Seeing the Forest Beyond the Trees:
A Construal-Level Approach to Self-Control

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Abstract

Self-control failure is a ubiquitous and troubling problem people face. This article reviews psychological models of self-control and describes a new integrative approach based on construal level theory (e.g., Trope & Liberman, 2003). This construal-level perspective proposes that people's subjective mental construals or representations of events impacts self-control. Specifically, more abstract, global (high-level) construals promote self-control success, whereas more concrete, local (low-level) construals tend to lead to self-control failure. That is, self-control is promoted when people see the proverbial forest beyond the trees. This article surveys research findings that demonstrate that construing events at high-level versus low-level construals promotes self-control. This article also discusses how a construal-level perspective promotes understanding of self-control failures.

Despite remarkable intellectual capacities, people frequently make decisions and act in a manner that is contrary to their global interests (e.g., Ainslie, 1975; Baumeister & Heatherton, 1996; Mischel, Shoda, & Rodriguez, 1989; Thaler, 1991; Wertenbroch, 1998). Smokers, for example, continue smoking in full knowledge of the grave health consequences. Consumers spend more money than they know they can afford, sacrificing their savings and financial health. Why is it that people knowingly choose to act in a way that undermines their valued goals and concerns? Researchers refer to this inability to make decisions and behave in accordance to one's global interests as self-control failure. When faced with more salient incentives and rewards in their immediate local contexts, people seem unable to resist them and forfeit their more global objectives. These failures have immense costs both to the individual and to society, and are implicated in a number of the nation's most pressing problems, such as obesity, substance abuse, aggression, unsafe sexual practices, and poor financial savings. Understanding when and why people fail at self-control is thus a burning research question. In what follows, I review the three most prominent theoretical models of self-control. I present them in their 'pure' forms, recognizing that they are often 'blended' together by specific researchers. I will then review supporting evidence for an emerging perspective,

which highlights people's understanding or construal of events as a major determinant of self-control success or failure.

Review of Extant Models of Self-Control

Temporal discounting

The rewards to be reaped by one's global goals are often not experienced in the present, but instead will be enjoyed in the distant future. For example, one might not benefit immediately from avoiding chocolate cake, but will reap the benefits of dieting in the future. Accordingly, many researchers have suggested that self-control is a problem of intertemporal choice – making decisions between choices that differ in the timing of their rewards (e.g., Ainslie, 1975; Frederick, Loewenstein, & O'Donoghue, 2002; Thaler, 1991; Wertenbroch, 1998). Researchers studying intertemporal choice have observed that people discount the value of distant future rewards. For example, $10 today is valued more than $10 a year from now. Moreover, people discount the value of rewards in a *hyperbolic* manner; that is, one unit of time causes a steeper depreciation of value in the near versus distant future. This temporal discounting can lead to a phenomenon whereby rewards that are smaller but more immediate are preferred over those that are larger but more delayed (and, hence, discounted). This, in turn, leads to decisions that sacrifice more global objectives in favor of local incentives. This model thus suggests that it is the temporal immediacy of the smaller local reward that causes self-control failures. Making decisions when both options are in the distant future should mitigate these failures. Indeed, research has shown that although people overwhelmingly prefer to receive $20 now versus $50 in a year from now, the addition of a constant delay to both choice options (e.g., adding a year's delay to the receipt of both rewards) leads them to reverse their preferences (e.g., Green, Fristoe, & Myerson, 1994; Kirby & Herrnstein, 1995).

Temporal discounting perspectives, however, leave largely unspecified the psychological processes that cause value to become discounted over time. That is, time demonstrably impacts the emphasis placed on local versus global concerns, but it is not clear by what cognitive and motivational mechanisms. The scope of time-discounting approaches, moreover, is limited to situations involving temporal differences in the rewards. Self-control situations, however, need not always involve rewards that differ in time (see also Rachlin, 1995). For example, an official offered a bribe might experience a local–global value conflict between wealth and honesty. If one takes a bribe and benefits financially, one is simultaneously wealthier but also dishonest. If one refuses, one may not have benefited financially but is honest. Such conflicts reveal differences not in the timing of rewards, but rather the globality of their implications (for similar arguments, see James, 1890; Rachlin, 1995).

Automatic versus effortful control

Theoretical models that distinguish between automatic versus effortful controlled processes are more explicit with respect to psychological mechanisms of self-control (e.g., Baumeister & Heatherton, 1996; Devine, 1989; Strack & Deutsch, 2004; Wegner, 1994; Wiers & Stacy, 2006). Automatic processes are those that are initiated outside of conscious awareness, largely without effort or intent. These models suggest that the salience of local rewards in one's environment automatically trigger thoughts and actions that undermine one's global concerns. For example, a piece of chocolate cake might automatically initiate a response to eat, despite one's intentions to diet (e.g., Papies, Stroebe, & Aarts, 2007). To prevent acting on these automatic impulses, these models suggest that more effortful, conscious processes are required to override them. A dieter upon noticing thoughts or actions consistent with eating chocolate cake must effortfully suppress them and divert attention. Conscious processes, however, are dependent on adequate motivational and cognitive resources, and when these are taxed, automatic processes can run unchecked. Research has demonstrated, for example, that cognitive load or distraction can lead to poorer ability to suppress undesired thoughts and actions (e.g., Macrae, Bodenhausen, Milne, & Jetten, 1994; Shiv & Fedorikhin, 1999; Ward & Mann, 2000; Wegner & Erber, 1992).

