

Gambling Attitudes and Gambling Behavior of Residents of Macao: The Monte Carlo of the Orient

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Situated on the west bank of the Pearl River Delta 1 hour from Hong Kong, Macao has had more than 150 years of experience with gambling. In the 1990s, more than 50% of tax revenue came from gambling. Recent deregulation of the gaming sector, in which licenses were granted to three investors (one local and two from Las Vegas), will bring economic and social changes to the community. This study examines Macao residents' attitudes about gambling, their current gambling behavior, their experiences with problems related to gambling, and their concerns for the future as Macao relies on gambling as its major economic stimulus. Findings indicate that the respondents have mixed attitudes toward gambling. The problems associated with gambling that they cited most frequently were family quarrels and the need to borrow money to gamble. The study also discusses the future of the sector and the government's role in protecting residents from the ills of gambling.

Keywords: *gambling; gambling attitudes; gambling behavior; social impact; economic impact*

This study attempts to contribute to understanding the economic and social impact of gambling by examining the case of Macao, a tourist destination that has had more than 150 years of experience with gambling, as it deregulates its gaming sector after a 40-year monopoly. Macao is of particular interest because it is the only place in China where gambling is permitted. Furthermore, little is known about residents' attitudes and gambling behavior or about changes in the social and economic fabric of the community that are likely to occur when gambling becomes more accessible. This study aims to illuminate those issues and reveal residents' expectations and fears about the future as Macao bets on the gambling industry. The information is likely to be of interest to policy makers as they formulate strategies to ensure economic growth while limiting the ills of gambling.

THE MAKING OF THE MONTE CARLO OF THE ORIENT

David Ricardo's Theory of Comparative Advantage discusses the gains of a nation's specialization in those activities in which it has a relative advantage (Ricardo 1911). Some countries compete on the basis of natural endowment. Others

rely on their strength in adding value to semifinished or finished products, while a handful, usually the developed countries, capitalize on advanced technology and creativity.

Among all competitors for the global pool of wealth, Macao is a small player and appears only as a dot on the world map. Yet Macao is a very special place. Crowned "The Monte Carlo of the Orient," it is the only place in China where gambling is legal and is so strategically located in the Pearl River Delta that it bonds the Chinese bloodline across borders, across the straits, and across the sea (see Figure 1).

Gambling in Macao dates from 1847, when the Portuguese administration permitted construction of the first group of casinos. The action was taken because the neighboring enclave of Hong Kong was under siege by the British, which had a substantial impact on the economy of Macao. Introducing gambling was seen as a way to reduce that impact. The Chinese government and local Chinese leaders, however, became greatly concerned about the social vice of gambling. This led to the decision to monopolize the business through the granting of a government concession so that it could be controlled more easily. In 1930, the concession went to the Lou, Fan, and Fok families, and in 1937, to Kou Ho Leng and Fu Lou Iong. Then, in 1962, the legendary Stanley Ho and his associates took over and built an empire under the umbrella Sociedade de Turismo e Diversões de Macau (STDM). Until just before the end of their concession, they ran 11 casinos and other forms of betting in town. The casino business generated gross annual revenue of between U.S.\$1.5 billion and U.S.\$2.4 billion over the past decade (Ha 2001). Throughout the 40 years of monopoly, the gambling industry produced huge amounts of revenue for the operators. They shared this with the government by virtue of a substantial tax rate of 31.8%. In the 1990s, gambling produced more than 50% of tax revenue and almost one-third of the gross domestic product of the territory (Ha 2001). Figures for 2000 and 2001 indicated that the gaming tax accounted for slightly more than 60% of total public revenue (Macao Monetary Authority 2002).

The casino business was a cash cow for STDM and led to other streams of business for the holding company. The past 40 years of its development saw the empire grow to

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FIGURE 1
THE GEOGRAPHIC LOCATION OF
MACAO IN THE PEARL RIVER DELTA



encompass almost every aspect of the economy and life of the people of Macao—sea, ground, and air transportation; hotels; restaurants; entertainment; real estate; retail businesses; educational institutions; telecommunications; charity; medical service; and much more. It became one of the most profitable organizations in the world, employing 6% of Macao's total labor force (Ha 2001). Almost every member of the community has been directly or indirectly connected to the business and has benefited from the revenue generated.

