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Broadening mental horizons to resist temptation: Construal level and self-control

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Abstract

Self-control requires resolving motivational conflicts, as is the case when people must choose between pursuing valued yet distal ends rather than less valued yet more proximal ends. In such cases, successful self-control requires the consideration of more distant rather than more proximal motivational concerns. We review research demonstrating that engaging high-level construal – a representational process that broadens mental scope by directing attention to broader, essential features of events – promotes self-control relative to low-level construal – a representational process that contracts mental scope by directing attention to narrower, idiosyncratic features. We discuss both theoretical and practical implications for enhancing health and well-being.

Self-control – the process of advancing global goals over local concerns, often characterized by the forgoing of immediate gratification for the sake of more valuable long-term ends – is crucial in the pursuit of health and well-being. One might even suggest that people engage in self-control on a daily basis. For example, people brush their teeth every night to promote dental health, they resist tasty but unhealthy foods, exercise despite the fatigue of a long day, commit to and appear for uncomfortable medical exams, and overcome powerful urges to abuse substances such as alcohol and cigarettes. In all of these examples, and countless more, people exercise self-control when they resist immediate temptations that threaten to undermine more distal yet more valued health goals. Unfortunately, self-control failures are also commonplace. People do not always adhere to diets or exercise plans, they sometimes put off visits to the doctor, and they can regrettably relapse into addiction. These failures of self-control are troublingly ubiquitous and represent a threat to people's health and well-being. In this chapter, we review research highlighting how understanding the psychological processes that underlie how people think about near versus distant events provides new insight into the who, when, and why people succeed or fail in self-control dilemmas.

Self-Control as a Distance Related Conflict

The concept of psychological distance is fundamental to self-control (Ainslie, 1975; Fujita, 2011; Mischel, Shoda, & Rodriguez, 1989; see also Sklar et al. chapter, this volume). Psychological distance refers to the removal of an event from direct experience (e.g., Trope & Liberman, 2010). That is, an event is psychologically distant (vs. near) to the extent that it occurs later (vs. now), over there (vs. here), to you (vs. me), and with low (vs. high) likelihood. Self-control dilemmas

typically present people with decisions that require choosing between smaller yet immediate versus larger yet distal outcomes. Take, for example, the case of a smoker trying to quit smoking. Although quitting provides a number of important and valued outcomes (e.g., better health and pride in one's self), the enjoyment of these outcomes is psychologically distant (i.e., not here and not now). The pursuit of these outcomes can be tested by the presence of an available cigarette in the immediate here-and-now. Although the rewards of smoking this one cigarette are smaller than the benefits of quitting, the psychological immediacy of the cigarette makes it challenging to resist. The challenge of self-control, in this case, is advancing the more valued yet distant outcomes over the less valued yet proximal temptations.

Self-control dilemmas in the context of health are often described in terms of proximal gains with distant costs. Dieters who indulge in fattening sweets, for example, might be described as securing proximal gains (the enjoyment of these foods) with distant costs (obesity-related illnesses). Yet, health-related self-control dilemmas may also entail proximal costs with distant benefits. Consider, for example, cancer screenings. Although cancer screenings may provide significant long-term benefits, the more immediate hassles and costs of securing medical appointments and coping with potentially frightening results may tempt people to forgo them. Thus, self-control dilemmas may entail proximal benefits with larger distant costs, or proximal costs with larger distant benefits.

It is useful to conceptualize a self-control dilemma as a *conflict between motivations*; that is, a conflict between proximal and distal wants (see Fujita, 2011; see also Sklar et al. chapter, this volume). Defining the problem as a conflict between motivations highlights several important

conceptual issues regarding self-control. First, that the problem is motivational rather than a problem of knowledge or physical ability. Self-control conflicts refer only to the class of problems wherein an individual has the knowledge and capability to act on either motivation. Dieters cannot be characterized as failing in self-control if they are unaware that eating a particular indulgent food undermines their weight-loss goals.

Second, the element of conflict is necessary. Responses motivated by proximal ends that do not conflict with those motivated by more distal ends do not create a self-control dilemma. For example, a healthy snack that tastes good appeals to immediate concern of eating something tasty, but acting on this immediate concern does not constitute a self-control failure because it does not conflict with the more valued but more distant health goals. Similarly, an object that is detrimental to distal ends but is also unappealing as a proximal end is not a temptation. For example, an unhealthy snack that does not taste good will not provoke a self-control dilemma. This caveat resonates with colloquial usage of the term temptation which connotes some sense of allure or appeal.