Baumeister and colleagues (e.g., Baumeister & Heatherton, 1996; Muraven & Baumeister, 2000) have proposed a variant of the automatic versus effortful control model that stresses the role of motivational rather than cognitive resources in the successful resolution of self-control conflicts. This ego-depletion model suggests that effortful control draws from a limited motivational resource that, once depleted, takes time to replenish. During this depleted state, effortful control is not possible and automatic tendencies run unchecked, leading to self-control failure. Supporting research has demonstrated, for example, that exerting self-control on one task leads to poorer self-control on immediately subsequent tasks (see Muraven & Baumeister, 2000, for review). Like other automatic versus effortful control models, however, the ego–depletion model suggests that it is the automatic processes initiated by exposure to a local reward that undermine self-control, particularly when the ability to exert effortful control is hampered.

Automatic versus effortful control models provide an intuitively appealing framework for understanding the psychological processes that give rise to self-control failure. There are still, however, enduring issues. In principle, for example, any psychological process can be automatized, including those that promote self-control. Indeed, research has shown that salient local rewards can paradoxically automatically activate thoughts about global concerns, which in turn enhance self-control (Fishbach, Friedman, & Kruglanski, 2003; Fishbach & Shah, 2006; Moskowitz, Gollwitzer,

Wasel, & Schaal, 1999). The same temptation can thus initiate automatic processes that both promote and impair self-control. This suggests that automatic processes do not necessarily lead to self-control failure and that additional theorizing is required to specify the antecedent conditions that allow one to predict which automatic process is likely to activate in the presence of a temptation.

Affect versus cognition

A third class of self-control models stress the distinction between affect versus cognition (e.g., Loewenstein, 1996; Metcalfe & Mischel, 1999). These models suggest that when faced with a decision, people can base their choices on 'hot', visceral, emotional responses versus 'cool', thoughtful, non-emotional deliberations. When decision-making is based on the latter, people are more likely to take into account their global objectives and make choices accordingly. However, these 'cool', rational processes can be co-opted by 'hot', visceral reactions which lead to choices that give more weight to salient local rewards. Interventions that temper these 'hot' reactions should enhance self-control.[1] Indeed, Mischel and Baker (1975) have shown, for example, that children instructed to think about the cool, non-appetitive qualities of a salient local reward ('think about how the pretzels are thin and long like logs') are able to delay gratification to a greater extent than those who were instructed to think about the hot, appetitive qualities ('think about how crunchy and salty the pretzels are').

Loewenstein (Hoch & Loewenstein, 1991; Loewenstein, 1996) has similarly distinguished between affective versus cognitive responses to self-control conflicts, suggesting that people underestimate the impact that affective experiences have on their decision-making. These unexpected affective experiences cause a sudden increase in desire or value for a local reward that temporarily overrides the value of more global rewards. These affective experiences, however, are short-lived and temporary. Once such affect is no longer actually experienced, people process information more cognitively and are puzzled by their poor self-control decision-making. Strategies that allow people to make decisions while processing information cognitively rather than affectively, such as pre-committing to decisions prior to the actual experience of a self-control conflict or preferentially focusing on 'cool' versus 'hot' attributes, should promote control.

It is not clear from these models, however, what an affective response actually is. For example, it is not clear whether one should consider pride 'warmer' than disgust, or love 'colder' than lust. Moreover, some types of affective experiences in principle should be able to promote, and not simply undermine, self-control. Supporting this claim, research suggests that affective reactions such as guilt promote self-control (e.g., Amodio, Devine, & Harmon-Jones, 2007; Giner-Sorolla, 2001; Kivetz & Zheng, 2006).

These findings broadly suggest a greater need to specify what is meant by affect and under what conditions it promotes versus impairs self-control.

A Construal-Level Approach

To integrate and build upon these models, my colleagues and I have recently proposed a new approach to understanding self-control (e.g., Fujita, Trope, Liberman, & Levin-Sagi, 2006; Fujita, Trope, & Liberman, forthcoming). Decades of social-psychological research have demonstrated that how people subjectively understand or *construe* a situation is a critical factor in judgment and decision-making (e.g., Griffin & Ross, 1991). Although two people may observe the same event, in their mind's eye they might 'see' very different events. When asked to count the number of penalties committed in a particularly violent football game, for example, fans perceived the opposing team as committing more fouls (Hastorf & Cantril, 1954). Each side's subjective construal of the same game led them to perceive two very different games and, hence, led them to two different judgments. Subjective construals need not, however, be limited to one's team allegiances or group membership. In what follows, I review research that highlights a different aspect of construals, and discuss the implications this research has for self-control as a construal-dependent decision.