THE TURNING OF A NEW PAGE IN THE HISTORY OF MACAO'S GAMBLING BUSINESS

Midnight of December 19, 1999, marked the beginning of a new era in Macao's history when sovereignty was returned to China, ending more than 440 years of Portuguese administration. Macao was granted the status of a special administrative region (SAR), giving it a great degree of autonomy and the possibility of continuing the lifestyle and standard of living that its people had been enjoying. That included, of course, continuation of legal gambling. For the strategic development of the small territory that covers only 25.8 km² of land and has a population of 436,686 (Macao Statistics and Census Service 2001), the new administration decided to deregulate the gaming industry with the hope that it would bring in more foreign investment and create new markets.

Every phase of the bidding process made newspaper headlines. Finally, the long-awaited moment came when the SAR government announced the winners of the three gaming licenses—Sociedade de Jogos de Macau (SJM), which is a de facto subsidiary of the STDM group; Galaxy Casino Company Limited; and Wynn Resorts (Macao) Limited. The

latter two are renowned for being part of the transformation of Las Vegas from a virtually unknown desert into what it is now. It is estimated that the three licensees will invest more than U.S.\$2 billion.

With this change, the government will receive a substantial increase in revenue from gaming taxation, with the new tax rate set at 35%. On top of that, the three licensees agreed to contribute 1% to 2% of their gross earnings to finance public infrastructure and social welfare, educational, and cultural projects. To most residents of Macao, the two Las Vegas licensees are bringing in more than hotels, casinos, meeting venues, and amusement parks. They also are bringing in the magic touch of Las Vegas.

Some residents of Macao are already under the magic spell and are fantasizing a futuristic, glitzy, full-blown multientertaining world wonder called Macao. Others, however, are cautious about possible social costs—crime, drug abuse, prostitution, and the whole range of vices too often featured in movies and stories about Las Vegas.

GAMBLING AS AN AGENT FOR ECONOMIC REVITALIZATION AND ITS SOCIAL IMPACT

The literature offers many arguments for and against gambling. On the positive side, researchers have found that casinos have increased economic development, tax revenues, and tourism, and gambling has become an increasingly accepted leisure activity (Nicholas, Stitt, and Giacomassi 2002; Hing 2001; Piscitelli and Albanese 2000; Seung and Harris 2000). On the negative side, researchers have noted fears that the increased spending on gambling would come from local residents, that more crimes and cases of pathological gambling would occur, and that some people would find it against their moral principles (Moffett and Peck 2001; Piscitelli and Albanese 2000).

The favorable view of casinos is that they increase employment and tax revenues that can then be used to finance community services in health and education. Furthermore, excess revenue makes possible low income taxes and a general rise in the standard of living. In the case of Atlantic City, New Jersey, in the United States, the primary purpose of casino gaming was to redevelop tourist and convention facilities and improve infrastructure and tourism capacity (Nicholas 1998). Nicholas (1998) also warned of the downside of deregulation. With multiple players in the industry, escalating marketing wars could easily erupt and have a negative impact on existing properties unless the customer base is significantly increased.

Nicholas, Stitt, and Giacomassi (2002) studied the impact of casinos on eight communities in the United States that had recently adopted casino gambling. The communities indicated that the community had not changed much as a place to live. As for quality of life, most felt a change but were undecided whether it was positive or negative. The study revealed that introducing casino gambling in small communities with little or no tourism base or building casinos on a large scale had a greater impact on the overall quality of life, both

positive and negative, than small-scale casinos or casinos in communities with an existing tourism base.

Although there are a number of success stories of communities being revitalized by the introduction of gambling, one must also be aware of possible failures. Stokowski (1996) told how two Colorado mountain towns that had thought they had found a way to revitalize the community by developing gaming later suffered the consequences of poor organization, planning, and control as the gaming operators served their own interests at the expense of the interests of the residents.

