Desire thinking: What is it and what drives it?

Gabriele Caselli [a,*], Marcantonio M. Spada [b]

[a] *Studi Cognitivi, Cognitive Psychotherapy School, Milano, Italy*
[b] *London South Bank University, London, UK*

HIGHLIGHTS

- Desire thinking is a cognitive process that leads to the escalation of craving.
- Metacognitive beliefs may drive the activation and perseveration of desire thinking.
- We tested a metacognitive model of craving in four clinical and community samples.
- Results support interaction of desire thinking and metacognitive beliefs
- A key clinical implication may be: 'desires don't matter, the response to them does'.

ARTICLE INFO

ABSTRACT

Introduction: The aim of this study was to provide an overview of the construct of desire thinking and test a metacognitive model of desire thinking and craving, based on the work of Spada, Caselli and Wells (2012; 2013), which aims to explain the perseveration of desire thinking.
Method: We conducted two studies involving four clinical samples (total N = 493) and a community sample (N = 494) presenting with different addictive behaviors. The relationships among variables were examined by testing the fit of path models within each sample.
Results: In the model presented it was proposed that positive metacognitions about desire thinking are associated with, in turn, imaginal prefiguration and verbal perseveration, marking the activation of desire thinking. Verbal perseveration is then associated to negative metacognitions about desire thinking and craving denoting the pathological escalation of desire thinking. Finally, a direct association between positive metacognitions about desire thinking and negative metacognitions about desire thinking would mark those occasions where target-achieving behaviour runs as an automatized schemata without the experience of craving. Results indicated a good model fit in the clinical sample and a variation in the model structure in the community sample.
Conclusion: These findings provide further support for the application of metacognitive theory to desire thinking and craving in addictive behaviors.

1. Introduction

1.1. Defining desire thinking

In the Elaborated Intrusion (EI) theory of desire (Kavanagh, Andrade, & May, 2005; Kavanagh, May, & Andrade, 2009; May, Andrade, Panabokke, & Kavanagh, 2004), it has been suggested that the duration, frequency and intensity of craving, primarily as an affective and subjective response, may be the result of the combination of automatic (conditioned) and voluntary cognitive processes. According to the EI theory a variety of external and internal triggers lead to the activation of automatic associations that contain information about a desired target or activity (e.g. its positive consequences or a felt sense of deprivation). When these associations intrude into awareness they are perceived as spontaneous and induce craving (Bywaters, Andrade, & Turpin, 2004; Witvliet & Vrana, 1995). The escalation and persistence of craving are dependent on the activation of a process of cognitive elaboration termed 'desire thinking' (Green, Rogers, & Elliman, 2000; Kavanagh et al., 2009; Tiffany & Drobes, 1990).

Desire thinking can thus be conceptualized as a conscious and voluntary cognitive process orienting to prefigure images, information and memories about positive target-related experience (Caselli & Spada, 2010; Kavanagh, Andrade, & May, 2004; Kavanagh et al., 2005). Evidence indicates that desire thinking is multi-dimensional in nature, with imaginal prefiguration and verbal perseveration components (Caselli & Spada, 2011). The imaginal prefiguration component refers

* Corresponding author at: Studi Cognitivi, Cognitive Psychotherapy School, Viale Giardini 472/L, 41100 Modena, Italy.
E-mail address: g.caselli@studicognitivi.net (G. Caselli).

to the allocation of attentional resources to target-related information and a multi-sensory elaboration in the form of anticipatory positive imagery or positive target-related memories recall. The verbal perseveration component refers to prolonged self-talk regarding worthwhile reasons for engaging in target-related activities and their achievement.

Desire thinking appears to be similar to, but conceptually different from, other cognitive constructs involved in the genesis and maintenance of craving such as attentional biases, intrusive thoughts, thought suppression, rumination and worry. Firstly attentional biases are related to: (1) automatic tendencies of target-related cues to gain priority over attentional resources (Robinson & Berridge, 1993); and (2) the voluntary distribution of attentional resources in monitoring target-related cues (Field, Mogg, Zetteler, & Bradley, 2004). In both conceptualizations, attentional biases are likely to be in a mutual reciprocal relationship with further conscious elaboration, as in desire thinking, without implying it. Secondly, desire thinking, contrary to target-related intrusive thoughts or memories, implies a voluntary engagement in the elaboration of intrusive thought and it is not necessarily associated with an attempt to suppress them. Finally, desire thinking is a form of extended thinking which shares with rumination and worry features such as a self-focused attentional orientation and a perseverative nature, but it differs in terms of proportion of imagery-based elaboration and degree of focus centered on decision-making and planning instrumental behavior.

