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Differences in monthly versus daily evaluations of money spent on gambling and calculation strategies

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Alex Blaszczynski (professor of psychology, School of Psychology, University of Sydney, and co-director of the University of Sydney's Gambling Research Unit) is a clinical psychologist with a long history of involvement in

gambling treatment and clinical research. He has published extensively on the topic of pathological gambling. He is a founding member of the Australian National Council for Problem Gambling, the National Association for Gambling Studies, and a foundation director of the Australian Institute of Gambling Studies. He is on the Advisory Board, International Centre for the Study, Treatment and Prevention of Youth Gambling Problems, McGill University, Canada; and International advisory committee member for the Journal of Gambling Issues. In 1995, professor Blaszczynski was a co-recipient of the American Council of Problem Gambling Directors Award for contributions to research on pathological gambling. He was awarded the National Centre for Responsible Gambling senior investigator's research award in 2004.

Robert Ladouceur (professor of psychology, Université Laval, Quebec) leads a team of researchers investigating the psychology of gambling. His primary interest for the last two decades has been to understand the development and maintenance of gambling behaviours. He has written several books outlining cognitive-behavioural interventions in the management of problem gambling. He is a recipient of the National Centre for Responsible Gambling investigator's award for his research in gambling.

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Abstract

This study investigated whether reported amounts of money spent on gambling — when calculated retrospectively on a monthly basis — differ from the amounts recorded on a daily basis. Participants were required to retrospectively report monthly gambling expenditure and also complete a “daily gambling expenditure chart” for 4 weeks. Fifty participants responded to a media call for volunteers and completed the data collection. Results indicate that retrospective estimates of a previous month's expenditures tend to be lower than daily self-reported expenditures. Further, results show that an often-used, conventional self-report gambling question tends to over-estimate expenditures in comparison with calculations using a net expenditure strategy. The findings indicate important biases when reporting gambling losses, thus casting doubt on the validity of estimated gambling expenditures. The implications of these results suggest possible inconsistencies in gambling literature based on players' estimates of previous gambling expenditures.

Introduction

Gambling behaviours, defined in terms of frequency and amount of money lost, are important variables in gambling studies. The success of a certain form of therapy often depends on the reduction of expenditures related to gambling activities. Because gambling problems are largely related to monetary losses, this variable occupies a central place in prevalence studies and constitutes a social cost marker related to excessive gambling ([Walker & Dickerson, 1996](#); [Williams & Wood, 2004](#)).

However, the evaluation of monetary gambling expenditures has not been standardized. Considerable differences exist between the participants' reported results ([Blaszczynski, Dumlao, & Lange, 1997](#); [Blaszczynski, Ladouceur, Goulet, & Savard, 2006](#)). The fact that the majority of studies collect the data retrospectively could lead to biased measurements ([Walker et al., 2004](#)). The gamblers appear to estimate the amount spent during a single gambling session and then generalize it for all their sessions ([Blaszczynski et al., 1997](#)). This estimate is done subjectively, without necessarily using any kind of mathematical strategy that could be constant from one individual to another and from one study to another ([Walker et al., 2004](#)). Some authors suggest that using a daily self-reporting method would provide more valid data than would a retrospective report about expenditures related to gambling activities ([Williams & Wood, 2004](#)).

Another problem related to reporting gamblers' monetary expenditures is that few studies specify how to calculate the gambling expenditures. The ultimate goal is to know how much money was spent on gambling, that is, the difference between the amount of money at the beginning of the gambling session and the amount left at the end of the gambling session. In this regard, [Blaszczynski et al. \(1997\)](#) showed that the gambling expenditures reported by gamblers mostly depend on the decision whether to include or exclude the gains made during a gambling session.

The differences in the way that gamblers calculate the amount of money spent on gambling raises a problem. [Blaszczynski et al. \(2006\)](#) found that gamblers who calculate their gambling expenditures by including both the wins and the losses made during their gambling session usually report significantly higher expenditures than those who report the same expenditures using the “net expenditure strategy” (explained below).

The main objective of this study was to verify if the amount of money spent on gambling and calculated retrospectively for a monthly window differs from the (summed) amount recorded on a daily basis. The hypotheses were as follows:

1. The monthly estimates of gambling expenditures will reveal different monetary amounts than those reported using the daily self-reporting chart.

2. The amount revealed by calculating the total gambling expenditures will be different than gambling expenditures calculated using the net expenditure strategy.

Method

Participants

One hundred and three individuals were recruited through an advertisement (dimensions: 12.5 cm × 16 cm) posted in a local newspaper and from a list of individuals who had previously phoned in order to participate in gambling studies. Of this number, 53 individuals stopped participating during the experimentation period. The final sample comprised 50 participants (25 female and 25 male), with an average age of 43.8 (SD = 14.3 years). To be eligible for the study, the participants had to be at least 18 years of age and gamble at games of chance or betting games at least twice a month.

Data gathering

The instrument used was a self-reporting chart that has already been used by Williams and Wood (2004; see [Table 1](#)). For 28 consecutive days, the participants were asked to record all gambling activities that took place each day. They replied to the question: “Did you gamble today? (yes or no)” If the answer was yes, they completed five questions related to their gambling expenditures that day: (1) “How much money did you spend?” (2) “What activity (activities) did you gamble on?” (3) “How much money did you have on you at the beginning of the gambling session?” (4) “How long did you gamble? (in hours)” and (5) “How much money did you have on you at the end of the gambling session?”

