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Short Communication

Desire thinking as a predictor of gambling ☆

Bruce A. Fernie [a,b], Gabriele Caselli [c], Lucia Giustina [d], Gilda Donato [c], Antonella Marcotriggiani [c], Marcantonio M. Spada [e,*]

[a] King's College London, Institute of Psychiatry, Department of Psychology, London, United Kingdom
[b] CASCAID, South London & Maudsley NHS Foundation Trust, United Kingdom
[c] Studi Cognitivi, Italy
[d] Servizio Tossicodipendenze, AUSL, Parma, Italy
[e] London South Bank University, United Kingdom

HIGHLIGHTS

- Desire thinking is associated with gambling.
- Desire thinking predicts gambling independently of anxiety, depression and craving.
- Targeting desire thinking in treatment may help to reduce problematic gambling.

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ABSTRACT

Desire thinking is a voluntary cognitive process involving verbal and imaginal elaboration of a desired target. A desired target can relate to an object, an internal state or an activity, such as gambling. This study investigated the role of desire thinking in gambling in a cohort of participants recruited from community and clinical settings. Ninety five individuals completed a battery of self-report measures consisting of the Hospital Anxiety and Depression Scale (HADS), the Gambling Craving Scale (GCS), the Desire Thinking Questionnaire (DTQ) and the South Oaks Gambling Screen (SOGS). Correlation analyses revealed that gender, educational level, recruitment source, anxiety and depression, craving and desire thinking were correlated with gambling. A hierarchical multiple regression analysis revealed that both recruitment source and desire thinking were the only independent predictors of gambling when controlling for all other study variables, including craving. These findings are discussed in the light of metacognitive therapy (MCT).

1. Introduction

Problem gambling can result in financial, interpersonal, legal and vocational costs to the gambler, his or her family and wider society. It has been conceptualised as an addictive behaviour that exists on a continuum representing a range of severity (Potenza, 2006). The prevalence of problem gambling varies across countries and cultures, with Italian rates estimated at 2.3% for youths and 2.2% for adults (Bastiani et al., 2013).

Craving has been implicated in the maintenance of problematic gambling (Young & Wohl, 2009) and has been defined as a powerful subjective experience that motivates individuals to seek out and achieve a desired target (Marlatt, 1987). The elaborated intrusion (EI) theory (Kavanagh, Andrade, & May, 2004) posits that the duration, frequency and intensity of craving result from a combination of conditioned and voluntary cognitive processes. The EI theory purports that internal and external triggers activate automatic associations relating to the absence of a desired target, resulting in a felt sense of deprivation. When these associations intrude into consciousness they induce craving — such craving is hypothesised to become perseverative due to a higher order cognitive process that activates elaborations of these intrusions. This cognitive process has been termed 'desire thinking'.

Desire thinking is conceptualised as a voluntary cognitive process that orients an individual towards images, information and memories of subjectively positive, target-related experiences. These targets can pertain to an activity, an object or an internal state (Kavanagh et al., 2004; Salkovskis & Reynolds, 1994). Desire thinking appears to have two broad domains (Caselli & Spada, 2011): verbal perseveration and imaginal prefiguration. Verbal perseveration concerns the repetitive engagement in verbal thoughts about a desired target and imaginal prefiguration refers to the tendency to prefigure images about desire-related

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* Corresponding author at: Department of Psychology, Faculty of Arts and Human Sciences, London South Bank University, United Kingdom. Tel.: +44 20 7815 7815.
E-mail address: spadam@lsbu.ac.uk (M.M. Spada).

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content and experiences. Research has implicated desire thinking in addictive behaviours. For example, studies have suggested that verbal perseveration is a significant predictor of nicotine dependence independently of negative emotion and smoking urges (Caselli, Nikčević, Fiore, Mezzaluna, & Spada, 2012). Further research has shown that alcohol-dependent drinkers and problem drinkers engage in higher levels of imaginal prefiguration than social drinkers, and that alcohol-dependent drinkers report significantly higher levels of verbal perseveration than both problem and social drinkers (Caselli, Ferla, Mezzaluna, Rovetto, & Spada, 2012). Research has also demonstrated that desire thinking is distinct from craving and can induce craving (Caselli, Soliani, & Spada, 2013; Caselli & Spada, 2011).

The difference between automated and conditioned intrusions, and higher order cognitive processing that leads to the elaboration and preservation of thoughts about the desired-target, and thus an intensification of craving states (Caselli et al., 2013), can be conceptualised as analogous to the mechanism proposed to be central to the development and maintenance of psychological disorder hypothesised by the metacognitive therapy [MCT; (Wells, 2009)]. MCT views psychological disorder as resulting from the activation of perseverative cognitive processes (such as worry and rumination) and attentional strategies in response to inner events, such as thoughts, emotions, memories and physiological states. MCT refers to these perseverative cognitive processes and attentional strategies as components of a cognitive attentional syndrome (CAS), a concept fundamental to building clinical formulations from this perspective.

