



Oregon Gambling Addiction
Treatment Foundation

**THE PREVALENCE OF
DISORDERED GAMBLING
AMONG ADULTS
IN OREGON:
A SECONDARY ANALYSIS OF DATA**

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Enhancing the Value of the Public Investment in Oregon's Gambling Prevention and Treatment Programs

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EXECUTIVE SUMMARY

This report is comprised of an analysis of the extensive amount of data that was collected as part of the efforts to replicate the Oregon Gambling Addiction Treatment Foundation's (OGATF) 1997 epidemiological study of gambling behaviors among adults 18 years old and over in Oregon. The principal investigator for both the 1997 study and this study was Dr. Rachel Volberg, of Gemini Research, Incorporated. This report should be viewed as a companion report to Dr. Volberg's 2001 report of the replication study.

For ease of reference, the key findings from Dr. Volberg's 2001 report are reproduced below. A complete discussion of these findings can be found in Dr. Volberg's report.

KEY FINDINGS FROM PRIMARY ANALYSIS

- In Oregon in 2000, 1.4% ($\pm 0.6\%$) of the respondents scored as current problem gamblers and an additional 0.9% ($\pm 0.5\%$) of the respondents scored as current probable pathological gamblers. The combined current prevalence rate of problem and pathological gambling in Oregon in 2000 is 2.3% ($\pm 0.8\%$).
- While both the current prevalence of problem gambling and the current prevalence of probable pathological gambling are lower in 2000 than in 1997, only the combined current prevalence rate in Oregon in 2000 is significantly lower than the combined current prevalence rate in 1997.
- In Oregon in 2000, 2.7% ($\pm 0.8\%$) of the respondents scored as lifetime problem gamblers and an additional 1.9% ($\pm 0.7\%$) of the respondents scored as lifetime probable pathological gamblers. The combined lifetime prevalence rate of problem and pathological gambling in Oregon in 2000 is 4.6% ($\pm 1.0\%$).
- Lifetime prevalence rates of problem and probable pathological gambling in Oregon in 2000 are not significantly different from the lifetime prevalence rates identified in 1997.
- There have been significant changes in gambling participation in Oregon between 1997 and 2000. The proportion of the population that never gambles has risen significantly from 13% to 20% while the proportion of the population that gambles weekly has fallen significantly from 18% to 13%.
- Similar patterns of decreases in weekly gambling participation and increases in less frequent gambling have recently been reported in studies in Louisiana, Montana, and North Dakota as well as in New Zealand.
- The only gambling activity that has increased in Oregon since 1997 is gambling on the Internet. Lifetime Internet gambling increased from 0.3% in 1997 to 1.1% in 2000 and past year Internet gambling increased from 0.1% in 1997 to 0.7% in 2000.

SECONDARY ANALYSIS KEY FINDINGS

- ◆ As age increased, the proportion of disordered gamblers decreased.
- ◆ Males were no more likely to report disordered gambling than females.
- ◆ Disordered gambling appeared to be more prevalent among minority populations as the literature would indicate.
- ◆ The preferred gambling activity was reported as casino gambling (26.5%) followed by traditional lottery games (22.1%), non-casino card games (8.8%), lottery video poker (5.2%) and sports betting (4.7%). Approximately 13.1% indicated no favorite gambling activity.
- ◆ There was no relationship between the amount spent per month on gambling and age.
- ◆ As expected, across all gambling activities except stock market gambling, disordered gamblers reported spending several times more per month on gambling than non-problem gamblers.
- ◆ A comparison of the number of respondents classified as disordered gambling by the SOGS when compared to the number so classified by the NODS revealed a critical discrepancy between the instruments with the NODS only identifying approximately half of those so identified by the SOGS.

Due to the small number of disordered gamblers in the sample, these findings should be interpreted with caution.

CONCLUSIONS

The Volberg report concluded that both gambling and the prevalence of problem and probable pathological gambling were down. This finding was consistent with other research conducted by Volberg in states with similar gambling, prevention, and treatment opportunities strongly supporting the notion that concerted statewide prevention and treatment efforts can have an important impact on the prevalence of disordered gambling.

Both reports concluded that designs for future studies to measure changes in gambling and disordered gambling should seriously consider much larger samples, in the neighborhood of 5000 respondents. These larger samples would allow for the identification of larger sub samples of problem and pathological gamblers enabling more meaningful statistical analysis and potential understanding of the demographic and behavioral characteristics of disordered gamblers.

This study as concluded that future epidemiological studies of gambling in Oregon incorporate a much revised dataset of gambling activities.

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INTRODUCTION

The adult gambling prevalence replication study was the last in an initial series of epidemiological studies commissioned by the Oregon Gambling Addiction Treatment Foundation (OGATF) since its founding in 1997. The goal of the first three studies was to establish empirical evidence of estimated rates of disordered gambling among Oregonians. The objective in providing this empirical evidence to the state was envisioned as creating impetus for statewide, data-based strategic planning to better ensure adequate allocation of resources for prevention, identification, referral, and treatment of disordered gamblers and their families.

The first study, in 1997, was commissioned to estimate the prevalence of disordered gambling among adult Oregonians (Volberg, R., 1997). The second study, in 1998, was commissioned to estimate 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, estimating the prevalence of older adult Oregonians (age 62 and over) was conducted in 2000 (Moore, T., 2001) and completed the initial goal of the Foundation to create an empirical baseline of estimated rates of disordered gambling across a wide spectrum of ages.

This current study was commissioned as a replication of the 1997 adult study to document any changes in the prevalence of disordered gambling and gambling behavior in general since publication of that study.

PURPOSE OF THE REPORT

This report is based on a secondary analysis of the data collected for the 2000 replication study. The Principal Investigator for the replication study was Dr. Rachel Volberg of Gemini Research, Incorporated (Volberg, 2001). Dr. Volberg's report focused on her analysis of the data specifically in the areas of changes in the estimated prevalence of disordered gambling and changes in gambling behavior. This report has been prepared as a companion document to the Volberg report and focuses on a detailed description of gambling behaviors.

BACKGROUND

Gambling Opportunities

Oregon, like most states, has dealt with illegal and gray gambling¹ since statehood was achieved. In the 1930's, the state passed legislation that allowed for pari-mutuel wagering and in 1984 initiated the Oregon Lottery. Allowed within the Lottery's initial purview were a variety of traditional lottery games such as regular sweepstakes (lotto) drawings and scratch tickets. Over the next few years, the state expanded the games available to include Megabucks and Powerball²; several varieties of scratch tickets and breakopens (pull-tabs); and, the nation's first state-sponsored sports action lottery. In September 1991, the first Keno machines were made available and following in 1991, the state approved expansion for the

¹ Illegal gambling that is unofficially allowed to continue such as slot machines at private clubs.

² The Lottery has also introduced daily drawings as the games' popularity has risen and fallen.

use of video lottery terminals (VLT)³ with several varieties of video poker as the only available games. In 1992, the first⁴ of eight Indian Gaming Centers (IGC) in the state was opened.

At the time this study was conducted, Oregonians had a variety of gambling opportunities from which to participate ranging from charitable bingo to full scale casinos. Along with the eight IGCs, were approximately 1840 bars and taverns with 9000 VLTs throughout the state. There were several thousand lottery outlets at convenience and food stores where traditional lottery games could be played. Numerous public card rooms and bingo halls along with three pari-mutuel tracks for seasonal live racing and several off-track wagering facilities were also available. Most of these venues were also available in the four states (California, Idaho, Nevada, and Washington) that are contiguous to Oregon.

As in many states, revenues from gambling are big business for Oregon. During the biennium of 1997-1999, the lottery generated revenues for the state of approximately \$617.6 million. Originally, the Lottery was established by a voter-approved initiative dedicated to support economic development in the state. Subsequently voters passed a legislative referral that disbursed substantial Lottery revenues to education. Most recently an initiative was approved to distribute some 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

³ 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.

⁴ 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.

authorized VLTs.⁵ The Lottery actively supports the state's gambling treatment programs through the regular advertising regarding the effectiveness of treatment and how to access care. Additionally, the Lottery has been very active in voluntarily supporting scientific research efforts regarding disordered gambling in the state. The Lottery is the only gambling venue that directly supports the state government financially.

Compacts between the State and the sovereign Indian Tribes have allowed the establishment of eight IGCs. Under the 1988 federal Indian Gaming Regulatory Act, IGCs were able to introduce any game otherwise legal, or regulated, in the state. With the combination of legal charitable gaming and the introduction of VLTs, the Tribes were able to offer all gaming customarily associated with "Las Vegas" style casinos.

Although the IGCs are not required to provide financial support to the state or local governments, they do have foundations that provide economic support to a variety of local causes. The largest of these is the Spirit Mountain Community Fund⁶ that has been very active within the several contiguous counties surrounding the center as well as providing substantial support for statewide scientific efforts. Another example of providing statewide support for important public service is the Chinook Winds Casino community fund.⁷

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

⁵ This was originally set at 3 percent 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 reinstated treatment as 1 percent of the total lottery proceeds. The reader interested in the gambling treatment within the state is invited to see Moore, T., 2000.

⁶ Spirit Mountain IGC is owned by the Confederated Tribes of the Grand Rhone.

⁷ Chinook Winds IGC is owned by the Siletz Tribe.

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 is also restricted to those 18 years and older but this is not strictly adhered to. (Carlson, M., and Moore, T., 1998)

Seasonal pari-mutuel gaming is available in the state at horse and dog tracks although this form of gambling has experienced a marked decline in popularity over the past several years. Off-track gaming is also legally available in several locations in the state.

Gambling, as a mechanism to generate revenues to offset the state’s operational budget is not fully embraced within the political community. There has been lively, and heated, debate with several attempts made within the Legislature to limit, or eliminate, state supported gambling. The most recent legislative effort underway at the time of this report was to significantly alter the Lottery’s mission from one “to produce the maximum amount of net revenues” to benefit the public good, to language that includes the mandate to “operate primarily to control gambling in a manner the minimizes the addictive impact of lottery products...”⁸

Treatment for Disordered Gambling

With the 1991 legislation that authorized the introduction of VLTs the need for treatment of disordered gambling was also 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, 2000, 3,631 disordered gamblers and 653 family members had accessed treatment at one of the 25

active treatment programs. Oregon has been a leader nationally in the development and operation of the gambling treatment programs. (Moore, T., 2000)

Definitions of Disordered Gambling

Estimating prevalence 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 which lasts for a limited amount of time with predetermined acceptable losses” (APA, 1994, p.617). However, for some, 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, 1994). This classification requires individuals to endorse a minimum of five of the ten criteria for which the essential features for a clinical diagnosis of pathological gambling include: a continuous or periodic loss of control over gambling; a progression, in gambling frequency and amounts wagered; a preoccupation with gambling and in obtaining monies with which to gamble; and a continuation of gambling involvement despite adverse consequences. This classification places pathological gambling as an *impulse control*

⁸ House Bill 2292

disorder within the same phenotype that includes intermittent explosive disorder, kleptomania, pyromania, and trichotillomania.

Disordered gambling is also often referred to in the popular and scientific literature as an addiction. This, sometimes confusing, nomenclature has origins in many sources. Most recently, the APA's Diagnostic and Statistic Manual, Revision IV (DSM-IV) classification of pathological gambling contains three criteria that are also found in the classification for alcohol and drug abuse and dependence. These common criteria for dependence between substance and gambling include: preoccupation with the behavior, tolerance (requiring more to achieve the same results), and withdrawal (becoming restless or irritable when attempting to stop or control the behavior).

Even though the APA does not use the term "addiction" for any of the mental disorder classifications, including substance abuse or dependence, the alcohol and drug field has been awash with its use. Historically, the term *gambling addiction* most likely found its way into widespread use in the contemporary literature regarding gambling in the early 20th century. Sigmund Freud was probably one of the most widely referenced authors to associate the term addiction with gambling, believing that it was closely related to substance dependence (Freud, 1961) which he also labeled as an addiction.

