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Has there been a "feminization" of gambling and problem gambling in the United States?

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Abstract

This paper examines the question of whether there has been a "feminization" of gambling and problem gambling in the United States. Feminization refers to the idea that more women are gambling, developing problems and seeking help for problems related to gambling than in the past. Data from a theoretically derived sample of four states are examined to identify patterns in the distribution of gambling participation and the prevalence of problem gambling in the general population. Despite widespread acceptance of the notion of the feminization of gambling and problem gambling, men remain significantly more likely than women to participate regularly in most types of gambling. Most gambling activities remain highly gendered; however, in the United States, the widespread introduction of gaming machines is associated with increases in gambling and problem gambling among women. The present analysis highlights the importance of taking socio-demographic characteristics besides gender into account when considering the distribution of gambling and problem gambling in the general population.

Introduction

The final quarter of the 20th century saw a rapid expansion in the availability of legal, commercial gambling throughout the world, and particularly, in the affluent Western societies of Australia, Europe and North America. In the United States, the availability of legal gambling grew tenfold between 1975 and 1999. In the same period, annual revenues from legal gambling in the United States grew eighteen-fold from $3 billion to $58 billion (National Gambling Impact Study Commission, 1999). Casinos and lotteries joined more mature forms of gambling, such as horserace wagering and bingo, which have been joined in their turn by even newer forms of gambling, including widely distributed non-casino gaming machines and Internet gambling (Gerstein et al., 1999).

The recent rapid growth in the availability of legal gambling has raised concerns about the potential impact of such legalization on the overall rate of gambling problems in the general population and, more significantly, on specific at-risk groups in the population, including youth (Gupta & Derevensky, 2000), older adults (Korn & Shaffer, 1999; Petry, 2002), minorities (Wardman, el-Guebaly & Hodgins, 2001) and women (Ladd & Petry, 2002; Lesieur & Blume, 1991).

Gambling participation and gambling problems are not distributed evenly throughout the general population (Abbott & Volberg, 2000; Gerstein et al., 1999; Volberg & Abbott, 1997; Volberg, Abbott, Rönnberg & Munck, 2001). With regard to gender and gambling, a particular concern has been with what Australia's Productivity Commission (1999) called the "feminization" of problem gambling. "Feminization" refers to the notion that more women are gambling, developing gambling problems and seeking help for such problems than in the past. Like their counterparts in Australia, problem gambling service providers in Canada and the United States have also observed that growing numbers of women are seeking help for gambling problems (Potenza et al., 2001; Toneatto & Skinner, 2000).

The feminization of gambling and problem gambling appears to be linked particularly to increased availability of gaming machines. Several researchers have noted the distinct preference that women problem gamblers have for gaming machines (Hing & Breen, 2001b; Lesieur & Blume, 1991; Tavares, Zilberman, Beites & Gentil, 2001). While epidemiological studies have found that, commonly, about one-third of problem gamblers in the general population are female (Shaffer, Hall & Vander Bilt, 1999), prevalence rates for men and women are nearly identical in jurisdictions where gaming machines operate in venues frequented by women, such as restaurants, convenience stores, social clubs and hotels (Polzin et al., 1998; Productivity Commission, 1999; Volberg & Moore, 1999a). In Australia, the Productivity Commission (1999) noted that the

proportion of women problem gamblers in the general population grew from 14% to 41% between 1991 and 1999, a period during which the number of gaming machines per capita increased rapidly in that country.

This paper examines the question of whether there has been a feminization of gambling and problem gambling in the United States. The importance of this question lies in the growing availability of non-casino gaming machines in many American communities as well as the increasing dominance of gaming machines within the American casino environment (Connor, Kelly & Parets, 1996; National Gambling Impact Study Commission, 1999). The paper begins by reviewing the literature on gender, gambling and problem gambling. Data from a theoretically derived sample of states that vary along the dimensions of gaming machine availability and problem gambling prevalence are then examined. Finally, the results of this analysis are considered in relation to the question of whether there has been a feminization of gambling and problem gambling in America.

Literature review

Gender and gambling

Historically, many forms of gambling have been class based. Reith (1999) and Rosecrance (1988) have both observed that gambling among the upper classes, whether on horses, cards, casino games, real estate or stocks, has long been condoned in Western societies. While broadly tolerated, similar activities among the working and lower classes have been widely condemned, and until the middle of the 20th century, gambling among the middle classes was thoroughly discouraged.

Historically, many forms of gambling have also been highly gendered. In general, men are more likely than women to gamble on the stock market, on sports, at the racetrack and at off-track betting facilities; men are much more likely than women to engage in certain other types of gambling, including cockfights and dogfights (Evans, Gauthier & Forsyth, 1998; Geertz, 1973). Hing and Breen (2001a) recently noted that the broad range of gambling activities deemed suitable for men coexists with widely accepted views of men as risk-takers, innovators and speculators. In contrast, women in Western cultures are generally viewed as caretakers and nurturers, social roles that are not easily reconciled with many types of gambling. In a separate article, these same researchers suggested that gambling preferences are culturally based and influenced by the availability and social acceptance of different types of gambling for both males and females (Hing & Breen, 2001b).

One possible key to understanding changes in gambling participation by women is the attractiveness, including the perceived safety, of gambling venues. For example, a study of bingo players in England

in the 1980s identified several factors that influenced working-class women to participate, including flexible hours, local availability, the low price of playing and the safety of the venues (Dixey, 1996). Similarly, researchers today argue that the growing proportion of women at modern gambling venues stems from the provision of clean, attractive locations where patrons are treated with respect and experience a feeling of physical safety (Hing & Breen, 2001b; Trevorrow & Moore, 1999). The availability of childcare likely contributes to women's willingness and ability to gamble at many casinos in the United States (Connor, 1996) while the availability of lottery products and gaming machines in growing numbers of grocery stores, convenience stores and restaurants as well as the low price of participation makes it easier for women to engage in these activities as well.

