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# **REPORT**

**on**

## **A Study of Macao People's Participation in Gambling Activities 2016**

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Institute for the Study of Commercial Gaming  
University of Macau

Commissioned by  
Social Welfare Bureau  
Macao Special Administrative Region

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# Executive Summary

This research, *A Study of Macao People's Participation in Gambling Activities 2016*, was commissioned by the Social Welfare Bureau of Macao Special Administrative Region and was conducted by The Institute for the Study of Commercial Gaming of University of Macau. The purpose of this research is to assess the latest participation rates in gambling and the prevalence rates of gambling disorder in Macao. By comparing the results with those of the previous studies, it aims to provide data with referential value to the Social Welfare Bureau to devise gambling disorder prevention and treatment plans.

Computerized random-digit dialing method was adopted to conduct 2,000 telephone interviews with residents aged 18 or above. The findings are summarized as below:

- The participation rate in gambling among Macao residents in 2016 was 51.5%, which was 2 percentage points higher than the rate assessed in the 2013 survey. However, this rate was still lower than the first three surveys of the same type in Macao. The results also showed that after three consecutive drops, the participation rate rebounded slightly in the current survey.
- The relationship between gambling participation and the demographic characteristics of respondents found in this research was similar to those found in the previous studies. Male respondents aged between 25 and 34, born in Macao or migrated to Macao at younger ages, with an employment and with higher monthly personal income were more likely to participate in gambling activities.
- With refusal cases excluded from the analysis, the median monthly gambling expenditure of the 1,843 respondents was 0, which has remained unchanged since 2013. However, in terms of the average monthly spent on gambling, the amount increased from MOP505 in 2013 to MOP808 in 2016, and this represented an increase of 60.0%.
- Except “Social Gambling” which was generally regarded as a form of entertainment, “the desire to win money” was the major reason for participation in other forms of gambling. Consistent with the results found in the 2013 survey, the majority of the respondents regarded “Mark Six Lottery” (81.9%), “Macao Casino” (60.1%) and “Horse Racing” (49.3%) as activities with strong sense of gambling.
- Compared with the 2013 survey, higher participation rates were found in “Mark Six Lottery”, “Soccer/Basketball Betting” and “Horse Racing” in the current survey. Conversely, lower participation rates were found in “Social Gambling”, “Slot Machine”, “Mahjong House”, “Online Gambling” and “Casino Ship” in the current survey. Among all these activities, the decrease in the participation rate of “Social Gambling” was the most significant. As for “Macao Casino”, following the previous 2 survey results, its participation rate continued to drop in the current survey. In fact, the extent of decrease in its participation rate in the current survey was second only to “Social Gambling”.

- “Mark Six Lottery” (36.9%), “Social Gambling” (19.1%), “Macao Casino” (10.4%), “Slot Machine” (6.5%) and “Soccer/Basketball Betting” (6.4%) were still the five most popular forms of gambling. The participation rate of each of the remaining forms of gambling was less than 2%. 639 respondents (62.0%) participated in only one of the gambling activities listed in Table 2.4.1.
- Among the 2,000 respondents in the current survey, only 892 (44.6%) had participation in “Commercial Gambling” in the past twelve months. The participation rates of “Commercial Gambling” in 2013, 2010, and 2007 were 41.6%, 47.7% and 48.9% respectively. The results showed that when compared with 2013, the participation in “Commercial Gambling” rebounded slightly in 2016.
- Among the five most popular forms of gambling, “Macao Casino” recorded the highest median monthly gambling expenditure (MOP500) which was 12.5 times higher than the “Mark Six Lottery” (MOP40). “Mark Six Lottery”, on the other hand, recorded the lowest median monthly gambling expenditure. The median monthly gambling expenditure of “Soccer/ Basketball Betting”, “Slot Machine” and “Social Gambling” were MOP400, MOP200 and MOP159 respectively. Overall speaking, the amount spent on each of these five activities in 2016 was much higher than those in 2013 and the most significant increase came from “Macao Casino” which had an increase of 110.1%. The second largest increase came from “Slot Machine” and “Soccer/ Basketball Betting”, both of which recorded an increase of 100.0%. The average monthly gambling expenditure of those who had participated in gambling rebounded after 2013.
- The results of the current survey showed that demographic characteristics were related to participation in certain forms of gambling. For instance, male respondents who were aged between 25 and 44, married, employed, with a monthly personal income between MOP35,001 and 50,000, with tertiary education attained and born in Macao or migrated to Macao between 1 to 9 years old, were more likely to engage in “Mark Six Lottery”. On the other hand, male respondents who were still single, were either students or dropped out from schools, migrated to Macao between 1 to 9 years old, and lived in government economical housing, were more likely to take part in “Social Gambling”. Male respondents who were aged between 55 and 64, worked on shifts, unskilled, with lower educational attainment, and migrated to Macao at older ages, were more likely to participate in “Macao Casino”. Technicians who were aged between 25 and 34, and worked in the gaming industry, were more likely to participate in “Slot Machine”. Lastly, male respondents who were young, single, employed, worked on shifts, worked in the gaming industry, with a monthly personal income of MOP15,001 or more, born in Macao or migrated to Macao at younger ages, were more likely to participate in the “Soccer/Basketball Betting”.
- According to DSM-5, gambling disorder is defined as persistent and recurrent problematic gambling behavior leading to clinically significant impairment or distress, as indicated by the individual exhibiting four (or more) of the 9 criteria in a 12-month period. According to this definition, 51 out of 2,000 respondents (2.5% of the sample) were classified as probable disordered gamblers. Among them, 25 (1.3%), 16 (0.8%), and 10 (0.5%) respondents were classified as having mild, moderate and severe gambling disorders respectively.
- Consistent with the findings of the previous studies, “Macao Casino” (70.6%) was still the most popular form of gambling participated among the respondents with probable gambling disorder.