Construal level theory

Construal level theory (Liberman, Trope, & Stephan, 2007; Trope & Liberman, 2003; Trope, Liberman, & Wakslak, 2007) proposes that people's construals of events are influenced by the psychological distance of the events. An event is psychologically distant when it is not part of one's immediate, direct experience. Thus, an event is more psychologically distant to the extent that it is removed in time (now vs. later), space (here vs. there), social distance (me vs. you, us vs. them), and hypotheticality (certain vs. uncertain, real vs. not real). Typically, as an event becomes removed from one's direct experience, detailed information about it becomes less reliable or available. As such, whereas near events are construed in terms of their concrete, contextualized (low-level) details, distant events are generally construed in terms of their abstract, essential (high-level) properties. This pairing of distant events and high-level construals is believed to be overlearned and to generalize even to situations in which equivalent knowledge is available about near and distant events.

An extensive literature has supported the notion that people construe events differently as a function of distance, even when equivalent information is available. Research has shown, for example, that people categorize objects associated with psychologically distant events in fewer, broader categories, suggesting more abstract processing (Liberman, Sagristano, & Trope, 2002; Smith & Trope, 2006; Wakslak, Trope, Liberman, & Alony, 2006). Similarly,

people are more likely to identify actions by the superordinate ends they achieve rather than the subordinate means that serve them when events are distant versus near (Fujita, Henderson, Eng, Trope, & Liberman, 2006; Liberman & Trope, 1998; Smith & Trope, 2006; Wakslak et al., 2006). Perceivers are also more likely to encode others' behaviors in terms of abstract traits rather than concrete actions when events are distant versus near (Fujita, Henderson, et al., 2006; Henderson et al., 2006; Nussbaum, Trope, & Liberman, 2003).

Importantly, changes in mental construal produce systematic changes in judgment and decision-making. People give more weight to high-level versus low-level features in judgments and decisions when construing events at high-level versus low-level construals, respectively. For example, when construing psychologically distant versus near events, people increasingly base their decisions on desirability concerns (e.g., the superordinate ends a behavior achieves) rather than on feasibility concerns (e.g., the subordinate means by which a behavior is achieved; Fujita, Eyal, Chaiken, Trope, & Liberman, 2008; Liberman & Trope, 1998; Sagristano, Trope, & Liberman, 2002). Moreover, people construing events at high-levels versus low-levels make decisions on the basis of primary, essential features of a task rather than secondary, incidental features. For example when buying a new radio with which to listen to music, people construing distant versus near events increasingly base decisions on the central features of a radio, such as its sound quality, as opposed to its incidental features, such as how eye-catching the display of the built-in clock is (Fujita, Eyal, et al., 2008; Trope & Liberman, 2000).

Beyond psychological distance

It is important to note that although psychological distance is strongly associated with high– versus low-level construals, people can construe events at different levels in the absence of any differences in distance. For example, research has suggested that there are individual differences in the chronic tendency to construe events at high– versus low-levels (e.g., Freitas, Salovey, & Liberman, 2001; Levy, Freitas, & Salovey, 2002; Vallacher & Wegner, 1989). Situational factors beyond psychological distance can also influence construal. Research has shown, for example, that considering the superordinate ends versus subordinate means of an action in prior unrelated contexts can influence judgment and decision-making in a manner consistent with high– versus low-level construals, respectively (Freitas, Gollwitzer, & Trope, 2004; Fujita, Trope, et al., 2006). Categorizing objects in superordinate categories versus subordinate exemplars can also influence construal of subsequently unrelated events (Fujita, Trope, et al., 2006). Thus, psychological distance should be considered only one of many influences that lead people to construe events at high– versus low-levels. What is important to note is that people have and utilize the

capacity to understand events at differing levels of abstraction, and that these construals subsequently impact judgments and decisions.

Construal levels and action identification

It is important to distinguish construal level theory from action identification theory, another theory that links mental representation to decisions and behavior (Vallacher & Wegner, 1987). Like construal level theory, action identification theory proposes that people can mentally represent the same behavior at differing levels of abstraction. The two theories differ, however, on what causes changes in construal. Whereas construal level theory posits a link between construal levels and psychological distance, action identification suggests that shifts in mental representation are caused by the difficulty in enacting an action. According to action identification theory, when actions are difficult to execute, people use more concrete representations, whereas when they are easier, people use more abstract representations. More importantly, however, action identification is a theory that focuses specifically on the representation of behavior in means–ends hierarchical relationships. Construal levels, in contrast, can apply broadly not only to behavior, but also to any object, situation, or event, as reviewed earlier (e.g., Liberman et al., 2002; Nussbaum et al., 2003). Moreover, construal levels can differ on dimensions unrelated to subordinate means versus superordinate ends, such as whether they refer to secondary versus primary features of an object (Fujita, Eyal, et al., 2008; Trope & Liberman, 2000). Thus, although both theories emphasize the importance of understanding the abstractness of mental representations, the two approaches differ in explanatory domain and scope of application.