Gender and problem gambling

Much of what is known about problem gambling comes from studies of male pathological gamblers to the exclusion of women. Criticisms similar to those of the literature on alcoholism have been made of the literature on pathological gambling — too few females are included in samples to determine whether there are differences between males and females and researchers often make the assumption that what holds true for males will also hold true for females (Mark & Lesieur, 1992).

In the earliest studies of women problem gamblers, researchers found that women in Gamblers Anonymous were less likely to be married than their male counterparts. These women were more likely than male problem gamblers to have gambled alone and to have hidden the extent of their gambling from friends and family (Lesieur & Blume, 1991; Strachan & Custer, 1993).

More recent studies of problem gamblers who call helplines or enter treatment have found that women with gambling problems started gambling later in life than the men. However, there are few differences in the age at which men and women seek help for gambling problems, suggesting that the progression of the disorder may be more rapid among women than men (Tavares et al., 2001). Across the board, women seeking help for gambling problems are much more likely to have experienced difficulties with gaming machines than with any other type of gambling (Ladd & Petry, 2002; Lesieur & Blume, 1991; Potenza et al., 2001; Productivity Commission, 1999; Strachan & Custer, 1993; Tavares et al., 2001).

In a study of gender of problem gamblers in the community, Hraba and Lee (1996) examined differences between male and female problem gamblers using a telephone survey of Iowa adults. They found that education level, religion, childhood exposure to gambling, number of marriages, frequent changes of residence and alcohol consumption were all significant predictors of problem gambling for women. The only significant predictor of problem gambling for men

was their level of education.

A more recent survey examined participation in gambling, gaming machine play and problem gambling among both female and male members of social clubs in Sydney, Australia (Hing & Breen, 2001a, 2001b). The women were more likely than their male counterparts to engage in patterns of gaming machine play that maximized playing time. They experienced gambling problems at levels comparable to men who gambled at the same intensity.

A methodological note

Observers have commented on the dearth of coherent theories and models in the field of gambling studies (Abbott & Volberg, 1999; National Research Council, 1999; Shaffer, Hall & Vander Bilt, 1997; Wildman, 1998). Given the lack of theoretical integration in the field, an exploratory approach seems likely to yield valuable insights for future investigation.

My approach in this paper rests, to a significant degree, on the "grounded theory" method developed by Glaser and Strauss (1967). Grounded theory refers to the systematic discovery of theory from data, rather than the other way around. Grounded theory stands in contrast to more conventional scientific approaches of theory testing and verification. As with other qualitative approaches, the evidentiary rules of grounded theory are rather different from those associated with quantitative data, such as accuracy and validity. As Glaser and Strauss caution, "when theory is the purpose… the representativeness of the sample is not an issue" (1967, p.189).

One important element of the grounded theory approach is theoretical sampling (Glaser & Strauss, 1967). In contrast to random sampling, which is designed to equalize the chance of every permutation turning up, theoretical sampling aims to identify cases that are likely to upset our thinking. Theoretical sampling rests on the notion that general ideas are a reflection of the selection of a small number of cases from a larger universe of cases. The "trick" in theoretical sampling is to select cases that maximize the chances of something unusual turning up that will challenge our taken-for-granted views or open new directions in our thinking (Becker, 1998).

While the data considered in this paper were obtained using traditional population research methods, the selection of jurisdictions for inclusion in the analysis was driven by theoretical sampling concerns. The strength of this approach lies in the unexpected patterns and new insights that emerge when a sample is developed according to a theoretical framework rather than based on availability or convenience. The limits of this approach lie in its unconventionality — researchers trained in quantitative methods are unlikely to appreciate the results of such an exercise.

The feminization of gambling and problem gambling has been linked to the availability of gaming machines. As a consequence, the sampling framework was driven by the desire to select jurisdictions where the availability of gaming machines and the prevalence of problem gambling varied from low to high. In selecting "cases" for this exercise, I was further constrained by the need to select from studies where I had access to the original data. This is because I wanted to analyze them in ways that were not part of the original reports on these studies. The jurisdictions selected for this exercise include the following states: Washington (machines: low; prevalence: low), New York (machines: low; prevalence: high), Oregon (machines: high; prevalence: low) and Montana (machines: high; prevalence: high). (Note: In this paper, Washington and New York refer to the states, unless otherwise specified.)

Characteristics of the theoretical sample

In this section, I review features of the four jurisdictions selected to represent extremes on the two dimensions of gaming machine availability and problem gambling prevalence. First, I consider the differences in population demographics in each of these jurisdictions and the availability of legal, commercial gambling, and then address features of the surveys conducted in each state.

Table 1: Characteristics of the jurisdictions and surveys

	Washington	New York	Oregon	Montana
Machines/1,000 adults	>1	(not legal)	3	26
Problem gambling prevalence	2.3%	3.6%	2.3%	3.6%
Geographic region	West Pacific	Northeast Mid-Atlantic	West Pacific	West Mountain
Population 18 years+*	4,380,278	14,286,350	2,574,873	672,133
Urban population**	76.4%	84.3%	70.5%	52.5%
White	83.9%	64.4%	86.6%	92.3%
Year completed Baseline	1992	1986	1997	1992
Replication	1998	1996	2000	1998

Sample size				
Baseline	1,502	1,000	1,502	1,020
Replication	1,501	1,829	1,500	1,227
Response rate				
Baseline	60%	65%	51%	63%
Replication	59%	45%	48%	83%

*Population figures from Census 2000.
**Urban and rural population percentages for 1990 are available at www.census.gov/population/censusdata/urpop0090.txt

The four jurisdictions in question are characterized by notable differences in their resident populations. New York, the only northeastern state, has the largest and most urban population, while Montana has the smallest and most rural population. The four states also differ in terms of ethnic and racial diversity. The population of New York is the most diverse with 14% of the population described as "Black," another 14% described as "Hispanic," and 6% described as "Asian." In contrast, the population of Montana is the least diverse, with Native Americans (6% of the adult population) as the only significant minority group. Both Oregon and Washington represent middle points on this spectrum with significant minority populations of Hispanic people (6% in both states), Asian people (3% and 5%, respectively), African American people (1% and 3%, respectively) and Native Americans (just over 1% in both states) (U.S. Census Bureau, 2000).

