25-34	15.2	19.1	11.2
35-44	15.7	17.0	14.4
45-54	25.7	24.2	27.1
55-64	23.0	17.5	28.7
65-74	11.0	11.9	10.1
75 >	4.7	4.6	4.8

Of those reporting a preferred casino activity, slot machines - other than video poker, were the most preferred activity (59.2%). Females were more likely[47] than males to prefer slot machines. Conversely,

Table 17c. Weekly Gambling – Casino Gambling (In Percent) (n=10)

Age (years)	All	Males	Females
18-24	0.0	0.0	0.0
25-34	10.0	16.7	0.0
35-44	0.0	0.0	0.0
45-54	30.0	16.7	50.0
55-64	20.0	0.0	50.0
65-74	40.0	66.7	0.0
75 >	0.0	0.0	0.0

[46] t test $p < .05$
[47] chi square $p < .01$

males were more likely[48] to prefer cards than females. (Table 17d.)

There were no significant gender differences found regarding a preference for gambling at venues within Oregon, outside Oregon, or a combination of both. (Table 17e.)

Table 17d. Casino Gambling - Preferred Activity (In Percent)
(n=390)

Location	All	Males	Females
Other Slots	59.2	47.5	71.6
Cards	24.6	39.0	9.5
Video Poker	8.2	6.0	10.5
Roulette	1.8	1.5	2.1
Bingo	1.8	1.5	2.1
Keno	1.5	1.0	2.1
Dice	1.3	2.5	0
Other	1.5	1.0	2.1

Table 17e. Casino Gambling - Preferred Location (In Percent)

Location	All	Males	Females
In Oregon	79.0	80.0	77.9
Outside Oregon	12.6	11.0	14.2
Both	8.4	9.0	7.9

Charitable Gambling

Approximately 31% of those reporting past year gambling reported participating in charitable gambling activities. Over 28% of males and 34.0% of females reported this form of past year gambling, whereas 1.5% of male and 0.9% of females reported weekly charitable gambling. Neither of these differences were

Table 18a. Charitable Gambling Activity (In Percent)

Age (years)	Past Year (Percent) (n=277)	Gambled Weekly (Percent) (n=11)	Monthly Amount ($) (n=266)
All	31.1	1.2	22.2
Males	28.5	1.5	27.7
Females	34.0	0.9	17.1

[48] chi square $p < .01$

statistically significant. Males reported spending more money per month on charitable gambling; nonetheless, this result did not reach a significant level. (Table 18a.)

These individuals also showed no significant difference in age from those not indicating charitable gambling in the past year.

Individuals in the 45-55 year old range tended to prefer charitable gambling compared to the other age groups for those who gambled in the past year. Similarly, individuals in the 25-34 year old range also tended to be weekly gamblers more often than other age groups. This must be interpreted with caution due to the very small number of respondents indicating weekly gambling for this activity. (Tables 18b and 18c)

Table 18b. Past Year Gambling – Charitable Gambling (In Percent)
(n=227)

Age (years)	All	Male	Female
18-24	6.6	7.8	5.6
25-34	16.8	18.6	15.3
35-44	12.8	15.5	10.4
45-54	32.6	29.5	35.4
55-64	20.9	17.8	23.6
65-74	6.6	4.7	8.3
75 >	3.7	6.2	1.4

Table 18c. Weekly Gambling – Charitable Gambling (In Percent)
(n=11)

Age (years)	All	Males	Females
18-24	9.1	0.0	25.0
25-34	36.4	28.6	50.0
35-44	0.0	0.0	0.0
45-54	18.2	28.6	0.0
55-64	27.3	28.6	25.0
65-74	9.1	14.3	0.0
75 >	0.0	0.0	0.0

Games of Skill

Approximately 9.9% of those reporting past year gambling reported betting on games of skill, and nearly 15% of males and 4.7% of females so reported. As expected, of those reporting gambling on games of skill, males were more likely[49] to

Table 19a. Games of Skill Gambling Activity

Age (years)	Past Year (Percent (n=90)	Gambled Weekly (Percent) (n=21)	Monthly Amount ($) (n=82)
All	10.1	2.4	41.9
Males	15.1	3.9	49.2
Females	4.7	0.7	17.4

[49] chi square $p < .01$

report past year gambling on this activity than females. Males were also more likely[50] to report gambling weekly on games of skill gambling than females but the number of weekly gamblers was again very small and this finding must be viewed with caution. (Table 19a)

Individuals reporting this activity in the past year reportedly spent an average of $41.90 per month. Males reported spending more than double the average females, but the difference was not significant. Individuals between 25-34 years of age accounted for 27.3% of all individuals indicating past year games of skill gambling. Similarly, the same age group accounted for 28.6% of individuals indicating weekly gambling for this activity. The weekly sub-sample was small for this activity and the finding should be viewed with caution. (Tables 19b and 19c)

Table 19b. Past Year Gambling – Games of Skill Gambling (In Percent)
(n=90)

Age (years)	All	Male	Female
18-24	17.0	16.2	20.0
25-34	27.3	30.9	15.0
35-44	17.0	16.2	20.0
45-54	15.9	17.6	10.0
55-64	15.9	13.2	25.0
65-74	5.7	4.4	10.0
75 >	1.1	1.5	0.0

Table 19c. Weekly Gambling– Games of Skill Gambling (In Percent)
(n=21)

Age (years)	All	Males	Females
18-24	19.0	16.7	33.3
25-34	28.6	27.8	33.3
35-44	9.5	11.1	0.0
45-54	19.0	22.2	0.0
55-64	9.5	5.6	33.3
65-74	9.5	11.1	0.0
75 >	4.8	5.6	0.0

[50] chi square $p < .05$

Sporting Event Gambling

Gambling on sporting events, other than the Lottery's Sports Action[SM] game, was reported by 11.9% of those who indicated past year gambling. Of these individuals, males were more likely[51] to report gambling on sporting and females were about equally as likely to be weekly gamblers on sporting events as males but this sub-group was tiny and findings must be viewed with caution. (Table 20a)

Table 20a. Sporting Event Gambling Activity

Age (years)	Past Year (Percent) (n=106)	Gambled Weekly (Percent) (n=5)	Monthly Amount ($) (n=101)
All	11.9	0.6	34.9
Males	16.4	0.6	42.6
Females	6.3	0.5	16.0

Overall, individuals indicated an average expenditure of $34.90 per month with no significant difference between genders.

