

The Effect of Research Compensation in the Form of Cheques on Gamblers' Cash-in Behaviour

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Abstract

A view that is commonly held by Research Ethics Board members is that offering money as research compensation has the potential to unduly influence or even coerce subjects into participating in studies. Because money is the core resource of gambling activity, gamblers with financial needs might show an increased propensity to take part in research that offers financial compensation. We hypothesized that pathological gamblers at electronic gambling machines in venues outside of casinos would tend to cash in their compensation cheque faster than non-pathological gamblers would. The current results support this hypothesis. It is therefore necessary to understand gamblers' motivations related to research activities and the ways in which the research context can sustain rational decision making when gamblers consider taking part in scientific studies.

Keywords: gambling, compensation, ethics, undue influence, payment of research participants

Résumé

Les membres du Comité d'éthique de la recherche sont d'avis qu'une somme d'argent offerte en guise de compensation pourrait influencer indûment les sujets ou les forcer à participer à des études. Puisque l'argent est une ressource de base pour le jeu, les joueurs n'ayant pas les moyens financiers pourraient se montrer plus enclins à

prendre part à des travaux de recherche offrant une compensation financière. Nous avons émis l'hypothèse que les joueurs compulsifs utilisant des appareils de jeu électroniques dans des endroits à l'extérieur des casinos auraient tendance à encaisser leur chèque de rémunération plus rapidement que le feraient les joueurs non pathologiques. Les résultats actuels viennent étayer cette hypothèse. Il faut donc comprendre les motivations des joueurs en ce qui concerne les activités de recherche et les conditions dans lesquelles le contexte de recherche peut assurer une prise de décisions rationnelles lorsque ceux-ci envisagent de participer à des études scientifiques.

Introduction

Giving money to research subjects to enhance participation is frequently seen as a practice giving rise to ethical dilemmas (Klitzman, 2013). The perception of unduly influencing subjects to participate in research leads Research Ethics Board (REB) members to question the validity of consent. In studies performed in the United States, Klitzman (2013) and Largent, Grady, Miller, and Wertheimer (2013) reported results showing that undue influence is often equated by REB members with coercion.¹ This view might lead them to overemphasize the risk that subjects face when confronted with financial benefits derived from research participation.

This concern is even more acute in research on addictions, especially gambling, because of the apprehension that the practice of giving financial means to participants might encourage addictive behaviour. Because money represents a core resource and a pursued goal in gambling, compensating gamblers with money is sometimes regarded as being similar to offering psychoactive substances to addicted individuals. This interpretation relies heavily on a paternalistic disease model concerned with the notion that addicted individuals cannot act as free agents capable of rational choice when they are confronted with an object related to addiction (Fisher, 2011; Tucker & Vuchinich, 2000). Although intuitively appealing, this reasoning lacks empirical support. People with addictions have decreased autonomy for rational decisions when they experience withdrawal or intoxication; however, this does not imply a permanent state of inability to give free and informed consent when faced with their drug of choice (Carter & Hall, 2008). By contrast, results from studies that gave drugs to drug-addicted participants and followed these participants over time did not show iatrogenic effects linked to this practice (Carter & Hall, 2013). Studies focusing on substance-addicted participants' perspectives on research ethics emphasized that participants perceived themselves as

¹The terminology used to refer to an ethical committee differs from one country to another. For instance, Institutional Review Board is mostly used in the United States (U.S. Department of Health and Human Services, 2010) and Research Ethics Committee is mostly used in the United Kingdom (Health Research Authority, 2015) and Australia (Guillemin, Gilliam, Rosenthal, & Bolitho, 2012).

personally autonomous and claimed responsibility for their choices (Fisher, 2011; Slomka, McCurdy, Ratliff, Timpson, & Williams, 2007).

There is however, some evidence suggesting that gamblers with limited resources have a tendency to spend freshly acquired money on gambling-related activities. Weinbach and Paul (2008) had access to public data on attendance and wagering volume at a Wisconsin racetrack. They reported that both of these increased significantly on the days when the U.S. government released social security and assistance cheques.

Despite common claims that giving financial means to gambling research participants is unwarranted, empirical studies on the subject are lacking. A search in the Scopus database (August 2014) with the query TITLE-ABS-KEY(pay*) OR TITLE-ABS-KEY(compensat*) OR TITLE-ABS-KEY(incentive*) OR TITLE-ABS-KEY(honorarium) AND KEY(gambl*) yielded 315 articles, but no relevant results. Some empirical studies (e.g., Zangeneh et al., 2008) evaluated the impact of using lotteries as a method of compensating research participants in fields other than gambling. However, none focused specifically on the effects of research compensation on gamblers. Because problem gamblers might be characterized by monetary deprivation, their financial needs could entice them to participate in research.

The following hypothesis was tested with gamblers at electronic gambling machines in venues outside of casinos: Do probable pathological gamblers² tend to cash in their compensation cheques faster than non-pathological gamblers do over a 1-month follow-up period?