Regarding the social impact of gambling, the activity often has been associated with organized crime, domestic violence, and bankruptcy (National Opinion Research Center 1999, quoted in Nicholas, Stitt, and Giacomassi 2002; Unwin, Davis, and de Leeuw 2000); pathological and problem gambling (Lepage, Ladouceur, and Jacques 2000; Hing 2001; Marshall and Rudd 1996); and political corruption (Layton and Worthington 1999). One study revealed that the rate of criminally inadmissible persons attempting to enter Canada increased after the opening of the Casino Niagara (Piscitelli and Albanese 2000). Some researchers have linked gambling to abuse of drugs and alcohol and risky or illicit sexual behavior, especially prostitution (Allcock 2000; Unwin, Davis, and de Leeuw 2000; Piscitelli and Albanese 2000; Layton and Worthington 1999; Petry 2000; Grun and McKeigue 2000). The social impact on residents of the community has been found to be worse for those who were under age and those who were receiving social assistance.

GAMBLING MOTIVATION

Gambling is defined as the exchange of property based on the outcome of an event largely, if not solely, determined by chance (Allcock 2000). People gamble for various reasons; some economic, others psychological. When they take the risk to gamble, players hope to improve their living standard, advance to a higher social class, pay off large household expenditures (e.g., children's education), enjoy luxuries, or simply find pleasure and excitement (Haruvy, Erev, and Sonsino 2001; Pascal 1670, quoted in Menestrel 2001; Piscitelli and Albanese 2000). Most frequently, however, gambling has been used as a way to avoid facing other more difficult matters in life (Allcock 2000; Beaudoin and Cox 1999). Sometimes it can be attributed simply to a faulty sense of invincibility and a belief in superstition (McLaughlin 1999; Unwin, Davis, and de Leeuw 2000).

Figures from various countries show the scale and consequences of gambling activity. In Australia, some 40% of the population gambled weekly and about 1% (including professional bettors and problem gamblers) provided 25% of turnover (Allcock 2000). Australia's Productivity Commission Report in 1999 estimated that 2.3% of the adult population had significant or severe gambling problems. In America, problem gambling affected 5 million to 15 million people and was more common among the young (Unwin, Davis, and de Leeuw 2000). In Canada, increased availability of legalized gambling had been associated with an increase in the number of cases of pathological gambling (Beaudoin and Cox 1999).

Layton and Worthington (1999) found that income source and level, gender, age, ethnicity, occupational status, and family composition exerted a significant influence on the probability of households gambling and that the effect of these variables was likely to vary across the large range of gambling products. Wiebe and Cox (2001) reported that Canadian adults seeking treatment for gambling problems were more likely to be married and employed full time, to have a higher education and income, and to own their own homes.

Most authors have agreed that the rate of pathological gambling was related to the accessibility of gambling activities (Jacques, Ladouceur, and Ferland 2000). Room, Turner, and Ialomiteanu (1999) reported that the opening of a casino in Niagara Falls resulted in more gambling by local residents and an increase in gambling problems manifested in the arena of private life.

METHODOLOGY

A survey questionnaire was used in this study. The first part consisted of questions about attitudes and perceptions regarding gambling and Macao's reliance on it. The second part consisted of questions about respondents' gambling behavior, including whether they gambled, how often, how much they spent, why they gambled, and possible signs of problem gambling. The last part solicited biographical data about the respondents.

A pilot test of the instrument was carried out on June 11, 2002, with a class of undergraduate students in tourism and hotel management in Macao. An analysis of the results led to changes in the questionnaire, including adding a question about residents' gambling behavior overseas. Considering the present gambling environment and the small size of Macao, many residents may prefer to gamble overseas.

The administration of the Chinese version of the instrument took place from June 19 to July 7, 2002, in telephone interviews conducted using telephone numbers randomly selected from the local directory. Only Macao residents were interviewed. The interviews were intentionally spread over weekdays (67.9%) and weekends (32.1%) and throughout four periods of the day (10 a.m. to 1 p.m., 19.5%; 1:01 to 6 p.m., 43.2%; 6:01 to 9 p.m., 23.2%, and 9:01 to 10:30 p.m., 14.1%). Out of 706 calls attempted, useful responses came from 375, for a response rate of 53%. Jacques, Ladouceur, and Ferland (2000) obtained similar response rates in Hull (53%) and Quebec City (58%) in a study assessing the impact of the availability of gambling.

