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Wanting a bird's eye to understand why: Motivated abstraction and causal uncertainty

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HIGHLIGHTS

- Causal uncertainty activates a goal to think abstractly.
- Causal uncertainty increases resumption to interrupted abstract thinking task.
- Abstract thinking task completion leads to post-fulfillment decrease in motivation.

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ABSTRACT

When negative events occur (e.g., a breakup, a mass shooting), people naturally ask themselves *why* such things happen. Recent research has shown that more abstract thinking about negative events fosters less uncertainty about why those events happened. The present research examined a downstream consequence of this effect, namely, whether causal uncertainty activates a goal to think more abstractly. We drew on principles of goal activation, to show that after leading participants to feel more uncertain about a negative event, they were more likely to resume an experience that afforded an opportunity to think more abstractly (i.e., focusing on similarities rather than differences; Experiments 1A and 1B). In further support of our motivational framework, we also show that after leading participants to feel more uncertain about a negative event, they no longer exhibited a more positive attitude toward an experience that afforded an opportunity to think more abstractly once they had the opportunity to actually engage in more abstract thinking (Experiment 2). Theoretical and practical implications are discussed.

1. Introduction

> "Think left and think right and think low and think high. Oh, the thinks you can think up if only you try."
> [From the book "Oh, the Thinks You Can Think!" by Dr. Seuss]

People are often motivated to achieve a variety of goals, including behavioral and performance standards (Gollwitzer & Brandstätter, 1997), emotional states (Gross & John, 2003), and general feelings of competence and belonging (Reis, Sheldon, Gable, Roscoe, & Ryan, 2000). Cognitive processes certainly play a key role in such goal pursuits. Indeed, research on motivated reasoning shows that people may strive to arrive at certain conclusions, which allows them to think what they want to think (Kunda, 1990). Furthermore, as the opening quote illustrates, people can also be motivated to think in a certain way (Gollwitzer & Bayer, 1999; Kruglanski & Webster, 1996; Neuberg, 1989). The present research tests whether the experience of causal uncertainty motivates people to think at a higher, more abstract level. Specifically, we test key motivational principles established in the goal literature to examine people's pursuit and fulfillment of an abstract thinking goal.

1.1. Motivated cognition

The field of motivation is mainly concerned with the activation and pursuit of goals, and the consequences of goal pursuit (Elliot & Thrash,

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2002; Ferguson & Bargh, 2004; Fitzsimons, Chartrand, & Fitzsimons, 2008; Gollwitzer & Moskowitz, 1996; Hassin, Aarts, Eitam, Custers, & Kleiman, 2009). Much of this research focuses on tangible goals (for review, see Gollwitzer & Moskowitz, 1996). For example, motivation researchers commonly deal with goals that center on things such as reducing unhealthy food consumption (Papies, Stroebe, & Aarts, 2008), promoting prosocial behavior (Weinstein & Ryan, 2010), fostering academic success (Fishbach, Friedman, & Kruglanski, 2003), and even engaging in sexual intercourse (Aarts, Gollwitzer, & Hassin, 2004).

Of course, social psychologists have also long been interested in examining less tangible goals, including what we will refer to throughout this article as *thinking goals* (Andrade, 2005; Hauser-Cram, Sirin, & Stipek, 2003). Thinking goals are desired cognitive states associated with certain thought content or processes. Thinking goals, as they relate to thought content, refer to *what* people want to think. Motivated reasoning is a manifestation of these goals as it "concerns the outcome of a given reasoning task" (Kunda, 1990, p. 480). For example, people often change their attitudes to match their behavior to reduce cognitive dissonance (Elliot & Devine, 1994; Festinger, 1957). People also tend to be wishful thinkers who feel motivated to have positive illusions and expectations about themselves, others, and the world (Campbell & Sedikides, 1999; Crocker & Luhtanen, 1990; Lerner, 1980; Murray & Holmes, 1997; Weinstein, 1980). At other times, people may be motivated to lower the perceived value or importance of objects and events (Taber & Lodge, 2006; Veling, Holland, & van Knippenberg, 2008).

Most germane to our research are thinking goals related to modes of thinking, which reflect *how* people want to think. Indeed, studies have shown that people can be motivated to think in different ways. For instance, people can be motivated to quickly seize definite answers (Kruglanski & Webster, 1996), be free of biases (Neuberg, 1989), think deliberately (Gollwitzer & Bayer, 1999), and be creative and open-minded (Fitzsimons et al., 2008). Since having a goal to think a certain way relates to a process of thinking, it is relatively free of what the end-product of the thought process may be. To illustrate, consider a person who recently ended a romantic relationship. She may have learned from similar past experiences that occupying her mind with distractions helps keep her sad feelings at bay. Thus, her breakup would activate a goal to be distracted. While her thinking goal (distracting oneself) remains constant, the specific content of the goal pursuit could manifest in many forms (e.g., suddenly gaining an interest in baseball, becoming curious about the etiology of words). Similarly, the present research explores the pursuit of a goal to think in a certain way, namely, more abstractly.