Further confounding the classification 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. 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 is the studies’ authors’ rationale for the inclusion of the classification of in-

⁹ The APA does not define problem gambling as a disorder.

transition gambling. They 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) gambling¹¹ as the first level, gamblers with sub-clinical problems¹² as the second, and pathological gambling as the third level.

In order to achieve consistency with the 1997 Oregon adult gambling prevalence study, this effort employed the following terms:

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, 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 instrument¹³ indicated they had experienced problems associated with their gambling but the level of problems was yet sub-clinical (Lesieur and Rosenthal (1991)).

¹⁰ Researchers and clinicians.

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.

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 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 was based on a randomized telephone survey of 1500 adults (18 years and over) residing in Oregon. The data was collected during the period of October through November 2000. The sample was "quite representative of the population in terms of gender, age, and ethnicity" (Volberg, 2001, p. 6). (See Volberg, 2001 pp.4-7 and 1997 pp. 5-7, for a complete discussion of the design and methodology.¹⁵)

The survey consisted of four sections addressing: 1) gambling behaviors; 2) demographic characteristics; 3) SOGS; and, 4) NODS. The position 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

¹⁴ South Oaks Gambling Scale score of 5 points or greater.

¹⁵ Both studies are available for download at the Foundation's web site: gamblingaddiction.org

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.

FINDINGS

This section of the report has been separated into two subsections. The first subsection is a descriptive analysis of the sample in terms of gambling behaviors and preferences and the second subsection is an analysis of the estimated prevalence of disordered gambling as measured by the SOGS and NODS.

The Sample

Disordered Gamblers

Thirty-four of the respondents scored 3 or more points on the SOGS and were classified as past year disordered gamblers.¹⁶ Of the 34, 13 were classified as past year probable pathological gamblers. It is important to note that this study found equal representation of disordered gamblers among males (n = 16) and females (n = 18). (See Volberg, R., 2001 for a complete description and discussion of problem and probable pathological gamblers in Oregon.)

Age and Gender and Disordered Gambling

Of the 1500 individuals responding to the survey, 743 (49.5 percent) were male and 757 (50.5 percent) were female. The average age overall was 46.2 years (n = 1500, standard

¹⁶ Twenty-one were classified as problem gamblers with a SOGS score of 3 or 4 and 13 were classified as probable pathological gamblers with a SOGS score of 5 or more points. Due to the very small number of disordered gamblers and to facilitate discussion only the combined classifications are presented.

deviation [sd] = 18.1 years). Females were significantly¹⁷ older (48.0 years, sd = 19.0 years) than males (44.2 years, sd = 17.0 years). *Table 1. Age, Gender, and Past Year Disordered Gamblers* is a presentation of the number of individuals by gender in each of the age stratum

Age	18-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	75 > Years	All Ages
All	158	307	290	307	190	129	90	1471
Disordered	9	10	6	6	1	1	0	33
Males	86	168	146	157	86	62	30	735
Disordered	7	3	2	3	1	0	0	16
Females	72	139	144	150	104	67	60	736
Disordered	2	7	4	3	0	1	0	17

including the number of disordered gamblers in each cell. As can be seen, 29 of the respondents refused to give their age, of these, one was also classified as a disordered gambler.

Over half (55.9 percent) of those classified as disordered gamblers were in the 18 to 34 year old age group. For comparison, the average age of individuals seeking treatment in the state-funded gambling treatment programs in Fiscal Year (FY) 1999-2000 was 42.4 years (n = 973, sd = 11.2 years) (Moore, T., 2000, p. 16).

¹⁷ T test p < .01

Racial and Ethnic Representation

Approximately 11.7 percent of the sample indicated they identified as a racial or ethnic minority. As has been the case with the three previous gambling prevalence studies, minorities were slightly under-represented in the sample. *Table 2. Race/Ethnicity, Gender,*

Race Ethnicity	White	Native American	Hispanic	Black	Asian	South- East Asian	All
All	1357	36	34	20	20	6	1473
Disordered	25	5	2	2	0	0	34
Males	665	22	15	12	11	1	726
Females	692	14	19	8	9	5	747

and Disordered Gambling is a presentation of this data and shows that there is some suggestion that the minority groups, except for Asians, are over-represented with individuals classified as disordered gambling. This data very cautiously¹⁸ suggests that the portion of Whites being classified as past year disordered gamblers was approximately 1.8 percent¹⁹ compared to approximately 11.7 percent for all racial and ethnic minorities combined.²⁰ Due to the very small number of individuals in the non-White groups, this finding should be interpreted with great caution. Notwithstanding, a 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)

¹⁸ Due to the extremely small sample size this "prevalence" information should be interpreted with great caution.

¹⁹ Numerator (disordered gamblers among Whites) = 25 and the denominator (Whites) = 1357.

²⁰ Numerator (disordered gamblers among non-Whites) = 9 and the denominator (non-Whites) = 116.

Education

Of those responding (n = 1493) to the highest level of education attained, 5.6 percent indicated elementary or some high school, 29.5 percent indicated they had completed high school or had General Education Diploma (GED), 33.4 percent had completed some college, 19.7 percent had completed college, and approximately 11.9 percent had completed at least

Table 3. Education, Gender, and Disordered Gamblers

Education	Elementary Some HS	HS GED	Some College	College Graduate	Graduate Studies	All
All	83	440	499	294	177	1493
Disordered	1	13	11	6	3	34
Males	49	221	234	146	89	739
Females	34	219	265	148	88	754

some graduate studies. As can be seen in *Table 3. Education, Gender, and Disordered Gambling* there was no significant difference in the level of education between the genders. There was also no statistically significant difference in the proportion of disordered gamblers represented within the education strata.²¹

Marital Status

Of those responding to the question regarding marital status, 21.0 percent indicated they were never married, 54.7 percent indicated being married or co-habiting with a partner, 15.8 percent were divorced, 2.3 percent separated, and approximately 6.3 percent were

²¹ Due to the small number of disordered gamblers in the college graduates and graduate studies, these two cells were combined for the statistical analysis.

widowed. Those reporting as never married were significantly²² more likely to also be classified as disordered gamblers than those who were married or living with a partner. 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. Females were significantly²³ more likely than males to be married or living with a partner than males but were no less likely to be divorced or separated. This data is presented in *Table 4. Marital Status, Gender, and Disordered Gamblers.*

Status	Never Married	Married Co-habit	Divorced	Separated	Widowed	All
All	312	812	234	34	93	1485
Disordered	11	12	6	3	2	34
Males	185	411	109	15	21	741
Females	127	401	125	19	72	744

Number of Adults Living in Household

As can be seen in *Table 5. Number of Adults Living in Household*, the average number of adults living in the household was approximately 2.²⁴ Interestingly, overall, females were statistically more likely to live in smaller households than males²⁵ Disordered gamblers, were significantly more likely to live in households with more persons 18 and over than the

²² chi square $p < .05$

²³ chi square $p < .01$.

²⁴ This question was included in the original 1997 study as a possible means at looking at number of adults and total household income to match data being collected in the treatment programs.

²⁵ t test $p < .05$

general sample.²⁶ As would be expected, as age increased, the number of individuals 18 and over living in the household decreased.

Table 5. Number of Adults Living in Household

Age	18-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	75 > Years	All Years
All	2.4 157 - 1.3	2.0 306 - 0.8	1.8 287 - 0.7	2.0 305 - 0.9	1.8 184 - 0.7	1.7 127 - 0.6	1.5 87 - 0.6	1.9 1477 - 0.9
Males	2.6 86 - 1.6	2.0 167 - 0.8	1.8 146 - 0.6	2.0 157 - 0.9	1.8 84 - 0.6	1.8 62 - 0.5	1.7 30 - 0.7	2.0 739 - 0.9
Females	2.1 71 - 0.8	1.9 139 - 0.8	1.9 141 - 0.7	2.1 148 - 0.8	1.8 100 - 0.7	1.6 65 - 0.6	1.4 57 - 0.5	1.9 738 - 0.8
Disordered Gamblers	2.4 9 - 1.3	2.2 10 - 0.9	2.2 5 - 0.4	2.1 6 - 0.9	3.0 1 - 0.00	1.0 1 - 0.00	0 0 - 0.00	2.2 33 - 1.0

Employment Status

As can be seen in *Table 6. Employment, Gender, and Disordered Gambling*, approximately 55.8 percent of the respondents reported being employed full-time, 10.6

Table 6. Employment, Gender, and Disordered Gamblers

Employment	Full-Time	Part-Time	Student	House Keeper	Disabled	Retired	Unemployed	All
All	829	158	57	134	26	240	41	1485
Disordered	21	5	2	2	2	1	1	34
Males	488	47	30	12	11	119	32	739
Females	341	111	27	122	15	121	9	746

percent reported part-time employment, and 3.8 percent indicated they were students. Nine

²⁶ t test p < .05

percent indicated they managed their home, 1.8 percent were disabled, 16.2 percent were retired, and 2.8 percent indicated they were unemployed. Males were significantly more likely to be working, and significantly more likely to be working at a full-time jobs than females.²⁷ It was impossible to statistically compare the ratio of disordered gambling among all the employment categories due to the very small number of disordered gamblers in each cell. Nonetheless, at the macro level of employment (full-time and part-time) compared with all other categories there was not a statistically significant difference in the portion of disordered gamblers. This finding should also be interpreted with a great deal of caution.

Of those that reported working at some point in their lives, the largest group of survey participants reported working in the service sector (31.6 percent) including clerical, sales, retail, and other service. This was followed by professional and technical 26.7, manager or proprietor (10.3 percent), laborer (8.9 percent), craftsman (7.3 percent), semi-skilled (3.6 percent), farm and agriculture (1.9 percent), and other (5.0 percent). (See *Table 6a and 6b. Field of Employment, Gender, and Disordered Gambling.*)

Table 6a. Field of Employment, Gender, and Disordered Gamblers

Employment	Professional Technical	Manager Proprietor	Clerical	Sales	Retail	Other Service
All	288	111	80	66	39	202
Disordered	3	6	4	1	2	7
Males	150	66	8	39	19	77
Females	138	45	72	27	20	125

²⁷ Both statistics - chi square $p < .01$

Males were significantly²⁸ more likely to report themselves as working in the professional or technical field than females although there was no significant difference in the proportion of males to females when comparing professional with manager. There was no

Table 6b. Field of Employment, Gender, and Disordered Gamblers (Continued)

Employment	Laborer	Craftsman	Semi-Skilled	Farm AG	Other	All
All	96	78	39	20	54	1073
Disordered	3	0	1	1	1	29
Males	78	72	34	14	31	588
Females	18	6	5	6	23	485

significant difference in the representation of disordered gamblers when comparing the combined professional and manager groups with all other groups.

Household Size

The average number of persons 18 years and older living in the households of the respondents was, overall 1.93. Females reported living alone slightly, but significantly²⁹, more often (average number of adults in household was 1.88) than males (1.98 persons). Interestingly, the disordered gamblers reported slightly, but significantly³⁰ more adult persons living in their household per household overall (2.24 persons) than the entire sample.

