

On Metamotivation: Consumers' Knowledge about the Role of Construal Level in Enhancing Task Performance

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ABSTRACT Self-regulation research typically focuses on the modulation of thoughts, feelings, and behavior to achieve desired ends. We propose that understanding the regulation of the underlying motivational orientations that drive these reactions is a critical yet underappreciated research question. We review research on metamotivation—people's understanding and goal-directed regulation of their motivational states. A central metamotivational challenge is identifying the type and amount of motivation that best promotes goal outcomes in a task, and then finding the means to instantiate this state. To illustrate these principles, we review research in the context of construal level theory. This work suggests that people recognize high-level and low-level construal as motivational orientations that benefit performance on distinct tasks and may strategically select the construal level induction that best promotes performance. We then discuss the implications of this work (and the metamotivational approach more generally) for consumer behavior research.

Consumer self-regulation research attempts to understand why some people are successful (and others are not) in achieving their goals (e.g., Bagozzi and Dholakia 1999; Kivetz and Simonson 2002; Fishbach and Dhar 2005; Vohs and Faber 2007; Hong and Lee 2008). For example, why do some dieters successfully lose weight while others do not? Why do those who intend to capitalize on mail-in rebates sometimes follow through but at other times forget? The goal of consumer self-regulation research is to understand when and why people's behavior in the consumer context aligns or not with their intentions. Much of this work has been guided by traditional models of self-regulation that highlight the monitoring and modulation of thoughts, feelings, and behaviors (e.g., Carver and Scheier 1982; Mischel, Shoda, and Rodriguez 1989; Mann, de Ridder, and Fujita 2013). Cognitive control models, for example, suggest that dieting self-regulation entails inhibiting cognitions about eating tasty, fattening foods (e.g., Shiv and Fedorikhin

1999; Stroebe et al. 2013). What has largely been overlooked is people's monitoring and control of their underlying motivational concerns and orientations (cf. Trope and Fishbach 2000). Given that motivation provides the impetus and direction for how people think, feel, and act, we propose that understanding whether and how consumers regulate their motivational orientations is a critical yet underappreciated research question.

In the present article, we describe an emerging perspective to self-regulation, namely, metamotivation. At the broadest level, metamotivation refers to the processes and knowledge involved in regulating one's own motivational states. More specifically, metamotivation consists of two reciprocal processes. The first process involves assessing the strength and quality of one's motivation to pursue a particular goal (i.e., metamotivational monitoring). The second process involves using the output of the first process to select and implement strategies for bolstering or maintaining a

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particular motivational orientation (i.e., metamotivational control). Critically, the effectiveness of both processes is thought to depend on one's *metamotivational knowledge*—that is, one's beliefs about the basic functioning of motivation (Scholer and Miele 2016; Miele and Scholer 2018). In what follows, we describe the metamotivational approach in more detail. We then review emerging research that has used this approach to gain new insight into the role of construal level in people's goal pursuit. By using research on construal level theory as an example, we hope to highlight more broadly the transformative potential of the metamotivational approach for understanding consumer self-regulation.

METAMOTIVATION

Motivation science reveals that effective task motivation is not only a function of quantity or magnitude but also of quality or type. To the extent that task performance can benefit from a particular type of motivational orientation (e.g., prevention vs. promotion, intrinsic vs. extrinsic, assessment vs. locomotion), embodying or instantiating that motivational orientation during the task can lead to superior outcomes. For example, when a task demands accuracy over speed (e.g., finding the “one dress” for the “perfect wedding”), adopting a matching motivational orientation that prioritizes vigilance over eagerness (i.e., prevention vs. promotion) may bolster performance (e.g., Förster, Higgins, and Bianco 2003). Research has done much to distinguish various forms of motivation and to document the benefits for performance of matching the “right” motivational orientations to the “right” types of tasks (e.g., Gollwitzer 1990; Freitas and Higgins 2002; Förster et al. 2003; Hong and Lee 2008). Yet much of this work has focused on passive forms of matching, whereby the fit between the motivational orientation and task is experimentally determined by the experimenter or by chance. Metamotivation research instead focuses on how people who want to perform well on a task strategically create a task-motivation fit—inducing themselves into the motivational orientation that would produce the best outcomes.