Procedures

Participants were contacted by telephone and received information on the procedure of the study. In phase 1, they were asked to complete the consent form, a socio-demographic questionnaire, and various gambling-related questions, including: “How much did you spend on gambling and betting games during the last month?” Then, in phase 2, the participants completed a daily self-reporting chart for a 1-month period. Each day, they reported if they had gambled or not, and if so, how much money they spent. They also listed their gambling activities, for example, lotteries, bingo, and video lotteries, without specifying the amount spent on each game. At the end of 4 weeks of monitoring, they returned the completed self-reporting charts in a pre-stamped envelope. For each phase, they specified if the reported amounts were typical of their monthly or daily gambling expenditures. Respondents who completed the two phases received a cheque for \$20 (all currency in this paper is expressed in Canadian dollars).

In order to test the first hypothesis, the daily expenditure estimates were summed and compared with the retrospectively-assessed monthly estimates. To test the second hypothesis, two separate total gambling expenditure amounts were calculated using responses from the daily self-report charts (see [Table 1](#)). The first amount was established by adding up the expenditures of the 28 days (as reported by the participant in question #1), and the second total was calculated using the net expenditure strategy, by calculating the difference in the amount of money the participant had on him/her before the gambling session and after the gambling session (as reported in questions #3 and #5).

Results

Monthly versus daily self-reported expenditures

A bi-directional t test for paired data was used to compare the participants' (n = 50) average monthly expenditures to the expenditures calculated with the daily self-reporting chart. The results indicated that the average amount retrospectively reported to have been spent during the past month (\$335.10, SD = \$626.58) was significantly less than the amount reported using the daily self-reporting chart (\$532, SD = \$815.54; $t(49) = 2.382$; $p = 0.021$).

For the participants (n = 50) who answered all the daily self-reporting chart questions, the average reported expenditure during the past month was \$530.23 (SD = \$853.68). This amount is significantly higher than the average amount of these same expenditures calculated using the net expenditures strategy, that is, \$354.99 (SD = \$809.29; $t(42) = 3.233$; $p = 0.002$).

Discussion

The goal of this study was to evaluate the potential differences in gambling expenditures reported on a monthly basis, as compared with using a daily self-reporting chart. The hypothesis, which stated that global monthly evaluation of gambling expenditures will reveal different monetary amounts than those reported using the daily self-reporting chart, was confirmed. The results indicate that the monthly estimate of gambling expenditures was lower than that calculated using the sum of daily self-reporting expenditures. Gamblers under-estimated their gambling expenditures when they evaluated them on a monthly, as compared with a daily, basis. This result is the same as those previously reported by [Walker et al. \(2004\)](#), which suggested that the larger the temporal window, the more likely gamblers will give approximations that may not be valid. Although there is reason to question the validity of the data reported in studies about gamblers' expenditures, it is important to emphasize that no gold standard method has yet been established to collect the information concerning how much money a gambler

spends in a given period.

The second hypothesis stated that the total gambling expenditures would be different if the net expenditure strategy was used. This hypothesis was confirmed. As expected, the total expenditure amount over the last month was higher than the amount calculated by taking the difference in the amount of money the gambler had on him/her before and after the gambling session. This finding runs parallel to that of [Blaszczynski et al. \(2006\)](#), where it was revealed that half of the gamblers included the profits that they made during a gambling session when indicating the amount of money they spent gambling. Thus, the amounts reported by the gamblers on a daily basis proved to be over-estimated in comparison to what the researchers really want to know, that is, gambling expenditures calculated using the net expenditure strategy. This high estimate could be the result of participants using the turnover strategy to report their expenditures (i.e., a strategy that incorporates the money “churned” while gambling into expenditure calculations) ([Blaszczynski et al., 2006](#)).

This study has one important limitation: About half of the participants dropped out. This number could be explained by the burden of the task, which consists of filling in the chart on a daily basis for a period of 28 days. However, the number of participants that quit the study is representative of the population being studied — active gamblers. Yet, 50 participants completed the self-reporting four charts for the entire duration of the study, without missing any information, and this is certainly not insignificant.

In conclusion, when gamblers are asked to report their gambling expenditures retrospectively for the preceding 1-month timeframe, they tend to under-estimate their expenditures. However, when asked to monitor and report their gambling expenditure on a daily basis, they have a tendency to over-estimate expenditures. These results as a whole indicate that there are inconsistencies in the literature that cast doubt on the validity of these data. We must therefore continue to be critical of data collected in response to items to the question: “How much money did you spend gambling?” When expenditure calculated on a daily basis was compared to an estimation for a 1-month period, the data did not concur. These data must be considered as indicators rather than as the gamblers' actual expenditures on games of chance and betting games. It is evident and urgent that this variable be examined in future research, and a gold standard delineated soon.

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Tables

<i>Daily self-reporting- expenditure chart for gambling</i>							
Week from _____ to _____	M	T	W	Tr	F	Sat	Sun
Did you gamble today? (Y or N)							
(#1) How much money did you spend?							
(#2) What activity (activities) did you gamble on?							
(#3) How much money did you have on you at the beginning of the gambling session?							
(#4) How long did you gamble? (in hours)							
(#5) How much money did you have on you at the end of the gambling session?							

Table 1

Keywords:

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gambling

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gambling expenditure

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money spent gambling

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prospective gambling expenditure

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