Table 20b. Past Year Gambling – Sporting Event Gambling (In Percent) (n=106)

Age (years)	All	Male	Female
18-24	8.8	5.6	16.7
25-34	21.6	23.6	16.7
35-44	20.6	20.8	20.0
45-54	24.5	30.6	10.0
55-64	15.7	12.5	23.3
65-74	6.9	5.6	10.0
75 >	2.0	1.4	3.3

Table 20c. Weekly Gambling – Sporting Event Gambling (In Percent) (n=5)

Age (years)	All	Males	Females
18-24	40.0	33.3	50.0
25-34	20.0	33.3	0
35-44	0.0	0.0	0.0
45-54	20.0	33.3	0.0
55-64	20.0	0.0	50.0
65-74	0.0	0.0	0.0
75 >	0.0	0.0	0.0

[51] chi square $p < .01$

Card Game Gambling

Slightly over 19% of individuals indicated past year gambling on card games. Males were more likely[52] to report this activity than females. Gender differences were not as pronounced for weekly gambling on card games, which was reported by 2.8% of males and 1.4% of females, did not reach significance and the sample was very small.

The average monthly expenditure for individuals indicating past year card gambling was $40.60 with no significant difference between males and females. Individuals in the 25-34 age bracket accounted for 24.1% of individuals reporting this activity in the past year, and the same age bracket accounted for 31.6% reporting weekly activity. The mean age of those reporting past year card gambling was younger (41.5 years) [53] than those who did not report this activity (50.2 years).

Table 21a. Card Game Gambling Activity

Age (years)	Past Year (Percent) (n=170)	Gambled Weekly (Percent) (n=19)	Monthly Amount ($) (n=156)
All	19.1	2.1	40.6
Males	25.7	2.8	50.2
Females	11.9	1.4	19.8

Table 21b. Past Year Gambling – Card Game Gambling (In Percent) (n=170)

Age (years)	All	Male	Female
18-24	19.9	21.7	15.7
25-34	24.1	23.5	25.5
35-44	16.9	17.4	15.7
45-54	20.5	23.5	13.7
55-64	10.8	7.8	17.6
65-74	4.8	4.3	5.9
75 >	3.0	1.7	5.9

Table 21c. Weekly Gambling – Card Game Gambling(In Percent) (n=21)

Age (years)	All	Males	Females
18-24	21.1	15.4	33.3
25-34	31.6	38.5	16.7
35-44	5.3	7.7	0.0
45-54	21.1	30.8	0.0
55-64	15.8	7.7	33.3
65-74	0.0	0.0	0.0
75 >	5.3	0.0	16.7

[52] chi square $p < .01$
[53] t test $p < .01$

Non-Indian Gaming Center Bingo Gambling

Less than 8% of those reporting any past year gambling reported gambling on bingo in a non-Indian Gaming Center location. Females were more likely[54] to report this activity in their lifetime than males. Too few individuals (n=5) responded to the survey to note any significant differences for weekly activity with only a 0.6% response rate. (Table 22a)

Table 22a. Non-IGC Bingo Gambling Activity

Age (years)	Past Year (Percent) (N=70)	Gambled Weekly (Percent) (N=5)	Monthly Amount ($) (N=66)
All	7.8	0.6	44.1
Males	5.8	0.4	28.8
Females	9.8	0.7	53.5

The average expenditure for non-IGC bingo gambling was $44.10 per month, with females spending nearly twice as much as males but the difference was not significant.

Individuals reporting this activity in the past year were distributed across a broad age range of 24-75+ years of age, with individuals in the 45-64 year range constituting 52.2% of individuals reporting this activity. There was no significant difference in the average age of individuals indicating this activity in the past year, and

Table 22b. Past Year Gambling – Non-IGC Bingo Gambling (In Percent)

Age (years)	All (n=70)	Male (n=28)	Female (n=42)
18-24	4.3	7.4	2.4
25-34	18.8	22.2	16.7
35-44	11.6	3.7	16.7
45-54	26.1	37.0	19.0
55-64	26.1	11.1	35.7
65-74	5.8	3.7	7.1
75 <	7.2	14.8	2.4

Table 22c. Weekly Gambling– Non-IGC Bingo Gambling (In Percent)

Age (years)	All (n=5)	Males (n=2)	Females (n=3)
18-24	0.0	0.0	0.0
25-34	0.0	0.0	0.0
35-44	0.0	0.0	0.0
45-54	0.0	0.0	0.0
55-64	60.0	0.0	100.0
65-74	0.0	0.0	0.0
75>	40.0	100.0	0.0

[54] chi square $p < .05$

those who did not indicate this activity. (Tables 22b and 22c)

Animal Gambling

Approximately 3.8% of the past year gamblers reported gambling on horses, dogs, or other animals at the track, at an off-track venue, or with a bookie. A slightly higher percentage of males reported animal gambling than females; however this difference was not significant. Only three individuals reported weekly activity with animal gambling. (Table 23a)