An important assumption of metamotivation research is that the regulation of task motivation requires at least two types of knowledge. First, in order to identify the quality and quantity of motivation that would best enhance outcomes, people must know something about what motivational orientations might be beneficial for the task at hand. For example, when faced with a task that requires accuracy over speed, people must understand the difference between vigilance versus eagerness, and that the former is more bene-

ficial in this context than the latter. We refer to this as *task knowledge*. People must also know something about how to induce or sustain the preferred motivational orientation. For example, knowing that vigilance versus eagerness might be more beneficial to a given task, people must be able to identify and capitalize on various methods by which one might become more vigilant (e.g., recalling memories that make them feel anxious vs. sad, focusing on losses vs. gains). We refer to this as *strategy knowledge*.

Consumers may not be consciously aware that they have this knowledge. Research suggests that some forms of knowledge are tacit and/or operate implicitly (e.g., Wagner and Sternberg 1985; Reber 1989). Such knowledge can be assessed by presenting participants with scenarios and asking them to endorse one of several potential responses. Although they may not be able to verbalize why, those with greater knowledge tend to endorse the most appropriate response—presumably because it feels right. Some metamotivational knowledge may be tacit or implicit and thus best assessed in this manner. Consumers who are particularly self-aware may be able to articulate certain aspects of their metamotivational knowledge, but we need not assume that this is universal.

To provide empirical support for the metamotivation approach and to explore some of its implications, we spotlight emerging research on people's metamotivational knowledge about the kinds of task-motivation fit specified by construal level theory (e.g., MacGregor et al. 2017; Nguyen et al., forthcoming). Although we use this research on construal level theory to exemplify some of the advances of the metamotivational approach in the present article, we note that foundational work on metamotivation was originally conducted in the context of regulatory focus theory (Higgins 1998, 2000; Scholer and Miele 2016). Moreover, other work can be interpreted as examining people's metamotivational knowledge (or lack thereof) in contexts that extend beyond the purview of construal level and regulatory focus theories, including research on intrinsic versus extrinsic motivation (Woolley and Fishbach 2015; Murayama et al. 2016), counteractive control (e.g., Trope and Fishbach 2000), and responses to positive versus negative feedback (e.g., Fishbach, Eyal, and Finkelstein 2010).

CONSTRUAL LEVEL AND SELF-REGULATION

One important determinant of successful goal pursuit is subjective construal. The term *construal* refers to people's interpretation or understanding of events and captures not only their thoughts and beliefs but also their affective, moti-

vational, and behavioral orientations (e.g., Griffin and Ross 1991; Mischel and Shoda 1995). Construal level theory (CLT; Trope and Liberman 2010) proposes that people represent events at varying levels of abstraction as a function of psychological distance (i.e., of the removal of an event from direct experience). CLT postulates that people represent psychologically distant events by engaging in high-level construal—an orientation toward the abstract and essential features of those events. One can construe going on vacation, for example, as disconnecting from the demands of daily life. By contrast, CLT postulates that people represent psychologically near events by engaging in low-level construal—an orientation toward the concrete and idiosyncratic information that distinguishes an event from similar others. For example, the same vacation might be alternatively construed as traveling to Miami to this hotel near this beach. Shifts in construal level systematically affect judgment, decision making, and behavior (e.g., Trope, Liberman, and Wakslak 2007; Fujita, Trope, and Liberman 2015). Critically, construal level affects performance on goal-relevant tasks.

Both high-level and low-level construal can enhance performance, depending on the nature of the task. Research examining self-control (one important type of self-regulation challenge) has revealed that high-level relative to low-level construal promotes successful outcomes (e.g., Fujita and Carnevale 2012). Self-control conflicts arise when local motivational concerns compete with more global concerns (Fujita 2011) and are typically experienced in the kind of decision that pits smaller-immediate versus larger-delayed outcomes (Ainslie 1975; Mischel et al. 1989; Hoch and Loewenstein 1991; Wertenbroch 1998; Shiv and Fedorikhin 1999). Research suggests that high-level versus low-level construal reduces delay discounting—the tendency to value smaller-immediate over larger-delayed outcomes (e.g., Fujita et al. 2006; Malkoc and Zauberman 2006; Malkoc, Zauberman, and Bettman 2010). In a sample concerned about weight loss, high-level versus low-level construal promoted preferences for an apple over a candy bar, suggesting enhanced self-control (Fujita and Han 2009).