PROFILE

Among the respondents, 98.9% were permanent Macao residents and of Chinese ethnicity (98.1%). Women made up 53.9% of the respondents. Around 49% of the respondents had no children, and 63.5% had received high school education, vocational training, or preuniversity education, while 14.9% had attained university education or beyond. The age and gender distribution was similar to the Macao census results of 2001. Demographic details are shown in Table 1.

TABLE 1

DESCRIPTIVE STATISTICS OF THE SAMPLE (N = 375)

	n	Percentage
Residence		
Permanent	371	98.93
Less than 7 years	4	1.07
Ethnicity		
Chinese	368	98.13
Macanese	6	1.60
Other	1	0.27
Gender		
Male	172	46.10
Female	201	53.90
Age		
Younger than 18	78	20.80
18 to 25	76	20.27
26 to 35	57	15.20
36 to 45	87	23.20
46 to 55	38	10.13
Older than 55	39	10.40
Marital and family size		
Single/divorced/widowed without kid	176	46.93
Single/divorced/widowed with kid	8	2.13
Married without kid	9	2.4
Married with kid	182	48.53
Education		
Primary or below	81	21.60
High school, vocational, preuniversity	238	63.47
University or above	56	14.93
Occupation		
Senior management	4	1.10
Professional	25	6.70
Technical	51	13.70
Skilled worker	58	15.60
Unskilled labor	13	3.50
Student	138	37.20
Housework	40	10.80
Unemployed	21	5.70
Self-employed	12	3.20
Other	9	2.40
Monthly income in Macao patacas (MOP) ^a		
Less than 5,000	252	67.60
5,001 to 10,000	84	22.50
10,001 to 15,000	17	4.60
15,001 to 20,000	9	2.40
20,001 to 30,000	7	1.90
30,001 to 40,000	4	1.10

a. As of July 26, 2002, U.S.\$1.00 = MOP8.032.

GAMBLING BEHAVIOR

Results showed that most of the respondents did not gamble. Those who did gamble did it well within their limits and mainly for entertainment. Of all the respondents interviewed, 58.1% said they had never gambled, and 26.4% said they seldom did. Only 0.8% admitted that they always gambled (see Table 2). Although people may not gamble in Macao, they may do so overseas for various reasons, such as a better environment, less chance of meeting acquaintances, and holiday mood-induced gambling desire. Nonetheless, when asked if they gambled when traveling overseas, 70.4% of the respondents gave a negative response. Despite the likelihood of an increased variety and quality of gaming and entertainment

TABLE 2

PARTICIPATION IN GAMBLING ACTIVITIES (N = 375)

	Do You Gamble?		Do You Gamble Overseas?	
	n	%	n	%
Never	218	58.13	264	70.40
Seldom	99	26.40	85	22.67
Sometimes	55	14.67	26	6.93
Always	3	0.80	—	—

facilities being available in the near future, most respondents (70.6%) still insisted that they would not gamble more in the future, 21.9% said they might, and 1.9% believed they would. However, some studies have reported that availability of gambling was directly related to increased participation in gambling and the probable development of pathological gambling (Jacques, Ladouceur, and Ferland 2000). The apparent lack of interest, therefore, might change over time when more casino establishments are operating in town. In view of local residents' low rate of participation in gambling activities, it is reasonable to speculate that the redistributive effect, whereby local money originally planned for other forms of entertainment is diverted to gambling, will be insignificant (Felsenstein and Freeman 1998).

Of those who gamble, 91.8% indicated that on average they spent no time in casino gambling per month. The most popular gambling activities were mahjong, lottery, and soccer betting (see Table 3). On average, most of those who had gambled (89.2%) spent less than 2% of their monthly income of Macao patacas (MOP) on gambling (see Table 4). Bearing in mind that most of them earned an income of less than MOP5,000 (see Table 1), the amount spent in gambling was not large in absolute terms.

The respondents were requested to select one or more reasons that could best explain why they gambled. The most popular reason was entertainment, followed by trying one's luck and killing time (see Table 5).