Table 23a. Animal Gambling Activity

Age (years)	Past Year (Percent) (n=34)	Gambled Weekly (Percent)	Monthly Amount ($)
All	3.8	0.3	44.5
Males	4.5	0.4	37.4
Females	3.0	0.2	53.8

The average amount spent on gambling by past year animal gamblers was $44.50 per month. Interestingly, although females spent a greater amount than males, the difference was not significant. (Table 23a)

Table 23b. Past Year Gambling – Animal Gambling (In Percent)

Age (years)	All (n=34)	Male (n=21)	Female (n=13)
18-24	9.1	5.0	15.4
25-34	9.1	10.0	7.7
35-44	18.2	25.0	7.7
45-54	30.3	35.0	23.1
55-64	21.2	5.0	46.2
65-74	9.1	15.0	0.0
75 >	3.0	5.0	0.0

Those in the 45-54 years of age bracket accounted for all individuals indicating weekly animal gambling in the past year, which was slightly more than 8.8% of those who gambled on animals. There was no difference in the average age of individuals indicating this activity in the past year (49.1 years) and those who did not (48.5 years). (Tables 23b and 23c)

Table 23c. Weekly Gambling – Animal Gambling (In Percent)

Age (years)	All (n=3)	Males (n=2)	Females (n=1)
18-24	0.0	0.0	0.0
25-34	0.0	0.0	0.0
35-44	0.0	0.0	0.0
45-54	100.0	100.0	100.0
55-64	0.0	0.0	0.0
65-74	0.0	0.0	0.0
75 >	0.0	0.0	0.0

Slot Machine Gambling - Not at a Casino

Interestingly, 3.5% of those that reported past year gambling reported playing slot machines at a location other than a casino or Lottery retail outlet. This question has realized similar findings in the 1997 adult study, the 2000 older adult study, and the 2001 adult study secondary analysis. The question comes at a point in the interview so that a clear distinction has been made between video poker machines and slot machine.

Table 24a. Slot Machine Gambling Activity (Not at Casino)

Age (years)	Past Year (Percent) (n=31)	Gambled Weekly (Percent) (n=0)	Monthly Amount ($) (n=22)
All	3.5	0.0	22.2
Males	4.1	0.0	20.3
Females	2.8	0.0	24.8

Table 24b. Past Year Gambling – Slot Machine Gambling- Not at Casino (In Percent)

Age (years)	All (n=31)	Male (n=19)	Female (n=12)
18-24	9.7	15.8	0.0
25-34	12.9	10.5	16.7
35-44	9.7	5.3	16.7
45-54	16.1	10.5	25.0
55-64	29.0	36.8	16.7
65-74	12.9	10.5	16.7
75 >	9.7	10.5	8.3

Several alternative explanations exist that might include playing slot machines in Nevada (or other states) where slot machines are not restricted to casinos or playing illegal slot machines in Oregon. Nonetheless, males (4.1%) were not significantly more likely than females (2.8%) to report past year gambling for this activity, and none of these individuals indicated weekly gambling for this activity. (Table 24a)

Overall, individuals reporting past year non-casino slot machine gambling indicated an average monthly expenditure of $22.20 with no significant difference between genders. (Table 22a) There were also no significant differences between age groups; nonetheless,

individuals in the 55-64 years of age bracket accounted for 29.0% of gamblers for this activity. (Table 22b) There were no weekly respondents to this activity.

Stock Market Gambling

Of past year gamblers, 3.7% indicated they had bet money on the stock or commodities market including day trading for personal gains. The structured interview script specifically informed the respondent that the question was not "asking about investing with a company but betting money on the ... market." Males were not significantly more likely than females to report past year market gambling. (Table 25a)

Overall, individuals gambling on the market reported an average monthly expenditure of $5,457.70. Males, on average, spent 32 times more on the market than females.[55] Unfortunately, the number of females reporting this activity was too small to test for statistical significance. (Table 25a)

There were no significant differences in the age of individuals betting on the market,

Table 25a. Stock Market Gambling Activity

Age (years)	Past Year (Percent) (n=33)	Gambled Weekly (Percent) (n=12)	Monthly Amount ($) (n=20)
All	3.7	1.3	5457.7
Males	4.3	2.4	7203.5
Females	3.0	0.2	222.4

Table 25b. Past Year Gambling – Stock Market Gambling (In Percent)

Age (years)	All (n=33)	Male (n=20)	Female (n=13)
18-24	6.1	10.0	0.0
25-34	15.2	25.0	0.0
35-44	9.1	5.0	15.4
45-54	24.2	25.0	23.1
55-64	27.3	10.0	53.8
65-74	9.1	15.0	0.0
75<	9.1	10.0	7.7

Table 25c. Weekly Gambling – Stock Market Gambling (In Percent)

Age (years)	All (n=12)	Males (n=11)	Females (n=1)
18-24	8.3	9.1	0.0
25-34	16.7	18.2	0.0
35-44	0.0	0.0	0.0
45-54	41.7	45.5	0.0
55-64	8.3	0.0	100.0
65-74	16.7	18.2	0.0
75 >	8.3	9.1	0.0

[55] The number of females responding was only five.

but individuals in the 55-64 year age bracket accounted for 27.3% of gamblers for this activity over the past year, followed by the 45-54 year age bracket (24.2%). The weekly gambling sample size for this activity was very small and should be viewed with caution. (Charts 25b and 25c)