Other research has demonstrated the benefits of low-level relative to high-level construal, particularly on tasks that require precision or fine-tuned behavioral responses (e.g., Taylor et al. 1998; Gollwitzer and Sheeran 2006; Schmeichel, Vohs, and Duke 2011; Freund and Hennecke 2015). For example, Schmeichel et al. (2011) presented participants engaged in high-level versus low-level construal with a stop-signal task—a task that requires inhibiting a habitual response in the presence of a stop-cue. Success requires vigi-

lantly monitoring a dynamically shifting environment for subtle variations in cognitive demands. Results indicated that low-level relative to high-level construal led to superior task performance. Research also suggests that low-level relative to high-level construal can promote skilled motor behavior, such as throwing darts (e.g., Zimmerman and Kitsantas 1997). This and other work suggests that low-level versus high-level construal can enhance performance on tasks that require precise behavioral responses.

METAMOTIVATIONAL KNOWLEDGE OF THE REGULATORY BENEFITS OF HIGH-LEVEL AND LOW-LEVEL CONSTRUAL

Applying a metamotivational approach to CLT leads one to ask to whether people understand the regulatory benefits of high-level versus low-level construal and, if so, to what extent are they able to implement this knowledge to create task-motivation fit. We review research suggesting that people can (1) recognize whether performance on a particular regulatory task would benefit from high-level versus low-level construal (task knowledge), (2) identify strategies that they can reliably use to shift themselves into high-level or low-level construal (strategy knowledge), and (3) strategically select the construal level induction that best promotes performance on an anticipated regulatory task. Collectively, these findings suggest that people indeed have the metamotivational task and strategy knowledge needed to optimize performance by creating task-motivation fit.

Task Knowledge: The Benefits of High-Level Construal for Self-Control Tasks

Initial investigations focused on whether people recognize that high-level versus low-level construal is beneficial for self-control (MacGregor et al. 2017). Experiments asked participants to imagine situations that either posed a self-control conflict or did not. In one study, participants imagined participating in a market research study that entailed eating tasty yet unhealthy cookies. Half imagined that their goal was to refrain from eating too many cookies (self-control condition), whereas the other half imagined that their goal was to maximize their eating enjoyment (control condition). As an assessment of metamotivational knowledge, participants indicated to what extent asking themselves why (or why not) versus how (or how not) they would engage in the task would be useful for achieving their respective goals. Whereas thinking about why is associated with high-level construal, thinking about how is associated with low-level construal (Liberman and Trope 1998; Frei-

tas, Gollwitzer, and Trope 2004). Participants reported that thinking about why relative to how would be more useful in the restraint relative to the control condition, suggesting that they understood that high-level versus low-level construal is beneficial for promoting self-control.

The metamotivational approach also suggests that individual differences in this task knowledge should predict self-control outcomes. To test this, MacGregor et al. (2017) asked undergraduate students to list temptations that might compete with their motivation to study for their Introduction to Social Psychology final exam. Participants were then asked to describe what they might do to overcome these temptations. These written responses were coded for linguistic abstraction as an assessment of construal level (using LCM; Semin and Fiedler 1988). More abstract language would suggest that participants possessed metamotivational knowledge about the usefulness of high-level construal for resisting temptations. To ensure that academics was perceived by participants as a self-control domain (i.e., one in which temptations compete with more valued academic goals), participants were also asked to report their level of achievement motivation for the course. As predicted, among individuals who had high achievement motivation (+1 standard deviation above the mean), an increase of 1 unit of metamotivational knowledge was associated on average with an increase of almost 4 percentage points in end-of-semester grades in the course (i.e., B+ vs. A-). This suggests that individual differences in metamotivational knowledge can predict individual differences in meaningful self-control outcomes.

Task and Strategy Knowledge: Choosing High-Level versus Low-Level Construal Inductions to Prepare for Different Types of Tasks

Although the studies by MacGregor et al. (2017) suggest that people recognize that high-level construal promotes self-control, they say little about whether people also recognize that low-level construal can benefit performance on other kinds of regulatory tasks. Moreover, the studies say little about whether people recognize how to shift themselves into high-level versus low-level construal (i.e., strategy knowledge). To address these questions, Nguyen et al. (forthcoming) presented participants with tasks in which performance has been shown to benefit from high-level construal or low-level construal. The high-level scenarios entailed self-control conflicts, such as an assessment of delay discounting (e.g., receiving \$30 today vs. \$60 in three months). The low-level scenarios described tasks that require precision or fine-tuned behavior, such as completing cognitive vigilance assessments

and throwing darts. A third set of scenarios that served as an experimental control described tasks in which performance did not a priori appear to benefit from high-level or low-level construal, such as choosing between equally desirable alternatives and enjoying the opportunity to daydream.