Third, self-control conflicts are subjective in nature and defined by the goals individuals hold. A situation that requires self-control for one person may not necessarily require self-control for another. For example, the allure of desserts only represents a temptation for those people who hold diet goals. For people without a dieting goal, indulging in dessert does not represent a self-control failure since there it does not undermine any higher order goal. We highlight this point because it suggests that to identify or to understand self-control conflicts for any given individual, a researcher or observer must know something about that individual's motivations.

Construal Level Theory

Promoting self-control in situations that pit distant goals against immediate temptations thus requires finding ways to promote people's attention to and consideration of more distant rather than more proximal motivational concerns. Addressing this requires understanding the psychological mechanisms that underlie people's ability to expand their mental horizons to consider psychologically distant outcomes. Construal level theory (CLT) provides a theoretical framework with which to explore this issue (Trope & Liberman, 2010).

A key challenge people face when tasked to think about psychologically distant (relative to near) events is that detailed specifics about the event are often unavailable or likely to change. To address this problem, people instead use the information that they do have on-hand, focusing on the abstract and essential features that characterize all possible manifestations of the event. This representational process, referred to as high-level construal, is functional because the essential features of an event are stable and unlikely to change. As events become more proximal and their detailed specifics increasingly available and reliable, people can increasingly focus on those concrete and incidental features that distinguish this particular event from others like it. This representational process, referred to as low-level construal, is functional because it allows people to tailor their thoughts, feelings, and behavior to unique features of the immediately impending event. Thus, whereas high-level construal expands the scope of people's horizons by allowing them to consider events that are removed from direct experience, low-level construal contracts

that scope by immersing them into the idiosyncrasies of the here-and-now (Ledgerwood, Trope, & Liberman, 2015).

Consider, for example, reading a chapter of an edited volume. One might construe this behavior as "learning about an area of research," or alternatively as "reading this chapter on construal level theory in this handbook of self-control." Whereas the former captures features that are common to any instance of reading a chapter of an edited volume, the latter captures features that distinguish reading this particular chapter from others like it. CLT suggests that people are more likely to construe reading a chapter of an edited volume as "learning about an area of research" (versus "reading this chapter on construal level theory in this handbook of self-control") when this behavior is psychologically distant (versus near) – for example, when it is to occur in the distant versus near future.

Empirical research demonstrates that people indeed construe psychologically distant (vs. near) events in high-level (vs. low-level) terms (see Trope & Liberman, 2010, for review). For example, people are more likely to think about the actions of others in broad dispositional terms rather than situation-specific behaviors when those behaviors are associated with psychological distance relative to proximity (e.g., Rim, Uleman, & Trope, 2009). They are also more likely to categorize objects associated with psychologically distant versus near events in fewer and more general categories – suggesting a focus on what is common rather than what is unique about objects (e.g., Liberman, Sagristano, & Trope, 2002). Findings like these (and many others) suggest that people respond to the challenge of psychological distance (vs. proximity) by engaging in high-level (vs. low-level) construal.

Importantly, the link relationship between level of construal and psychological distance is bidirectional, so that not only do distant targets evoke higher level construal, but higher level construal also broadens mental horizons and thus increases the likelihood that people think about and consider their more distant goals and values. In this way, high-level construal works to expand people's regulatory scope; it helps connect them to their broader, more distant goals and highlights the relevance of these concerns in the here-and-now (Ledgerwood, Trope, & Liberman, 2015). By contrast, low-level construal tends to contract people's regulatory scope; it focuses their attention to the unique and idiosyncratic demands of present circumstances. In sum, whereas engaging in low-level construal tends to orient people to what ends are attainable in the here-and-now, engaging in high level construal serves to orient people to their more valued goals even when they are more distant.

To exemplify these dynamics, consider dieters who must make a snack choice between a candy bar versus apple. When engaged in low-level construal, dieters may feel immersed in the moment and consider the concrete and tangible features that make this particular candy bar superior to that particular apple. The salient taste-related features of this candy bar relative to that apple may make the former the preferred option. If dieters were to engage in high-level construal which would facilitate consideration of more valued but more distal goals and the broader implications of this decision, they might appreciate that this choice actually represents a decision between hedonism and weight-loss. As they presumably value weight-loss over hedonism, broadening dieters' horizons should facilitate the selection of the apple over the candy

bar. In this way, the relative expansion of regulatory scope engendered by high-level (vs. low-level) should facilitate the alignment of one's current behavior to more distant goals.