Dice Gambling

Approximately 3.8% of individuals indicated a past year dice gambling, and only 0.3% indicated dice gambling on a weekly basis. Of these individuals, 4.3% of males and 3.3% of females indicated past year dice gambling and 0.4% of males and 0.2% of females indicated weekly activity. None of these differences were found to be significant and due to very small sample sizes the findings should be viewed with caution. (Table 26a)

Overall, the average monthly expenditure for this activity was $14.40. The difference between males and females was not significant. (Table 26a)

Although there were no significant age differences, dice gambling was reported by 23.5% of 55-64 year olds followed by 20.6%

Table 26a. Dice Gambling Activity

Age (years)	Past Year (%) (n=34)	Gambled Weekly (%) (n=3)	Monthly Amount ($) (n=29)
All	3.8	0.3	14.4
Males	4.3	0.4	19.3
Females	3.3	0.2	8.5

Table 26b. Past Year Gambling – Dice Gambling (In Percent)

Age (years)	All (n=33)	Male (n=20)	Female (n=13)
18-24	11.8	15.0	7.1
25-34	17.6	20.0	14.3
35-44	17.6	20.0	14.3
45-54	20.6	15.0	28.6
55-64	23.5	20.0	28.6
65-74	5.9	5.0	7.1
75 >	2.9	5.0	0.0

Table 26c. Weekly Gambling – Dice Gambling (In Percent)

Age (years)	All (n=3)	Males (n=2)	Females (n=1)
18-24	33.3	50.0	0.0
25-34	0.0	0.0	0.0
35-44	33.3	50.0	0.0
45-54	0.0	0.0	0.0
55-64	33.3	0.0	100.0
65-74	0.0	0.0	0.0
75 >	0.0	0.0	0.0

of 45-54 year olds and 17.6% of 35-44 and 25-34 year olds. The number of weekly gamblers was too small to analyze and these findings should be viewed with caution due to the very small sample size. (Tables 26b and 26c)

Internet and Phone Gambling

Oregon was one of the first jurisdictions to introduce a question into its epidemiological studies regarding the use of "telephone or computers including the internet or the worldwide web" to gamble (Volberg, 1997). In this study, 2.9% of those that reported past year gambling indicated this form of gambling. More males (4.1%)[56] reported engaging in this activity over the past year compared to 1.6% of females. (Table 27a)

Table 27a. Internet and Phone Gambling Activity

Age (years)	Past Year (Percent) (N=26)	Gambled Weekly (Percent) (n=12)	Monthly Amount ($) (n=29)
All	2.9	1.3	335.8
Males	4.1	2.4	444.5
Females	1.6	0.2	27.8

The average amount spent per month was $335.80, which was more for males than females but not statistically significant. (Table 27a)

There was not a significant difference in the age of individuals indicating participation in internet gambling; however, the majority of them fell under the 45-54 year range. The number of weekly gamblers for this activity was too small to analyze and the findings should be viewed with caution. (Charts 27b and 27c)

[56] chi square $p < .05$

Table 27b. Past Year Gambling – Internet and Phone Gambling (In Percent)			
Age (years)	**All (n=26)**	**Male (n=19)**	**Female (n=7)**
18-24	3.8	5.3	0.0
25-34	26.9	31.6	14.3
35-44	15.4	10.5	28.6
45-54	30.8	31.6	28.6
55-64	19.2	15.8	28.6
65-74	3.8	5.3	0.0
75 >	0.0	0.0	0.0

Table 27c. Weekly Gambling – Internet and Phone Gambling (In Percent)			
Age (years)	**All (n=12)**	**Males (n=11)**	**Females (n=1)**
18-24	0.0	0.0	0.0
25-34	41.7	45.5	0.0
35-44	0.0	0.0	0.0
45-54	33.3	36.4	0.0
55-64	25.0	18.2	100.0
65-74	0.0	0.0	0.0
75 >	0.0	0.0	0.0

Other Forms of Gambling

Table 28a. Other Forms of Gambling Activity			
Age (years)	**Past Year (Percent) (n=21)**	**Gambled Weekly (Percent)**	**Monthly Amount ($)**
All	2.4	1.3	129.4
Males	3.5	2.4	171.6
Females	1.2	0.2	3.0

Approximately 2.4% of past year gamblers indicated gambling on activities other than those specifically indicated in the survey (3.5% of the males and 1.2% of females). Males were more likely to report weekly gambling (2.4%) than females (0.2%), but this difference was not significant due to the small sample size and these findings should be viewed with caution. (Table 28a)

On average, the monthly expenditure for other forms of gambling was $129.40. Males reported spending $171.60 while females reported spending only $3.00. (Table 28a)

The average age for individuals indicating past year other forms of gambling (45.2 years) was not significantly different from those not indicating this form of gambling (48.6 years) and the number of weekly gamblers in this category was tiny and findings should be viewed with caution.

Table 28b. Past Year Gambling – Other Forms of Gambling (In Percent)			
Age (years)	**All (n=21)**	**Male (n=16)**	**Female (n=5)**
18-24	4.8	6.3	0.0
25-34	28.6	25.0	40.0
35-44	19.0	25.0	0.0
45-54	19.0	12.5	40.0
55-64	19.0	18.8	20.0
65-74	9.5	12.5	0.0
75 >	0.0	0.0	0.0

Table 28c. Weekly Gambling – Other Forms of Gambling (In Percent)			
Age (years)	**All (n=3)**	**Males (n=3)**	**Females (n=0)**
18-24	0.0	0.0	0.0
25-34	33.3	33.3	0.0
35-44	66.7	66.7	0.0
45-54	0.0	0.0	0.0
55-64	0.0	0.0	0.0
65-74	0.0	0.0	0.0
75 >	0.0	0.0	0.0

Respondent Gambling Background

This section of the report presents the findings to a series of questions included in the survey for the purposes of attempting to document issues that may have correlational value to identifying disordered gambling. These include age first gambled, age when gambling first caused nervousness, determination if a parent or step parent had a problem gambling, determination if there was a desire to stop gambling but couldn't, and finally a determination as to whether or not any of the clients had sought treatment.