Income

Approximately 23.3 percent of those responding to the question regarding income had an estimated annual household income of \$25,000 or less a year. A little over 37.3 percent

²⁸ chi square $p < .01$

²⁹ t test $p < .05$

indicated an annual household income of between \$25,001 and \$50,000, 21.8 percent between \$50,001 and \$75,000, 9.7 percent between \$75,001 and \$100,000, and 7.9 percent reported an

Table 7a. Income, Gender, and Disordered Gamblers

Income	\$ 0 - 15,000	\$ 15,001- 25,000	\$25,001- 35,000	\$ 35,001- 50,000	\$ 50,001- 75,000
All	119	144	164	258	246
Disordered	3	4	4	7	6
Males	53	68	79	141	132
Females	66	76	85	117	114

estimated annual household income of over \$100,001. Disordered gamblers were evenly distributed among these income groups. Females were significantly³¹ 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. This information is presented in *Tables 7a and 7b. Income, Gender, and Disordered Gambling.*

Table 7b. Income, Gender, and Disordered Gamblers (Continued)

Income	\$ 75,001- 100,000	\$100,001- 125,000	\$ 125,001 +	All
All	110	51	38	1130
Disordered	2	0	2	28
Males	64	28	27	592
Females	46	23	11	538

³⁰ t test $p < .05$

³¹ chi square $p < .01$

Religious Preference

Of the 1373 participants indicating a religious preference, 57.6 percent indicated Protestant, 15.9 percent Catholic, 1.5 percent Jewish, 1.5 percent Buddhist, 0.1 percent Muslim and 23.3 percent indicated other religious preferences. Males were significantly³² more likely to report other religious preferences than females. There was no significant difference in the representation of disordered gamblers among the categories of religious preference. This information is presented in *Table 8. Religious Preference, Gender, and Disordered Gambling*.

Table 8. Religious Preference, Gender, and Disordered Gamblers

Preference	Protestant	Catholic	Jewish	Buddhist	Muslim	Other	All
All	791	218	21	21	2	320	1373
Disordered	15	7	0	1	0	10	10
Males	349	112	10	8	1	191	191
Females	442	106	11	13	1	129	129

Urban - Rural

Approximately 58.6 percent (n = 879) of the respondents were from counties considered urban (Clackamas, Lane, Marion, Multnomah, and Washington counties) while the remainder were from rural counties. The representation of disordered gamblers among the urban counties was 2.3 percent and the representation in the rural counties was also 2.3 percent. The Foundation's older adult prevalence study completed at the same time suggested

³² chi square $p < .01$

that the prevalence of disordered gambling was greater in the urban counties (Moore, T., 2001).

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,³³ and finally, an estimate of the amount spent in a typical month. Respondents were also asked what their preferred gambling activity was as well as the location where they usually engaged in that activity.

In an effort to provide a cogent discussion of gambling activity, this section of the report is devoted to a discussion of the gambling behaviors, gambling preferences, and general characteristics of individuals that gambled in the past year by activity.

Lifetime Gambling Activity

Approximately 78.2 percent of the respondents reported any lifetime gambling activity. Males were significantly³⁴ (83.9 percent) more likely to report lifetime gambling

³³ Due to the very small fluctuation in the average number of days gambled per month, this information is presented in a summary format at the end of this subsection of the report.

³⁴ chi square $p < .01$

than females (75.5 percent). The lifetime rate of disordered gambling³⁵ was approximately 4.5 percent (n = 67). This information is presented in *Table 9a. Lifetime Gambling Activity*.

Table 9a. Lifetime Gambling Activity

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
All	128	256	239	249	148	97	56	1173
Lifetime Disordered	14	18	14	15	3	2	1	67
Males	70	145	123	132	74	51	22	617
Females	58	111	116	117	74	46	34	556

Lifetime rates of disordered gambling are of historical interest, but for policy purposes “past-year rates provide a better representation of the current state of gambling...{and}...represent the potential number of disordered gambling cases that are active during the {period}” (Shaffer, Hall, Vander Bilt, 1997, p. iii.) To be consistent with this rationale and the purpose of the study, only the past year rates are used for analysis in this study.

Preferred Gambling Activity - Lifetime

As can be seen in *Table 9b. Preferred Gambling Activity - Lifetime*, Lottery games (traditional lottery games 22.1 percent and lottery video poker 5.2 percent) were reported by 27.3 percent of those responding as a favored gambling activity. This was followed very closely by casino gambling (casino - not video poker 23.3 percent and casino video poker 3.5 percent) reported at 26.8 percent and distantly by cards (8.8 percent), organized sports games

³⁵ This figure is presented for presentation purposes only. Lifetime rates as generated by the instruments utilized tend to over estimate prevalence rates. Classification of disordered gambling requires the symptoms to have

other than the Lottery's Sports Action game (4.7 percent), non-casino slot machines (4.4 percent),³⁶ and games of skill (4.0 percent). All other types of gambling activity accounted for less than 4 percent each of the distribution of preferences.

Table 9b. Preferred Gambling Activity - Lifetime

Activity	n	%	Activity	n	%
Casino- not Video Poker	254	23.3	Charitable	35	3.2
Traditional Lottery	241	22.1	Non-Casino Bingo	28	2.6
Non-Casino Cards	96	8.8	Animals	16	1.5
Lottery Video Poker	57	5.2	Stock/Commodities	13	1.2
Sports Games	51	4.7	Non-Casino Dice	12	1.1
Non-Casino Slots	48	4.4	Phone/Computer	0	0.0
Skill Games	44	4.0	Other	14	1.3
Casino Video Poker	38	3.5	No Favorite	143	13.1
Total				1090	

occurred in the past 12 months. Looking back over an entire lifetime artificially compresses symptoms into a shorter time-frame.

³⁶ 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.

Distance Traveled to Favorite Gambling Activity

Slightly over 59.7 percent of those responding to the question regarding the distance traveled to participate in their favorite gambling activity indicated up to 15 miles while 25.0 percent indicated traveling over 60 miles. Approximately 52.9 percent (n = 18) 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 9b1a. Distance Traveled to Favorite Gambling Activity

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
0 - 15 Miles								
All	90	152	133	149	59	38	14	635
Disordered	5	5	3	4	0	1	0	18
Males	44	84	68	84	29	25	4	338
Females	46	68	65	65	30	13	10	297
16 - 30 Miles								
All	6	15	8	11	9	6	4	59
Disordered	2	2	1	1	1	0	0	7
Males	4	9	6	9	5	1	4	34
Females	2	6	2	2	4	5	0	25

**Table 9b1b. Distance Traveled to Favorite Gambling Activity
(Continued)**

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
31 - 45 Miles								
All	2	7	9	6	5	4	2	35
Disordered	0	0	1	0	0	0	0	1
Males	1	5	4	4	3	1	2	20
Females	1	2	5	2	2	3	0	15
46 - 60 Miles								
All	7	15	13	12	11	6	4	68
Disordered	2	0	0	0	0	0	0	2
Males	5	9	7	7	3	2	1	34
Females	2	6	6	5	8	4	3	34
60 + Miles								
All	18	55	52	51	46	30	14	266
Disordered	0	3	1	1	0	0	0	5
Males	13	31	23	18	23	16	4	128
Females	5	24	29	33	23	14	10	138

Past Year Gambling Activity

Approximately 59.6 percent (n = 894) of the sample reported any past year gambling activity. Males were significantly³⁷ more likely (65.3 percent) to report past year gambling than females (56.3 percent) as can be seen in *Table 10a. Past Year Gambling - Any Activity*.

Approximately one-third (34.2 percent) of those that reported past year gambling reported participating in only one activity. Males were significantly³⁸ more likely to report

³⁷ chi square p < .01

³⁸ chi square p < .01

participating in more than one gambling activity in the past year (69.8 percent) than females (38.9 percent). (See *Table 10b. Past Year Gambling - Only One Activity.*)

Table 10a. Past Year Gambling - Any Activity

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
All	111	121	185	177	110	71	28	894
Disordered	9	10	6	6	1	1	0	33
Males	66	125	92	94	59	38	6	480
Females	45	87	93	83	51	33	22	414

Table 10b. Past Year Gambling - Only One Activity

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
All	29	60	67	69	40	29	12	306
Disordered	1	0	1	0	0	0	0	2
Males	16	36	28	32	16	15	2	145
Females	13	24	39	37	24	14	10	161

Weekly gambling (gambling at least on a weekly basis) on any activity was reported by 22.1 percent of those who reported any past year gambling. Males reporting weekly gambling represented 24.4 percent of the males that gambled and females reporting weekly gambling represented 19.6 percent of the females that reported past year gambling. This difference was not statistically significant.

Of interest, in *Table 10c. Weekly Gambling*, is the finding that only 55.9 percent (n = 19) of those classified as disordered gamblers reported weekly gambling supporting the notion that disordered gamblers do not necessarily reflect the myth that such individuals are gambling all the time.

Table 10c. Weekly Gambling

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
All	28	45	41	40	15	21	8	198
Disordered	4	8	3	3	0	1	0	19
Males	19	29	23	26	8	11	1	117
Females	9	16	18	14	7	10	7	81

Traditional Lottery Gambling Activity

Slightly over 67.2 percent of those reporting past year gambling (n = 601) indicated they had engaged in traditional lottery (not video poker) games in the past year.

Approximately 67.9 percent of males who gambled in the past year reported engaging in these activities (n = 326) and 66.4 percent of females (n = 275) so reported. This difference was not statistically significant. Participation by age strata was not significantly different. Of the 34 disordered gamblers in the sample, 31 reported past year activity with traditional Lottery games. Disordered gamblers were no more likely to participate in traditional lottery gambling activities (n = 31) than in any of the other activities combined. (See *Table 11a. Traditional Lottery - Gambling Activity*.)

Table 11a. Traditional Lottery - Gambling Activity

Age	18-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	75 > Years	All Ages
Gambled in Past Year								
All	77	142	134	116	77	47	8	601
Disordered	8	10	5	5	1	1	1	30
Males	46	78	70	63	42	26	7	326
Females	31	64	64	53	35	21	0	275
Gambled Weekly								
All	17	27	29	27	10	14	2	126
Disordered	2	4	2	1	0	1	0	10
Males	10	15	15	18	5	6	0	69
Females	7	12	14	9	5	8	2	57

The average amount reported spent on this activity per month across all ages was \$10.75 (n = 598, sd = 25.08). Males, on the average reported spending slightly more (\$11.77,

Table 11b. Traditional Lottery Gambling - Monthly Amount Spent

Average in Dollars

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	15.73 77 - 46.23	8.44 142 - 12.31	10.55 128 - 21.89	12.08 115 - 29.93	7.84 75 - 10.77	10.08 46 - 16.63	5.14 7 - 2.03	10.57 598 - 25.08
Males	19.04 46 - 58.74	9.33 78 - 14.65	11.53 68 - 17.08	10.94 63 - 13.22	10.19 42 - 13.10	12.04 25 - 20.10	4.00 1 - 0.00	11.77 325 - 26.42
Females	10.81 31 - 12.15	7.35 64 - 8.50	9.43 60 - 26.26	13.46 52 - 42.02	4.85 33 - 5.40	7.76 21 - 10.71	5.33 6 - 2.13	9.13 273 - 23.31
Disordered Gamblers								35.55 31 - 84.92

n = 325, sd = 26.42)) per month than females (\$9.13, n = 273, sd = 23.31). Participants classified as disordered gamblers reported spending over three times as much per month (\$35.55, n = 31, sd = 84.92) as non-problem gamblers as can be seen in *Table 11b*.

Traditional Lottery - Monthly Amount Spent.

Of the 601 respondents reporting gambling in the past year on traditional lottery games, 554 indicated a preferred traditional Lottery activity. As can be seen in *Table 11c*.

Preferred Traditional Lottery Activities, Scratch-It games were the most popular, followed closely by Megabucks. Females were significantly more likely to prefer Scratch-It games and males more likely to prefer Megabucks and Powerball.³⁹

Activity	n	%	Males	Females	Disordered
Scratch-Its	192	34.7	85	107	14
Megabucks	186	33.6	105	81	7
Powerball	98	17.7	66	32	2
Keno	47	8.5	26	21	3
Sports Action	7	1.3	5	2	0
Pulltabs	1	0.2	0	1	0
Daily Four	0	0	0	0	0
Other	23	4.2	7	16	1
Total	554		294	260	27

As can be seen in *Table 11d. Lifetime Traditional Lottery Gambling*, of those that reported any lifetime gambling, 78.6 percent (n = 922) reported gambling on traditional lottery games. Males and females were equally distributed in past year and lifetime

³⁹ chi square p < .05

participation in these activities. Past year gamblers were significantly more likely⁴⁰ to report gambling on traditional lottery games than lifetime gamblers. Nonetheless, this is most likely due to a statistical bias created by availability.