Method

Data Source and Materials

Data came from the secondary analysis of a questionnaire validation study carried out via regular mail (see Cantinotti, Ladouceur, & Jacques, 2010, for a detailed description of the methodology). The REB concluded that a review was not needed for the present study, which relied on the secondary use of denormalized data that does not generate identifiable information. The original study received REB review and approval.

Research assistants recorded when monetary compensation in the form of a cheque (15 CAD) was mailed to voluntary participants ($N = 406$; i.e., 116 participants from the questionnaire pilot test and 290 participants from the validation study). Because copies of the cashed cheques were automatically made available to researchers by the emitting financial institution, it was possible to track the cash-in date and to calculate a time interval variable. The administrative process required by the university was

²A terminology change in the 5th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 2013) occurred in which “pathological gambling” was renamed “gambling disorder.” The present article retains the old terminology because gambling categories were operationalized according to a questionnaire that referred to pathological gambling.

that researchers had to provide copies of the cashed cheques to the Financial Services Department for reimbursement. Days between the estimated receipt of cheques by participants and the cash-in date were computed by taking into account the following information:

1. One day was subtracted when the mail with the cheques was deposited at the post office after the cut-off time for processing or when there was a public holiday.
2. Regular letters were delivered in 2 business days within the city where the mail originated and in 3 days within the province (i.e., other cities; Canada Post, 2007). To account for the different delivery times between these areas, 2 and 3 days were subtracted, respectively, depending on the participant's address.
3. Two weekend days were subtracted when the mail had to be delivered within the city and was deposited at the post office on a Friday, or when the mail had to be delivered outside of the city and was deposited at the post office either on a Thursday or on a Friday (during operating hours).

A total of 375 participants with complete data were included in the analyses.

Gambling status (non-pathological gambler [$n = 220$] or probable pathological gambler [$n = 155$]) was determined in accordance with the Canadian Problem Gambling Index (Ferris & Wynne, 2001). Other variables included in the study were *sex* (male or female), *employment status* (employed or unemployed), and *household income* (1 = less than \$20,000; 2 = \$20,000 to \$39,999; 3 = \$40,000 to \$69,999; 4 = \$70,000 to \$89,999; 5 = \$90,000 or more).

Data Analysis

Analyses were performed with SPSS version 22; a p value of .05 indicated significance. A Kaplan-Meier plot and a Breslow test (generalized Wilcoxon; Kleinbaum & Klein, 2012) were used to illustrate and check for group differences in the delay between receipt of a cheque and when it was cashed. Cox proportional-hazards regression modelling (Singer & Willett, 2003) was used to analyze whether gambling status was a statistically significant explanatory variable of the days between the receipt of cheques by participants and the cash-in date, with adjustment for potential confounding variables (sex, employment status, household income). The proportional hazards assumption was checked by visual inspection of the Kaplan-Meier survival curves.

Results

The Kaplan-Meier procedure showed that probable pathological gamblers tended to cash their monetary compensation faster (median = 3 days) than did non-pathological gamblers (median = 5 days), as reported by the Breslow test, $\chi^2(df = 1) = 8.66$, $p = .002$ (one-tailed, $n = 375$; see Figure 1).

In order to test whether sex, employment status, and household income had an impact on the results, we conducted the Cox regression analysis. At Step 1, only

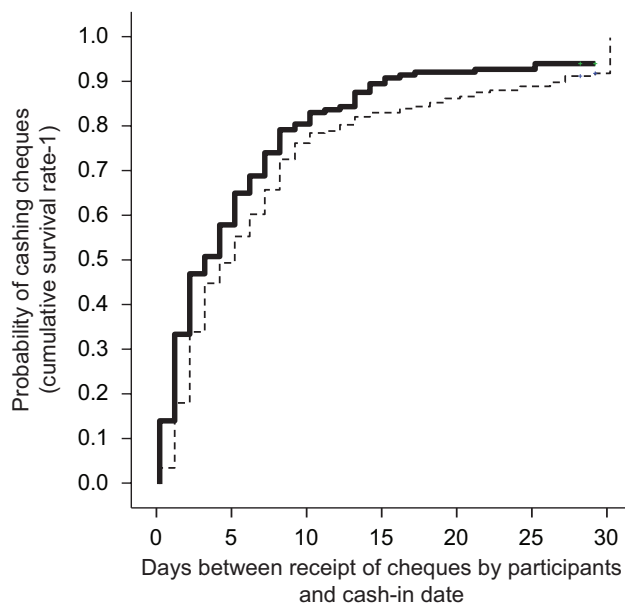


Figure 1. Days within which a compensation cheque was cashed by participants. Continuous survival curve: probable pathological gamblers ($n = 155$). Dotted survival curve: non-pathological gamblers ($n = 220$).

gambling status was included, which led to a statistically significant increase in fit over the null model, $\Delta\chi^2(1) = 7.79$, $p = .005$ (hazard ratio = 1.38). At Step 2, potential confounders were added. As indicated in Table 1, these variables showed no statistically significant association with the outcome, but gambling status remained significantly related to it. The model with the covariates did not demonstrate a statistically significant increased fit over the model with gambling status as the only predictor, $\Delta\chi^2(3) = 3.19$, $p = .363$. The odds for cashing the compensation cheques were 32% higher among probable pathological gamblers than among non-pathological gamblers over a 1-month follow-up period (see Table 1). Thirteen participants (3.5%) had censored data and 40 (10.7%) had missing data for one or more variables.