Supporting these assertions, empirical work suggests that engaging in high-level relative to low-level construal leads people to construe actions in terms of the abstract ends they achieve rather than the specific means necessary to execute them (e.g., Liberman & Trope, 1998). Research also suggests that people engaged in high-level relative to low-level construal are more likely to relate actions to their more abstract values, leading to greater value-behavior correspondence (e.g., Eyal, Sagristano, Trope, & Liberman, 2009; Torelli & Kaikati, 2009). Importantly, empirical research further suggests that by expanding (rather than contracting) people's regulatory scope, high-level relative to low-level construal promotes self-control (e.g., Fujita & Carnevale, 2012).

Construal Level and Self-Control

Preferences, Choice & Behavior

Empirical tests of the effect of construal level on self-control have manipulated construal level and observed their effects on people's behavior (Fujita & Carnevale, 2012). To manipulate construal level, researchers capitalize on procedural mindset priming – the tendency for a particular manner of thinking, once activated, to carry over to subsequent unrelated contexts (e.g., Fujita & Trope, 2014). Specifically, research suggests that inducing participants to construe an initial event in high-level vs. low-level terms leads them to construe successive events in a similar fashion (Freitas, Gollwitzer, & Trope, 2004; Fujita, Trope, Liberman, &

Levin-Sagi, 2006). One manipulation, for example, directs participants to think about an action (e.g., "maintain good physical health") and provide reasons why one performs that action (e.g., "to live a long life") or specific steps for how one performs that action (e.g., "by exercising regularly"). Not only does this manipulation lead people to think about the focal action ("maintain good physical health") in increasingly high-level versus low-level terms, it also leads them to think about other events in increasingly high-level versus low-level terms (Freitas et al., 2004). A second manipulation presents participants with a series of everyday objects (e.g., "dog") and asks them to generate a superordinate category label or a subordinate exemplar (e.g., "animal" vs. "poodle"). Whereas repeatedly generating category labels promotes the tendency to engage in high-level construal, repeatedly generating exemplars promotes the tendency to engage in low-level construal (Fujita et al., 2006).

Using these methods to manipulate construal level, research has demonstrated across a variety of domains that high-level relative to low-level construal promotes self-control. Research suggests, for example, that inducing high-level (relative to low-level) construal reduces temporal discounting – the tendency to prefer smaller-immediate over larger-delayed monetary outcomes (Fujita et al., 2006; Malkoc, Zauberman, & Bettman, 2010). High-level relative to low-level construal also appears to promote physical endurance, as assessed by how long participants are able to hold a handgrip despite the discomfort in their hand (Fujita et al., 2006). Importantly, research has extended these findings to study self-control in the health domain. For example, in a study of female undergraduates, a population generally concerned about their weight, Fujita & Han (2009) demonstrated that high-level relative to low-level construal increased the likelihood

that participants would select an apple over a candy bar in a snack choice (see also Carnevale, Fujita, Han, & Amit, 2015).

High-level relative to low-level construal not only aids in the avoidance of health-undermining temptations, but also motivates approach behaviors that directly serve more distant health goals. For example, research shows that an intervention designed to promote high-level (vs. low-level) construal of exercise and physical activity led to a significant increase in physical activity over a subsequent seven-day period (Sweeney & Freitas, 2014). Similar findings emerge in studies examining dental health behaviors. Agrawal & Wan (2009) demonstrated that people engaged in high-level construal subsequently spent more time flossing than did those engaged in low-level construal. This effect, moreover, was especially pronounced when participants were depleted by an initial self-control exercise prior to the opportunity to floss. This latter finding is particularly noteworthy because it suggests that high-level construal can promote self-control even under conditions that typically impair it. Although, prior research has suggested that self-control drains a limited resource and thus makes subsequent acts of control more difficult (Muraven & Baumeister, 2000), this pattern does not appear to occur when people engage in high-level relative to low-level construal (see also Schmeichel & Vohs, 2009). That engaging in high level construal can help people overcome the depletion of regulatory resources to promote health behaviors speaks to the critical role that subjective construal plays in self-control.