ATTITUDES TOWARD GAMBLING AND MACAO'S RELIANCE ON THE INDUSTRY

Respondents were asked to rate the degree to which they agreed or disagreed with 14 statements about gambling on a 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). The statements were developed following a review of the literature. Three of the statements were drawn from a similar study by Room, Turner, and Ialomiteanu (1999). Findings showed that respondents had a mixed attitude toward gambling: most were morally against gambling (48.7% against and 8% very much against) but still felt comfortable with it (62.6%) (see Table 6). Perhaps they have become accustomed to this way of life in Macao and have come to terms with gambling and entertainment being important elements of tourism, which is the city's lifeblood.

Most respondents recognized the entertainment side of gambling and knew that indulgence was harmful. Even those respondents who remained neutral to stronger statements such as "Gambling is vice," "A gambler has no use," and "I am morally against gambling" expressed agreement with the

TABLE 3
FREQUENCY OF PARTICIPATION IN GAMBLING ACTIVITIES (n = 157), IN PERCENTAGES

Activity	Times per Month						Total
	0	0.08 to 2.5	2.6 to 5	5.1 to 10	10.1 to 15	15.1 to 20	
Casino gambling	91.82	8.18					100
Horse racing	88.68	8.18	1.89	1.26			100
Greyhound racing	96.23	3.14	0.63				100
Slot machine	98.11	1.89					100
Soccer betting	68.55	21.38	6.92	3.14			100
Mahjong	44.03	47.17	5.66	1.89	0.63	0.63	100
Lottery	64.97	25.48	9.55				100

TABLE 4
PERCENTAGE OF MONTHLY INCOME SPENT ON GAMBLING (n = 157)

Percentage of Monthly Income Spent on Gambling	%
Less than 2	89.24
2 to 5	5.70
6 to 10	1.90
11 to 20	1.27
21 to 30	0.63
31 to 40	1.27

TABLE 5
REASONS FOR GAMBLING

	Times Cited
Entertainment	137
Get rich	20
Gain extra money	27
Excitement	49
Kill time	61
Friends urge me to	45
Try my luck	69
Forget unhappiness	3
Advance to higher social class	0
To help with household expense	3
Other	4

TABLE 6
PERCENTAGE, MEAN, AND STANDARD DEVIATION OF THE FOURTEEN STATEMENTS ON GAMBLING

	Totally Agree	Agree	Neutral	Disagree	Totally Disagree	M	SD
Gambling is vice	5.3	26.1	27.2	39.5	1.9	2.94	0.97
Gambling is leisure	4.3	56.3	17.9	19.2	2.4	3.41	0.93
A gambler has no use	2.7	21.6	22.4	50.4	2.9	2.71	0.93
Gambling is fun	0.5	44.8	23.5	26.7	4.5	3.10	0.95
Gambling is a means to get rich	1.6	14.4	10.7	60.8	12.5	2.32	0.92
One can get easily addicted to gambling	27.7	61.6	6.1	4.0	0.5	4.12	0.73
Gambling is like drug addiction and prostitution	8.8	51.5	19.2	19.2	1.3	3.47	0.94
A gambler can be a good person	2.9	70.4	13.9	10.7	2.1	3.61	0.80
Gamblers are rich	0.5	12.3	15.5	63.5	8.3	2.33	0.82
I am morally against gambling	8.0	48.7	16.3	25.4	1.6	3.36	1.00
Gambling can contribute to the community	1.6	49.1	17.9	29.3	2.1	3.19	0.95
Gamblers are poor	0.0	7.5	21.1	67.5	4.0	2.32	0.67
I am comfortable with gambling	0.5	62.1	21.6	14.7	1.1	3.46	0.79
Gambling is associated with crime	6.1	57.3	15.2	20.8	0.5	3.48	0.91

statement, "One can get addicted to gambling easily" (89.3%).