Age First Gambled

The average age of first gambling was reported as 23.2 years. Males began at a significantly[57] younger age (20.3 years) than females (26.1 years). As expected and as found in the previous Oregon studies, the average age of first gambling experience is getting younger as the opportunity to gamble has increased. (Table 29a)

[57] t test $p < .01$

Table 29a. Age First Gambled (In Years) age n | sd								
Age	**18-24 Years**	**25-34 Years**	**35-44 Years**	**45-54 Years**	**55-64 Years**	**65-74 Years**	**75 < Years**	**All Years**
All	17.4 82 – 3.1	18.9 166 – 4.3	21.0 164 – 6.1	23.3 286 – 8.7	25.6 200 - 11.3	25.9 104 – 15.6	29.3 58 – 15.5	23.2 1082 -10.2
Males	17.2 52 – 3.3	18.2 85 – 4.5	19.9 90 – 6.4	20.3 133 – 7.8	21.6 88 – 8.8	23.2 51 – 13.1	24.8 28 – 13.3	20.3 544 -8.2
Females	17.8 30 – 2.7	19.7 81 – 4.1	22.3 74 – 5.5	26.0 153 – 7.8	28.8 112 – 12.0	35.6 53 – 15.4	33.6 30 – 16.5	26.1 538 -11.1

Respondents to the question regarding age of first gambling experience were also asked to identify which gambling activity was associated with their first experience. (Table 29b) This table suggests that, again as expected, earliest gambling experiences included non-casino dice games, games of skill, and non-casino cards commonly associated with family/peer board games, skill activities, and card games.

Care should be exercised in attempting to interpret the findings from this element of the data due to several biasing factors including cohort effect and activity availability. As expected, gambling on games of skill and sports events were reported at the earliest ages and video poker at the oldest age of first activity. Video poker machines have been a relatively recent introduction (Montana in 1985) into the gambling venue and therefore it would be expected that first gambling experience age would be older. Males consistently reported younger first gambling experience across all activities. These findings were very similar to those reported in 2001.

Table 29b. Age First Gambled and Game (In Years) n - %					
Activity	Age		Activity	Age	
	n	%		n	%
Non-Casino Dice	15.6	15 – 1.3	**Casino Video Poker**	26.2	52 –4.6
Skill Games	16.4	14 – 1.2	**Charitable**	26.5	23 – 2.0
Non-Casino Cards	17.5	226 – 20.1	**Traditional Lottery**	26.5	199 – 17.7
Sports Games	18.5	43 – 3.8	**Non-Casino Bingo**	26.9	27 –2.4
Animals	20.5	39 – 3.5	**Lottery Video Poker**	27.4	36 – 3.2
Lottery Line Games	24.2	9 – 0.8	**Stock/Commodities**	30.5	4 – 0.4
Non-Casino Slots	24.6	148 – 13.2	**Phone/Computer**	0	0 - 0.00
Casino- not Video Poker	25.6	193 -17.2	**Other**	19.1	96 – 8.6

Age and Game First Nervous

The most frequently cited game associated with first time nervousness regarding the size of bet were cards not at a casino (n = 46) followed by casino gambling other than video poker (n = 31). The remaining responses were widely distributed among all other games. Males were more likely[58] to report first time nervousness with the amount of bet playing cards not at a casino and females were more likely[59] to report first time nervousness while participating in casino gambling other than video poker.

When the Foundation was reviewing the survey for the 1997 study, there was a common belief that disordered gamblers experienced nervousness with the amount of money they were betting earlier than non-disordered gamblers. This data element was maintained in the present study for uniformity of instrumentation. Nonetheless, this study found little

support for that hypothesis in that there was no statistically significant difference between the two groups. There was a significant difference[60] in the age of first nervousness with gambling reported between males and females. Regardless, this finding would be expected since males began gambling earlier than females and it would be self-evident that, for those 11.8% of lifetime gamblers that reported experiencing nervousness, there would be an apparent relationship with the phenomenon of nervousness and the number of years spent gambling.

Table 29c. Age First Experienced Nervousness Gambling (In Years)

age
n | sd

Age	18-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	75 < Years	All Years
All	17.8 8-4.0	23.1 26-5.1	22.9 17-7.7	30.3 40-12.7	26.4 20-10.4	28.8 5-9.5	27.0 2-12.7	26.0 124-10.1
Males	17.3 7-4.1	21.9 17-4.5	22.3 11-7.9	26.9 27-12.7	20.9 12-2.7	28.8 5-9.5	18.0 1-0.0	23.7 83-9.1
Females	21.0 1-0.0	25.2 9-5.8	24.2 6-7.9	37.2 13-9.7	34.5 8-12.5	0 0-0.0	36 1-0.0	30.8 41-10.4

Family History

Slightly less than 5.0% of those who reported lifetime gambling reported that a parent or stepparent had ever had a problem with gambling. Female gamblers and male gamblers were equally as likely to report a parent with a gambling problem. Fathers were twice as likely as mothers to be identified and stepparents were only identified three times. (Respondents were able to identify all that applied.) A study commissioned by the Foundation in 2002 found a stronger association between family history of problem gambling and those reporting pathological gambling. That study suggested that abuse and neglect had a

[58] chi square $p < .001$
[59] chi square $p < .001$
[60] t test $p < .001$

much greater association with pathological gambling than did family history of problem gambling. (Moore, T., 2002)

Favorite Gambling Associates

Of those responding to the question regarding who they gambled with when participating in their favorite gambling activity, 29.1% reported gambling with friends, 25.8% with a spouse or partner, 13.1% with other family members, 3.0% with co-workers, and 3.8% with others. Approximately 25.3% indicated they gambled alone. The ratio of males to females in each category was not significantly different.