Table 1

Cox Proportional-Hazard Regression Model With Days Between Receipt of Cheques by Participants and Cash-in Date as Event Outcome Variable ($n = 335$)

Variable	Description	HR (95% CI)	p Value
Gender	167 men (r); 168 women	0.85 (0.68-1.07)	.163
Employment	283 employed (r); 52 unemployed	1.22 (0.88-1.68)	.237
Household income	Treated as continuous	0.99 (0.89-1.11)	.858
Gambling status	196 NPGs (r); 139 PPGs	1.32 (1.05-1.67)	.018

Note. PPGs = probable pathological gamblers; NPGs = non-pathological gamblers; HR = hazard ratio; (r) = reference category (e.g., PPGs have a 32% higher HR than do NPGs); CI = confidence interval.

We also assessed whether a difference in the proportion of probable pathological gamblers in the two mail delivery areas (49.2% inside the city delivery area and 37.6% outside of it) could act as a potential confounder. The delivery area was included as a stratum in the Kaplan-Meier analysis and the results were similar to those of the first analysis. This finding means that the differential composition of gamblers in each area did not bias the statistical inference of the test.

Discussion

To our knowledge, this study is the first to indicate that probable pathological gamblers have a tendency towards faster cash-in behavior of cheques offered as research compensation. These results suggest that financial compensation may play a more significant role for probable pathological gamblers than for non-pathological gamblers at electronic gaming machines. The notion that pathological gamblers participate in research primarily for economic motives deserves further investigation. We endorse the claim made by Fisher (2011) that it is necessary to learn how addicts perceive their situation regarding participation in research. These data could inform thinking about applied ethics in gambling research. It is also important to determine whether there are situations in which REBs overemphasize the risks involved in research because of financial incentive and could be overprotective of research participants (Guillemin et al., 2012).

Do these results indicate that compensating participants in gambling studies unduly influences their participation? The Tri-Council Policy Statement, which Canadian REBs should follow, indicates that "where incentives are offered to participants, they should not be so large or attractive as to encourage reckless disregard of risks" (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council of Canada, 2014, p. 27). The U.S. Department of Health and Human Services (2015, paragraph 3) states that "wherever the remuneration is set, it will influence the decision of some more than others." Both Canadian and U.S. ethical guidelines underline that the economic circumstances of the prospective participants should be taken into account. However, in 1979, the Belmont Report (U.S. Department of Health and Human Services) had already acknowledged the difficulty in distinguishing justifiable persuasion and undue influence.

According to Largent et al. (2013), "undue influence compromises the validity of consent by creating a cognitive deficiency or distortion in reasoning" (p. 506) and "an offer of payment does *not* constitute *undue* influence if subjects are likely to make a reasonable or rational choice to regard the value of the payment as sufficient to justify the risks or burdens of participation"; (p. 505). The challenge, therefore, consists in drawing the line between contexts in which a monetary amount motivates participation and contexts in which it diminishes the ability to perceive risks adequately. It follows that it is difficult to argue that monetary incentives on a scale commensurate with low-skill labour represent undue influence, at least in low-risk questionnaire studies. Because studies of problem gamblers ought to include references for recovery

and support resources, participants also gain access to relevant information that might help them and that they would not have spontaneously sought (Chrétien et al., 2013).

Although the analysis yielded statistically significant results, it is worth noting that the median difference between types of gamblers involved only 2 days. An understanding of the meaningfulness of this result in the life of pathological gamblers requires a more detailed understanding of their life situation (e.g., pressing financial needs, the meaning that gamblers give to an inability to meet these needs). A phenomenological research framework aimed at studying "what it is like to be, to have, or to live" (Sandelowski, 2008, p. 787) could be useful in order to qualitatively assess pathological gamblers' tendency to cash in compensation cheques faster. Even if people with gambling problems were to appear more focused on financial compensation, would it be a reason to prevent them from participating in research? Doing so might exclude persons from higher material deprivation levels, which would pose an ethical and scientific problem. At present, the state of knowledge on the topic of this research lacks sufficient empirical support to suggest definite changes in how gamblers are compensated for research participation.

More research is nevertheless required to study how and when gamblers—especially impoverished gamblers—have an impaired decision-making process when confronted with research compensation. One option worth exploring would be the procedure suggested by Nelson et al. (2011) for studying the perception of voluntariness among research participants with the Decision Making Control Instrument.

This study has three main limitations. It is a secondary analysis of data collected by using a methodology with a different purpose from that of studying the effects of monetary compensation. Only electronic gambling machine gamblers in venues located outside of casinos were included; therefore, the results do not necessarily apply to other forms of gambling. Lastly, the study does not provide an understanding of the cognitive and emotional processes of gamblers related to their cash-in behavior after receiving research compensation cheques.

In conclusion, we have found that probable pathological gamblers tend to cash in compensation cheques faster than non-pathological gamblers do; consequently, compensating those who participate in gambling research could raise ethical concerns.

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