To explore whether attitudes toward gambling differed depending on sociodemographic characteristics of the respondents, univariate tests were applied to subgroups of gender, age, education, and occupation. Findings showed that female respondents agreed significantly more than male respondents with the statement, "I am morally against gambling" ($t = -2, p < .05$). The respondents who had completed high school or university education felt more strongly than those with primary education that a gambler had no use ($F =$

6.87, $p < .01$). Professionals did not agree that gambling was a way to get rich, and this was significantly different from the view of those who were self-employed ($F = 2.125, p < .05$).

FAMILY AND PERSONAL PROBLEMS ARISING FROM GAMBLING

Problems cited most often as associated with gambling were family quarrels (54.7%) and borrowing money to gamble (52%), followed by job-related problems such as losing

TABLE 7
COMPARISONS OF GAMBLING-RELATED PROBLEMS AMONG SUBGROUPS

	Age		Gender		Education		Marital/Family		Income	
	χ^2	<i>p</i>	χ^2	<i>p</i>	χ^2	<i>p</i>	χ^2	<i>p</i>	χ^2	<i>p</i>
Quarrels with family	33.55	.00	0.25	.35	0.05	.97	17.45	.00	7.08	.07
Have negative thoughts about life	9.11	.11	0.04	.47	3.94	.14	2.55	.07	5.52	.14
Losing/quitting job	17.87	.00	1.36	.15	4.50	.11	16.73	.00	14.01	.00
Borrow money to gamble	18.49	.00	1.56	.13	1.83	.40	9.88	.00	12.18	.01
Engage in illegal activities	15.65	.01	0.01	.51	3.58	.17	0.15	.40	2.25	.52
Losing interest in work	14.46	.01	3.28	.045	3.22	.20	7.87	.00	14.32	.00
Drinking problem	2.02	.85	0.04	.48	1.10	.58	1.46	.14	1.21	.75
No problem	20.96	.00	0.16	.39	2.48	.29	8.64	.00	11.21	.01

interest in a job or losing or quitting a job. "Not encountering any problem" was cited 32.2% of the time. Engaging in illegal activities had the second lowest occurrence (16.5%). The types of gambling problems that the respondents and their friends encountered seem currently to be confined to the arena of their private life.

Cross-tabulation revealed that those aged 26 to 35 and 36 to 45 years old, more often than other age groups, cited instances of their or their friends losing interest in work ($\chi^2 = 14.463$, $p < .05$) and borrowing money to gamble ($\chi^2 = 18.491$, $p < .05$) (see Table 7). The first group admitted more instances of personally engaging in illegal activities or having friends engaged in illegal activities ($\chi^2 = 15.653$, $p < .05$), while the second group recounted more instances of losing or quitting jobs ($\chi^2 = 17.866$, $p < .05$) and having family quarrels ($\chi^2 = 33.551$, $p < .01$). Compared with other age groups, those younger than 18 years old more often claimed that they had not encountered any problems at all ($\chi^2 = 20.956$, $p < .05$). Male respondents reported more instances of losing interest in work than female respondents ($\chi^2 = 3.279$, $p < .05$).

Those with children were more likely to encounter some of these problems. The association was significant for "quarrel with the family" ($\chi^2 = 17.45$, $p < .01$), "losing/quitting job" ($\chi^2 = 16.728$, $p < .01$), "borrowing money to gamble" ($\chi^2 = 9.875$, $p < .01$), and "losing interest in work" ($\chi^2 = 7.865$, $p < .01$).

Respondents earning a monthly income between MOP5,001 and 10,000 (the middle income group in this study) encountered more often than other income groups the problem of losing or quitting a job ($\chi^2 = 14.012$, $p < .01$). The highest income group (MOP15,001 or above), followed by the middle-income group (MOP5,001 to 10,000), cited more often than the low-income group (less than MOP5,000) the problem of "borrowing money to gamble" ($\chi^2 = 12.182$, $p < .05$). Not surprisingly, the former two groups also reported more instances of losing interest in work ($\chi^2 = 14.324$, $p < .01$). In contrast, the low-income group more often claimed that they had not encountered problems of any sort related to gambling ($\chi^2 = 11.211$, $p < .05$).