Table 11d. Lifetime Traditional Lottery Gambling

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
All	109	213	195	199	114	68	24	922
Males	61	116	101	106	56	35	7	485
Females	48	97	94	90	58	33	17	437

Lottery Video Poker

Of those reporting past year gambling, 33.7 percent (n = 301) indicated participating

Table 12a. Lottery Video Poker - Gambling Activity

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
Gambled in Past Year								
All	42	91	66	52	25	19	6	301
Disordered	6	8	4	4	0	1	0	23
Males	28	58	38	36	20	12	2	194
Females	14	33	28	16	5	7	4	107
Gambled Weekly								
All	5	9	6	10	5	1	0	36
Disordered	2	3	1	2	0	1	0	9
Males	4	4	2	6	4	0	0	20
Females	1	5	4	4	1	1	0	16

⁴⁰ chi square p < .01

in Lottery video poker. Males were significantly more likely to report past year Lottery video poker playing (40.4 percent) than females (25.8 percent).⁴¹ Females who participated in Lottery video poker were more likely to report weekly activity (15.0 percent) than males (10.3 percent) but this difference was not statistically significant. Slightly over 67.6 percent (n = 23) of the disordered gamblers reported participating in Lottery video poker. (See *Table 12a. Lottery Video Poker - Gambling Activity.*)

Females reported higher monthly spending on the activity (\$54.60, n = 108, sd = 158.23) than males (\$28.99, n = 194, sd 73.08) although this difference was not statistically significant.

The difference between the estimated amount spent each month by disordered gamblers (\$135, n = 24, sd = 237.82) was 3.5 times as great as the average of all individuals who reported spending money on Lottery video poker (\$38.15, n = 302, sd = 111.97). This

Table 12b. Lottery Video Poker Gambling - Monthly Amount Spent
Average in Dollars
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	61.35 42 - 168.19	19.44 89 - 35.18	24.52 66 - 66.40	41.90 52 - 103.97	76.92 24 - 154.11	82.47 17 - 232.38	15.00 5 - 17.61	38.15 302-111.97
Males	37.39 28 - 96.06	18.81 57 - 36.44	17.63 38 - 23.02	17.92 36 - 22.35	89.95 20 - 165.73	34.50 10 - 45.56	7.50 2 - 2.50	28.99 194 - 73.08
Females	109.29 14 - 250.92	20.56 32 - 32.80	33.86 28 - 97.57	95.88 16 - 173.63	11.75 4 - 8.32	151.00 7 - 346.68	20.00 3 - 21.21	54.60 108-158.23
Disordered Gamblers								135.79 24 - 237.82

⁴¹ chi square p < .01

difference was statistically significant.⁴² (*Table 12b. Lottery Video Poker - Monthly Amount Spent*).

It should be noted that both the 18 to 24 year old and the 65 to 74 year old female groups each had a representative that reported spending an estimated \$1000.00 per month causing the average expenditures for these two strata to have elevated averages as well as large variances (sd).

Of the 302 respondents indicating participation in Lottery video poker playing, 299 indicated a preferred location. As can be found in *Table 12c. Preferred Lottery Video Poker*

Table 12c. Preferred Lottery Video Poker Location

Location	n	%	Males	Females	Disordered
Tavern/Bar	169	56.5	112	57	18
Restaurant/Lounge	75	25.1	49	26	2
Grocery Store	19	6.4	13	6	0
Bowling Alley	12	4.0	7	5	0
Deli	7	2.3	1	6	3
Other	17	5.7	12	5	0
	299		194	105	23

Location, approximately 56.5 percent indicated they participated in a tavern or bar, followed by 25.1 percent who indicated they played in a restaurant or lounge. This preference was evenly distributed between males and females.

Nearly 41.7 percent (n = 489) of those reporting lifetime gambling indicated they had gambled on Lottery video poker machines. Interestingly, and converse to the findings for

⁴² z Test p < .01

traditional lottery games, lifetime gamblers were significantly⁴³ more likely to report gambling on this activity than past year gamblers (33.7 percent). This finding would suggest that people have tried this activity but did not continue it in the past year. *Table 12d. Lifetime Lottery Video Poker Gambling.*)

Table 12d. Lifetime Lottery Video Poker Gambling

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
	Years	Years	Years	Years	Years	Years	Years	Ages
All	49	139	109	95	54	34	9	489
Males	32	84	60	60	35	18	4	293
Females	17	55	49	35	19	16	5	196

Casino Gambling

Of those who reported past year gambling, 46.4 percent (n = 415) indicated they had

Table 13a. Casino Gambling Activity

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
	Years	Years	Years	Years	Years	Years	Years	Ages
Gambled in Past Year								
All	51	101	62	85	61	41	14	415
Disordered	7	5	4	6	1	0	0	23
Males	30	61	35	46	33	18	3	226
Females	21	40	27	39	28	23	11	189
Gambled Weekly								
All	0	1	2	1	2	2	1	9
Disordered	0	1	0	1	0	0	0	2
Males	0	0	2	0	1	0	0	3
Females	0	1	0	1	1	2	1	6

⁴³ chi square p < .01

gambled at a casino or Indian Gambling Center during the past year. Slightly over 47.0 percent of the males (n = 226) that reported past year gambling reported gambling in a casino, and a nearly equal proportion of the females (45.7 percent , n = 189) so reported, as can be seen in *Table 13a. Casino Gambling Activity*. Disordered gamblers are as likely to participate in casino gambling (n = 23) as in Lottery video poker.

The average monthly expenditure, overall, for casino gambling was \$58.50 dollars (n = 389, sd = 161.22). Males reported a higher average monthly expenditure of \$67.15 (n= 208, sd = 149.54) than females (\$48.56, n = 181, sd = 173.16) although this difference was not statistically significant. Individuals classified as disordered gamblers reported spending slightly over 4 times as much as all casino gamblers. This difference was significantly higher⁴⁴ (\$238.48, n = 23, sd = 437.73) than that reported by all casino gamblers. (*Table 13b. Casino Gambling - Monthly Amount Spent.*)

<i>Table 13b. Casino Gambling - Monthly Amount Spent</i>								
<i>Average in Dollars</i>								
<i>n - sd</i>								
Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
	Years	Years	Years	Years	Years	Years	Years	Years
All	73.26 50 - 158.50	69.6 95 - 161.56	60.69 61 - 254.23	34.50 77 - 74.28	74.84 56 - 177.01	32.85 33 - 42.72	30.67 12 - 36.46	58.50 389-161.22
Males	95.52 29 - 199.99	73.91 57 - 161.01	42.41 34 - 52.06	36.95 40 - 71.61	108.77 31 - 221.43	43.67 12 - 58.62	12.67 3 - 5.25	67.15 208-149.54
Females	42.52 21 - 54.32	63.13 38 - 162.15	83.70 27 - 376.38	31.84 37 - 76.99	32.76 25 - 78.65	26.67 21 - 28.28	36.67 9 - 40.24	48.56 181-173.16
Disordered Gamblers								238.48 23 - 437.73

⁴⁴ t test p < . 01

Of those reporting a preferred casino activity (n = 408), slot machines, other than video poker, were the most preferred activity (54.4 percent). Females were significantly⁴⁵ more likely (66.7 percent, n = 124) than males (44.1 percent, n = 98) to prefer slot machines. Conversely, males were significantly⁴⁶ more likely to prefer cards (27.9 percent, n = 62) than females (11.3 percent, n = 21). (Table 13c. Casino - Preferred Activity.)

Table 13c. Casino Gambling - Preferred Activity

Location	n	%	Males	Females	Disordered
Other Slots	222	54.4	98	124	9
Cards	83	20.3	62	21	7
Video Poker	40	9.8	21	19	2
Roulette	18	4.4	14	4	1
Keno	17	4.2	8	9	0
Dice	15	3.7	13	2	1
Bingo	11	2.7	5	6	3
Other	2	0.5	1	1	0
Total	408		222	186	23

Of those who reported past year casino gambling, females were significantly⁴⁷ more likely (75.7 percent, n = 143) to indicate a preference for casinos inside Oregon than males (59.7 percent, n = 135). Conversely, males were significantly⁴⁸ more likely to report a preference for casino gambling outside Oregon, or both inside and outside Oregon, than females. (Table 13d. Casino - Preferred Location.)

⁴⁵ chi square p < .01

⁴⁶ chi square p < .01

⁴⁷ chi square p < .01

⁴⁸ chi square p < .05

Table 13d. Casino Gambling - Preferred Location

Location	n	%	Males	Females	Disordered
In Oregon	278		135	143	15
Outside Oregon	85		55	30	5
Both	52		36	16	3
Total	415		226	189	23

Approximately 63.2 percent (n = 741) of lifetime gamblers reported gambling in a casino in their lifetime. This is a significantly ⁴⁹ larger portion of the gamblers when

Table 13e. Lifetime Casino Gambling

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
All	66	183	141	157	103	62	29	741
Males	37	100	73	88	51	31	10	390
Females	29	83	68	69	52	31	19	351

compared to past year gamblers (46.4 percent). Males compared to females were equally as likely to report lifetime and past year casino gambling.

Charitable Gambling

Approximately 35.5 percent (n = 317) of those reporting past year gambling reported participating in charitable gambling activities. Males (36.3 percent, n = 174) were no more likely to participate in charitable gambling than females (34.5 percent, n = 143). Disordered gamblers were no more likely to participate in charitable gambling (n = 12) than in any of the

⁴⁹ chi square p < .01

other activities combined. Weekly charitable gambling activity was rarely reported. (Table

Table 14a. Charitable Gambling Activity

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
Gambled in Past Year								
All	40	80	74	65	30	18	10	317
Disordered	4	5	1	2	0	0	0	12
Males	26	45	37	38	16	11	1	174
Females	14	35	37	27	14	8	9	143
Gambled Weekly								
All	2	2	3	1	1	0	2	11
Disordered	0	1	0	0	0	0	0	1
Males	1	1	2	1	1	0	0	6
Females	1	1	1	0	0	0	2	5

14a. Charitable Gambling Activity.)

As can be seen in Table 14b. Charitable Gambling - Monthly Amount Spent, the average monthly expenditure for charitable gambling was reported as 21.20 (n = 300, sd = 75.15). Although males reported a higher monthly expenditure (\$24.44, n = 162, sd = 63.07)

Table 14b. Charitable Gambling - Monthly Amount Spent
Average in Dollars
n - sd

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Years
All	40.65	30.30	10.00	12.93	20.07	21.19	18.29	21.20
	37 - 101.88	77 - 116.43	72 - 30.00	61 - 20.79	27 - 58.47	16 - 59.31	7 - 33.26	300 - 75.15
Males	48.04	22.63	15.11	16.86	29.57	33.56	15.00	24.44
	23 - 124.28	43 - 43.34	36 - 35.28	36 - 25.53	14 - 75.98	9 - 76.74	1 - 0.00	162 - 63.07
Females	28.50	40.00	4.89	7.28	9.85	5.29	18.83	17.38
	14 - 42.71	34 - 167.80	36 - 7.41	25 - 7.85	13 - 26.14	7 - 4.30	6 - 35.89	138 - 86.51
Disordered Gamblers								151.00
								12 - 304.15

than females (\$17.38, n = 138, sd = 86.51) this difference was not significant. Disordered gamblers reported spending approximately 7 times as much (\$151.00, n = 12, sd = 304.15) each month on charitable gambling than all those reporting monthly expenditures on charitable gambling.