Availability of gambling

Washington was selected because of its low availability of gaming machines and low prevalence of problem gambling. Although legal, few electronic gaming machines are in operation. However, substantial opportunities exist to gambling legally in Washington. The Washington State Lottery offers a full range of games, including several large jackpot games, daily games and instant scratch tickets; charitable gambling is legal and on-track and off-track wagering is permitted on horse and dog races. In the wake of the Indian Gaming Regulatory Act of 1988, 17 Native American tribes in Washington State established compacts to operate casino gambling, and at least 28 tribal gaming facilities are currently operating. In response to the expansion of the tribal gaming industry, the Washington State Legislature permitted commercial cardrooms to expand their operations, and by 1998, many had grown large enough to be labeled "mini-casinos" (Volberg & Moore, 1999b).

New York was selected because of its low availability of gaming machines and high prevalence of problem gambling. In 1986, when the first survey of gambling and problem gambling was carried out in New York, legal gambling included charitable bingo, on- and off-track

wagering on horseraces and a well-established state lottery. New York residents also had relatively easy access to casino gambling in New Jersey (Volberg & Steadman, 1988). By 1996, legal gambling in New had grown to include simulcasts of horseraces as well as off-track betting (OTB) theaters where patrons could watch and wager on races while dining in a restaurant-like setting. New York residents also had easy access to casino gambling in the central region of the state as well as in Montreal, southeastern Connecticut and Atlantic City. Although the lottery had expanded to include instant scratch tickets, there were no legal gaming machines operating in New York in 1996 (Volberg, 1996).

Oregon was selected because it has high availability of gaming machines and a low problem gambling rate. Legal gambling opportunities in Oregon include a state lottery that offers a full range of lottery products and the nation's only sports lottery. In 1992, the Oregon Lottery received approval to operate video poker at establishments where alcohol is served. There are now nearly 9,000 video poker machines operating in Oregon, or approximately 3 per 1,000 adults in the state. On- and off-track wagering on horseraces, commercial cardrooms and charitable gambling, including bingo, are all legal and operational in Oregon as well as eight tribal-run casinos, which are permitted to operate video lottery games, blackjack, keno, off-track wagering and card and dice games (Volberg, 2001a).

Finally, Montana was selected because it has high availability of gaming machines and a high prevalence rate of problem gambling. Gambling in Montana has evolved from a long tradition rooted in the freewheeling atmosphere of the mining and logging camps of the 19th century. In 1985, Montana became the first state to permit video gaming machines in bars. Establishments that are licensed to serve alcohol are also permitted to operate live bingo or keno games and non-banked card games. Montana gaming establishments differ from full-service casinos — they do not offer traditional slot machines or table games such as blackjack, roulette or craps (Polzin et al., 1998). Montana has one of the highest concentrations of gaming machines in the United States with 26 machines per 1,000 adults — a ratio as high as that of Australia, widely regarded as the most saturated gaming machine market in the world (Productivity Commission, 1999). In addition to video gaming machines, gambling in Montana includes a state-operated lottery and pari-mutuel wagering on horse and dog races.

Surveying the population

The data were collected in surveys of gambling and problem gambling carried out in the general population. Two surveys were carried out in each state, although the interval between baseline and replication varies from 10 years in New York to three years in Oregon (Polzin et al., 1998; Volberg, 1992, 1993, 1996, 1997, 2001a; Volberg & Moore, 1999b; Volberg & Steadman, 1988). To provide a basis for comparison, it is important to examine how these

data were collected in some detail. While the author directed all of the surveys, the responsibility for data collection was contracted to a different survey research organization in each state.

The questionnaires for all of these surveys included sections on gambling involvement, problem gambling and demographics. Different gambling activities were assessed in each state; however, in each case it was possible to isolate casino gambling, lottery play, private wagering, and wagering on gaming machines. Similar demographic questions were included in each survey. Finally, the revised South Oaks Gambling Screen (SOGS-R), used in most of the problem gambling surveys conducted internationally, was included in all of the questionnaires, with the exception of the baseline survey in New York. The baseline survey in New York was further limited in terms of the data collected about respondent's gambling participation.

The original SOGS is composed of 20 weighted items that include questions about hiding evidence of gambling, spending more time or money gambling than intended, arguing with family members over gambling and borrowing money from a variety of sources to gamble or to pay gambling debts (Lesieur & Blume, 1987). The SOGS-R is composed of 20 lifetime and 20 past-year questions and is designed to provide both lifetime and current measures of problem and pathological gambling (Abbott & Volberg, 1996). Individuals who score 3 or 4 on the lifetime or current items are classified as "problem" gamblers, while those who score 5 or more are classified as "probable pathological" gamblers.

In all of the surveys, the respondents were contacted, recruited and interviewed by telephone. Respondents were randomly recruited within households that were selected from banks of randomly generated telephone numbers. One respondent per household was interviewed and a minimum of five and maximum of 10 callbacks were made to complete an interview with an eligible respondent. All of the achieved samples were representative in terms of gender, age and ethnicity, with one exception. The data from the New York replication survey were weighted to adjust for the low number of respondents recruited from the New York City region.

Table 1 presents information on the sample sizes and response rates for all of the surveys. It shows that, with the exception of New York, the sample sizes for the surveys changed very little between baseline and replication. The largest sample was achieved in the New York replication survey, while the smallest samples were achieved in the New York and Montana baseline surveys. Table 1 also shows that response rates for the surveys changed very little in Oregon and Washington, where the same organization collected data at baseline and replication. In New York, the response rate was substantially lower at replication than at baseline, while in Montana, the opposite was true. Given falling response rates for telephone surveys in general, the response rate from the Montana replication

survey is somewhat surprising but may have been due to the much larger budget for the replication survey than for the baseline survey in that state.