To summarize, the group most susceptible to problems arising from gambling had the following characteristics: male, aged 26 to 45 years old, married with children, and with an income between MOP5,001 and 10,000. There may be several reasons for this. People in this group are in their prime working age, have stable earnings, and hence enough disposable income. Being married and having children can mean a stable family life for many. Therefore, this group of

TABLE 8
THE LARGEST AMOUNT LOST
IN A SINGLE BET ($n = 353$)

Amount Lost (in Macao patacas [MOP])	<i>n</i>	%
Several tens	91	25.78
Several hundred	101	28.61
Several thousand	49	13.88
Several ten thousand	49	13.88
Several hundred thousand	29	8.22
Several million	8	2.27
All possession	26	7.37

Note: As of July 26, 2002, U.S.\$1.00 = MOP8.032.

people is more likely to seek different forms of hobbies or entertainment, gambling being one of the possible choices. However, as they get addicted, gambling no longer entertains but grows into a vicious habit, leading to problems at both the personal and family levels.

Turning to the size of the stake the respondents reported they or their friends had lost in gambling, most (51.2%) gave a figure ranging from several tens of Macao patacas to several hundreds only (see Table 8). Again, this confirmed that even those respondents who gambled were not big rollers and did so within their limits and for entertainment only. The highest exact figure given was MOP1,000,000. One point worth noting is that 7.4% claimed that their friends had lost all their possessions in gambling.

THE FUTURE: CONCERNS OF MACAO RESIDENTS ABOUT THE IMPACT OF GAMBLING ON SOCIETY

Around 43% of the respondents expressed satisfaction with Macao's reliance on gambling, while 40.8% expressed neutrality. The respondents were given choices of "narrow future," "social problems," "bad influence on the younger generation," "poor reputation of Macao," "no concern," or "other concerns" and were asked to select one or more answers as corresponding to what they think. Education and income level were found to have an association with the concern about a narrow future. Of all the respondents who expressed this as a concern (37.1%), most (60.4%) were

TABLE 9
CONCERNS OVER MACAO'S RELIANCE ON GAMBLING

	Age		Gender		Education		Marital/Family		Income	
	χ^2	<i>p</i>	χ^2	<i>p</i>	χ^2	<i>p</i>	χ^2	<i>p</i>	χ^2	<i>p</i>
Social problems	7.14	.21	3.65	.04	0.94	.62	0.02	.48	3.15	.37
Narrow future	7.39	.19	0.81	.21	21.17	.00	0.02	.49	13.06	.01
Bad influence on the young	12.23	.03	2.36	.08	1.22	.54	2.40	.08	4.38	.22
Poor reputation of Macao	14.40	.01	1.87	.11	4.05	.13	4.25	.03	2.39	.50
No concern	11.66	.04	2.55	.07	16.47	.00	3.06	.38	4.80	.19

those who had received secondary, vocational, or preuniversity education. The respondents who had attained university education were especially more wary of this aspect ($\chi^2 = 21.167$, $p < .001$) (see Table 9). Those earning MOP5,001 to 10,000 per month were also more concerned with the narrow future of Macao than were other income groups ($\chi^2 = 13.062$, $p < .01$). This could be because in Macao, middle-income earners are usually working in small to medium enterprises in various sectors of the economy. Unlike the high-income earners who usually work in large companies or government departments with relatively stable jobs, and unlike those in the low-income group who foresee thousands of entry positions being created in a few years' time by the gambling industry and requiring their kind of skills and qualifications, the middle-income group is stuck in the middle. They fear that both their companies and themselves may have limited chances for advancement in the shadows of the overpowering tourism industry and its big players.

Gender was associated with the concern for social problems, with female respondents being more worried about this than males ($\chi^2 = 3.652$, $p < 0.05$). Those older than 55 years feared more than other age groups that gambling would have a bad influence on the younger generation ($\chi^2 = 12.231$, $p < .05$). The respondents aged 18 to 25 years old were more concerned with Macao getting a poor reputation ($\chi^2 = 14.397$, $p < .05$). Those younger than 18 reported more often than others that they had no concern of any kind at all ($\chi^2 = 11.66$, $p < .05$).