Mental construals and self-control

Recently, my colleagues and I have proposed modeling self-control as a construal-dependent decision (Fujita, Trope, et al., 2006, forthcoming). As noted earlier, self-control conflicts arise when salient local incentives contrast with people's more global objectives. People fail at self-control when they make their decisions on the basis of these local rewards rather than their global concerns. The approach my colleagues and I have proposed suggests that people base their decisions on local, contextualized incentives because they have construed the situation at low-levels. Construing the same event at high-levels, in contrast, should lead people to give more weight to their global, abstract concerns and, thus, enhance self-control. For example, most dieters commit to healthier diets out of global concerns about health or physical appearance. These concerns transcend specific contexts and are manifest across a broad variety of food-related events. As such, these concerns would be incorporated into the

high–level construal of such events. Upon encountering any food–related event, however, a number of salient local incentives might also be apparent (e.g., new flavor of ice cream one has never tasted). These situation-specific and contextualized incidental features would be represented at low–level construals. Construing the food–related event at high–levels as compared to low–levels should lead people to focus on health or appearance concerns, promoting decisions that reflect greater self-control. Construing the same event at low–level construals should lead people to give more weight to local rewards like the taste of a new flavor of ice cream, leading to poorer self-control.[2]

Before reviewing evidence that supports the present construal-level analysis of self-control, it is important to highlight how it is distinct from and builds upon other extant models. The present approach contributes to temporal discounting models by providing a psychological mechanism by which time impacts self-control (i.e., through distance-dependent mental construals). Beyond time, the present approach also suggests that other psychological distance dimensions such as physical or social distance should impact self-control. Moreover, as the subsequently described studies demonstrate, it should be possible to influence self-control in the absence of temporal differences in rewards (by manipulating construals directly).

In contrast to automatic versus effortful control models, a construal–level approach does not require that automatic versus effortful control necessarily be associated with local temptations versus global concerns. Rather, it suggests that both types of processing might lead to self-control success or failure depending on construal, as suggested by some of the studies described below. More generally, people's construals of events, whether high or low level, are likely an amalgamation of both automatic and controlled processes as one can process both local and global features of events through effortless and effortful mechanisms (see also Fujita, Eyal, et al., 2008; Smith & Trope, 2006; Wakslak et al., 2006).

Finally, whereas affect versus cognition models stress the affect or emotion associated with mental representation, a construal-level approach emphasizes level of abstraction. Although affect-laden representations tend to be more concrete and context-specific (thus, reflecting low-level construals), it is important to recognize that high-level representations need not necessarily be more or less emotional than low-level construals. For example, a dieter can have an emotional reaction to both the concrete taste of chocolate cake (the joy of sugar) and to the abstract implications of eating cake (shame and disgust at the indulgence). One can also induce construals in a manner that does not require manipulating affect, a technique capitalized in the studies that are described subsequently. Thus, the present approach can be considered a refinement of affect versus cognition models in that they both emphasize the central role mental representation has in self-control. However, the present approach emphasizes the level of abstraction of one's construal rather than affectivity.

The present construal-level analysis is proposed as a general theoretical framework that integrates and builds on previously proposed models. Although distinct, the factors that other models propose enhance versus impair self-control are frequently associated with high- versus low-level construals, respectively. As noted earlier, for example, the temporal distance of events is systematically associated with changes in construal. Thus, decisions about distant- versus near-future events may reflect greater self-control because of changes in level of construal. Likewise, unwanted automatic behaviors are often initiated by exposure to concrete, low-level stimuli, whereas effortful control of these behaviors is more regularly guided by more global, high-level considerations. Similarly, affective reactions are frequently activated by highly salient local, low-level features in one's environment, and thus lead to poorer self-control. Cooler, more cognitive thinking is generally linked to more global, high-level construals, which may allow people to transcend the affective, appetitive features of a temptation. The concept of construal levels, therefore, potentially incorporates and integrates the factors that other models have highlighted as critical variables in self-control.

Review of Supporting Evidence

Manipulated construal and self-control

A construal-level approach to self-control suggests that high-level construals should promote self-control. To test this hypothesis, one could manipulate the psychological distance of a self-control problem and observe participants' decisions. However, distance might be associated with phenomena other than mental construal (such as reduced personal relevance; e.g., Petty & Cacioppo, 1984). To examine the effect of construals more directly, many of the studies described hereafter capitalized on the ability to induce high- versus low-level construals directly through priming manipulations. That is, as described earlier, research has suggested that inducing one type of construal in one situation carries over to the construal of subsequent unrelated situations (e.g., Förster, Friedman, & Liberman, 2004; Freitas et al., 2004; Fujita, Trope, et al., 2006). For example, generating superordinate ends versus subordinate means of an action in one situation induces a tendency to construe subsequent situations at high- versus low-level construals, respectively (Freitas et al., 2004; Fujita, Trope, et al., 2006). Another manipulation has people generate superordinate category labels versus subordinate exemplars to induce high- versus low-level construals, respectively (Fujita, Trope, et al., 2006). Note, with these construal-level inductions, high- versus low-level construals are activated without changing long-term (vs. short-term) temporal perspectives, boosting (vs. depleting) processing resources, nor activating cool (vs. hot) representations. That is, they allow one to test directly the impact of mental construals on self-control.
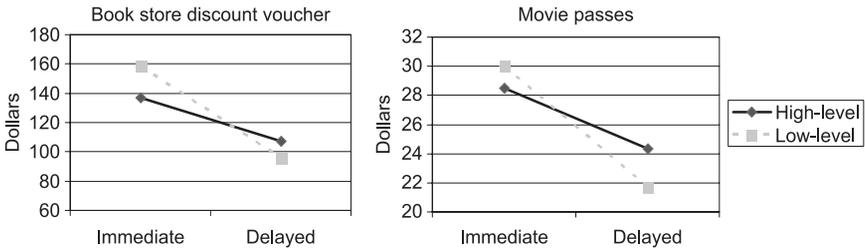
Figure 1 Preferences for immediate over delayed outcomes as a function of construal level. Participants experimentally induced to represent situations at high-level construals evidenced a reduced tendency to prefer immediate over delayed outcomes (i.e., smaller difference in value between immediate vs. delayed outcomes), suggesting greater self-control. *Note.* From 'Construal Levels and Self-Control,' by K. Fujita, Y. Trope, N. Liberman, & M. Levin-Sagi, 2006, *Journal of Personality and Social Psychology*, *90*, 351–367. Copyright 2000 by the American Psychological Association. Adapted with permission.