Regardless of whether motivated cognition relates to a particular content or a way of thinking, it can have meaningful effects on people's attention and perception (Balcetis & Dunning, 2006, 2007; Bradley et al., 2003; Veltkamp, Aarts, & Custers, 2008), memory (Dijksterhuis, van Knippenberg, Kruglanski, & Schaper, 1996; Lemay & Neal, 2013; Shu, Gino, & Bazerman, 2011), information processing (De Dreu, Koole, & Oldersma, 1999; Ditto, Scepansky, Munro, Apanovitch, & Lockhart, 1998; Taber & Lodge, 2006), social interactions (De Grada, Kruglanski, Mannetti, & Pierro, 1999), attitudes and judgments (Chernev, 2001; Fazio, Zanna, & Cooper, 1977; Lerner & Simmons, 1966), and decision-making (De Dreu, Nijstad, & van Knippenberg, 2008; Verplanken & Holland, 2002). As highlighted here, prior research on motivated cognition has mainly examined its consequences.

The present research aims to move beyond past work by examining more deeply what it means for a thinking style to be motivated. Specifically, we explore whether principles of goal pursuit apply to people's goal to think in a more abstract way. As far as we know, the present research is the first to directly use key experimental paradigms of motivational principles to test the activation and fulfillment of a goal to adopt a mode of thinking.

1.2. Motivation to abstract

Recently, we investigated the role that abstraction plays in reducing causal uncertainty (Namkoong & Henderson, 2014). A basic property of human cognition is that individuals can mentally represent or construe objects and events at different levels of abstraction (Burgoon, Henderson, & Markman, 2013). Higher-level, more abstract construals tend to be relatively simpler and more cohesive than lower-level, more concrete construals (Reyna, 2012; Trope & Liberman, 2011; Vallacher & Wegner, 1987). This is because higher-level construals of objects and events emphasize superordinate, central features and omit incidental features without significantly changing the meaning of events. For example, construing a relationship conflict more abstractly would likely involve thinking about more essential, defining aspects of the conflict (e.g., incompatible personality traits that endure over time, or a general theme that emerges consistently across arguments), whereas a more concrete construal would highlight idiosyncratic details about the conflict (e.g., when or where it occurred, or the particulars of how it differs from other conflicts).

People are at times motivated to think in a more abstract way. For example, people tend to make more global dispositional attributions to explain positive outcomes of their actions, but more situational and context-specific attributions for negative outcomes. This bias is largely based on one's motivation to view the self in a more positive light (for reviews, see Campbell & Sedikides, 1999; Mezulis, Abramson, Hyde, & Hankin, 2004). Similar to this self-serving bias, people may be motivated to generalize favorable aspects of their ingroups and negative aspects of their outgroups (Maass, Salvi, Arcuri, & Semin, 1989). These effects are partly explained by a highly salient protective motivation toward ingroups (Maass, Ceccarelli, & Rudin, 1996; Maass, Milesi, Zabbini, & Stahlberg, 1995). In the present research, we explore another factor that may motivate people to think more abstractly, namely, when people feel uncertain about causal relationships.

1.3. Causal uncertainty as a trigger for an abstraction goal

Negative life events, such as a breakup, often baffle people because they are difficult to make sense of. One of the first questions people naturally ask themselves in these circumstances is *why* such things happen (Wong & Weiner, 1981). Indeed, the desire to understand causal relationships is such a powerful motive that the lack of understanding can produce a host of negative consequences. For example, research shows that causal uncertainty is associated with social anxiety, depression, and low self-esteem (Boucher & Jacobson, 2012; Edwards, Weary, & Reich, 1998).

Prior work has examined the role that causal uncertainty plays in cognitive processing. Specifically, this work has highlighted the cognitive strategies people adopt in order to improve their causal understanding (for a review, see Weary, Tobin, & Edwards, 2010). For example, people who are chronically uncertain about causes and who place high importance on causal understanding tend to examine causal explanations more carefully (Tobin & Weary, 2008; Weary & Jacobson, 1997). People with high causal uncertainty are also better at adjusting for cognitive heuristics and biases, such as the availability heuristic and correspondence bias (Vaughn & Weary, 2003; Weary, Vaughn, Stewart, & Edwards, 2006).

Recently, Helzer and Edwards (2012) found that causal uncertainty activates an abstract construal, presumably because of people's desire to restore a sense of certainty. Extending their work, Namkoong and Henderson (2014) showed that an abstract construal indeed reduces experiences of causal uncertainty. Together, these findings suggest that causal uncertainty may motivate people to construe events more abstractly. Namkoong and Henderson (2014) provided indirect evidence for how an abstract thinking goal can originate in