IMPLICATIONS FOR POLICY MAKING

The results of this study suggest that the new investors in Macao's gaming industry will have to look outside Macao to sustain, if not to develop, their business. The closest neighbors with the means to engage in gambling are in Hong Kong and part of the Mainland, where both big and small rollers exist and are likely to flock in numbers to enjoy the Las Vegas atmosphere if enough incentive is given.

One can turn to Nevada, the gambling capital of the United States, for lessons and ideas. Nevada's land area is 109,826 square miles, populated by only 2,106,074 people (U.S. Census Bureau 2001), which is 7% of the total U.S. population. Most of Nevada's population is in Las Vegas. Knowing that the casinos cannot survive on this population alone, the operators provide free return bus rides to send in people during the wee hours. Complimentary rooms, meal coupons, and machine tokens are used to keep the guests happy and spending at the tables (Hashimoto, Kline, and

Fenich 1996). Eadington (1996) argued that the gaming industry and the economy of Nevada could not have expanded so much had it not been for Nevada being close to California, which has a population of 34,501,130 (U.S. Census Bureau 2001). The close proximity to Utah with a population of 2,269,789 (U.S. Census Bureau 2001) offers another major source of customers, as Utah and Hawaii remain the last two gambling-free American states. In the case of Atlantic City, New Jersey, the legalization of gaming in 1976 revitalized the depressing resort area inhabited by just 45,000 people, again thanks to there being more than 50 million people within a 5-hour drive.

The same situation is facing Macao with a small population, most of whom do not participate in casino gambling. The success of Macao turning itself into a gambling and entertainment capital of Asia depends very much on its ability to attract tourists from the region. This speaks volumes about the need to have inexpensive and convenient means of access to Macao and to promote the gaming and entertainment side of the destination. If Macao, heavily influenced by Confucian values, shies away from the idea of marketing gambling, there are ways to effectively do so without directly referring to the word. For example, Las Vegas claims to be the "entertainment capital of the world." Similarly, Macao could acclaim itself the "Heart of Asia's Entertainment and Leisure." In view of the experiences of other areas, environmental problems—such as traffic congestion, littering, and air pollution—are likely to rise with the increase of infrastructure development and tourist arrivals. Preventive actions need to be taken, therefore, well before large-scale operations become fully operational.

The respondents in this study had a mixed—but not negative—attitude toward gambling. This nonnegative attitude may be attributed largely to the improvement of security in the community after the 1999 handover of sovereignty. Also, even though Macao had undergone a period of turmoil during the prehandover period, the crimes committed then were largely confined to those directly involved in the business. Therefore, it can be reasonably said that Macao residents believe they will never be pulled into the world of organized crime, violence, political scandals, or other vices stemming from the gambling industry.

Having said that, Macao residents are not totally buffered from other sorts of gambling problems. Problems still occur at the personal and family levels, and there are signs that these are affecting the group on whom the community is depending most—the established working class. This sends a strong signal to the government about the importance of educating the public to understand the difference between entertainment and indulgence. Fortunately, the younger generation seems not much affected by the dark side, yet.

However, with the opening of the gaming industry, the situation will become more complicated, and some authors have warned that most pathological gamblers began gambling in their youth (Unwin, Davis, and de Leeuw 2000). It is necessary, therefore, for the government and the industry to work hand in hand. The government will need to exercise effective control and preventive measures and, when necessary, offer assistance programs. On the industry side, modern management practices and ethical codes could help fend off illegal activities. Otherwise, should Macao residents wake up one day to find their peaceful home plagued by the various ills imported along with the foreign investment, their current nonnegative attitude toward the gambling industry might change. The hope is that with appropriate measures, the vices of gambling can be contained, its negative impact minimized, and a new page opened for the economic and social development of the Macao Special Administrative Region of the People's Republic of China.

LIMITATION

As with any research that deals with opinions and behavior pertaining to sensitive issues, especially when associated with vice, people tend not to open up and may even give socially desirable answers. In this study, social desirability could have affected the disclosure of participation in gambling activities. However, the effect is minimized through the use of telephone interviews that should have considerably reduced the pressure and embarrassment caused by face-to-face contacts.

The interview period coincided with the World Cup 2002. Therefore, the figures reported for participation in soccer betting might have been inflated.

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