1.2. Desire thinking: a predictor of craving and a separate construct

Research has shown that thinking about a desired target is closely linked to levels of craving (Green et al., 2000; Tiffany & Drobes, 1990) and induces physiological change similar to what is induced by direct experience (Bywaters et al., 2004; Witvliet & Vrana, 1995). Research has also demonstrated that desire thinking facets are active during a craving episode in individuals with alcohol abuse, nicotine dependence and problematic gambling (Caselli & Spada, 2010). In addition desire thinking has been found to have a significant effect on craving across a range of addictive behaviors in a community sample (Caselli, Soliani, & Spada, 2013), predict craving in alcohol abusers independently from level of alcohol use (Caselli & Spada, 2011), and play a role across the continuum of drinking and smoking behavior controlling for gender, age, negative affect and craving (Caselli, Ferla, Mezzaluna, Rovetto, & Spada, 2012; Caselli, Nikčević, Fiore, Mezzaluna, & Spada, 2012). Desire thinking has also been shown to be the strongest predictor of levels of problematic gambling in a clinical sample, independent from gender, negative affect and craving (Fernie et al., 2014). On similar lines desire thinking has been found to predict category membership as a problematic internet user and levels of problematic internet use in a community sample controlling for weekly internet use, negative affect and craving (Spada, Caselli, Slaifer, Nikčević, & Sassaroli, 2014). Taken together, these findings: (1) highlight the role of desire thinking in generating an escalation in frequency and intensity of craving; and (2) support the distinction between desire thinking and craving.

1.3. Metacognition as a contributor to the perseveration of desire thinking

Desire thinking is a common faculty of human beings and may be not maladaptive per se. Indeed desire thinking may be helpful to: (1) motivate individuals to make efforts and delay gratification in the presence of long term goals through a virtual anticipation of pleasant results; and (2) plan adequate action to reach goals despite obstacles. Desire thinking, however, can become maladaptive if and when it becomes perseverative and poorly regulated. This may happen when desire thinking is applied to non-realistic or non-reachable targets or when it is applied to targets whose achievement conflicts with other personal goals. An example of the latter is the perseveration of desire thinking about gambling when one's personal goal is the abandonment of this activity.

In view of the above the crucial question to emerge is 'What makes desire thinking become perseverative and poorly regulated?' Spada, Caselli and Wells (Caselli & Spada, 2011, 2013; Spada, Caselli, & Wells, 2012; Spada, Caselli, & Wells, 2013) argue that metacognition plays a central role in understanding dysregulation in desire thinking. Metacognition can be defined as any knowledge or cognitive processes that are involved in the appraisal, monitoring or control of cognition (Flavell, 1979; Wells, 2000). Theory and research in metacognition have been introduced, over the last twenty years, as a basis for understanding and treating psychological dysfunction (Wells, 2000; Wells & Matthews, 1994, 1996). Wells and Matthews propose that a style of managing thoughts and emotion that involves extended thinking (e.g. rumination and worry), threat monitoring, avoidance, and thought suppression leads to psychological dysfunction. This style is called the Cognitive Attentional Syndrome (CAS) and is problematic because it causes negative thoughts and emotions to persist, as it fails to modify dysfunctional self-beliefs, and increases the accessibility of negative information (Wells, 2000). The activation and persistence of the CAS in response to cognitive (e.g. intrusive thoughts) and affective (e.g. sense of deprivation) triggers are dependent on maladaptive metacognitions (or metacognitive beliefs). Metacognitions refer to the information individuals hold about their own cognition and about coping strategies that impact on it. Examples of metacognitions may include: "Worrying will help me cope" or "My thoughts are out of control".

In line with a metacognitive conceptualization, desire thinking may be considered as a coping strategy similar to rumination and worry and thus a central part of the CAS in addictive behaviors with maladaptive consequences including: (1) increased levels of craving and perception of being out of control; (2) increased accessibility of target-related information; and (3) interference with the regulation of craving (Caselli & Spada, 2011; Caselli et al., 2013). Recent research has also suggested that metacognitions may indeed play a role in desire thinking (Caselli & Spada, 2010, 2013). Metacognitions about desire thinking refer to the information individuals hold about their own desire thinking and desire-related thoughts. Positive metacognitions about desire thinking concern the usefulness of desire thinking in distracting from negative thoughts and emotions (e.g. "it helps not to be overwhelmed by my worries"), and in improved executive control over decisions and behaviors (e.g. "it helps to avoid bad decisions", "it helps to have a greater control over my decisions"). Such metacognitions may be involved in the initiation of desire thinking when a target-related thought intrude into awareness. Negative metacognitions about desire thinking concern
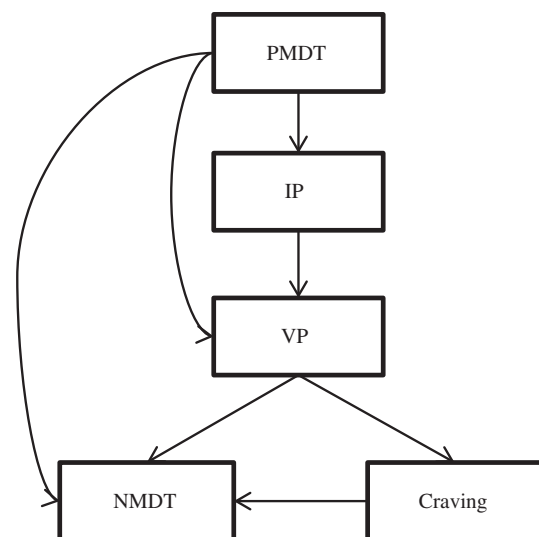

Fig. 1. Structure of a metacognitive model of desire thinking and craving. Note. PMDT = positive metacognitions about desire thinking; NMDT = negative metacognitions about desire thinking; IP = imaginal prefiguration; VP = verbal perseveration.