Diagnostic Testing & Defensive Dismissal of Negative Information

One area of health and well-being in which the role of self-control may be under-recognized is the domain of diagnostic testing and defensive dismissal of negative information. Results of diagnostic tests, such as cancer screenings and genetic testing, have the potential to present people with self-control dilemmas. On the one hand, taking these tests advance the long-term goal of good health. On the other hand, these tests may reveal potential problems that unsettle or upset people – that is, they may pose short-term affective costs. To learn from these tests and to use them to inform long-term health behavior change, people must overcome the tendency to protect one's self from negative information – an act that may require self-control. As one might expect from this analysis, research suggests that many are tempted to avoid diagnostic tests out of concern about bad news, and often defensively dismiss this information when it is provided – thus jeopardizing their long-term health in service of the more short-term desire to feel good about themselves now (e.g., Melnyk & Sheppard, 2012; Sherman, Nelson, & Steele, 2000).

Research suggests that one of the most effective ways to reduce defensive responses to negative health information is self-affirmation – the restoration of one's sense of self as moral and adaptively adequate (Steele, 1998; see also Koningsbruggen et al. chapter, this volume). The most commonly studied induction of self-affirmation is the written expression of one's values. Extensive research indicates that affirming the self via value expression effectively reduces people's defensive avoidance and dismissal of negative health related information, and can promote positive health behavior change (e.g., Sherman et al., 2000). A growing body of research suggests that one of the mediators for this effect may be a change in construal level (e.g., Schmeichel & Vohs, 2009; Wakslak & Trope, 2009). Specifically, it appears that affirming one's values leads one to construe events in higher level terms, which in turn may

promote the self-control necessary to overcome one's short-term defensiveness and instead advance one's long-term health goals.

In support of this hypothesis, Belding, Naufel, and Fujita (2015) showed that high-level, relative to low-level, construal decreases defensive responding and increases the likelihood that such information will motivate health behavior change. After experimentally inducing high-level vs. low-level construal, Belding and colleagues presented a health message that focused on the negative health consequences of exposure to UV light to participants who reported regularly using a tanning bed. Across several studies, they found that in response to this message, tanners engaged in high level relative to low-level construal reported stronger motivations to change their tanning behavior. This suggests that construal level may play a key role in promoting the self-control necessary to reduce defensive responses to negative health-related information (see also Agrawal & Wan, 2009).

Mechanisms of Self-Control Success

Change in Meaning

By what mechanisms do changes in construal level produce changes in self-control? We might note that traditional models of self-control stress the inhibition of impulses as a key mechanism of success (see Fujita, 2011, for review). According to such models, self-control failures are believed to be caused by impulses that are spurred by the immediate availability of some outcome. These thoughts, feelings, and behavior are thought to be triggered automatically by

temptation cues and to lead to indulgence in the temptation unless people actively inhibit them. This inhibition process is hypothesized to be effortful, and thus requires sufficient motivation and resources to enact. The susceptibility of this effortful inhibition to distraction, cognitive load, and momentary weakening of motivation renders it vulnerable to disruption (e.g., Hofmann, Friese, & Strack, 2009; Muraven & Baumeister, 2000).

By contrast, the construal level theory approach emphasizes a change in meaning as a critical mechanism of self-control success. Decades of research in social psychology suggest that how people subjectively construe or understand the meaning of events determines the experience of those events (e.g., Griffin & Ross, 1991). Whereas construing a dessert as a "tasty treat" should promote indulgence, construing the dessert as a "fattening over-indulgence" should promote restraint. The construal level theory approach suggests that this change in meaning, and not the effortful inhibition of impulses, is responsible for the effect of construal level on self-control.

Supporting this assertion, Belding and colleagues (2015) demonstrated that tanners were more likely to report that a health message about the dangers of UV exposure was "hurtful" when engaged in low-level construal, but "helpful" when engaged in high-level construal. This change in the perceived meaning of the health message appears to be why these tanners engaged in high-level relative to low-level construal were more willing to change their tanning behavior after reading it. Empirical work by Carnevale and colleagues (2015) demonstrated that dieters were faster to categorize foods on the basis of "taste" when engaged in low-level construal, but faster to categorize those same foods on the basis of "health" when engaged in high-level construal.

This change in sensitivity to the dimensions of taste versus health as a function of construal level is consistent with a change in meaning explanation.