Table 29d. Favorite Gambling Associates (In Percent)

Age	18-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	75 < Years	All Ages
Friends								
All	17.6	18.3	13.7	18.6	17.3	10.1	4.2	29.1
Males	21.1	20.6	14.3	17.7	14.3	8.6	3.4	33.5
Females	13.0	15.3	13.0	19.8	21.4	12.2	5.3	24.6
Spouse/Partner								
All	3.3	15.3	18.2	30.2	18.5	10.9	3.6	25.8
Males	3.9	13.4	21.3	30.7	15.0	11.0	4.7	26.6
Females	2.7	16.9	15.5	29.7	21.6	10.8	2.7	23.9
Alone								
All	2.6	12.0	14.3	35.3	19.2	9.8	6.8	25.3
Males	2.8	13.3	14.0	34.3	17.5	9.8	8.4	26.6
Females	2.4	10.6	14.6	36.6	21.1	9.8	4.8	23.9
Other Family								
All	7.9	12.9	17.1	23.6	20.0	9.3	9.3	13.1
Males	14.0	4.7	25.6	16.3	20.9	7.0	11.6	8.1
Females	5.2	16.5	13.4	26.8	19.6	10.3	8.2	18.1
Co-Workers								
All	0.0	25.8	22.6	25.8	22.6	3.2	0.0	3.0
Males	0.0	23.8	28.6	23.8	19.0	4.8	0.0	4.1
Females	0.0	30.0	10.0	30.0	30.0	0.0	0.0	1.9

Others								
All	0.0	15.0	25.0	25.0	22.5	2.5	10.0	3.8
Males	0.0	21.1	36.8	15.8	21.1	5.3	0.0	3.7
Females	0.0	9.5	14.3	33.3	23.8	0.0	19.0	3.9

Time Spent Gambling

Of those responding to the question regarding the amount of time usually spent participating in the favorite form of gambling, 47.6% indicated less than one hour at a time, 26.1% indicated from one to two hours, 21.1% from three to five hours, 3.6% from six to 12 hours, and 1.6% indicated more than 12 hours at a time. Males were more likely to report spending greater lengths of time than females and females were more likely to report spending only and hour or less gambling.[61]

Table 29e. Time Spent Gambling (In Percent)

	18-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	75 < Years	All Ages
Less than 1 Hour								
All	7.4	16.2	15.8	28.9	17.8	8.2	5.7	47.6
Males	10.2	14.4	16.9	27.1	17.4	7.2	6.8	43.6
Females	5.1	17.8	14.9	30.4	18.1	9.1	4.7	51.6
1 to 2 Hours								
All	8.5	14.5	15.2	24.8	19.5	11.7	5.7	26.1
Males	9.1	16.1	18.2	23.8	17.5	11.2	4.2	26.4
Females	7.9	13.0	12.2	25.9	21.6	12.2	7.2	25.7
3 to 5 Hours								
All	9.6	16.2	17.5	24.9	17.9	8.7	5.2	21.1
Males	13.2	19.0	19.0	24.8	12.4	5.8	5.8	22.5
Females	5.6	13.0	15.7	25.0	24.1	17.9	8.7	5.2

[61] chi square $p < .01$

6 to 12 Hours								
All	0.0	15.0	10.0	27.5	32.5	15.0	0.0	3.6
Males	0.0	22.2	7.4	25.9	22.2	22.2	0.0	4.9
Females	0.0	0.0	15.4	30.8	53.8	0.0	0.0	2.4
12 Hours +								
All	0.0	6.7	20.0	40.0	6.7	20.0	6.7	1.6
Males	0.0	8.3	25.0	25.0	8.3	25.0	8.3	2.5
Females	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.6

Largest Amount Ever Lost

Of those respondents to the question regarding the largest amount of money ever lost, 4.4% indicated less than $1, 21.3% indicated $1 to $9, 43.4% indicated $10 to $99, 26.4% responded $100 to $999, 3.6% indicated $1000 to $9999, and 0.9% indicated they had lost over $10,000 at one time during their life. Males were more likely to have lost more money than females[62]

Table 29f. Largest Amount Ever Lost Gambling (In Percent)

Age	18-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	75 > Years	All Ages
Less than $1								
All	8.3	10.4	10.4	25.0	25.0	8.3	12.5	4.4
Males	13.3	13.3	6.7	26.7	20.0	0.0	20.0	2.7
Females	6.1	9.1	12.1	24.2	27.3	12.1	9.1	6.1
$1 to $9								
All	12.0	12.0	15.0	30.8	13.7	10.3	6.4	21.3
Males	18.8	10.4	16.7	25.0	10.4	9.4	9.4	17.5
Females	7.2	13.0	13.8	34.8	15.9	10.9	4.3	25.2
$10 to $99								
All	8.0	17.6	15.1	24.5	20.1	9.0	5.7	43.4
Males	10.0	18.6	15.9	23.6	18.6	8.6	4.5	40.5