Even the best telephone surveys are limited because some groups are excluded from the sampling frame. Excluded groups included people who reside in non-residential dwellings, such as hospitals, nursing homes and prisons, residents in households without telephones and some demographic groups whose members are more likely to gamble regularly, such as older African-American men and unemployed people (Abbott & Volberg, 1999; Gerstein et al., 1999).

There is great uncertainty about the characteristics of individuals who choose not to participate in gambling surveys. It has generally been assumed that people who are not contacted or who decline to be interviewed in gambling surveys include disproportionate numbers of problem gamblers (Lesieur, 1994). Another possibility is that both problem gamblers and people who do not gamble may be underrepresented in surveys with low to medium response rates. If this is the case, the effects of their omission may partially or totally cancel each other out (Abbott, Volberg & Rönnberg, 2001).

Comparison of the results of recent national surveys in Australia and New Zealand suggests that low response rates may be less of a concern in gambling surveys than previously hypothesized. Abbott (2001) compared the results of the most recent New Zealand survey with the results of a recent Australian national survey that also used the current SOGS (Productivity Commission, 1999). In contrast to the high response rate achieved in the New Zealand survey, the Australian study achieved a relatively low response rate, comparable to response rates attained in recent U.S. gambling surveys. The analysis showed that the New Zealand prevalence estimate was very similar to prevalence estimates obtained for the two Australian states that had per capita gambling expenditures and numbers of gaming machines closest to those in New Zealand and was markedly lower than estimates for the Australian states with higher per capita gambling expenditures and numbers of machines.

In the present context, however, the question of whether the original survey data is accurate is not a salient one. Indeed, though some basic statistical tests of significance have been included here, the strongest associations are actually less interesting than several of the weaker associations that appear more theoretically relevant (Glaser & Strauss, 1967).

Results

Recent changes in gambling participation

Two national studies of gambling carried out in the United States provide top-line information about changes in gambling participation.

The first survey was completed in 1975; the second survey in 1998 (Kallick, Suits, Dielman & Hybels, 1976; Gerstein et al., 1999). Although the 1975 and 1998 surveys used somewhat different methodologies, they were sufficiently similar to enable some comparisons to be made.

In 1975, the first national survey of gambling in the United States showed that 68% of adults had ever gambled; the second national survey in 1998 found that 86% of adults had ever gambled. In contrast, rates of past-year gambling participation changed little between since 1975 and 1998. The proportion of respondents indicating that they had gambled in the past year barely changed, rising from 61% to 63%. The small increase in past-year gambling participation in 1998 is at least partly explained by the fact that Americans are now much more likely to participate in casino and lottery gambling and less likely to participate in older types of gambling, such as bingo and horserace wagering. In 1998, the percentage of people who reported playing the lottery in the past year was two times higher than in 1975, while the percentage increase in respondents who reported gambling in a casino in the past year was even greater. In contrast, past-year participation in bingo and horserace wagering both decreased by two-thirds between 1975 and 1998 (Gerstein et al., 1999).

All of the "cases" in our theoretical sample provide information about changes in gambling participation over time. In contrast to the other three states, the baseline survey in New York was carried out in 1986, before the recent expansion of casino gambling in the United States. As in the United States in general, lifetime participation in gambling rose significantly in New York between 1986 and 1996. The greatest increases were for lottery play and wagering at casinos; pari-mutuel wagering remained steady and wagering on bingo declined.

In the three states where both surveys were conducted in the 1990s — Washington, Oregon and Montana — substantial declines were identified in the proportion of the population that gambled weekly (Polzin et al., 1998; Volberg, 2001a; Volberg & Moore, 1999b). In these three states, there were statistically significant declines in weekly gambling on lotteries and stability in weekly bingo and private wagering. In Montana, where gaming machines have been legal for more than a decade, there was a significant decline in weekly gambling of this type. A significant decline in weekly gambling on machines was also detected in Oregon. In contrast, in Washington there were significant increases in weekly participation in several recently introduced types of gambling, such as cardrooms and casinos. In Oregon, a significant increase in gambling on the Internet was identified between 1997 and 2000.

An important question in the present context is whether more women are gambling in spite of recent overall declines in gambling participation. Two national surveys showed that the proportion of

women who reported ever having gambled rose substantially from 61% in 1975 to 83% in 1998. While the proportion of men who had ever gambled also rose, the increase from 75% to 88% was much smaller. Changes in past-year gambling were much smaller, with the proportion of women who had gambled in the past year rising from 55% to 60% and the proportion of men remaining unchanged (Gerstein et al., 1999).

In contrast to the national data, evidence from the replication surveys in our theoretical sample suggests that, over the 1990s, women were less likely to gamble and particularly less likely to gamble on a regular basis. In Montana, Oregon and Washington, past-year gambling among women declined substantially, with the steepest declines reported among women from minority groups in all three states (Polzin et al., 1998; Volberg, 2001a; Volberg & Moore, 1999b). At the end of the 1990s, only Native American men in Montana showed an increased likelihood of having gambled in the past year. In the 1990s, weekly gambling also declined overall among women, with two exceptions: weekly gambling rose from 17% to 23% among women from minorities in Washington (between 1992 and 1998), and from 16% to 26% among women from minorities in Oregon (between 1997 and 2000).

Differences in gambling participation

We now consider the differences in gambling participation across the four states at the most recent point in time. Table 2 presents information about the size of the groups of males and females who are white and those from other minority groups in each state. This allows readers to assess for themselves the magnitude of differences in gambling participation presented in the tables that follow.

Table 2: Cell sizes across four jurisdictions

	Washington	New York	Oregon	Montana
White				
Male	605	640	665	543
Female	673	695	692	563
Other				
Male	119	202	78	60
Female	83	249	65	60

Table 3 presents information from the replication surveys on the rates of lifetime, past-year and weekly gambling among white and non-white men and women in the four states. New York stands out with the highest rates of gambling participation and Oregon clearly

has the lowest rates of gambling participation.