Participants were asked to choose which of two preparatory exercises they would prefer to complete in order to “set their minds” to perform the regulatory tasks with which they were presented. These preparatory exercises consisted of previously validated inductions of high-level versus low-level construal, respectively. In one study, for example, participants were told that the preparatory exercises would entail the recall of distant versus near past memories (e.g., Kyung, Menon, and Trope 2010). In another study, participants were told that the exercises would require engaging in global versus local visual information processing (e.g., Kimchi and Palmer 1982; Smith, Wigboldus, and Dijksterhuis 2008; Wakslak and Trope 2009).

Results revealed that participants systematically preferred the preparatory exercise that induces high-level rather than low-level construal in anticipation of regulatory tasks that typically benefit from high-level construal, replicating MacGregor et al. (2017). For example, 56% versus 44% of participants chose to complete the global versus local visual processing exercise in anticipation of a delay discounting task. By contrast, they preferred the preparatory exercise that induces low-level rather than high-level construal in anticipation of regulatory tasks that benefit from low-level construal. For example, 72% versus 28% of participants chose to complete a local versus global visual processing exercise in anticipation of a cognitive vigilance task. Thus, participants correctly identified which construal would best enhance performance on each type of task (task knowledge). Note that the design of these experiments also required participants to recognize which tasks would help them instantiate or manifest high-level versus low-level construal (strategy knowledge). To demonstrate metamotivational knowledge, then, not only did participants have to differentiate the construal level demands of tasks like delay discounting versus perceptual vigilance, but they also had to recognize completing global versus local visual processing exercises as an effective induction of high-level versus low-level construal—and then match the right motivational orientation (construal level) to the appropriate regulatory task. Given how little overlap there was between the superficial features of the preparatory exercises and the regulatory tasks, it is rather remarkable that participants were able to link the two in order to create task-motivation fit.

ADVANCING MOTIVATIONAL SCIENCE AND IMPLICATIONS FOR CONSUMER BEHAVIOR

Implications

The metamotivational approach advances motivation science in a number of ways, with important implications for consumer behavior. First, it generates novel predictions, as illustrated above. These findings are notable not only because they provide further evidence for the role of construal level in supporting goal pursuit, but they also suggest that people know about this role and may use this knowledge to create task-motivation fit. Although preliminary findings indicate that this knowledge can be used to predict meaningful outcomes, such as academic performance (e.g., MacGregor et al. 2017), more work needs to be done to establish that people are able to use different construal levels strategically and spontaneously in the real world (i.e., when not prompted to make a choice by an experimenter). Yet the fact that people even know about various methods of inducing high-level versus low-level construal in order to achieve desired outcomes suggests that retailers could potentially develop products that would aid consumers in creating task-motivation fit. One might imagine, for example, a cell phone application that people use to prepare themselves motivationally for the various self-regulation tasks that they might anticipate.

A second noteworthy advancement of the metamotivational approach is highlighting new ways that knowledge may serve as a source of goal success versus failure. Most self-regulation research focuses on what people can do (e.g., how well someone can inhibit an undesired thought), rather than their knowledge about themselves and the situation. Consider, for example, popular “brain-training” services that attempt to help people improve their self-regulation by enhancing their cognitive control skills (Simons et al. 2016). The metamotivational approach suggests that these services are misguided in that the effectiveness of any skill in promoting self-regulation requires deploying it at the right time. That is, task knowledge is a precondition to any effective regulation and worthy of investigation in its own right. Some people may struggle to attain their goals not because they are deficient in some ability (such as inhibitory control) but rather because they lack accurate knowledge about when to implement that ability. Similarly, some people may have erroneous beliefs about the nature of motivation and implement flawed strategies that unknowingly backfire (e.g., Woolley and Fishbach 2015; Murayama et al. 2016). Exploring such misbeliefs is an important future direction for two reasons. First, they are likely associated with goal failure. Second, and perhaps

more importantly, misbeliefs may predict resistance to any attempts at intervention. If people believe that their flawed knowledge of motivation is valid, they may dismiss or derogue efforts to correct this knowledge. Thus, tackling the issue of metamotivational misbeliefs may be an important new direction for research and a critical one for the development of novel services and programs designed to support consumer goal pursuit.