As shown in *Table 14c. Lifetime Charitable Gambling*, nearly 58.2 percent (n = 683) of the lifetime gamblers reported lifetime charitable gambling. This is a significantly⁵⁰ larger

	Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
	Years	Years	Years	Years	Years	Years	Years	Years	Ages
All		63	156	146	141	93	58	18	683
Males		37	88	73	74	52	31	8	363
Females		26	68	73	67	41	27	26	320

proportion of lifetime gamblers reporting this activity than past year gamblers. There was no difference in the ration of males and females reporting this activity.

Games of Skill Gambling

Approximately 15.9 percent of those reporting past year gambling reported betting on games of skill. As expected, males were three times as likely to gamble on games of skill (23.1 percent, n = 111) as females (7.5 percent, n = 31).⁵¹ Interestingly, of those reporting gambling on games of skill, males were no more likely (18.9 percent) to report weekly gambling on the activity than females (19.4 percent). (*Table 15a. Games of Skill Gambling Activity.*)

Table 15a. Games of Skill Gambling Activity

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
Gambled in Past Year								
All	41	35	28	18	10	9	1	142
Disordered	7	3	2	3	0	0	0	15
Males	35	29	16	14	7	9	1	111
Females	6	6	12	4	3	0	0	31
Gambled Weekly								
All	6	7	7	3	0	4	0	27
Disordered	1	3	1	0	0	0	0	5
Males	5	5	4	3	0	4	0	21
Females	1	2	3	0	0	0	0	6

Slightly over 44.1 percent of the disordered gamblers (n = 15) reported gambling on games of skill in the past year.

The average monthly expenditure for gambling on games of skill was reported at \$19.76 (n = 137, sd = 33.54). Males bet more on this activity (\$20.63, n = 106, sd = 36.54) than females (\$16.77, n = 31, sd = 19.83) yet the difference was not statistically significant.

*Table 15b. Games of Skill Gambling - Monthly Amount Spent
Average in Dollars
n - sd*

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Years
All	17.23 39 - 19.71	28.94 34 - 45.08	12.85 27 - 17.11	13.76 17 - 13.36	26.00 9 - 61.61	30.88 8 - 47.44	1.00 1 - 0.00	19.76 137 - 33.54
Males	16.27 33 - 19.90	30.64 28 - 48.11	11.60 15 - 15.91	10.23 13 - 7.30	33.14 7 - 68.19	30.88 8 - 47.44	1.00 1 - 0.00	20.63 106 - 36.54
Females	22.50 6 - 17.74	17.33 6 - 23.81	14.42 12 - 18.39	25.25 4 - 20.31	1.00 2 - 0.00	0 0 - 0.00	0 0 - 0.00	16.77 31 - 19.83
Disordered Gamblers	chi-square p < .01							47.47 15 - 50.39

Disordered gamblers reported spending approximately two times as much (\$47.47, n = 15, sd = 50.39) as all gamblers in this activity and the difference was statistically significant.⁵² It is of interest to note that females in the age strata of 18 to 24 years, 35 to 44 years, and 45 to 54 years old reported monthly expenditures in excess of their male counterparts.

Twenty-four percent (n = 281) of the lifetime gamblers indicated they had gambled on games of skill. The proportion of gambling on this activity, compared to past year gamblers

Table 15c. Lifetime Games of Skill Gambling

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
All	52	64	54	51	30	23	7	281
Males	46	52	35	40	24	22	6	225
Females	6	12	19	11	6	1	1	56

(15.9 percent) was significantly greater⁵³ for lifetime gambling. There was no significant difference in the ratio of males to females participating in this activity when comparing lifetime to past year activity.

Sporting Event Gambling

Gambling on sporting events, other than the Lottery's Sports Action game, was reported by 15.1 percent of those who indicated past year gambling. Males were significantly⁵⁴ more likely to report gambling on sporting events (19.4 percent) than females

⁵² T test p < .01

⁵³ chi square p , .01

⁵⁴ chi square p < .01

(10.4 percent). Males were also more likely than females to be weekly gamblers on sporting events. (Table 16a. Sporting Event Gambling Activity.)

Table 16a. Sporting Event Gambling Activity

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
Gambled in Past Year								
All	31	38	23	28	9	5	1	135
Disordered	4	4	0	3	0	0	0	11
Males	24	27	14	18	6	4	1	93
Females	7	11	9	10	3	1	0	43
Gambled Weekly								
All	6	9	4	0	0	0	1	20
Disordered	1	1	0	0	0	0	0	2
Males	6	7	4	0	0	0	0	17
Females	0	2	0	0	0	0	1	3

Approximately 32.4 percent of the disordered gamblers (n = 11) reported betting on sporting events during the past year.

As shown in Table 16b. Sporting Event Gambling - Monthly Amount Spent, the

Table 16b. Sporting Event Gambling - Monthly Amount Spent
Average in Dollars
n - sd

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Years
All	23.23 30 - 29.09	36.79 38 - 73.15	8.23 22 - 10.39	7.41 27 - 15.20	7.25 8 - 7.56	8.25 4 - 7.63	4.00 1 - 0.00	19.63 131 - 44.45
Males	22.83 23 - 28.17	39.26 27 - 79.39	11.08 13 - 12.12	7.67 18 - 15.14	6.17 6 - 6.44	7.67 3 - 8.73	0 0 - 0.00	21.19 91 - 48.12
Females	24.57 7 - 31.91	30.72 11 - 54.43	4.11 9 - 4.80	6.89 9 - 15.29	10.50 2 - 9.50	10.00 1 - 0.00	4.00 1 - 0.00	16.10 40 - 34.41
Disordered Gamblers								58.45 11 - 56.12

average monthly expenditure for this activity was reported at \$19.63 (n = 131, sd = 44.45). Males reported spending more (\$21.19, n = 91, sd = 48.12) than females (\$16.10, n = 40, sd = 48.12) although this difference was not statistically significant. Disordered gamblers reported spending nearly 3 times as much (\$58.45, n = 11, sd = 56.12) as all respondents in this category.⁵⁵

Approximately 22.1 percent (n = 259) of lifetime gamblers reported gambling on sporting events compared to 15.1 percent of past year gamblers. This difference was statistically significant.⁵⁶ The ratio of males to females indicating this activity was no different for lifetime and past year gamblers. (*Table 16c. Lifetime Sporting Event Gambling.*)

Table 16c. Lifetime Sporting Event Gambling

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
All	34	69	51	57	22	20	6	259
Males	26	49	33	36	12	16	3	175
Females	8	20	18	21	10	4	3	84

Card Game Gambling

The same number of respondents (15.1 percent, n = 135) reported gambling on card games as reported gambling on sporting events (not the same individuals). The frequency of past year gamblers reporting gambling on cards (21.0 percent, n = 101) was significantly larger⁵⁷ than the distribution of past year female gamblers reporting cards (8.2 percent, n =

⁵⁵ T test p < .01

⁵⁶ chi square p < .01

⁵⁷ chi square p < .01

34). Weekly gambling on card games was reported by 12 males and 4 females. (*Table 17a. Card Game Gambling Activity.*)

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
Gambled in Past Year								
All	44	32	22	20	6	6	5	135
Disordered	7	2	3	2	0	0	0	14
Males	36	27	12	13	6	4	3	101
Females	8	5	10	7	0	2	2	34
Gambled Weekly								
All	7	4	0	2	0	1	2	16
Disordered	0	1	0	0	0	0	0	1
Males	5	3	0	2	0	1	1	12
Females	2	1	0	0	0	0	1	4

Approximately 41.2 percent of those classified as disordered gamblers (n = 14) reported gambling on cards during the past year.

The average monthly expenditure for gambling on card games was reported as \$27.37 (n = 132, sd = 88.77). Although males reported a much larger average monthly expenditure on card game gambling (\$30.80, n = 97, sd = 100.83) than females (\$17.86, n = 35, sd = 37.74) the difference was not statistically significant due to the large variance among males gamblers. Those classified as disordered gamblers reported spending an average of \$107.29 (n = 14, sd = 252.81) per month which was significantly more than all respondents reported spending. (*Table 17b. Card Game Gambling - Monthly Amount Spent*)

Table 17b. Card Game Gambling - Monthly Amount Spent
Average in Dollars

Age	<i>n - sd</i>							
	18-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	75 > Years	All Years
All	24.14 44 - 21.94	56.14 29 - 179.99	11.95 22 - 15.03	20.45 20 - 430.4	17.33 6 - 18.04	16.17 6 - 17.12	8.67 3 - 8.18	27.37 132 - 88.77
Males	24.75 36 - 22.21	60.50 24 - 196.86	18.17 12 - 16.38	14.77 13 - 13.92	17.33 6 - 18.04	22.75 4 - 17.54	20.00 1 - 0.00	30.80 97 - 100.83
Females	21.38 8 - 20.45	35.20 5 - 36.69	4.50 10 - 8.58	31.00 7 - 69.01	0 0 - 0.00	3.00 2 - 5.00	3.00 2 - 5.00	17.86 35 - 37.74
Disordered Gamblers								107.29 14 - 252.81

As can be seen in *Table 17c. Lifetime Card Game Gambling*, approximately 33.2 percent (n= 390) of lifetime gamblers indicated gambling on card games compared to 15.1 percent of past year gamblers. This difference was significant.⁵⁸ As with other forms of gambling reported thus far, there was no difference in the proportion of males to females participating in this activity when comparing lifetime to past year.

Table 17c. Lifetime Card Game Gambling

Age	18-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	75 > Years	All Ages
All	61	92	79	80	31	32	15	390
Males	46	69	49	58	23	23	9	277
Females	15	23	30	22	8	9	6	113

⁵⁸ chi square p < .01

Non-Indian Gaming Center Bingo Gambling

Of those reporting any past year gambling, 9.6 percent reported gambling at bingo in non Indian Gaming Center locations. Females were no more likely to report this activity (9.4 percent, n = 47) than males (8.1 percent, n = 39). Approximately 9.3 percent of those reporting gambling on this activity also reported weekly gambling. The very small size of these sub-groups precluded any statistical analysis. (*Table 18a. Non-IGC Bingo Gambling*

	Age 18-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	75 > Years	All Ages
Gambled in Past Year								
All	16	20	14	9	10	9	8	86
Disordered	3	4	2	2	0	0	0	11
Males	6	10	6	4	8	2	6	39
Females	10	10	8	5	2	7	5	47
Gambled Weekly								
All	0	2	1	1	1	1	2	8
Disordered	0	1	0	0	0	0	0	1
Males	0	0	1	0	0	0	0	1
Females	0	2	0	1	1	1	2	7

Activity)

Slightly over 32.3 percent of those classified as disordered gamblers (n = 11) reported participating in non_IGC bingo gambling during the past year.