Table 3: Gambling participation by gender and ethnicity in four jurisdictions

	Washington	New York	Oregon	Montana
	%	%	%	%
Lifetime gambling	**88.9**	**90.4**	**79.5**	**89.7**
White			***	**
Male	90.2	95.6	84.2	92.1
Female	88.7	94.0	75.6	87.9
Other		*		
Male	88.2	82.7	80.8	91.7
Female	85.5	75.9	72.3	83.3
Past-year gambling	**74.4**	**80.5**	**60.6**	**77.5**
White			***	***
Male	76.7	85.8	64.8	80.5
Female	73.1	85.2	55.8	73.7
Other				
Male	73.9	71.3	69.2	86.7
Female	71.1	64.5	58.5	76.7
Weekly gambling	**20.1**	**35.2**	**13.5**	**18.9**
White	***	*	***	*
Male	24.0	39.8	15.9	20.8
Female	14.9	34.9	9.7	16.5
Other		*		**
Male	27.7	34.7	15.4	31.7
Female	22.9	26.9	26.2	11.7

Pearson Chi-Square: * p<0.05, ** p<0.01, *** p<0.001
Level of significance indicated above each group.

In addition to differences in overall gambling participation, there were differences in the rates of gambling participation by men and women in the four states. Across all four jurisdictions, weekly gambling participation was much lower among women than among men. In contrast to the consistency of the differences between men's and women's gambling overall, the differences in gambling rates between white people and people from "other" population groups vary substantially.

In all four states, lifetime gambling rates were higher among white people than among people of other groups. In New York, past-year and weekly gambling rates were all higher among white people than people of other groups. Past-year gambling rates were also highest among white people in Washington. In contrast, past-year gambling rates in Montana and Oregon were higher among people from minorities than among white people in those states, and in Washington and Montana, weekly gambling rates were highest among people from minorities.

The weekly gambling rates in Oregon and Montana show variations between rates for both white and minority groups and for gender within those groups. In Montana, men from minority groups were more likely than white men to gamble weekly, but in Oregon, the data for men in both groups was similar, with white men reporting a slightly higher rate of weekly gambling. For women, the reverse appeared to be true: in Montana, women from minorities reported a lower rate of weekly gambling participation than white women, but in Oregon, women from minorities reported a much higher rate of weekly gambling (26.2%) to that of white women (9.7%) in the state.

Table 3 shows that, in all four states, white men were significantly more likely to gamble regularly than white women. While the small size of the minority groups sample, particularly in Oregon and Montana, suggests caution in interpreting these results (see Table 2 for actual cell sizes), it is interesting that men from minorities in Montana, Washington and New York were more likely to gamble than women from minorities in these states, whereas the opposite appeared to be true in Oregon.

Specific gambling activities

Next, we examine differences in participation rates for specific gambling activities. As noted above, there are substantial legal gambling opportunities available to residents of all four states. All of these states operate lotteries and permit bingo as well as pari-mutuel wagering on horseraces. Access to gaming machines is relatively high in Oregon and extremely high in Montana, in contrast to New York and Washington (see Table 1). Access to casino gambling also varies across these four jurisdictions: high in Washington and Oregon, much lower in New York and Montana.

Table 4 shows rates of past-year lottery play among male and female white and minority respondents in the four states. Past-year lottery play was highest in New York and lowest in Oregon. New York also stands out as the only jurisdiction where past-year lottery play was higher among white people than among minority respondents. In Washington and Oregon, past-year lottery play was higher among both men and women from minorities than among white people, but in Montana women from minorities reported the lowest rates for past-year lottery play.

Table 4: Past-year participation in specific gambling activities in four jurisdictions

	Washington	New York	Oregon	Montana
	%	%	%	%
Lottery (total)	**57.1**	**66.1**	**40.7**	**46.5**
White	*		**	*
Male	58.8	69.4	43.6	49.3
Female	53.9	70.5	36.0	43.7
Other				
Male	65.5	56.4	50.0	54.1
Female	59.0	56.2	49.2	40.0
Private (total)	**23.1**	**31.0**	**19.7**	**33.6**
White	***	***	***	***
Male	31.1	44.2	27.5	43.1
Female	14.9	27.1	11.4	24.0
Other	**	***		*
Male	34.5	27.2	24.4	45.9
Female	15.7	13.3	23.1	26.7
Machines (total)	**10.4**	**18.0**	**21.7**	**38.6**
White		*	***	**

Male	10.1	22.2	27.1	42.9
Female	10.1	17.4	14.9	34.8
Other				*
Male	14.3	15.8	30.8	47.5
Female	10.8	12.1	29.2	26.7

Pearson Chi-Square: * p<0.05, ** p<0.01, *** p<0.001
Level of significance indicated above each group.

Table 4 also presents information about past-year private wagering across the four states. Private wagering includes wagering on sports, games of skill and card games with family, friends or acquaintances. Table 4 shows that, across the board, and regardless of ethnicity, men were much nearly two times more likely than women to have wagered privately in the past year. The one exception is in Oregon, where women from minority groups (23.1%) were just as likely as men from minority groups (24.4%) to have wagered privately in the past year.

Finally, Table 4 presents information about past-year gaming machine play in the four states. Given our theoretical sampling procedure, it is hardly surprising that past-year gaming machine play was lowest in Washington and highest in Montana. In spite of widespread notions about the relationship between the "feminization" of gambling and the availability of gaming machines, Table 4 shows that men were substantially more likely than women to have played gaming machines in the past year. The only exceptions are in Washington, where there was little variation in past-year gaming machine play by either gender or ethnicity, and in Oregon, where minority men and women were equally likely to have played gaming machines in the past year.