[62] chi square $p < .01$

Females	6.2	16.7	14.4	25.3	21.4	9.3	6.6	46.3
$100 to $999								
All	4.2	14.6	17.8	27.9	20.6	10.5	4.5	26.4
Males	5.0	14.5	20.1	27.9	17.9	10.1	4.5	32.8
Females	2.8	14.8	13.9	27.8	25.0	11.1	4.6	20.0
$1000 to $9,999								
All	0.0	13.2	26.3	28.9	13.2	15.8	2.6	3.6
Males	0.0	11.1	25.9	29.6	14.8	18.5	0.0	5.2
Females	0.0	18.2	27.3	27.3	9.1	9.1	9.1	2.0
$10,000 or more								
All	0.0	0.0	40.0	30.0	10.0	10.0	10.0	0.9
Males	0.0	0.0	50.0	25.0	0.0	12.5	12.5	1.4
Females	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.4

Desire to Stop Gambling and Treatment Access

Of those individuals indicating to have gambled in their lifetime, 17 (9 males and 8 females) indicated they at some point had a desire to receive help to stop gambling -- seven of these individuals were classified as past year disordered gamblers. Additionally, eight individuals indicated they had sought help to quit gambling; four males and four females. Of these eight, seven were classified as past year disordered gamblers.

Comparison of SOGS and NODS

The replication study (Volberg, 2001) estimated of the prevalence of disordered gambling based on participant responses to the South Oaks Gambling Screen (SOGS) (Lesieur, H., & Blume, S., 1987) as revised for use in epidemiological studies (Abbot, M. & Volberg, R., 1991). In an effort to provide an empirical base for future use, a decision was made for that study to also include the National Opinion Research Center DSM-IV Screen for Gambling Problems (NODS) first employed in the National Gambling Impact and Behavior Study in 1999 as developed by Gerstein and colleagues (1999). The secondary analysis of the

2001 data by Moore (2001) contained a complete discussion of the two instruments including design and findings. In that report, the author found that the NODS significantly understated the prevalence rate of disordered gambling when compared to the SOGS instrument. The NODS was retained in this study to insure complete compatibility between the two studies in regards to instrumentation. The finding from this study again confirmed that the NODS significantly understated the prevalence and an item by item analysis across both instruments once again suggested the NODS to be unreliable.

DISCUSSION

The 1997 study (Volberg) found the estimated prevalence of problem gamblers to be 1.9% (±0.7%) and probable pathological gamblers at 1.4% (±0.6%). The combined rate was 3.3% (±0.9%). The 2001 replication study (Volberg, 2001) found a statistically significant reduction in the combined rate which was 2.3% (±0.8) (problem 1.4% [±0.5%]; pathological 0.9% [±0.5%]) but there were no differences at the problem or pathological rates between the two studies. This study found a combined rate of 2.7% (±0.7%) (problem 1.7% [±0.5%] and pathological 1.0% {±0.4%]). This study also found the differences in the combine rate of problem and pathological from that of the 1997 study statistically significant.[63] There were no other significant differences between the rates established by this study and the previous two studies. In reporting the 2001 study, Volberg indicated that patterns of reduced prevalence were most likely due to the availability of treatment and an aggressive "play responsible" and informational media campaign by the Oregon Lottery®. These two factors are most likely responsible for the continued stable prevalence rates.

[63] chi square $p < .05$

In the 2001 study, Volberg also noted that there was a significant increase in lifetime telephone and internet gambling from 0.3% in 1997 to 1.1% in 2000 and past year phone and internet gambling increased from 0.1% in 1997 to 0.7% in 2001. For this study, the past year rate of phone and internet gambling for the entire sample was 1.9% which was significantly[64] higher than that reported in 2001. The popular literature supports the notion of a potentially growing problem with internet gambling and these findings support, at least, the notion that the popularity of internet gambling is increasing. Nonetheless, the wording of this question should be made clearer to reference only internet gambling in future studies.

There was a significant[65] reduction in the number of individuals who reported lifetime gambling from the 1997 to the 2001 study (Volberg, R., 1997 & 2001) from 87% to 78.2%. The weighted rate for this study was 82.9% and the difference between both previous studies was statistically significant[66] with this study's life time rate of gambling between both previous study findings. As previously reported, males were significantly more likely to report gambling then females.

As with lifetime gambling, the differences in the distribution of past year gambling between this study and the two previous studies was statistically significant,[67] again being in between the rates of the previous studies (70%, 59.6%, and 64.5% respectively). The ratio of weekly gamblers also remained stable between the 2001 and current study while both reported significantly[68] fewer weekly gamblers than the 1997 study.

[64] chi square $p < .01$
[65] chi square $p < .01$
[66] chi square $p < .01$
[67] chi square $p < .01$
[68] chi square $p < .05$

The distribution of respondents reporting casino (excluding video poker) as their preferred gambling venue dropped significantly[69] from 23.3% in 2001 to 15.8%. Unfortunately this information was not reported in the 1997 study. Nonetheless, this may be suggestive of the novelty of casino gambling wearing off.

SUMMARY AND CONCLUSIONS

This study conducted by the Foundation has provided a wealth of information regarding the gambling characteristics of adults in Oregon. As has been frequently mentioned in this report, the very small size of the disordered gambling sub-group made meaningful statistical analysis of their individual preferences and characteristics impossible. Although providing an excellent replication of the 2001 and 1997 studies, it is highly recommended that for future studies consideration be given to increasing the sample size to include a substantially larger number of disordered gamblers for analysis. It is also suggested that the next study in the State focus on a combination of replicating the 1998 adolescent study, but with an expanded sample size to include young adults to the age of 24 since this age group has been under sampled in previous adult studies.