Importantly, research suggests that by changing the meaning of an event, construal level can influence self-control without requiring the effortful inhibition of impulses (Carnevale et al., 2015; Fujita & Han, 2009). That is, whereas construing a dessert as "something tasty" has positive connotations and promotes indulgence, construing the same dessert as "something unhealthy" has more negative connotations and promotes restraint. In one study that documented this assertion, Fujita & Han (2009) assessed people's evaluative responses to temptations with a computerized reaction time task that assessed the ease with which those concerned about their weight associated candy bars vs. apples with positivity and negativity. Past research has suggested that a readiness to associate food temptations, like candy bars, with positivity rather than negativity can promote impulsive eating (Hofmann et al., 2009). High-level relative to low-level construal reduced the ease with which people associated candy bars (vs. apples) with positivity (vs. negativity), suggesting a change in how people construed and thus evaluated temptations. Moreover, this change in evaluation appeared to account for the effect of construal level on participants' snack choices, with those engaged in high-level significantly more likely to choose an apple over a candy bar than those engaged in low-level construal. Thus, rather than evoking the effortful inhibition of impulses per se, high-level relative to low-level construal appears to change the meaning of an event to promote responding that is less influenced by immediate temptations and is more consistent with one's long-term goals.

Identifying Self-Control Conflicts

One result of the change in meaning produced by changes in construal level is an enhanced recognition that a given situation presents a self-control dilemma. Research suggests that some might struggle with self-control because they fail to realize that a particular behavior undermines their more distant goals. That is, some indulgence behaviors may "slip under the radar." In one demonstration of this phenomenon, Coelho do Vale and colleagues (2008) showed that presenting small packages of snack foods to consumers can promote greater consumption than larger packages. This suggests that consumers tend to assume that their dietary restraint goals are "safe" when presented with smaller packages, whereas those same goals are more threatened with larger packages. Ironically, then, larger packages of food may promote greater self-control because help people recognize the situation as one requiring self-control.

High-level relative to low-level construal may help people identify that a situation is one that requires self-control. Whereas the contractive regulatory scope of low-level construal leads people to focus on those features that render immediate events as unique and distinct, the more expansive regulatory scope of high-level construal leads people to process individual events as just one example of a class of events that have and will occur (Trope & Liberman, 2010). Situating self-control conflicts in this wider frame promotes self-control by increasing the likelihood that people appreciate the global implications of their actions and identify the situation as one that requires self-control (Myrseth & Fishbach, 2009).

As an initial test of this assertion, Pick-Alony and colleagues (2014) presented participants with a decision task that involved internalities – repeated choices in which the value of the alternatives depends on the frequency of previous choices. Consider, for example, learning how to touch type. Touch typing requires an initial cost to typing speed, but through repeated practice becomes more efficient than hunting-and-pecking at the keyboard. When deciding whether to take the time to learn tasks like touch typing, people often fail to recognize the repeated nature of these decisions. As such, they engage in behavior that in the short-term appears to provide immediate returns (hunting-and-pecking to avoid the temporary reduction in typing speed required to learn how to touch type) at the expense of gains that could be achieved over the long term (a significantly faster typing speed once one learns how to touch type) – a phenomenon referred to as melioration (Herrnstein, Loewenstein, Prelec, & Vaughan, 1993). Melioration is a particularly insidious form of self-control failure because it can be hard for people to detect and recognize. Pick-Alony and colleagues (2014) demonstrated that by improving people's ability to recognize patterns where rewards are dispersed across greater spans of time, high-level construal can help people better recognize the need for self-control and reduce melioration.

Related research has examined the activation of cognitive habits known to promote self-control. Past research has shown that self-control benefits from an asymmetric pattern of cognitive associations wherein cues about immediate temptations activate thoughts about over-riding distant goals, whereas cues about distant goals do not reciprocally activate thoughts about temptations (Fishbach, Friedman, & Kruglanski, 2003). Research suggests that this functional pattern of cognitive associations is evident only when people are engaged in high-level rather than low-level construal. Fujita and Sasota (2011), for example, demonstrated that when dieters

were induced to engage in high-level construal, tempting food cues prompted thoughts about dieting, but diet cues did not reciprocally prompt thoughts about tempting foods. By contrast, these temptation-goal associations were generally more symmetrical among dieters induced to low-level construal. That people engage in such beneficial cognitive habits when engaged in high-level relative to low-level construal suggests a recognition that such habits are relevant and needed.