CAS configurations are hypothesised to be governed by explicit (often verbal, conscious rules for processing) and implicit (not consciously accessible) metacognitions (Wells, 2009). Metacognitions can be defined as "stable knowledge or beliefs about one's own cognitive system, and knowledge about factors that affect the functioning of the system; the regulation and awareness of the current state of cognition, and appraisal of the significance of thought and memories" (p. 302; Wells, 1995). In MCT, metacognitions have been divided into two broad sets of beliefs (Wells, 2009): (1) negative beliefs concerning the significance, controllability and danger of particular types of inner events, e.g. "It is bad to think thought X" or "I need to control thought X"; and (2) positive beliefs about coping strategies that impact on inner events such as "worrying will help me get things sorted out in my mind" or "brooding will help me solve the problem". Research has implicated metacognitions in both desire thinking (Caselli & Spada, 2010) and problem gambling (Lindberg, Fernie, & Spada, 2011). The latter study found that metacognitions independently predicted problem gambling when controlling for negative emotion.

From an MCT standpoint craving would be conceptualised as an inner event, whereas desire thinking would be conceptualised as a perseverative cognitive process activated in response to this event. This would suggest that desire thinking should predict addictive behaviour over and above craving because MCT posits that perseverative cognitive processes are more important than activating events in explaining psychological disorder. Accordingly, in this study, we hypothesised that desire thinking would predict gambling when controlling for craving.

2. Method

2.1. Participants

The sample consisted of 95 (76 male; 19 female) individuals who gamble and was recruited from community ($n = 47$) and clinical ($n = 48$; Servizio Tossicodipendenze, AUSL, Parma, Italy) settings. The two recruitment sources strategy was used in order to obtain data from individuals throughout the continuum of gambling. Participants had attained a range of educational levels: 3.2% had finished their education after 'basic school', 16.8% had reached 'medium school', 28.4% had finished formal education after 'high school', 44.2% had studied to degree level, 5.3% had received postgraduate education, and 2.1% had achieved doctorates. Inclusion criteria were as follows: (1) be engaging in gambling at least once per week; (2) 18 years of age or above; (3) consent to participate in the study; and (4) understand spoken and written Italian. The mean age of the sample was 41.6 years (SD = 13.5 years; range = 21–68 years).

2.2. Self-report measures

2.2.1. Hospital Anxiety and Depression Scale [HADS (Zigmond & Snaith, 1983)]

The HADS consists of 14 items designed to assess anxiety and depression. The anxiety sub-factor (7 items) consists of items like "I get a sort of frightened feeling as if something horrible is about to happen". The depression factor (7 items) consists of items like "I feel as if I am slowed down". Higher scores indicate higher levels of anxiety and depression. The majority of studies examining the factor structure of HADS, in both clinical and general populations, have identified and confirmed the two dimensions outlined (Mykletun, Stordal, & Dahl, 2001). The HADS possesses good psychometric properties (Mykletun et al., 2001; Zigmond & Snaith, 1983) with both anxiety and depression subfactors having been shown to independently predict gambling behaviour (Lindberg et al., 2011).

2.2.2. Gambling Craving Scale [GCS (Young & Wohl, 2009)]

The GCS consists of 9 items to assess craving for gambling. The anticipation sub-factor (3 items) consists of items like "Gambling would be fun right now", the desire sub-factor (3 items) consists of items like "I have an urge to gamble" and the relief sub-factor (3 items) consists of items like "Gambling would make me less depressed". The measure utilises a 7-point Likert-type response format that requires respondents to indicate the extent of their agreement to the items (from total disagreement to total agreement). Higher scores indicate higher levels of craving for gambling. The GACS has been shown to possess good psychometric properties (Young & Wohl, 2009).

2.2.3. Desire Thinking Questionnaire [DTQ (Caselli & Spada, 2011)]

The DTQ consists of 10 items designed to assess desire thinking which can be scored according to two sub-factors (verbal perseveration and imaginal prefiguration) or as a total. The verbal perseveration subfactor consists of items like "I mentally repeat to myself that I need to practice the desired activity". The imaginal prefiguration sub-factor includes items like "I imagine myself doing the desired activity". The measure utilises a 4-point Likert-type response format that requires respondents to indicate the extent of their agreement to the items (e.g. "Almost never", "Sometimes", "Often", "Almost always"). Higher scores indicate higher levels of desire thinking. The DTQ has been shown to possess a robust factor structure (Caselli & Spada, 2011).

2.2.4. South Oaks Gambling Screen [SOGS (Lesieur & Blume, 1987)]

The SOGS consists of 20 items designed to assess gambling behaviour and the identification of individuals who are problem and pathological gamblers. SOGS total scores of 0 indicate "No problem with gambling", and total scores of 1–4 indicate "Some problems with gambling", whilst total scores of 5 above identify "Probable pathological gambling". Although popular, this self-report measure has not been accepted without criticism (e.g. Battersby, Thomas, Tolchard, & Esterman, 2002). However, such criticisms have been addressed with the SOGS having been shown to meet the criterion of validity generalization (Gambino & Lesieur, 2006).

2.3. Procedure

Ethics approval was obtained from a university ethics board. Participants received the booklet containing the self-report measures by direct distribution and all took part on a voluntary and unpaid basis.