In an initial experiment (Fujita, Trope, et al., 2006, Study 1), after inducing high– versus low–level construals by having participants generate superordinate ends versus subordinate means of an unrelated action, participants were presented with measures of temporal discounting, or preferences for immediate versus delayed outcomes. Each item asked participants to indicate in dollars how much they would pay to receive a positive outcome both immediately and delayed in time (e.g., $150 gift certificate to their favorite restaurant redeemable today vs. 6 months from now). The difference in these two dollar amounts provides an estimate of participants' preferences for immediate over delayed outcomes. As discussed earlier, such temporal discounting items are good measures of self–control as the tendency to prefer immediate over delayed outcomes is systematically associated with poorer self–control (e.g., Ainslie, 1975; Frederick et al., 2002; Thaler, 1991). Although in general, participants preferred immediate over delayed outcomes, this was moderated by construal level (see Figure 1). The activation of high– versus low–level construals led to a decrease in preference for immediate over delayed outcomes, a pattern consistent with greater self–control. These results have been independently replicated by researchers using other construal level mindset inductions and temporal discounting measures (Malkoc, Zauberman, & Bettman, 2008; see also Malkoc & Zauberman, 2006). Together, these studies indicate that even when the time frame of rewards is held constant, preferences for immediate over delayed rewards are moderated by construal level, demonstrating the unique and novel contributions to our understanding of temporal discounting that modeling self-control as a construal–dependent decision can make.

A second experiment conceptually replicated these results using a behavioral measure of self-control (Fujita, Trope, et al., 2006, Study 2).

After generating superordinate ends versus subordinate means of an unrelated action as an induction of high- versus low-level construals, respectively, participants were asked to grip a handgrip, an exercise tool designed to strengthen forearm muscles. Prolonged use of a handgrip causes muscle fatigue, and the duration that one is able to squeeze a handgrip is sensitive to changes in self-control (e.g., Muraven, Tice, & Baumeister, 1998). Participants were informed that gripping a handgrip was part of a new psychophysiological measure of personality. Dummy electrodes were taped to the participants' forearms, and they were told that by gripping the handgrip, their bodies would emit an electrical signal that a computer would use to diagnose an important aspect of their personality. Importantly, participants were told that they would be receiving this information at the end of the study, and that although it was uncomfortable, the longer they gripped the handgrip, the more accurate this information would be. Thus, participants experienced a self-control conflict between receiving increasingly accurate information about themselves and relieving the discomfort of their hand. Results indicated that, as predicted, the induction of high- versus low-level construals led to greater self-control, as measured by surreptitious timing of how long participants gripped the handgrip.

Although the studies described heretofore suggest that high-level construals promote global objectives in the face of salient local incentives, the study designs leave open the possibility of alternate explanations. First, both studies used the same construal-level manipulation, and it is possible that some confound led to what appears to be an effect of construal levels. Using a different induction of construal could address this issue and demonstrate the robustness of the effect. It is also possible that the construal-level manipulations used in these described studies led to what appears to be changes in self-control by inadvertently manipulating other variables, such as compliance or cognitive load. For example, perhaps participants in the handgrip experiment became pre-occupied by the construal-level manipulation and did not notice the discomfort in their hand. Thus, what appeared to be an increase in self-control may have been caused by other more mundane processes such as attentional load. Studies that manipulate whether an event evokes a self-control conflict or not would lead one to be able to make stronger claims about the effects of construals on self-control. If indeed construals impact self-control, then the effects of self-control should be evident only in situations that entail a self-control conflict. There should be no effect of construals in situations that do not involve a self-control conflict.