Given differences in availability and access, it is difficult to compare past-year casino gambling rates across the four states. In New York in 1996, just under one-quarter (23%) of the respondents acknowledged gambling at a casino in the past year, with white men most likely to have done so (25%) and minority women least likely to have done so (21%). In Oregon in 2000, 28% of all respondents had gambled at a casino in the past year, with white men the most likely (31%) and white women the least likely to have done so (25%). The picture is quite different in Washington, where card games are widely available at both tribal-run casinos and commercial cardrooms. In Washington in 1998, 13% of the respondents had wagered on card games at a casino or commercial cardroom in the past year. Past-year participation in this form of gambling was highest among men from minorities (27%) and lowest among women (9%), whether white or minority (both 9%).

Turning to bingo and horserace wagering, we find substantial gender differences in spite of very low past-year participation rates for these

mature gambling activities. Overall, women were more likely to have played bingo in the past year, with minority women more likely than white women to have played in the past year in Montana, Oregon and Washington but not in New York. Past-year wagering on horseraces was even lower than past-year participation in bingo. Overall, men were more likely to have wagered on horseraces in the past year than women, regardless of ethnicity. The one exception was, again, New York, where white men and women were more likely than minority men and women to have wagered on horseraces in the past year.

One reason to look at past-year gambling participation rates is that weekly gamblers represent only a small proportion of the entire sample in each state. There are a few noteworthy differences between men and women who gamble once a week or more often.] In Washington, female weekly gamblers were more likely than male weekly gamblers to play bingo regularly. In contrast, male weekly gamblers in Washington were more likely to wager privately on a regular basis. In New York, male weekly gamblers were more likely than female weekly gamblers to play the lottery, wager privately and gamble on horseraces regularly. As in Washington, women weekly gamblers in New York were more likely than male weekly gamblers to play bingo regularly. In both Oregon and Montana, the major difference in weekly gambling was that men were more likely than women to wager privately.

When it comes to gaming machines, the patterns of weekly gambling participation across the four states suggest that the question of availability suddenly becomes much more salient. In Washington, only 1% of women who gambled weekly and 2% of men who gambled weekly played gaming machines regularly. In New York, 10% of women who gambled weekly and 8% of men who gambled weekly played gaming machines regularly. In Oregon, 19% of women who gambled weekly and 17% of men who gambled weekly played gaming machines once a week or more often. Finally, in Montana, 45% of women who gambled weekly and 48% of men who gambled weekly played gaming machines regularly.

Are more women gambling?

In considering changes in gambling over time, a more complicated picture emerges. Past-year gambling on gaming machines declined across the board in Montana, with the steepest decline among women in minority groups. In Oregon, past-year gambling on gaming machines declined among white women but went up among women in minority groups. In Washington, where gaming machines were introduced in the period between the two surveys, past-year participation rose from a baseline of zero to about 10% across all gender and ethnic groups.

Private wagering, the most "masculine" gambling activity, again presents a varied picture. Past-year private wagering increased

among men, whether white or minority, in Montana but decreased among women. In contrast, past-year private wagering declined across all groups in Oregon, with the exception of minority women. Past-year private wagering in Washington declined across the board, but with the largest decline among men in minority groups. Looking at bingo, we find declines across the board in past-year participation; the one exception being minority women in Montana, Oregon and Washington who were more likely to have played bingo in the past year.

Problem gambling prevalence rates

Next, we turn to examine the prevalence of problem gambling in these four states. We noted above that Oregon and Washington were selected because of their low rates of problem gambling while Montana and New York were selected because of their high rates. Table 5 presents problem gambling prevalence rates for the four states. Problem gambling is defined here as the proportion of the entire sample from each state that scored 3 or more points on the current (past year) items of the SOGS-R .

Table 5: Problem gambling prevalence rates

	Washington	New York	Oregon	Montana
	%	%	%	%
Total	**2.3**	**3.6**	**2.3**	**3.6**
White	*			
Male	2.3	3.4	1.8	3.1
Female	0.9	2.6	1.9	3.2
Other	**			
Male	11.8	5.0	5.1	6.6
Female	1.2	6.0	7.7	8.3

Pearson Chi-Square: * p<0.05, ** p<0.01, *** p<0.001
Level of significance indicated above each group.

The first observation is that, overall, the current prevalence of problem gambling is quite low in the general population. The next observation is that, with the exception of Washington, there are no significant differences in current prevalence rates of problem gambling among men and women. This is interesting in view of the far lower gambling participation rates that we observed among women (see Table 3). In contrast to the lack of gender differences, there are substantial and significant differences in prevalence rates of problem gambling between the two groups identified: white people and "other," minority groups in all four states. The differences in

prevalence rates between these groups are greatest in Washington and smallest in New York.

To elucidate the relationship between gender, problem gambling and gaming machines more clearly, it is helpful to examine problem gambling prevalence rates among participants in specific types of gambling. To do so, it was necessary to combine data from the four surveys to achieve samples of past-year players that were large enough to provide useful information. Table 6 presents current prevalence rates of problem gambling in the combined samples of people who reported past-year gambling on lottery games, gaming machines, private wagers, bingo and horseracing.

Table 6: Problem gambling prevalence among past-year players

	Lottery	**Machines**	**Private**	**Bingo**	**Pari-mutuel**
	%	%	%	%	%
Total	**4.9**	**7.8**	**7.0**	**10.1**	**8.1**
White	(n=2810)	(n=1175)	(n=1468)	(n=432)	(n=344)
Male	4.1	6.2	6.0	9.7	7.7
Female	3.7	7.0	5.2	6.2	6.3
Other	(n=561)	(n=204)	(n=253)	(n=114)	(n=41)
Male	10.6	15.7	16.1	34.2	16.0
Female	9.8	16.2	13.0	12.5	20.0

Table 6 shows, first, that prevalence rates for problem gambling among past-year players are substantially higher for specific games than in the general population, with the highest rates among past-year bingo players and the lowest among past-year lottery players. Table 6 also shows that, across the board, problem gambling prevalence rates are higher among past-year participants from minority groups in specific gambling activities than among participants who are white. The differences in problem gambling rates between white people and people from minority groups are far greater than the differences between male and female gamblers.

