

Relating severity of gambling to cognitive distortions in a representative sample of problem gamblers

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Abstract

The current study explored the relationship in a general population sample between problem gambling severity and cognitive distortions about gambling. A representative sample of problem gamblers (N = 766) was asked about cognitive distortions related to gambling. A positive association between gambling severity and cognitive distortions emerged, even when the variables associated with participants' demographic characteristics were accounted for. The current study demonstrates that the relationship between problem gambling severity and cognitive distortions does exist in the general population of problem gamblers. This finding emphasizes the key role that cognitive distortions may play in the development and maintenance of pathological gambling.

Résumé

Notre étude visait à examiner la relation entre la gravité des problèmes de jeu et la distorsion cognitive dans la population générale des joueurs à problèmes. Nous avons interrogé les membres d'un échantillon représentatif (n=766) sur les distorsions cognitives à l'égard du jeu. Même lorsqu'on tient compte des variables liées aux caractéristiques démographiques des participants, on relève une association positive entre la gravité des problèmes de jeu et les distorsions cognitives. Notre étude confirme donc l'existence d'un lien à cet égard dans la population générale des joueurs à problèmes. Cette conclusion met en lumière le rôle important des distorsions cognitives dans le développement et la persistance du jeu pathologique.

Introduction

Cognitive distortions are thought to play a central role in the development and maintenance of gambling problems (Goodie & Fortune, 2013; Johansson, Grant, Kim, Odlaug, & Götestam, 2009; Toneatto & Millar, 2004). Research has demonstrated that samples of problem gamblers are more likely than social gamblers to endorse such distortions (Joukhador, Maccallum, & Blaszczynski, 2003; McInnes, Hodgins, & Holub, under review; Myrseth, Brunborg, & Eidem, 2010; Toneatto, Blitz-Miller, Calderwood, Dragonetti, & Tsanos, 1997). Furthermore, interventions targeting cognitive distortions have enjoyed some success in motivating gamblers to reduce their problems (Fortune & Goodie, 2012).

Work to date investigating cognitive distortions has employed samples of gamblers from different settings (e.g., treatment, community recruited). It is important to establish the generalizability of the following fact, as it is crucial to the validity of this research: The relationship of cognitive distortions to problem gambling also functions in representative samples of problem gamblers. One published report has used general population data; however, the severity of gambling problems were related to two single-item questions that asked about irrational cognitions regarding randomness in gambling (Miller & Currie, 2008). The present brief report presents results from a general population sample of population gamblers, and reports on both the prevalence of different cognitive distortions and the relationship of severity of problem gambling to the strength of endorsement of these faulty beliefs about gambling.

Methods

This study employed data from a random digit dialing telephone survey of 8015 respondents, each of them 18 years of age or older, who spent more than \$100 on gambling in the preceding year (Cunningham, Hodgins, Toneatto, & Murphy, 2012). The survey identified current problem gamblers using the Problem Gambling Severity Index (PGSI) (score of 3 or more) (Ferris & Wynne, 2001) and asked a series of questions regarding gambling behaviours and beliefs, and regarding respondent demographic characteristics. These items included the PGSI and the Gambling Cognitions Questionnaire (GCQ) (Toneatto, 1999, August).

Results

Of the 8015 respondents interviewed, 766 scored three or more on the PGSI and were asked to complete the GCQ. The mean (SD) age of respondents was 48.3 (15.2), 56% were male, 55% were married or living in a common law relationship, 57% were employed either full or part-time, half (51%) had earned at least some post-secondary education, and 18% had a household income of CAN\$30,000 or less. Finally, the mean (SD) PGSI score was 6.0 (4.0).

Table 1 displays the descriptive statistics for each of the eight items on the GCQ. A reliability analyses was conducted and found that the eight items of the GCQ could function adequately as a scale with a Chronbach's alpha of 0.65. In addition, a principal components analysis was conducted. While two eigenvalues greater than one were observed (with the second eigenvalue being only marginal), the rotated factor matrix did not yield two interpretable scales. Furthermore, as all items loaded positively on one scale in the unrotated factor matrix (correlations of 0.38 or greater), we decided to treat the GCQ as a unidimensional scale for the purposes of these analyses.

A linear regression was performed to predict the strength to which respondents endorsed cognitive distortions on the composite GCQ scale. Demographic variables we entered in the first block, and gambling problem status we added to the second block. Table 2 shows the results of the regression analysis. Even after controlling for demographic characteristics, the severity of gambling problems was positively associated with the strength of cognitive distortions endorsed ($p < .001$).

Discussion

People with more severe gambling problems are more likely to endorse cognitive distortions about gambling than those people with less severe gambling concerns. Previous research has already demonstrated this finding in convenience samples of gamblers (Joukhador et al., 2003; Myrseth et al., 2010; Toneatto et al., 1997). The current study demonstrated this positive relation even among a representative sample of problem gamblers from the general population.

A limitation of this finding is the conceptual overlap between the PGSI measure of problem gambling and the GCQ. Specifically, the GCQ item "Try to win back money you have lost" is almost identical to the PGSI item "When you gambled, did

Table 1
Descriptive statistics for the Gambling Cognitions Questionnaire

| How often do you ... | N | Min | Max | Mean | Std. Dev. |
|--|-----|-----|-----|------|-----------|
| Pick your favourite places to buy tickets or play? | 759 | 0 | 5 | 2.82 | 1.535 |
| Try to figure out a way to win? | 753 | 0 | 5 | 3.03 | 1.619 |
| Think about how much money you could win? | 750 | 1 | 5 | 3.73 | 1.260 |
| Try to keep a winning attitude? | 741 | 1 | 5 | 4.17 | 1.188 |
| Spend time with people who you think are lucky? | 733 | 0 | 5 | 2.05 | 1.278 |
| Go with your gut instincts and feelings? | 739 | 0 | 5 | 3.54 | 1.326 |
| Try to figure out what your luckiest numbers are? | 736 | 0 | 5 | 2.31 | 1.418 |
| Try to win back the money you have lost? | 738 | 0 | 5 | 2.82 | 1.487 |
| Valid N (listwise) | 684 | | | | |

Note. For each item: 0 = Respondent volunteers does not gamble; 1 = never; 2 = rarely; 3 = sometimes; 4 = often; 5 = always. Min = minimum; Max=maximum; Std. Dev. = standard deviation.

Table 2
Relationship between strength of cognitive distortions and gambling severity, after controlling for demographic characteristics

| Predictor | Predicting GCQ ^a | | |
|-------------------------|-----------------------------|--------|---------|
| | ΔR^2 | F | β |
| STEP 1 | .034 | 3.8** | |
| Age | | | -.06** |
| Sex | | | 1.03* |
| Married | | | -.38 |
| Some post-secondary | | | -.48 |
| Employed | | | .03 |
| Income <\$30,000 | | | -.11 |
| STEP 2 | .078 | 11.6** | |
| PGSI^b | | | .42** |

Note. * $p < .05$. ** $p < .001$.

^a Composite Gambling Cognitions Scale.

^b Problem Gambling Severity Index.

you go back another day to try to win back the money you lost?” A replication of the analysis reported here we conducted with this GCQ item removed (not shown here) and found the same pattern of relationship between these two measures. However, the overlap of items still emphasizes the degree to which gambling severity and cognitive distortions are conceptually linked. Further research is needed to explore this overlap. Nevertheless, the current study does add to this literature by demonstrating the link between cognitive distortions and severity of gambling in the general population of problem gamblers.

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