A third benefit of the metamotivational approach is that it allows researchers to make not only between-subject predictions about who is likely to succeed versus fail at attaining important goals but also within-subject predictions about the particular tasks in which an individual is likely to succeed. Consider, for example, the domain of athletics. To be successful, athletes must overcome the temptation to skip practice and workouts as well as properly execute highly skilled behavior during competitions and games. Whereas high-level construal should enhance the former, low-level construal should enhance the latter. Athletes who incorrectly believe that engaging in high-level construal is always beneficial for task performance can be expected to attend practice regularly but may then overlook the subtle contextual cues that enhance in-game performance. We would expect the opposite pattern of results from athletes who incorrectly believe the low-level construal is always beneficial for task performance. Although both types of athletes might struggle to attain their goals, a service provider would have to develop very different types of products and services to assist each, given that they struggle with different kinds of motivational problems. In this way, the metamotivational approach pushes researchers and retailers to not only predict who might struggle with goal pursuit but to also identify the specific challenges with which they struggle.

Finally, the metamotivation approach more generally proposes that flexibility is key to goal attainment. That is, it takes as a given that no single motivational orientation ensures success—the orientation that is best suited to the current task may undermine performance on the next task. Thus, successful goal pursuit requires that people be sensitive to how motivational demands change across tasks and shift their motivational orientation to match these changing demands.

Future Directions

Although currently available measures have been sufficient for testing theoretical claims in the lab, future work will need to develop and validate metamotivational knowledge assessments that may be more appropriate for consumers, and that can be used pragmatically to predict consumer outcomes in

real-world contexts. The development of these consumer-relevant instruments may benefit from further exploration of the extent to which people are explicitly aware of this knowledge. Current assessments have assumed that this knowledge is tacit or implicit, leading researchers to adopt indirect measurement strategies that involve respondents selecting options on the basis of what feels right. Future research, however, should explore to what extent this assumption is warranted. In some contexts, people may be able to articulate explicitly what they know. This may reduce some of the artificiality of the assessment items, thereby increasing reliability and accuracy.

Another important future direction is to examine how people learn and acquire metamotivational knowledge. It is possible that parents and teachers teach children about the basic principles of motivation during formative childhood years. For example, when faced with temptation (e.g., waiting to eat dessert after dinner), children may be taught to construe these challenges in high-level terms (e.g., focusing on why they are waiting). By contrast, when challenged to engage in a precision task (e.g., learning to write legibly), children may instead be instructed on how to construe these challenges in low-level terms (e.g., focusing on how to hold a pencil vs. a pen when writing on a particular surface). In this way, parents and teachers may teach children to distinguish different types of regulatory tasks and help them to identify the various means by which they can motivationally prepare for themselves for these tasks. It is also possible that people develop metamotivational knowledge on their own. Specifically, if a certain strategy has been effective in a particular kind of situation, people may continue using it in this kind of situation in the future. Alternatively, if a motivational strategy has led to poor outcomes, people may be inclined to explore other strategies. Through trial and error, people may come to develop an understanding of the most optimal construal level for the task at hand. One final possibility is that people may gain metamotivational knowledge through logical reasoning, much as researchers have done to develop theories of self-regulation and motivation. Ultimately, understanding how people come to form metamotivational beliefs may not only provide insight into the nature of this knowledge (e.g., are people aware that they have this knowledge?) but may also advance understanding of how best to educate people should they have incorrect knowledge—a critical issue for those looking to develop services and programs to enhance consumers' self-regulation.

It should be noted that merely having metamotivational knowledge does not guarantee goal success. Consider, for ex-

ample, budget-constrained impulsive shoppers. These consumers may recognize the benefits of engaging in high-level construal when confronted with highly desirable yet expensive products. Research on CLT suggests, however, that the immediate proximity of temptations evokes low-level construal. Thus, at the critical moment when they know they must engage in high-level construal, the proximity of the temptation may lead impulsive shoppers to engage instead in low-level construal. To successfully implement their metamotivational knowledge, these consumers need to inhibit a salient but inappropriate construal and flexibly switch to a construal that better fits with the task or situation. A number of variables might affect whether they are successfully able to do so. Research on executive function suggests that one important variable might be individual differences in cognitive flexibility (e.g., Monsell 2003; Miyake and Friedman 2012). It may only be those with high flexibility that are able to switch and adopt alternative construals as needed—an interesting research question that integrates metamotivation research with research from the developmental and cognitive psychology literatures.

Beyond cognitive abilities, sociocultural norms and beliefs may also influence the implementation of metamotivational knowledge (Scholer and Miele 2016). Certain groups and cultures may preferentially embrace some motivational orientations over others. Although these may be important sources of metamotivational knowledge, the orientations that they promote or encourage may at times conflict with task demands. For example, in social settings that celebrate and promote low-level construal—such as companies that emphasize meeting short-term benchmarks rather than more long-term objectives—individuals may struggle or choose not to embody the high-level construal that is more appropriate for some tasks (e.g., decision making that entails values vs. pragmatics; Kivetz and Tyler 2007). The opposite may be true as well: social settings that prioritize abstract concerns may make it challenging for individuals to embody the low-level construal necessary to execute precision-oriented tasks (e.g., proof-reading, debugging computer code). Future research should explore the interplay between individuals and their sociocultural contexts as an important step in determining whether people respond to challenges as they know they should.