Changes in prevalence over time

Data from the replication surveys are, again, helpful in understanding that the characteristics of problem gamblers may change over time and in relation to changes in the availability of specific types of gambling. Let us consider Washington, where the availability of card games at cardrooms and casinos expanded dramatically between 1992 and 1998. This is the only jurisdiction in our theoretical sample where the overall prevalence of problem gambling is significantly higher among men than among women. Between 1992 and 1998 in

Washington, the proportion of problem gamblers who were male increased from 63% to 75% (Volberg & Moore, 1999b).

Washington forms an interesting contrast to Montana and Oregon, where the availability of gaming machines has been high throughout the 1990s. In Montana, the proportion of problem gamblers who were female remained stable at about 50% between 1992 and 1998. In Oregon, the proportion of problem gamblers who were female increased from 36% to 45% between 1997 and 2000 (Volberg, 2001a). It is interesting that the proportion of problem gamblers in Oregon who were Native American increased in the same period from 3% to 7% — a possible response to an increase in the number of tribal-run casinos in that state.

Discussion

Gender and gambling

What do the data presented here suggest about the relationship between gender, gambling and problem gambling? It is worth beginning by considering the differences between New York and the other three states selected for this exercise. As Table 1 demonstrates, New York is the only state in the theoretical sample located in the northeastern United States. Furthermore, New York's population is more than three times larger and far more ethnically diverse than any of the other three states. Another difference is that a larger proportion of the New York population lives in urban areas. Finally, the problem gambling surveys in New York were completed somewhat earlier than the surveys carried out in the other states. The nature of the exercise attempted here means that the differences between New York and the other states are less a threat to validity than an opportunity to explore whether differences in geography, ethnicity and population size and density affect the relationships between gender, gambling and problem gambling.

Over the final quarter of the 20th century, national surveys of gambling in the United States found substantial increases in lottery and casino gambling at the expense of more mature forms of gambling, such as bingo and horserace wagering (Gerstein et al., 1999). The data from New York, where gambling participation rose substantially between 1986 and 1996, with increases most evident for lottery play and casino gambling, echo these larger, national trends and suggest that these trends continued at least through the mid-1990s.

However, it has been suggested that the market for legal gambling in the United States matured rapidly in the 1990s, and that, with few exceptions, the U.S. gambling market is now fully supplied (Christiansen & Sinclair, 2001). The more recent data from Montana, Oregon and Washington support this contention and suggest that gambling participation rates began to decline in the late 1990s — perhaps as people who had experimented with new gambling

activities stabilized their involvement to balance it with other, important parts of their lives (Volberg, 2001b).

Gender and specific gambling activities

The role that gender plays in gambling participation is clarified when we turn from gambling in general to look at specific gambling activities. In general, we have seen that women are less likely to gamble than men and, in particular, less apt to gamble regularly. The data presented here support the notion of a strong relationship between gender and some types of gambling. Conventional casino gambling showed relatively little variation with between 20% and 30% of the adult population having gambled at a casino in the past year, regardless of gender or ethnicity. When it comes to other gambling activities, there are clear and substantial gender differences. Across the board, women were more likely to play bingo than men. In contrast, men were far more likely than women to wager privately and on horseraces.

There is greater variability in the regular gambling of men and women when we take ethnicity into consideration. Weekly gambling rates were higher among white people than among people from minorities in New York. In Montana and Oregon, people from minorities were more likely to gamble regularly than white people. Within the minority population, men were more likely to gamble than women in Montana and New York; the opposite was true in Oregon. This finding suggests the importance of examining differences in gender roles within ethnic groups that may affect gambling participation.

Again, New York stands out in relation to the other states in our theoretical sample. New York had higher rates of lottery play among white people than among people from minorities. New York also had higher rates of bingo participation among white women than women from minorities. Finally, horserace wagering in New York was higher among white people than people from minorities, regardless of gender. It is possible that these differences in gambling patterns are due to geography, population density or ethnic diversity. Another possibility is that these differences are a historical artefact — the result of the fact that the surveys in New York were completed somewhat earlier than the surveys carried out in the other states. A third possibility is that these differences are due to the existence of a substantial white working-class population in New York with gambling "habits" similar to those in other working-class communities (Dixey, 1996). However, all of these are hypotheses that remain to be tested.

Another interesting difference emerges with regard to women from minority groups in Oregon. They present an exception to the more general finding that private wagering is much more common among men; their past-year rate for participation in private wagering was quite similar to that for men from minority groups in Oregon. Women

from minorities in Oregon were also more likely than their counterparts in New York and Washington, but not Montana, to have played gaming machines in the past year. This difference may be due to the small sample of respondents from minorities interviewed in Oregon. Another possibility is that a real difference exists in the gambling involvement of minority women in Oregon compared with other states. A third possibility is that the availability of gaming machines affects the gambling of women from minority groups more significantly than the gambling of white women. Again, these questions can only be answered with further research.

A third interesting question relates to casino gambling in Washington. The tribal-run casinos in Washington are unique in offering primarily table games and very few slot machines. Washington is also unique in the number of large commercial cardrooms (or "mini-casinos") that operate throughout the state. Private wagering in Washington State declined across the board between 1992 and 1998, with the largest decline among men from minorities. It is possible that this change reflects a shift among this group of men from private wagering to gambling at tribal-run casinos and commercial cardrooms. As noted above (see subsection Specific gambling activities under Results), Washington was the only jurisdiction where casino participation rates were substantially lower among women compared with men — perhaps another consequence of the unique characteristics of "casinos" in that state.

Finally, consideration of the data from people who gamble regularly suggests that gender roles may become even more pronounced at the far end of a continuum of participation in some types of gambling but not others. Male weekly gamblers were far more likely than female weekly gamblers to wager privately on a regular basis while female weekly gamblers were much more likely than their male counterparts to play bingo on a regular basis. In contrast, regular gaming machine play appears to be more closely related to the number of machines in a jurisdiction than to gender roles. Unlike most other types of gambling, nearly equal proportions of regular gaming machine players were male and female.