- The results of Logistic Regression indicated that sex, education level, participation in “Soccer/Basketball Betting” and “Macao Casino” in the past twelve months had significant influences on the likelihood of a person’s becoming a probable disordered gambler ( $p < .05$ ). Given other conditions unchanged, the probability of a male gambler having gambling disorder was 5.1 times (95% Confidence Interval 1.1 to 24.1 times) higher than that of a female gambler. The probability of gamblers receiving secondary school education or below having gambling disorder was 4.4 times (95% Confidence Interval 1.3 to 14.4 times) higher than those attaining tertiary education or above. The odds of “Soccer/Basketball Betting” participants having gambling disorder was 6.1 times (95% Confidence Interval 2.1 to 17.3 times) higher than non-participants. Finally, the odds of “Macao Casino” participants having gambling disorder was 22.1 times (95% Confidence Interval 6.8 to 71.3 times) higher than non-participants.
- In respect of the public awareness of “Gambling Disorder”, among all respondents, 37.6% of them expressed that they had heard of “Gambling Disorder”, 23.5% of them even could explain it accurately. Although as high as 62.4% of the respondents were not aware of “Gambling Disorder”, 34.6% of the respondents expressed that they had heard of “Problem Gambling”, and 20.3% even could explain it accurately. For the respondents who were not aware of “Gambling Disorder” and “Problem Gambling”, or who could not provide an accurate definition of these terms, interviewers were instructed to inform them that “Gambling Disorder” had been used to replace “Problem Gambling”, and to provide them with a brief definition of “Gambling Disorder”.
- Among the 2,000 respondents, 78.3% of them expressed that they had heard of local gambling rehabilitation centers. Although this percentage was lower than that of 2013 (83.0%), but the percentage of them able to name the centers (32.3%) was much higher than that in 2013 (17.4%). Among all the centers, the awareness of “Resilience Centre” increased from 7.8% in 2013 to 9.8% in 2016.

# Conclusion

This research, *A Study of Macao People's Participation in Gambling Activities 2016*, was commissioned by the Social Welfare Bureau of Macao Special Administrative Region and was conducted by The Institute for the Study of Commercial Gaming of University of Macau. By using the computerized random-digit dialing method, 2,000 telephone interviews with Macao residents aged 18 or above were successfully conducted.

Since the liberalization of the gambling industry in Macao, gambling participation rate decreased from 67.9% in 2003 to below fifty percent (49.5%) in 2013. However, in 2016, participation rate rebounded slightly to 51.5%. Not only that, the median monthly expenditure on the five most popular forms of gambling in 2016 rebounded as well. In short, both the participation and the expenditure on gambling in 2016 were higher than those in 2013.

Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) was published by American Psychiatric Association in 2013. Compared with DSM-IV, major revisions for Gambling Disorder are mainly found on the disease categories and diagnostic criteria. Empirical studies suggest that DSM-5 is better than DSM-IV in terms of diagnose accuracy, and regard it as a valid and reliable measurement for Gambling Disorder. In this study, DSM-5 was adopted to measure the prevalence rate of Gambling Disorder in the population aged 18 or above in Macao. The results revealed that among the 2,000 respondents, 51 of them (2.5% of the sample, with 95% Confidence Interval 1.9% to 3.2%) met at least four criteria and were classified as probable disordered gamblers. Among them, 25 (1.3%), 16 (0.8%), and 10 (0.5%) respondents were classified as having mild, moderate and severe Gambling Disorder respectively. In addition, the results of cross-tabulation and chi-square analysis indicated that the prevalence rate of probable Gambling Disorder was significantly higher among male respondents who were married, worked on shifts, migrated to Macao at the age of 30 or over and with secondary school education or below. On the other hand, the results from Logistic Regression indicated that men, people received secondary school education or below, people participated in "Soccer/Basketball Betting" and people participated in "Macao Casino" were more likely than average to be classified as probable disordered gamblers than their counterparts.

The results showed that only 43% of the respondents were able to explain "Gambling Disorder" or "Problem Gambling" accurately. In other words, there is still room for people to increase their awareness and understanding of Gambling Disorder. Hence, it is suggested to strengthen the public education on Gambling Disorder and its related issues so as to reduce the personal and social cost produced by Gambling Disorder.