In one study addressing these concerns (Fujita, Trope, et al., 2006, Study 4), rather than generating superordinate ends versus subordinate means, university student participants were induced to high- versus low-level construals, respectively, by having them generate superordinate category labels (e.g., 'animals') versus subordinate exemplars (e.g., 'poodle') for a

series of everyday objects (e.g., 'dog'). They were then asked to evaluate a series of words, some of which represented temptations that undermine the goal to study (e.g., 'television', 'phone', 'party') and others which were goal–irrelevant (e.g., 'headlight', 'barrel'). As the temptations we presented to university students were relevant as a self–control conflict only to those concerned about studying, participants were also asked to report how important academic achievement was to them. As predicted, high–level construals led to less positive evaluations of temptations that undermine studying. Importantly, they had no effect on evaluations of study goal–irrelevant words. Furthermore, this pattern of devaluing temptations was evident only among those for whom the temptations represented a meaningful self–control conflict; that is, those that reported that academic achievement was important to them. High–level construals had no effect on the evaluations of those who did not value academic achievement. This specific pattern of results is important to note as they cannot be explained by the alternative explanations that can be leveled at the pre-ceding studies. They demonstrate that high–level construals do indeed lead to changes in self–control. The use of a different induction of construal levels from the first two studies described earlier, moreover, demonstrates the robustness of the effect and reduces the likelihood of any potential confounds.

Of particular interest is that this very specific pattern of results has been replicated using 'automatic' measures of evaluation. That is, high–level construals appear to initiate processes that lead to more negative evaluations of temptations (as compared to goal–relevant objects) in the absence of conscious intervention. In one study (Fujita & Han, 2008), participants were induced to high– versus low–level construals by having them generate superordinate category labels versus subordinate exemplars for a series of everyday objects. They were then asked to complete a computer task that measured participants' response times to indicate whether a target was positive (e.g., 'delightful') or negative ('rotten') in valence. Prior to the presentation of each valenced target word, participants were subliminally presented with a prime word that represented a temptation (e.g., 'pizza') or a goal–related object (e.g., 'yogurt') with respect to dieting goals. Response times to target words are faster to the extent that the prime and target are evaluated similarly (e.g., Fazio, Sanbonmatsu, Powell, & Kardes, 1986; Neely, 1977). As food temptations represents a self–control conflict only to those who are concerned about what they eat, participants were also asked to indicate how much they valued dieting goals. As predicted, analyses of response times indicated that participants evaluated temptations more negatively as compared to goal–related words when they were induced to high– versus low–level construals. Moreover, this effect was specific to those who valued versus did not value dieting goals. That these results were obtained when temptations and goal–related objects were presented subliminally suggests that such changes in evaluation occurred

in the absence of conscious intervention. Not only do these findings replicate the evaluation study described earlier, but they also demonstrate the contributions that a construal–level approach has for understanding the role of automatic and effortfully controlled processes in self-control. Specifically, automatic processes promote (e.g., Fishbach et al., 2003; Fishbach & Shah, 2006) versus undermine (e.g., Papies, Stroebe, & Aarts, 2007) self-control depending on the subjective mental construal of the situation. These results thus suggest that a construal-level perspective to self-control can provide a theoretical framework for resolving apparent discrepancies in the literature noted earlier.

Manipulating psychological distance and self-control

Although the most definitive studies examining the role of construals in self-control have induced high- versus low-level construals in unrelated situations prior to the self-control event, research findings examining the impact of psychological distance on self–control also support the present construal-level approach. As noted earlier, events that are distant in time, space, social distance, and hypotheticality are associated with high-level construals, whereas near events are associated with low–level construals (e.g., Liberman et al., 2007). This suggests that when self-control conflicts are psychologically distant versus near (and are thus construed at high– vs. low–levels, respectively), people should demonstrate greater self-control. Indeed, as already described, an extensive literature on temporal discounting suggests that people make choices that reflect self-control to a greater extent when those choices are in the distant versus near future (e.g., Ainslie, 1975; Frederick et al., 2002; Green et al., 1994; Kirby & Herrnstein, 1995; see also Malkoc & Zauberman, 2006). Extending temporal discounting models of self-control, however, the present construal–level perspective suggests that distancing a self-control conflict on any dimension of distance should also promote self-control. Consistent with this theorizing, research has indicated, for example, that self-control is less difficult when temptations are spatially distant versus near (e.g., Vohs & Heatherton, 2000). People are also more likely to make choices consistent with greater self-control when making decisions for others rather than one's self, suggesting an effect of social distance consistent with a construal-level approach (e.g., Pronin, Olivola, & Kennedy, 2008). Similar results have been demonstrated in research on visual perspective, which has suggested that distancing via adoption of a third-person versus first-person perspective enhances self-control (e.g., Kross, Ayduk, & Mischel, 2005; Libby, Shaeffer, Eibach, & Slemmer, 2007; Principe & Zelazo, 1995). In one notable study, Libby and colleagues (2007) demonstrated that imagining one's self voting from a third-person versus first-person perspective the day before elections promoted actual voting behavior. Thus, consistent with the predictions of the present construal-level perspective, distancing an event

on any dimension of psychological distance (even those beyond time) appears to promote self-control.