Overall, the average monthly expenditure for Non-IGC bingo gambling was reported at 43.08 (n = 84, sd = 112.04). Although females reported spending a good deal more per month (\$55.28, n = 46, sd = 144.64) than males (\$28.32, n = 38, sd = 45.00) it was not statistically significant due to the large variance among female reported spending. Disordered gamblers reported spending 3 times as much per month (\$131.18, n = 11, sd = 277.34) on this activity as did the entire group.⁵⁹ (*Table 18b. Non-IGC Bingo Gambling - Monthly Amount Spent*)

Table 18b. Non-IGC Bingo Gambling - Monthly Amount Spent
Average in Dollars
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	26.69 16 - 27.01	76.47 19 - 219.75	37.23 13 - 55.68	67.89 9 - 49.97	20.40 10 - 26.25	26.22 9 - 25.67	25.50 8 - 31.58	43.08 84 - 112.04
Males	10.00 6 - 9.50	8.78 9 - 8.73	67.50 6 - 69.87	90.00 4 - 53.50	14.38 8 - 14.38	10.00 2 - 0.00	12.33 3 - 12.55	28.32 38 - 45.00
Females	36.70 10 - 29.08	137.40 10 - 289.56	11.29 7 - 10.79	50.20 5 - 38.73	44.50 2 - 43.50	30.86 7 - 27.39	33.40 5 - 36.53	55.28 46 - 144.64
Disordered Gamblers								131.18 11 - 277.34

Slightly under 26.1 percent (n= 306) of lifetime gamblers reported participating in non-Indian bingo. This is a significantly⁶⁰ greater portion of the lifetime gamblers than past year gamblers participating in this activity (9.6 percent). There was no difference in the proportion of males to females when comparing lifetime with past year gamblers indicating participation in this activity. (*Table 18c. Non-IGC Lifetime Bingo Gambling*)

⁵⁹ T test p < .05

Table 18c. Non-IGC Lifetime Bingo Gambling

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
	Years	Years	Years	Years	Years	Years	Years	Ages
All	28	70	58	57	47	33	13	306
Males	15	31	25	28	28	12	3	142
Females	13	39	33	29	19	21	10	164

Animal Gambling

Approximately 4.8 percent 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. Although twice as

Table 19a. Animal Gambling Activity

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
	Years	Years	Years	Years	Years	Years	Years	Ages
Gambled in Past Year								
All	6	12	8	9	4	3	1	43
Disordered	1	0	1	1	0	0	0	3
Males	6	6	6	5	3	3	0	29
Females	0	6	2	4	1	0	1	14
Gambled Weekly								
All	0	0	0	0	0	1	0	1
Disordered	0	0	0	0	0	0	0	0
Males	0	0	0	0	0	1	0	1
Females	0	0	0	0	0	0	0	0

many males reported this activity as females the difference was not statistically significant

⁶⁰ chi square p < .01

due to the very small sample size. Three individuals that reported gambling on animals were also classified as disordered gamblers. Only one individual reported weekly gambling activity. (*Table 19a. Animal Gambling Activity*)

The average monthly expenditure for gambling on animals was reported as \$21.63 (n = 40, sd = 37.11). There was no significant difference between males (\$21.31, n = 26, sd = 26.88) and females (\$22.21, n = 14, sd = 50.91). Only three individuals⁶¹ classified as disordered gamblers reported monthly expenditures.

Table 19b. Animal Gambling - Monthly Amount Spent
Average in Dollars
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	18.33 6 - 15.46	15.00 11 - 17.84	3.00 7 - 3.16	43.00 9 - 62.17	7.00 3 - 4.24	53.33 3 - 36.82	1.00 1 - 0.00	21.63 40 - 37.11
Males	18.33 6 - 15.46	16.40 5 - 18.21	3.80 5 - 3.43	32.60 5 - 34.34	10.00 2 - 0.00	53.33 3 - 36.82	0 0 - 0.00	21.31 26 - 26.88
Females	0 0 - 0.00	13.83 6 - 17.45	1.00 2 - 0.00	56.00 4 - 83.18	1.00 1 - 0.00	0 0 - 0.00	1.00 1 - 0.00	22.21 14 - 50.91
Disordered Gamblers								84.00 3 - 84.33

A significantly⁶² large shift in gambling activity occurred when comparing lifetime gamblers and their participation in gambling on animals (29.7 percent, n = 348) to past year gamblers who reported participated in this activity (4.8 percent). Although it appears that females (45.7 percent, n = 159, of those reporting lifetime animal gambling) were more likely to indicate lifetime animal gambling than past year animal gambling (32.6 percent of past year

⁶¹ The reader will notice that only 1 disordered gambler is indicated in the table above. This is because two of those so classified choose to not give an age.

animal gamblers, n = 14), the difference was not statistically significant. (*Table 19c. Lifetime Animal Gambling*)

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
All	19	76	78	85	36	32	14	348
Males	14	44	41	44	19	22	5	189
Females	5	32	37	41	17	18	9	159

Slot Machine Gambling - Not at a Casino

Interestingly, 4.3 percent 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 and the 2000 older adult study. The question comes at a point in the interview so that a clear distinction has been made between video poker machines and slot machine. Unfortunately, no follow-up questions were incorporated into the any of the studies that would provide added insight as to where the respondents were playing these machines. 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 are as likely to report this activity as females. (*Table 20a. Slot Machine Gambling*)

⁶² chi square p < .01

Table 20a. Slot Machine Gambling

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
Gambled in Past Year								
All	6	4	10	7	8	2	1	38
Disordered	0	0	0	1	0	0	0	1
Males	2	1	6	4	5	2	0	20
Females	4	3	4	3	3	0	1	18
Gambled Weekly								
All								
Disordered								No Weekly
Males								Activity Reported
Females								

For the most part, this activity represents a very low monthly expenditure for males and females with the monthly average not exceeding \$23.00 in any strata except for an

*Table 20b. Slot Machine Gambling - Monthly Amount Spent
Average in Dollars
n - sd*

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Years
All	13.00 6 - 9.27	407.00 3 - 560.79	13.00 9 - 19.83	4.71 7 - 6.39	17.28 7 - 33.90	10.00 1 - 0.00	1.00 1 - 0.00	46.50 34 - 201.77
Males	22.50 2 - 2.50	1200.00 1 - 0.00	21.00 5 - 23.68	7.00 4 - 7.65	22.60 5 - 38.86	10.00 1 - 0.00	0 0 - 0.00	83.39 18 - 271.98
Females	8.25 4 - 7.62	10.50 2 - 9.50	3.00 4 - 2.00	1.67 3 - 0.94	4.00 2 - 1.00	0 0 - 0.00	1.00 1 - 0.00	5.00 16 - 6.14
Disordered Gamblers								1.00 1 - 0.00

anomaly recorded in the 25 to 34 year males group where one individual reported spending \$1,200 per month on this activity. (Table 20b. Slot Machine Gambling - Monthly Amount Spent)

Approximately 16.3 percent (n = 191) of lifetime gamblers indicated gambling on slot machines not at a casino compared to only 4.3 percent of past year gamblers.⁶³ Lifetime ration of males to females participating in this activity was no different than for past year gamblers. (Table 20c. Lifetime Slot Gambling not at a Casino)

Table 20c. Lifetime Slot Gambling not at a Casino

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
All	11	29	36	43	40	17	15	191
Males	4	13	17	26	18	14	7	99
Females	7	16	19	17	22	3	8	92

Stock Market Gambling

Slightly over 4.1 percent (n = 37) of past year gamblers 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 nearly twice as likely to endorse this question (n = 24) as females (n = 13) although the small sample sizes did not reach statistical significance. Eight respondents indicated weekly activity and one was classified as a disordered gambler. Males appeared to be more likely to be weekly

⁶³ chi square p < .01

gamblers but the sample size was too small to properly test for statistical significance. (Table 21a. Stock Market Gambling)

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
Gambled in Past Year								
All	4	11	5	10	5	1	1	37
Disordered	2	0	0	1	0	0	0	3
Males	4	9	0	6	4	1	0	24
Females	0	2	5	4	1	0	1	13
Gambled Weekly								
All	0	4	1	2	0	1	0	8
Disordered	0	0	0	1	0	0	0	1
Males	0	4	0	2	0	1	0	7
Females	0	0	1	0	0	0	0	1

The average monthly expenditure reported for betting on the stock and commodity market was \$7,488.03 (n=29, sd = 17,136.8). One male each reported a monthly expenditure of \$60,000, \$50,000, \$15,000, \$10,000, \$2,500; two at \$2,000 and two at \$1000 per month. One female reported an expenditure of \$60,000 and another at \$10,000 per month. The differences in the amounts bet between males and females was not statistically significant.

These very large amounts of expenditures unequivocally placed this activity as the largest average expenditure of any type of gambling. Interestingly, the three individuals classified as disordered gamblers indicated a very small, comparatively, per month expenditure of \$187.00. (Table 21b. Stock Market Gambling - Monthly Amount Spent)

Table 21b. Stock Market Gambling - Monthly Amount Spent
Average in Dollars
n - sd

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
	Years	Years	Years	Years	Years	Years	Years	Years
All	65.75 4 - 81.11	7598.00 10-17701.6	2602.50 4 - 4272.24	15925.00 8-23177.9	1033.33 3-776.03	0 0 - 0.00	0 0 - 0.00	7488.03 29-17136.8
Males	65.75 4 - 81.11	8431.11 9-18472.2	0 0 - 0.00	11200.00 6-18137.9	1033.33 3-776.03	0 0 - 0.00	0 0 - 0.00	6656.50 22-15764.6
Females	0 0 - 0.00	100.00 1 - 0.00	2602.50 4 - 4272.24	30100.00 2-29900.0	0 0 - 0.00	0 0 - 0.00	0 0 - 0.00	10101.43 7-20653.1
Disordered Gamblers								187.00 3 - 222.63

Approximately 4.5 percent (n = 53) of the lifetime gamblers indicated gambling on the stock market. This proportion was not significantly different than that reported by past year gamblers (4.1 percent). There was also no differences in the ratio of males to females in either period. (*Table 21c . Lifetime Stock Market Gambling*)

Table 21c . Lifetime Stock Market Gambling

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
	Years	Years	Years	Years	Years	Years	Years	Ages
All	4	13	10	13	7	3	3	53
Males	4	11	3	7	6	3	1	35
Females	0	2	7	6	1	0	2	18

Dice Gambling

Approximately 3.5 percent (n = 31) of individuals indicated dice gambling, four of whom were classified as disordered gamblers. Four respondents indicated gambling on dice on a weekly basis. (*Table 22a. Dice Gambling*)

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
Gambled in Past Year								
All	7	6	7	8	1	1	1	31
Disordered	2	0	1	1	0	0	0	4
Males	4	4	4	3	1	1	0	17
Females	3	2	3	5	0	0	1	14
Gambled Weekly								
All	0	1	0	3	0	0	0	4
Disordered	0	0	0	0	0	0	0	0
Males	0	0	0	2	0	0	0	2
Females	0	1	0	1	0	0	0	2

The average monthly expenditure for dice gambling was reported as \$17.60 (n = 30, sd = 31.46). The difference between that average expenditure reported by males (\$21.56, n = 16, sd = 39.92) and that reported by females (\$13.07, n = 14, sd = 16.17) was not statistically significant. The four disordered gamblers reported expending \$60.50 per month on dice gambling, nonetheless, this sample was too small to test for statistically significant differences. (*Table 22b. Dice Gambling - Monthly Amount Spent*)

**Table 22b. Dice Gambling - Monthly Amount Spent
Average in Dollars**

	<i>n - sd</i>							
Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
	Years	Years	Years	Years	Years	Years	Years	Years
All	32.29 7 - 56.67	14.50 6 - 17.87	9.14 7 - 12.93	17.62 8 - 14.77	5.00 1 - 0.00	0 0 - 0.00	5.00 1 - 0.00	17.60 30 - 31.46
Males	50.00 4 - 69.55	9.00 4 - 9.38	13.25 4 - 15.83	17.00 3 - 10.23	5.00 1 - 0.00	0 0 - 0.00	5.00 1 - 0.00	21.56 16 - 39.92
Females	8.67 3 - 8.18	25.50 2 - 24.50	3.67 3 - 1.89	18.00 5 - 16.91	0 0 - 0.00	0 0 - 0.00	0 0 - 0.00	13.07 14 - 16.17
Disordered Gamblers								60.50 4 - 65.50

Approximately 9.0 percent (n = 106) of lifetime gamblers reported gambling on dice compared to only 3.5 percent (n = 31) of past year gamblers. This difference was significant.⁶⁴ Females were more likely to report dice gambling in the past year (45.2 percent of those reporting past year dice gambling) compared to a lifetime rate of 33.0 percent (n = 35). Nonetheless, this difference was not significant. (Table 22c. Lifetime Dice Gambling)

Table 22c. Lifetime Dice Gambling

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
	Years	Years	Years	Years	Years	Years	Years	Ages
All	10	20	20	31	12	7	6	106
Males	7	15	11	19	9	6	4	72
Females	3	5	9	12	3	1	2	35

⁶⁴ chi square p < .01

Internet and Phone Gambling

Oregon was one of the first jurisdictions to introduce a question into its epidemiological studies regarding the use "telephone or computers including the internet or the worldwide web" to gamble (Volberg, 1997). In this replication study, slightly over 1.2 percent (n = 11) of those that reported past year gambling indicated this form of gambling. The distribution was evenly split between males and females. One individual was classified as a disorder gambler and another individual reported participating in this form of activity on a weekly basis. (*Table 23a. Computer Gambling*)

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
Gambled in Past Year								
All	4	3	1	2	1	0	0	11
Disordered	0	1	0	0	0	0	0	1
Males	2	1	1	2	1	0	0	6
Females	2	2	0	0	0	0	0	5
Gambled Weekly								
All	0	1	0	0	0	0	0	1
Disordered	0	0	0	0	0	0	0	0
Males	0	1	0	0	0	0	0	1
Females	0	0	0	0	0	0	0	0

The average reported monthly expenditure for the 11 individuals that reported an amount spent gambling for this activity was \$45.18 (sd = 63.00). Although the sample size is far too small to conduct meaningful statistical analysis, it is interesting to note relatively large

monthly amount spend per month (\$175) by the two females in the 25 to 34 year old group.