Are women more likely to have gambling problems?

In general, the data considered here show that women are far less likely to gamble regularly than men. In spite of substantially lower rates of regular gambling among women, rates of current problem gambling were quite similar for men and women. The one exception is Washington, where both white and minority women were far less likely than men to score as current problem gamblers.

The picture becomes clearer when we consider weekly gambling among different groups of respondents separately. Among white men, the prevalence of current problem gambling varies as expected, with the lowest prevalence rate in Oregon where white men are least likely to gamble regularly, and the highest prevalence

rate in New York, where white men are most likely to gamble regularly. The relationship between weekly gambling and problem gambling rates is not as strong among white women but still varies in the expected direction.

The relationship between weekly gambling and problem gambling is far less predictable among men and women from minorities. Among minority men, the prevalence of current problem gambling was substantially higher in Washington in spite of the fact that men from minorities in other states were just as likely to gamble weekly. Among minority women, the prevalence of current problem gambling was substantially lower in Washington in spite of the fact that women from minorities in Washington were just as likely to gamble weekly as minority women in other states. The question is whether this difference is due to unique characteristics of the minority population group surveyed in Washington, something unique about the available types of gambling or to another factor altogether.

The picture is further clarified when we consider gaming machine participation separately. Predictably, Table 4 shows that past-year gaming machine play increases with the number of machines in a jurisdiction. Table 5 shows that, while prevalence rates for problem gambling among white men vary independently of the availability of gaming machines, prevalence rates among white women vary almost entirely as expected. Among men from minorities, problem gambling prevalence rates appear to drop in relation to the availability of gaming machines, while the opposite is true of women from minority groups. Indeed, prevalence rates for problem gambling were actually higher among women from minorities in Oregon and Montana than among white people (male or female) or men from the minority population. These data suggest that the relationship between gaming machines and problem gambling among women is stronger than this relationship among men and, further, that this relationship is particularly strong among minority women.

Hing and Breen (2001b) argue that social norms influence women's gambling preferences and frequency more than the characteristics of specific types of gambling. They argue further that problem gambling prevalence rates will be similar among male and female players who gamble at equal intensity. The data presented here support the argument that men and women who gamble at equal frequency experience gambling problems at about the same rate. In contrast to the lack of differences between men and women, there appear to be substantial differences in the prevalence of problem gambling among majority and minority ethnic groups. As Table 6 shows, the prevalence of problem gambling is two or more times higher among minority men and women than among white men and women, regardless of whether we are looking at past-year lottery play, gaming machine play, private wagering, bingo or pari-mutuel wagering. A question for future research is how variability between different ethnic groups in attitudes towards women and gambling may influence gambling behavior.

It is interesting, in this regard, to consider another curious intersection of gambling, gender and ethnicity. Among past-year bingo players, the prevalence of problem gambling was lowest among white women and highest among men from minorities. Although this difference may result from the small size of the group of past year bingo players surveyed, there is a possibility that male players of a traditionally "female" gambling pastime are particularly troubled individuals (Wood, 2002).

What lies ahead?

In the wake of rapid growth in the availability of legal gambling opportunities, and particularly, casino and non-casino gaming machines, service providers have observed growing numbers of women seeking help for gambling problems in the United States and internationally. The majority of these women attribute their gambling problems to recent involvement with gaming machines as opposed to other types of gambling. The question is whether these growing numbers of women seeking help reflect a broader "feminization" of gambling and problem gambling in the general population.

The exercise undertaken here suggests that, in fact, little has changed when it comes to gender and gambling. Men are still the social actors predominantly engaged in "strategic," skill-based and competitive forms of gambling while women remain predominantly engaged in "non-strategic," luck-based forms of gambling (Potenza et al., 2001; Volberg & Banks, 2002). The major historical change has been the growing involvement of women in non-strategic gambling activities at venues outside the home that provide a sense of physical and emotional safety. Gaming machines are increasingly available at venues frequented by women — restaurants, hotels and bars, but also grocery stores, convenience stores, gas stations and even laundromats. As gambling becomes more available at venues frequented by women, the data we have examined suggest that women from minority groups are especially likely to begin gambling and may be particularly vulnerable to developing difficulties related to their gambling.

One of the most interesting findings to emerge from the analysis presented here is the relationship between the availability of specific types of gambling and the socio-demographic characteristics of problem gamblers. It appears likely that the characteristics of problem gamblers in a given jurisdiction are a reflection of differences in the availability and acceptability of different types of gambling among different groups in the population. Gender and ethnicity and, perhaps, also age and social class may play a role in what type of gambling people choose and, for those who gamble regularly, who gets into difficulties with their gambling.

Another intriguing question that emerges from this exercise is the issue of why women are just as likely as men to score as problem

gamblers when their overall gambling participation remains lower? Are women in fact more vulnerable to developing gambling problems? Or are women simply more likely than men to seek help for a gambling problem, just as they are more likely to seek help for other physical and psychological ailments? Another possibility is that methods for identifying problem gambling may not work equally well in different subgroups in the population. There may be something about the problem gambling screens we use that elicits more positive responses from women and people from minorities.

Finally, we must consider the emergence of new forms of gambling and ask what will be the impacts of the implosion of this means of consumption into the home (Ritzer, 1999). As Cividino (2002) notes, women represent a rapidly expanding segment of the on-line gambling population and there is a growing number of specialized Web sites for women gamblers. On-line gambling offers excitement and escape but also local availability, flexible hours, a low price of participation and physical and emotional safety — features especially appealing to women. It would be wise to give careful consideration to measures to prevent gambling problems in this new and very private gaming venue.

Qualitative research is viewed with skepticism by most gambling researchers, and there is little appreciation of its value in generating testable hypotheses. The exercise undertaken here has raised numerous issues that deserve further exploration. While not yet a single, coherent "theory" of gambling or problem gambling, testing the hypotheses generated here is likely to move us significantly forward in our efforts to understand the role of gambling in postmodern society.

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issue 8 — may 2003

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