CONCLUSION

In this article, we described the metamotivational approach to studying self-regulation—an approach that focuses on

motivational states and orientations, rather than thoughts, feelings, and behavior, as the target of regulation. This approach assumes that people monitor and modify their motivational orientations to secure desired outcomes. To do so, people must understand, at some level, the basic principles of motivation and how best to shift themselves into particular motivational orientations for the task at hand. To highlight its transformative advances, we reviewed research applying this approach to construal level theory. This work suggests that people have the requisite knowledge to strategically use high-level and low-level construal level to create task-motivation fit. We believe that metamotivation is the next frontier of motivation science and encourage others to adopt this framework to explore new research directions and applications.

REFERENCES

- Ainslie, George (1975), "Specious Reward: A Behavioral Theory of Impulsiveness and Impulse Control," *Psychological Bulletin*, 82 (4), 463–96.
- Bagozzi, Richard P., and Utpal Dholakia (1999), "Goal Setting and Goal Striving in Consumer Behavior," *Journal of Marketing*, 63, 19–32.
- Carver, Charles S., and Michael F. Scheier (1982), "Control Theory: A Useful Conceptual Framework for Personality-Social, Clinical, and Health Psychology," *Psychological Bulletin*, 92 (1), 111–35.
- Fishbach, Ayelet, and Ravi Dhar (2005), "Goals as Excuses or Guides: The Liberating Effect of Perceived Goal Progress on Choice," *Journal of Consumer Research*, 32 (3), 370–77.
- Fishbach, Ayelet, Tal Eyal, and Stacey R. Finkelstein (2010), "How Positive and Negative Feedback Motivate Goal Pursuit," *Social and Personality Psychology Compass*, 4 (8), 517–30.
- Förster, Jens, E. Tory Higgins, and Amy T. Bianco (2003), "Speed/Accuracy Decisions in Task Performance: Built-In Trade-Off or Separate Strategic Concerns?" *Organizational Behavior and Human Decision Processes*, 90 (1), 148–64.
- Freitas, Antonio L., Peter Gollwitzer, and Yaacov Trope (2004), "The Influence of Abstract and Concrete Mindsets on Anticipating and Guiding Others' Self-Regulatory Efforts," *Journal of Experimental Social Psychology*, 40 (6), 739–52.
- Freitas, Antonio L., and E. Tory Higgins (2002), "Enjoying Goal-Directed Action: The Role of Regulatory Fit," *Psychological Science*, 13 (1), 1–6.
- Freund, Alexandra M., and Marie Hennecke (2015), "On Means and Ends: The Role of Goal Focus in Successful Goal Pursuit," *Current Directions in Psychological Science*, 24 (2), 149–53.
- Fujita, Kentaro (2011), "On Conceptualizing Self-Control as More Than the Effortful Inhibition of Impulses," *Personality and Social Psychology Review*, 15 (4), 352–66.
- Fujita, Kentaro, and Jessica J. Carnevale (2012), "Transcending Temptation through Abstraction: The Role of Construal Level in Self-Control," *Current Directions in Psychological Science*, 21 (4), 248–52.
- Fujita, Kentaro, and H. Anna Han (2009), "Moving Beyond Deliberative Control of Impulses: The Effect of Construal Levels on Evaluative Associations in Self-Control Conflicts," *Psychological Science*, 20 (7), 799–804.
- Fujita, Kentaro, Yaacov Trope, and Nira Liberman (2015), "On the Psychology of Near and Far: A Construal Level Theoretic Approach," in *The Wiley-Blackwell Handbook of Judgment and Decision-Making*, ed. Gideon Keren and George Wu, Hoboken, NJ: Wiley-Blackwell, 404–30.