(Table 23b. Computer Gambling - Monthly Amount Spent)

Age	18-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	75 > Years	All Years
All	18.50 4 - 11.69	123.33 3 - 75.86	30.00 1 - 0.00	11.00 2 - 9.00	1.00 1 - 0.00	0 0 - 0.00	0 0 - 0.00	45.18 11 - 63.00
Males	7.00 2 - 3.00	20.00 1 - 0.00	30.00 1 - 0.00	11.00 2 - 9.00	0 0 - 0.00	0 0 - 0.00	0 0 - 0.00	14.33 6 - 9.89
Females	30.00 2 - 0.00	175.00 2 - 25.00	0 0 - 0.00	0 0 - 0.00	1.00 1 - 0.00	0 0 - 0.00	0 0 - 0.00	82.20 5 - 78.12
Disordered Gamblers								150.00 1 - 0.00

Approximately 1.4 percent (n = 16) reported lifetime Internet gambling compared to 1.2 percent of the past year gamblers. There was no significant difference between these two periods and very small number of respondents precluded statistically testing the ratio of males to females. (Table 23c. Lifetime Internet Gambling)

Age	18-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	75 > Years	All Ages
All	6	4	1	4	1	0	0	16
Males	4	2	1	2	0	0	0	9
Females	2	2	0	2	1	0	0	7

Other Forms of Gambling

Approximately 1.8 percent (n = 16) of past year gamblers indicated gambling on activities other than those specifically indicated in the survey. Most (n = 13) of these were men, none were classified as disordered gamblers, and only one reported weekly gambling activity. (Table 24a. Other Forms of Gambling)

Table 24a. Other Forms of Gambling

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
Gambled in Past Year								
All	4	3	3	3	3	0	0	16
Disordered	0	0	0	0	0	0	0	0
Males	4	2	2	3	2	0	0	13
Females	0	1	1	0	1	0	0	3
Gambled Weekly								
All	0	1	0	0	0	0	0	1
Disordered	0	0	0	0	0	0	0	0
Males	0	1	0	0	0	0	0	1
Females	0	0	0	0	0	0	0	0

Of the 14 individuals reporting gambling on other activities that also reported an average monthly expenditure, the average was \$8.42. The sample size was too small to

Table 24b. Other Forms of Gambling - Monthly Amount Spent
Average in Dollars
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	9.25 4 - 5.85	10.33 3 - 7.76	1.00 2 - 0.00	6.00 2 - 4.00	12.00 3 - 9.90	0 0 - 0.00	0 0 - 0.00	8.42 14 - 7.64
Males	9.25 4 - 5.85	15.00 2 - 5.00	1.00 2 - 0.00	6.00 2 - 4.00	13.00 2 - 12.00	0 0 - 0.00	0 0 - 0.00	9.63 11 - 7.91
Females	0 0 - 0.00	1.00 1 - 0.00	1.00 2 - 0.00	0 0 - 0.00	10.00 1 - 0.00	0 0 - 0.00	0 0 - 0.00	4.00 3 - 4.24
Disordered Gamblers								0 0 - 0.00

conduct further statistical analysis.

Slightly more than 3.8 percent (n = 45) of lifetime gamblers reported gambling on other activities compared to 1.8 percent of past year gamblers. This difference was significant.⁶⁵ (Table 24c . Other Lifetime Gambling)

Table 24c . Other Lifetime Gambling

Age	18-24 Years	25-34 Years	35-44 Years	45-54 Years	55-64 Years	65-74 Years	75 > Years	All Ages
All	6	6	13	10	7	1	2	45
Males	5	5	10	8	4	1	2	35
Females	1	1	3	2	3	0	0	10

⁶⁵ chi square p < .01

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 22.67 years (n = 1118, sd = 9.49).

**Table 25a. Age First Gambled
(In Years)
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	17.26 128 - 2.80	19.53 249 - 4.51	21.74 219 - 6.9	23.49 237 - 8.96	26.00 138 - 10.63	29.25 88 - 14.58	32.81 43 - 17.11	22.67 1118 - 9.49
Disordered Gamblers	16.44 9 - 4.55	20.30 10 - 6.13	14.50 6 - 5.06	17.50 6 - 2.99	20.00 1 - 0.00	45.00 1 - 0.00	0 0 - 0.00	18.42 33 - 7.06
Males	16.64 70 - 3.27	18.57 138 - 4.57	20.26 114 - 6.56	20.90 125 - 8.43	22.45 67 - 10.23	23.09 47 - 11.71	26.42 19 - 14.72	20.20 585 - 8.06
Females	18.00 58 - 1.84	20.72 111 - 4.14	23.33 105 - 6.93	26.38 112 - 8.65	29.35 71 - 9.90	36.32 41 - 14.34	37.89 24 - 17.17	25.38 533 - 10.17

Males began at a significantly⁶⁶ younger age (20.20 years, n = 585, sd = 8.06) than females (25.38 years, n = 533, sd = 10.17). Disordered gamblers reported gambling at a significantly⁶⁷ younger age than all gamblers combined. Although males classified as disordered gamblers began gambling at a younger age (16.43 years, n = 16, sd 4.43) than

⁶⁶ t test p < .01

female disordered gamblers (20.29 years, n = 17, sd = 8.44), the difference was not statistically significant. (Table 25a. Age First Gambled)

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 25b. Age First Gambled by Game, provides an overview of the type of activity, age, and the number of individuals that identified the activity as their first gambling experience.

**Table 25b. Age First Gambled by Game
(In Years)
n - sd**

Activity	Age n %	Activity	Age n %
Skill Games	16.58 26 - 6.55	Traditional Lottery	25.10 164 - 10.45
Sports Games	16.63 51 - 6.03	Non-Casino Cards	25.76 307 - 9.52
Casino- not Video Poker	17.56 201 - 5.58	Stock/Commodities	26.00 3 - 7.79
Non-Casino Dice	18.94 16 - 6.62	Lottery Video Poker	26.45 22 - 9.40
Charitable	23.10 39 - 8.12	Casino Video Poker	26.89 58 - 10.38
Animals	23.46 41 - 11.08	Phone/Computer	0 0 - 0.00
Non-Casino Bingo	23.59 17 - 10.39	Other	19.26 76 - 8.64
Non-Casino Slots	23.64 81 - 8.64		

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

⁶⁷ t test p < .01

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.

Age and Game First Nervous with Amount Bet

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

*Table 25c. Age First Experienced Nervousness Gambling
(In Years)
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	17.70 23 - 2.97	21.86 35 - 4.18	22.21 34 - 6.49	26.82 33 - 10.71	29.07 15 - 9.81	38092 13 - 14.79	40.00 2 - 0.00	24.77 156 - 9.97
Disordered Gamblers	17.83 6 - 3.18	22.40 5 - 3.55	19.33 3 - 1.25	27.83 6 - 8.75	20.00 1 - 0.00	65.00 1 - 0.00	40.00 1 - 0.00	24.05 22 - 11.04
Males	17.47 19 - 3.15	21.26 23 - 4.55	21.44 18 - 7.31	22.11 18 - 9.73	24.25 8 - 9.09	37.57 7 - 14.93	40.00 1 - 0.00	22.36 94 - 9.23
Females	18.75 4 - 1.48	23.00 12 - 3.06	23.06 16 - 5.27	32.47 15 - 8.94	34.57 7 - 7.42	40.50 6 - 14.47	0 0 - 0.00	28.42 62 - 9.93

two groups. There was a significant difference⁶⁸ in the age of first nervousness with gambling reported between males (22.36 years, n = 94, sd = 9.23) and females (28.42 years, n = 62, sd = 9.93). Regardless, this finding would be expected since males began gambling earlier than females and it would be self-evident that, for those 13.3 percent (n= 156) of lifetime gamblers that reported experiencing nervousness, there would be an apparent relationship with the

phenomenon and the length of time gambling. (*Table 25c. Age First Experienced Nervousness Gambling*)

The most frequently cited game associated with first time nervousness regarding the size of bet were cards not at a casino (n = 50) followed by casino gambling other than video poker (n = 39). The remaining distribution of responses was widely distributed among all other games.

Family History

Slightly less than 5.6 percent (n = 66) of those who reported lifetime gambling reported that a parent or stepparent had a problem with gambling. Of those responding, only 18.8 percent (n = 6) were past year disordered gamblers. Interestingly, female gamblers (n = 44) were twice as likely as male gamblers (n=22) to report a parent with a gambling problem. Fathers were twice as likely (n = 44) as mothers (n = 19) to be identified and stepparents were only identified eight times. (Respondents were able to identify all that applied.)

Favorite Gambling Associates

Of the 1088 responding to the question regarding who they gambled with when participating in their favorite gambling activity, 32.8 percent (n = 357) reported gambling with friends, 28.0 percent (n = 305) with a spouse or partner, 14.2 percent (n = 154) with other family members, 2.3 percent (n = 30) with co-workers, and 1.6 percent (n = 17) with others. Approximately 20.7 percent (n = 225) indicated they gambled alone. Interestingly, participants classified as disordered gamblers were distributed relatively evenly⁶⁹ in each of

⁶⁸ t test $p < .01$

⁶⁹ No statistically significant difference

the categories. The ratio of males to females in each category were also not significantly different. (Table 25d. Favorite Gambling Associates)

Table 25d. Favorite Gambling Associates

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
Friends								
All	67	102	62	65	29	21	11	357
Disordered	3	4	1	1	0	0	0	9
Males	44	64	38	35	14	11	4	210
Females	23	38	24	30	15	10	7	147
Spouse/Partner								
All	18	62	61	65	56	29	14	305
Disordered	2	3	2	1	1	0	0	9
Males	8	34	28	31	33	16	7	157
Females	10	28	33	34	23	13	7	148
Alone								
All	18	42	46	62	30	19	8	225
Disordered	1	3	2	3	0	1	0	10
Males	5	22	27	40	18	13	3	128
Females	13	20	19	22	12	6	5	97

*Table 25d. Favorite Gambling Associates
(Continued)*

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
Other Family								
All	17	37	40	23	17	13	7	154
Disordered	3	0	1	0	0	0	0	4
Males	9	16	14	10	2	1	1	53
Females	8	21	26	13	15	12	6	101
Co-Workers								
All	3	7	7	10	2	0	1	30
Disordered	0	0	0	1	0	0	0	1
Males	2	5	5	4	1	0	0	17
Females	1	2	2	6	1	0	1	13
Others								
All	2	2	6	2	1	2	2	17
Disordered	0	0	0	0	0	0	0	0
Males	2	2	2	2	1	1	0	10
Females	0	0	4	0	0	1	2	7