Individual differences in construal and self-control

The present construal-level approach also suggests that chronic individual differences in the tendency to construe events at high- versus low-level should impact self-control. Research in self-relevant information search has borne out this prediction. Many have argued that seeking self-evaluative information often involves a self-control conflict between a global desire for accurate self-knowledge and a local concern of avoiding the pain of negative feedback (e.g., Butler, 1993; Dweck & Leggett, 1988; Trope, 1986, Trope & Neter, 1994). When given an opportunity to receive negative diagnostic feedback, the desire to avoid negative feelings conflicts with the more global motive to assess one's abilities. Self-assessment requires self-control in that it entails putting aside local affective costs to diagnose one's weaknesses. Research examining the effect of construals on self-relevant information search have found that a chronic tendency to construe actions in terms of the superordinate (high-level) ends versus subordinate (low-level) means, as measured by the Behavioral Identification Form (Vallacher & Wegner, 1989), led to stronger preferences for diagnostic negative information at the expense of experiencing negative feelings, a pattern consistent with greater self-control (Freitas et al., 2001, Studies 1 and 3). Similar results were found when construals were experimentally manipulated via temporal distance (Freitas et al., 2001, Studies 2, 4–6), thus demonstrating the convergence of findings between studies that manipulate versus measure construal levels.

Similar results have been reported by Magen and Gross (2007, Studies 1 and 2) using measures more traditionally associated with self-control. They measured participants' self-control using a handgrip task similar to the one described earlier (e.g., Muraven et al., 1998). To observe the impact of construals on self-control, they coded participants' descriptions of the handgrip task. They found that people generally value having 'willpower' as a dispositional attribute, and that those who spontaneously construed a handgrip task in such terms displayed greater self-control. These results are consistent with a construal-level perspective as research has suggested that central values are associated with high-level construals (e.g., Eyal, Liberman, Sagristano, Trope, 2008; Fujita, Trope, et al., 2006; Sagristano, Eyal, Trope, Liberman, & Chaiken, 2008). To the extent that central values and high-level construals are associated, these studies further demonstrate the impact that individual differences in construal level have on self-control. Moreover, these results were replicated when construals were experimentally manipulated (Magen & Gross, 2007; Study 3), again showing the convergence in findings between studies that manipulate versus measure participants' levels of construal.

Implications for Self-Control

By modeling self-control as a construal–dependent decision, the present approach stresses the central role that people's subjective understanding or mental construal of an event has in self-control. High-level construals allow people to see the proverbial big picture, making decisions that weight global concerns over salient local rewards. The present approach builds on temporal discounting models by providing a psychological mechanism by which time affects self-control; that is, through time-dependent mental construals (see also Trope & Liberman, 2003). Moreover, it also broadens the theoretical scope of temporal discounting models by suggesting that psychological distance dimensions beyond time should have analogous effects, a claim supported by preliminary research findings (e.g., Kross et al., 2005; Libby et al., 2007; Principe & Zelazo, 1995; Pronin et al., 2008; Vohs & Heatherton, 2000). Furthermore, the present framework also builds upon temporal discounting models by suggesting that mental construals can impact self-control even when the time frame is held constant, another claim supported by documented research findings (e.g., Fujita, Trope, et al., 2006; Malkoc et al., 2008).

A construal-level perspective also contributes to automatic versus effortful control models by suggesting that whether automatic versus effortful control processes lead to greater self-control may depend in part on the mental construal of the situation. Indeed, as described earlier, some preliminary findings suggest that construals moderate whether automatic processes undermine versus promote self-control (e.g., Fujita & Han, 2008). More extensive research on this point is clearly warranted, but a construal-level approach may provide a theoretical framework for under-standing discrepancies present in the self-control literature (e.g., Fishbach et al., 2003; Fishbach & Shah, 2006). That is, construal levels may help explain when and why automatic processes promote versus undermine one's valued goals and concerns.

It is important to note how the present approach specifically relates to the ego-depletion model, given its prominence in the self–control literature (e.g., Baumeister & Heatherton, 1996; Muraven & Baumeister, 2000). As noted earlier, the ego-depletion model is largely predicated on automatic versus effortful control models of self–control in that it suggests that self-control success or failure depends on effortfully controlling automatic processes. Where the ego-depletion model differs, however, is that it suggests that effortful control draws from a limited motivational resource rather than limited cognitive capabilities. Although a great deal of evidence has supported this model, the specific mechanisms for this phenomenon are not well understood. Vohs and Schmeichel (2003), however, have suggested that these ego-depletion effects are driven by changes in perceptions of time. That is, when regulatory resources are depleted, people experience time moving more slowly and are more focused on the

immediate present. This preferential attention to the present may activate a more local, low-level construal, leading to self-control failure. It may also be the case, however, that self-regulatory resources and construals are completely independent factors. Whereas ego-depletion models are concerned with the energy required for self-control, a construal level analysis focuses on mental representation. It may be that although high-level construals are associated with enhanced self-control decision-making, people may not have the energy to carry out these decisions when ego-depleted. Likewise, having self-regulatory energy may not lead to greater self-control unless individuals have decided to act on the basis of high-level construals of a situation. Future work, both theoretically and empirically, on integrating the two theoretical approaches is clearly warranted.