- Fujita, Kentaro, Yaacov Trope, Nira Liberman, and Maya Levin-Sagi (2006), "Construal Levels and Self-Control," *Journal of Personality and Social Psychology*, 90 (3), 351–67.
- Gollwitzer, Peter M. (1990), "Action Phases and Mind-Sets," in *Handbook of Motivation and Cognition: Foundations of Social Behavior*, Vol. 2, ed. E. Tory Higgins and Richard M. Sorrentino, New York: Guilford, 53–92.
- Gollwitzer, Peter M., and Paschal Sheeran (2006), "Implementation Intentions and Goal Achievement: A Meta-Analysis of Effects and Processes," in *Advances in Experimental Social Psychology*, Vol. 38, ed. Mark Zanna, Cambridge, MA: Academic Press, 69–119.
- Griffin, Dale W., and Lee Ross (1991), "Subjective Construal, Social Inference, and Human Misunderstanding," *Advances in Experimental Social Psychology*, Vol. 24, ed. Mark Zanna, Cambridge, MA: Academic Press, 319–59.
- Higgins, E. Tory (1998), "Promotion and Prevention: Regulatory Focus as a Motivational Principle," *Advances in Experimental Social Psychology*, Vol. 30, ed. Mark Zanna, Cambridge, MA: Academic Press, 1–46.
- (2000), "Making a Good Decision: Value from Fit," *American Psychologist*, 55 (11), 1217–30.
- Hoch, Stephen J., and George F. Loewenstein (1991), "Time-Inconsistent Preferences and Consumer Self-Control," *Journal of Consumer Research*, 17 (4), 492–507.
- Hong, Jiewen, and Angela Y. Lee (2008), "Be Fit and Be Strong: Mastering Self-Regulation through Regulatory Fit," *Journal of Consumer Research*, 34 (5), 682–95.
- Kimchi, Ruth, and Stephen E. Palmer (1982), "Form and Texture in Hierarchically Constructed Patterns," *Journal of Experimental Psychology: Human Perception and Performance*, 8 (4), 521–35.
- Kivetz, Ron, and Itamar Simonson (2002), "Self-Control for the Righteous: Toward a Theory of Precommitment to Indulgence," *Journal of Consumer Research*, 29 (2), 199–217.
- Kivetz, Yifat, and Tom R. Tyler (2007), "Tomorrow I'll Be Me: The Effect of Time Perspective on the Activation of Idealistic versus Pragmatic Selves," *Organizational Behavior and Human Decision Processes*, 102 (2), 193–211.
- Kyung, Ellie J., Geeta Menon, and Yaacov Trope (2010), "Reconstruction of Things Past: Why Do Some Memories Feel So Close and Others So Far Away?" *Journal of Experimental Social Psychology*, 46 (1), 217–20.
- Liberman, Nira, and Yaacov Trope (1998), "The Role of Feasibility and Desirability Considerations in Near and Distant Future Decisions: A Test of Temporal Construal Theory," *Journal of Personality and Social Psychology*, 75 (1), 5–18.
- MacGregor, Karen E., Jessica J. Carnevale, Nicole E. Dusthimer, and Kentaro Fujita (2017), "Knowledge of the Self-Control Benefits of High-Level versus Low-Level Construal," *Journal of Personality and Social Psychology*, 112 (4), 607–20.
- Malkoc, Selin A., and Gal Zauberman (2006), "Deferring versus Expediting Consumption: The Effect of Outcome Concreteness on Sensitivity to Time Horizon," *Journal of Marketing Research*, 43 (4), 618–27.
- Malkoc, Selin A., Gal Zauberman, and James R. Bettman (2010), "Unstuck from the Concrete: Carryover Effects of Abstract Mind-Sets in Intertemporal Preferences," *Organizational Behavior and Human Decision Processes*, 113 (2), 112–26.
- Mann, Traci, Denise de Ridder, and Kentaro Fujita (2013), "Self-Regulation of Health Behavior: Social Psychological Approaches to Goal Setting and Goal Striving," *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association*, 32 (5), 487–98.