As was reported in the secondary analysis of the 2001 study (Moore, 2001), until more research is conducted, it is recommended that the NODS not be utilized as a sole measure of the prevalence of disordered gambling. Since it demonstrated a very strong propensity to completely miss SOGS classified disordered gamblers as previously reported, including omitting those individuals that endorsed having a problem with gambling (Moore, 2001).

As was previously recommended, but not possible due to the timing of this study to be in the field before Lottery line games were fully implemented, the questionnaire should

[69] chi square $p < .01$

undergo a complete review before reuse. The original instrument was adapted at a time when much less was known about disordered gambling than is now known. Although useful and appropriate at the time, numerous questions should be revised to both reflect the increasing sophistication in the field as well as the greater precision necessary in developing prevention and treatment opportunities.

For example, knowing the estimated household income remains an important data point. Nonetheless, knowing the individual's personal income would create additional value in understanding the impact of disordered gambling as well as potentially providing additional insight into individual gambler characteristics.

Similarly, asking questions regarding the respondent's "favorite" gambling activity are of value, but knowing the respondent's activities (distance traveled, for example) in relation to his or her "primary" gambling activity may provide insight important to the planning of prevention efforts. A review should also be made of the gambling activities specifically incorporated into the questionnaire to ensure clarity of understanding of gambling activity.

Questions regarding first gambling experience (age, game type) most likely could be considered for omission from future surveys. It has been clearly demonstrated by studies conducted in Oregon, and elsewhere, that age of first gambling is related to the availability of gambling opportunities (cohort effect) and this, at least in the near future, no longer requires validation. However, this information may be of value for those who are classified as disordered gamblers to compare it with the age at which the onset of problems occurred and the primary gambling activities with which problems were associated. The inclusion of a question regarding the reason for gambling, similar to that asked in the Older Adult study is highly recommended.

Finally, the relationship between trauma, especially early childhood trauma such as abuse, neglect, and abandonment should be explored. As well, redesign of the methodology and the instrument should maintain an objective for comparability as is practical and prudent with this study, the 1997 baseline study, the older adult study, and other studies to ensure the ability to identify potential trends over time.

REFERENCES

Abbott, M. & Volberg, R. (1991). Gambling and problem gambling in New Zealand: report on phase one of the national survey. Research Series No. 12. Wellington, New Zealand: Department of Internal Affairs.

American Community Survey. (2004). General demographic characteristics: Oregon. U.S. Census Bureau, Washington, D.C.

American Psychiatric Association. (2000). Diagnostic and statistical Manual of Mental disorders (4th ed.) Text Revision (DSM-IV-TR). Washington, DC: Author.

Carlson, M., and Moore, T. (1998, December). Adolescent gambling in Oregon: a report to the Oregon Gambling Addiction Treatment Foundation. Salem, OR: Oregon Gambling Addiction Treatment Foundation.

Clotfelter, C. T., Cook, P. J., Edell, J. A., and Moore, M. (1999). State lotteries at the turn of the century: report to the national gambling impact study commission. National Gambling Impact Study Commission. Retrieved from http://govinfo.library.unt.edu/ngisc/reports/lotfinal.pdf on 02/06/2006.

ECONorthwest. (2003). 2002 Oregon and Washington Gaming Markets and Oregon Casino Survey. Portland, OR.: ECONorthwest.

Kindt, J. W. (2003). Internationally, the 21st century is no time for the United States to be gambling with the economy: taxpayers subsidizing the gambling industry and the de facto elimination of all casino tax revenues via the 2002 economic stimulus act. Ohio Northern University Law Review, 29, 363-394.

Oregon Department of Human Services. (2005). Gambling and Problem Gambling in Oregon. Salem, OR: ODHS.

Oregon Racing Commission. (2003, May). Oregon Racing Commission Racing Minutes. Portland, OR.: ORC. Retrieved from http://egov.oregon.gov/RACING/docs/minutes/03mn0515.pdf, on 02/03/2006.

Gerstein, D., Volberg, R., Harwood, H., Christiansen, M. et al. (1999). Gambling impact and behavior study: report to the National Gambling Impact Study Commission. Chicago, IL: National Opinion Research Center at the University of Chicago.

Lesieur, H. & Blume, S. (1987). The South Oaks Gambling Screen (SOGS): a new instrument of the identification of pathological gamblers. American Journal of Psychiatry 144: 1184-1188.

Moore, T. (2001a). The prevalence of disordered gambling among older adults in Oregon. Salem, OR: Oregon Gambling Addiction Treatment Foundation.

Moore, T. (2001b). The prevalence of disordered gambling among adults in Oregon: a secondary analysis of data. Salem OR: Oregon Gambling Addiction Treatment Foundation.

Moore, T., Jadlos, T. (2002). The etiology of pathological gambling. Wilsonville, OR: Oregon Gambling Addiction Treatment Foundation.

Moore, T., Jadlos, T., Carlson, M. (2000, May). Findings and recommendations for the strategic plan: identification, prevention, and treatment of disordered gambling in Multnomah County. Portland, OR: Behavioral Health Division, Multnomah County

Moore, T. Marotta, J. (2005). Gambling treatment programs evaluation update. Salem, OR: Department of Human Services, Office of Alcohol and Drug Abuse Programs. (In Press)

National Gambling Impact Study Commission. (1999). Gambling Impact and Behavior Study. Washington D.C.: NGISC.

Volberg, R. (2001, February). Changes in gambling and problem gambling in Oregon: results from a replication study, 1997 to 2000. Salem, OR: Oregon Gambling Addiction Treatment Foundation.

Volberg, R. (1997, August). Gambling and problem gambling in Oregon. Salem, OR: Oregon Gambling Addiction Treatment Foundation.

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