Time Spent Gambling

Of the 1112 responding to the question regarding the amount of time usually spent participating in the favorite form of gambling, 49.0 percent (n = 545) indicated less than one hour at a time, 27.8 percent (n = 309) indicated from one to two hours, 19.4 percent (n = 216) from three to five hours, 2.3 percent (n = 26) from six to 12 hours, and only 1.4 percent (n = 16) indicated more than 12 hours at a time. Males were more likely to report spending greater lengths of time than females especially in the 3 to 5 hour category⁷⁰ and those participants

⁷⁰ chi square p < .01

classified as disordered gamblers were also likely to spend more time gambling on each occasion.⁷¹ (Table 25e. Time Spent Gambling)

Table 25e. Time Spent Gambling

	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	62	111	122	135	68	33	14	545
Disordered	2	4	1	2	0	0	0	9
Males	27	58	61	67	33	20	5	271
Females	35	53	61	68	35	13	9	274
1 to 2 Hours								
All	37	70	65	55	39	28	15	309
Disordered	5	0	1	1	0	1	0	8
Males	23	43	34	25	18	14	4	161
Females	14	27	31	30	21	14	11	148
3 to 5 Hours								
All	24	66	30	35	24	23	14	216
Disordered	2	6	2	2	1	0	0	13
Males	16	38	16	25	14	11	5	125
Females	8	28	14	10	10	12	9	61
6 to 12 Hours								
All	2	4	5	4	7	4	0	26
Disordered	0	0	1	1	0	0	0	2
Males	2	3	4	3	2	2	0	16
Females	0	1	1	1	5	2	0	10
12 Hours +								
All	0	4	3	4	3	2	0	16
Disordered	0	0	1	0	0	0	0	1
Males	0	3	1	3	3	0	0	10
Females	0	1	2	1	0	2	0	6

⁷¹ chi square $p < .01$

Largest Amount Ever Lost

Of the 1138 respondents to the question regarding the largest amount of money ever lost, 4.4 percent (n = 50) indicated less than \$1, 20.5 percent (n = 233) indicated \$1 to \$9, 49.1 percent (n = 559) indicated \$10 to \$99, 22.7 percent (n = 258) responded \$100 to \$999, 2.8 percent (n = 32) indicated \$1000 to \$9999, and 0.5 percent (n = 6) indicated they had lost over \$10000 at one time during their life. Males were much more likely to have lost more money than females⁷² and those classified as disordered gamblers were also more likely to

Table 25f. Largest Amount Ever Lost Gambling

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
Less than \$1								
All	5	8	9	11	6	6	5	50
Disordered	0	0	0	0	0	0	0	0
Males	2	4	4	2	2	1	3	18
Females	3	4	5	9	4	5	2	32
\$1 to \$9								
All	24	40	52	54	34	19	13	233
Disordered	0	0	0	1	0	0	0	1
Males	6	17	24	23	16	9	6	101
Females	18	23	28	31	18	7	7	132
\$10 - \$99								
All	72	137	116	108	63	39	24	559
Disordered	2	4	2	1	0	0	0	9
Males	46	81	58	54	29	18	8	294
Females	26	56	58	54	34	21	16	265

⁷² chi square p < .01

report losing greater sums than all lifetime gamblers combined.⁷³ (Table 25f. Largest Amount Ever Lost Gambling - two tables)

**Table 25f. Largest Amount Ever Lost Gambling
(Continued)**

Age	18-24	25-34	35-44	45-54	55-64	65-74	75 >	All
Years	Years	Years	Years	Years	Years	Years	Years	Ages
\$100 - \$999								
All	21	61	50	56	38	24	8	258
Disordered	5	3	4	1	1	1	0	15
Males	13	35	31	39	22	16	4	160
Females	8	26	19	17	16	8	4	98
\$1000 to \$9999								
All	3	10	3	8	3	4	1	32
Disordered	2	3	0	2	0	0	0	7
Males	2	8	1	6	2	4	1	24
Females	1	2	2	2	1	0	0	8
\$10000 +								
All	1	0	1	2	0	1	1	6
Disordered	0	0	0	1	0	0	0	1
Males	1	0	1	2	0	1	0	5
Females	0	0	0	0	0	0	1	1

Desire to Stop & Treatment Access

Twelve respondents (5 males and 7 females) indicated they at some point had a desire to receive help to stop gambling. Five of these were classified as past year disordered gamblers. Five individuals indicated they had sought help to gambling, four males and one female. Of these, four were classified as past year disordered gamblers.

⁷³ chi square p < .01

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 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 1999⁷⁴ as developed by Gerstein and colleagues (1999).⁷⁵ This discussion includes a comparison of the two instruments in estimating the prevalence of disordered gambling.

Utilization of lifetime measures of disordered gambling generated by either the SOGS or the NODS is misleading due to the artificial compression of symptomology into the arbitrary timeframe of one year which is necessary for the classification of disordered gambling. With this in mind, the discussion of the comparison between the two instruments will focus on the more meaningful estimates of the past year disordered gambling. Notwithstanding, the SOGS lifetime pathological gambling estimate found in this study was 2.7 percent (n = 41) and the lifetime problem gambling estimate was 1.9 percent (n = 28) for a combined estimated rate of lifetime disordered gambling of 4.6 percent. The combined lifetime NODS estimate of disordered gambling was significantly lower at 1.5 percent (n = 22) with estimated pathological gamblers at 0.6 percent (n = 9) and problem gamblers at 0.9 percent (n = 13).

⁷⁴ The Foundation has included both SOGS and DSM based instruments in each of the epidemiological studies conducted to ensure, as much as possible, longitudinal as well as cross-state comparability.

Past year SOGS estimates were 1.4 percent (n = 21) problem and 0.9 percent (n = 13) probable pathological gamblers for a combined estimate of disordered gambling prevalence of 2.3 percent (n = 34) (Volberg, R., 2001). The NODS generated estimates of problem gamblers (n = 6 or 0.4 percent) and probable pathological gamblers (n = 2, or 0.1 percent) (a combined total of estimated disordered gambling of 0.5 percent (n = 8)) that were significantly⁷⁶ lower than the SOGS estimates.

These types of differences have been documented in the literature (National Gambling Impact Study Commission, 1999) and can present serious issues for policy makers, treatment and prevention program designers, and program managers. The remainder of this discussion was an attempt to identify which elements of the SOGS classified disordered gamblers that were not identified by the NODS.

The first question that arose was the impact of the NODS criteria that requires individuals to have lost \$100 or more at some point in their lifetime. Removal of this criteria from the NODS scoring criteria increased the number of past year problem gamblers identified from 6 to 11 and the number of probable pathological gamblers from 2 to 3. Although this was a 57.1 percent (n = 14) increase over the 8 classified with the minimum \$100 lost criteria in place, the difference yet remained significantly⁷⁷ lower than the SOGS estimates.

⁷⁵ In the Foundation's adult and adolescent prevalence studies secondary instruments were employed to ensure, as much as possible, longitudinal and cross-state comparisons. Due to concerns for respondent fatigue in the older adult study only one disordered gambling screen was employed.

⁷⁶ chi square $p < .01$

⁷⁷ chi square $p < .01$

In an attempt to understand the differences in the instruments, individual SOGS items were identified that had been endorsed by those classified as disordered gamblers by the SOGS but who had received a zero score based on the NODS.

Table 26. Past Year SOGS Items Endorsed by Disordered Gamblers with a Zero Score on the NODS⁷⁸ is a presentation of the items endorsed on the SOGS by individuals classified by the SOGS as disordered gamblers (problem = 12, pathological = 6) and who scored a zero on the NODS. It becomes readily apparent when comparing these endorsed items from the SOGS that, for the most part they do not appear, or have been considerably altered, on the NODS.

For example, the most frequently endorsed SOGS item by SOGS-classified disordered gamblers who did not score on the NODS was “spent more time or money than intended” when gambling (endorsed by 11 problem and 5 probable pathological gamblers). This item does not appear in the DSM criteria and subsequently was omitted from the NODS.

Similarly, the SOGS asks no less than eight questions regarding legally accessing money to gamble or pay gambling debts. These questions include borrowing to gamble or pay gambling debts from: 1) household money, 2) spouse or partner, 3) other relatives, 4) gotten bank loans, 5) cash withdrawals on credit cards, 6) loans from loan sharks, 7) cashed in stocks or bonds, or 8) sold personal or family property. The NODS simply asks one question that is worded “have you ever needed to ask family members or anyone else to loan you

⁷⁸ The SOGS questions in this table have been paraphrased.

*Table 26. Past Year SOGS Items Endorsed by Disordered Gamblers
with a Zero Score on the NODS*

Paraphrased SOGS Question	Problem	Pathological	Disordered
a. Spent more time or money gambling than intended	11	5	16
b. Borrowed from spouse or partner to gamble or pay gambling debts	7	2	9
c. Felt guilty about gambling or what happens when gambling	2	5	7
d. Made cash withdraws on credit cards to gamble or pay back gambling debts	5	2	7
e. People criticized gambling	2	3	5
f. Borrowed from household money	2	2	4
g. Felt you have had a problem with gambling	1	3	4
h. Hidden betting slips, lottery tickets ... or other signs of gambling	1	2	3
i. Borrowed from relatives or in-laws to gamble or pay gambling debts	0	3	3
j. Cashed in stocks, bonds, or other securities to finance gambling	1	2	3
k. Sold personal or family property to pay gambling debts	1	2	3
l. Claim to be winning money from gambling when if fact lost money	2	0	2
m. Would like to stop gambling but didn't think you could	0	2	2
n. Argued with people you live with over how you handle your money - esp. gambling	0	2	2
o. Go back another day to win back money lost gambling	1	0	1
p. Borrowed from someone for gambling and not paid them back	1	0	1
q. Gotten loans from banks, loan companies, or credit unions to gambling or pay debts	0	1	1
r. Gotten loans from loan sharks to gamble or pay back gambling debts	0	1	1
s. Borrowed from checking account by writing checks that bounced	0	1	1
t. Missed time from work or school due to gambling	0	0	0

money or otherwise bail you out of a desperate money situation that was largely caused by your gambling.”

Clearly, with only these two examples it is obvious to the casual observer that the instruments are measuring different criteria as well as placing emphasis on different aspects of disordered gambling. It is possible with the SOGS for an individual to be classified as a problem gambler if they accessed money from three different sources to pay off a one-time gambling debt and conceivably as a pathological gambler if they accessed five sources of funds to pay off one gambling debt. The same situation would only achieve a score of one on the NODS if the individual felt the situation classified as a “desperate financial situation.”

It is outside the scope of this analysis, to determine which of the two instruments is more accurate in estimating the prevalence of disordered gambling from epidemiological studies. Whether the SOGS over-estimates the frequency of disordered gamblers or the NODS under-estimates, the distribution is unknown. From a policy perspective, care should continue to be exercised in making decisions based on the estimates generated by these instruments.

SUMMARY AND CONCLUSIONS

This study conducted by the Foundation has provided a wealth of information regarding the gambling characteristics of adults in Oregon. The information presented in this report has been constructed to blend with the data reported in the Older Adult Study (Moore, 2001) to facilitate cross-study comparisons.

As has been frequently mentioned in this report, the very small size of the disordered gambling sub-group made meaningful statistical analysis impossible. Although providing an excellent replication of the 1997 study, it is highly recommended that for future studies serious consideration be given to significantly increasing the sample size to include a substantially larger number of disordered gamblers for analysis.

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 complete miss SOGS classified disordered gamblers, including omitting those individuals that endorsed having a problem with gambling, use by itself may cause critical under-estimations of the need for prevention and treatment resources.

Finally, the questionnaire, excluding the psychometric instrument for the classification of disordered gambling discussed above, should 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.

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.

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