- Miele, David B., and Abigail A. Scholer (2018), "The Role of Metamotivational Monitoring in Motivation Regulation," *Educational Psychologist*, 53 (1), 1–21.
- Mischel, Walter, and Yuichi Shoda (1995), "A Cognitive-Affective System Theory of Personality: Reconceptualizing Situations, Dispositions, Dynamics, and Invariance in Personality Structure," *Psychological Review*, 102 (2), 246–68.
- Mischel, Walter, Yuichi Shoda, and Monica L. Rodriguez (1989), "Delay of Gratification in Children," *Science*, 244 (4907), 933–38.
- Miyake, Akira, and Naomi P. Friedman (2012), "The Nature and Organization of Individual Differences in Executive Functions: Four General Conclusions," *Current Directions in Psychological Science*, 21 (1), 8–14.
- Monsell, Stephen (2003), "Task Switching," *Trends in Cognitive Sciences*, 7 (3), 134–40.
- Murayama, Kou, Shinji Kitagami, Ayumi Tanaka, and Jasmine A. L. Raw. (2016), "People's Naiveté about How Extrinsic Rewards Influence Intrinsic Motivation," *Motivation Science*, 2 (3), 138–42.
- Nguyen, Tina, Jessica J. Carnevale, Abigail A. Scholer, David B. Miele, and Kentaro Fujita (forthcoming), "Metamotivational Understanding of the Role of High-Level and Low-Level Construal in Goal Pursuit."
- Reber, Arthur S. (1989), "Implicit Learning and Tacit Knowledge," *Journal of Experimental Psychology: General*, 118 (3), 219–35.
- Schmeichel, Brandon J., Kathleen D. Vohs, and S. Cristina Duke (2011), "Self-Control at High and Low Levels of Mental Construal," *Social Psychological and Personality Science*, 2 (2), 182–89.
- Scholer, Abigail A., and David B. Miele (2016), "The Role of Metamotivation in Creating Task-Motivation Fit," *Motivation Science*, 2 (3), 171–97.
- Semin, Gün R., and Klaus Fiedler (1988), "The Cognitive Functions of Linguistic Categories in Describing Persons: Social Cognition and Language," *Journal of Personality and Social Psychology*, 54 (4), 558–68.
- Shiv, Baba, and Alexander Fedorikhin (1999), "Heart and Mind in Conflict: The Interplay of Affect and Cognition in Consumer Decision Making," *Journal of Consumer Research*, 26 (3), 278–92.
- Simons, Daniel J., Walter R. Boot, Neil Charness, Susan E. Gathercole, Christopher F. Chabris, David Z. Hambrick, and Elizabeth A. L. Stine-Morrow (2016), "Do 'Brain-Training' Programs Work?" *Psychological Science in the Public Interest*, 17 (3), 103–86.
- Smith, Pamela K., Daniël H. J. Wigboldus, and Ap Dijksterhuis (2008), "Abstract Thinking Increases One's Sense of Power," *Journal of Experimental Social Psychology*, 44 (2), 378–85.
- Stroebe, Wolfgang, Guido M. Van Koningsbruggen, Esther K. Papies, and Henk Aarts (2013), "Why Most Dieters Fail but Some Succeed: A Goal Conflict Model of Eating Behavior," *Psychological Review*, 120 (1), 110–38.
- Taylor, Shelley E., Lien B. Pham, Inna D. Rivkin, and David A. Armor (1998), "Harnessing the Imagination: Mental Simulation, Self-Regulation, and Coping," *American Psychologist*, 53 (4), 429–39.
- Trope, Yaacov, and Ayelet Fishbach (2000), "Counteractive Self-Control in Overcoming Temptation," *Journal of Personality and Social Psychology*, 79 (4), 493–506.
- Trope, Yaacov, and Nira Liberman (2010), "Construal-Level Theory of Psychological Distance," *Psychological Review*, 117 (2), 440–63.
- Trope, Yaacov, Nira Liberman, and Cheryl Wakslak (2007), "Construal Levels and Psychological Distance: Effects on Representation, Prediction, Evaluation, and Behavior," *Journal of Consumer Psychology*, 17 (2), 83–95.
- Vohs, Kathleen D., and Ronald J. Faber (2007), "Spent Resources: Self-Regulatory Resource Availability Affects Impulse Buying," *Journal of Consumer Research*, 33 (4), 537–47.
- Wagner, Richard K., and Robert J. Sternberg (1985), "Practical Intelligence in Real-World Pursuits: The Role of Tacit Knowledge," *Journal of Personality and Social Psychology*, 49 (2), 436–58.
- Wakslak, Cheryl, and Yaacov Trope (2009), "The Effect of Construal Level on Subjective Probability Estimates," *Psychological Science*, 20 (1), 52–58.
- Wertenbroch, Klaus (1998), "Consumption Self-Control by Rationing Purchase Quantities of Virtue and Vice," *Marketing Science*, 17 (4), 317–37.
- Woolley, Kaitlin, and Ayelet Fishbach (2015), "The Experience Matters More Than You Think: People Value Intrinsic Incentives More Inside Than Outside an Activity," *Journal of Personality and Social Psychology*, 109 (6), 968–82.
- Zimmerman, Barry J., and Anastasia Kitsantas (1997), "Developmental Phases in Self-Regulation: Shifting from Process Goals to Outcome Goals," *Journal of Educational Psychology*, 89 (1), 29–36.