The present approach also refines affect versus controlled models of self-control. Rather than suggesting that affect per se causes self-control failures, the present approach suggests that it is the concrete mental construal with which affect is frequently associated that leads to decisions to forfeit global goals in favor of salient local rewards. This shift in theoretical focus allows one to avoid having to define or specify what is meant by 'affect', instead focusing attention on the level of concreteness or abstractness of one's mental representation. This, in turn, provides a theoretical framework for understanding discrepancies in the self-control literature. For example, it can explain why the affective reactions of guilt and shame promote rather than impair self-control (e.g., Amodio et al., 2007; Giner-Sorolla, 2001; Kivetz & Zheng, 2006), as such emotions are elicited only by considering the abstract implications of one's actions. Moreover, the results of the studies reviewed earlier suggest that construals can impact self-control even in the absence of any manipulations of affect, demonstrating the unique predictions that can be generated and tested using a construal level framework (e.g., Fujita, Trope, et al., 2006; see also Malkoc & Zauberman, 2006; Malkoc et al., 2008).

Although high-level construals may lead to more successful resolution of self-control conflicts, they should not be viewed as a panacea for all self-regulatory problems. Not all failures of self-regulation involve a conflict between global and local objectives. For example, the execution of well-rehearsed, goal-promoting behavior (such as accurately swinging a bat in a baseball game) is an important component of self-regulation that does not necessarily entail resolving a self-control conflict. Rather than choosing between opposing courses of actions, the person needs to implement and carry out specific behavioral action sequences (see Gollwitzer, 1990). In these situations, high-level construals might be expected to have no effect, or perhaps even a deleterious one (e.g., focusing on the global implications of hitting the baseball may interfere with the execution of swinging the bat; Baumeister, 1984). Thus, the self-regulatory benefits of high-level construals should be evident only in situations in which people may potentially undermine their global goals by choosing to pursue opposing

local incentives; that is, when there is specifically a self-control conflict (see also, Fujita, Trope, et al., 2006). More generally, although self-control conflicts represent a critical self-regulatory problem, there are many other types of self-regulation failures and research is still needed to determine what effect, if any, construal levels may have on them.

Limitations and Future Directions

Although preliminary findings have supported a construal-level approach to self-control, it is important to recognize that much more work needs to be done. The mechanisms by which high-level construals promote self-control are still poorly understood. That is, what motivational and cognitive processes are responsible for the increases in self-control observed among those construing events at high- versus low-level construals? The findings from the Fujita and Han (2008) study described earlier suggest that changes in automatic evaluations of temptations and goals may be one possible mechanism. Other possibilities may include modulation of approach versus avoidance tendencies and inhibition of temptation-related cognitions. Although research has begun examining these possibilities, there are still no definitive answers and empirical support is still wanting.

Research also has yet to examine the applications of a construal-level approach to self-control problems in the real-life settings. Given the enormity of self-control failures such as drug abuse, impulsive spending, and obesity, applications and interventions derived from theory are of critical importance. Research from other models of self-control have already been successfully applied to real-world problems (e.g., Reynolds, Richards, Horn, & Karraker, 2004; Segal, Williams, & Teasdale, 2001; Ward & Mann, 2000; Wiers & Stacy, 2006), but no such work has yet been performed with a construal-level perspective. Future work addressing this is clearly warranted.

Conclusion

The goal of self-control models is to explain when and why people fail in their self-control efforts. The construal-level approach that I have described here suggests that a critical determinant of self-control is the subjective mental construal of events. When people construe events in terms of their abstract, essential features rather than their concrete, incidental details, they are more likely to look beyond salient local rewards and make decisions in accordance with their global concerns. That is, self-control is enhanced when people are able to see the proverbial forest beyond the trees. Although a great deal of research is still required, this proposed model promises to provide integration of current models, resolve apparent inconsistencies in the literature, and offer exciting new insights into self-control.

Short Biography

Kentaro Fujita received a BA in Psychology (summa cum laude) from Harvard College, and a PhD in Psychology from New York University. His primary research interests lie in the interface between social cognition, motivation, and decision-making. Some of his work examines how having a goal changes the way people process information and make decisions. For example, some of his research has examined how people engage in biased processing of information to maintain commitment to their goals. Other work examines the reverse; the way that various modes of processing information changes the goals that people pursue. For example, his research suggests that whereas thinking concretely promotes pursuing more short-term, local goals, thinking more abstractly promotes pursuing more long-term, global goals. Dr. Fujita is currently an assistant professor in the Social Psychology Area of the Department of Psychology at the Ohio State University.

Endnotes

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[1] Although it is tempting to suggest that affect generally leads to more automatic responses whereas cognition generally leads to more effortfully controlled responses, research has indicated that it is important to maintain conceptual distinction between the two theoretical models. Numerous studies have shown, for example, that automatic, nonconscious responses can be initiated by cognitive processes (e.g., Bargh & Chartrand, 1999). Similarly, people can experience affect following both nonconscious and conscious processing of information (e.g., Bless, Bohner, Schwarz, & Strack, 1990). Findings such as these suggest that affect is not necessarily any more automatic than cognition (see also, Clore, Storbeck, Robinson, & Centerbar, 2005).

[2] The distinction between high- versus low-level construals is a structural one and is inherently relative. Any high-level representation ('animal') can become relatively 'low-level' when contrasted with even more superordinate, higher-order representations ('living organism'). Similarly, any low-level representation ('terrier') can become relatively 'high-level' when contrasted with even more subordinate, lower-order representations ('my neighbor's dog, Fluffy').

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