Prospective Self-Control

Yet another way in which high-level construal has been shown to improve self-control is through the use of prospective self-control. Prospective control refers to class of self-control strategies that seek to regulate behavior prior to encountering temptations (Ainslie, 1975; Fujita, 2011). For example, smokers might choose to not go drinking at bars, knowing that such settings often prompt smoking behavior. Alternatively, they might forgo the opportunity to buy cigarettes in bulk, but instead opt for the smaller yet more expensive packages. Research suggests that this latter strategy may help to regulate smoking behavior because the unit cost per self-control failure is higher (as each cigarette is more expensive), providing greater motivation to not smoke (Wertenbroch, 1998). Prospective self-control strategies are effective because they structure the decision-making environment to make it harder to indulge in temptation.

To study the effect of construal level on prospective self-control, Fujita and Roberts (2010) presented participants with an opportunity to take a diagnostic test that promised to provide valuable information about their cognitive abilities (knowledge that might be useful in the long-

term), but entailed enduring short-term uncomfortable procedures (appearing for the test at 2 a.m. in the morning). As an assessment of prospective self-control, the researchers asked participants how much they were willing to pay as a cancellation fee. Setting a higher cancellation fee serves as an effective prospective self-control strategy because the threat of punishment motivates people to exert self-control (Ainslie, 1975; Trope & Fishbach, 2000; Wertenbroch, 1998). Indeed, Fujita & Roberts (2010) found that those engaged in high-level rather than low-level construal set higher cancellation fees, suggesting that they were capitalizing on an opportunity to implement prospective self-control.

Interventions to Promote High-Level Construal

One of the main challenges of self-control is that the need for self-control often arises in the presence of immediately available temptations. The proximity of the temptations can lead people to construe the situation in lower-level terms as an isolated self-contained incident ("just this once!"), increasing the likelihood of self-control failure. Given that high-level construal appears to facilitate overcoming such myopic responding, an important question is what can be done to encourage people to construe these decisions in higher level terms?

As discussed earlier, one means for promoting self-control is using prospective control to make decisions prior to encountering temptations – that is, making the decisions when they are psychological distant rather than proximal. This class of strategies is effective because it avoids the problem created by proximity to less valued but tempting ends. When viewed from a distance, temptations tend to lose their motivational pull as they tend to be construed in higher

level terms and therefore seen as less valuable than the distant ends they undermine (Fujita & Carnevale, 2012). By making self-control decisions from a distance, prospective strategies make it easier to see the bigger picture and make decisions in line with more valued global goals. Note that CLT suggests that increased distance along any dimension – spatial, temporal, social, or hypothetical – should have the same impact on construal level (Maglio, Trope, & Liberman, 2013). For example, people appear to have greater self-control when they are making decisions for someone else, rather than themselves (e.g., Pronin, Olivola, & Kennedy, 2008). Thus, psychological distance should lead to better self-control.

One example of a prospective self-control strategy that facilitates adherence to valued goals through future oriented planning is that of "implementation intentions" (see Gollwitzer chapter, this volume). Implementation intentions are simple "if-then" action plans that link anticipated situations or cues with goal directed behavior (e.g., "If I'm bored and want a snack, then I will eat an apple!"). Although implementation intentions themselves are concrete and specific, the formation of implementation intentions can be thought of as a product of high-level construal as they function to connect one's behavior in a given situation (e.g., response to a temptation cue) with one's more valued and superordinate goals. By forming an action plan for how to behave in response to a temptation cue prior to encountering the cue itself, implementation intentions take advantage of the global perspective afforded by distance and thereby increase the likelihood of acting in ways that adhere to distant goals in the face of immediate temptations.

However, people are not always able to make decisions or plans at a distance, or people may find that they plans they made are not applicable to the context they find themselves in. One of the

primary obstacles to prospective self-control comes from the fact that the future is uncertain, and becomes even more so with increased distance. Thus, the plans we make for how to deal with or respond to a given situation in the future are limited in their effectiveness by their accuracy in anticipating the future, and by the applicability of the plan to the context encountered in the future. To the extent that prospective strategies are correct in their forecasts, they can prove to be extremely effective. In such situations, it may well be the case that more concrete action plans (e.g., implementation intentions) may be the most effective as the concreteness removes any ambiguity as to how to respond (Gollwitzer & Sheeran, 2006). However, this same concreteness may also prove to be limiting in as far as it narrows the range of cues that are planned for and the range of possible responses to that cue. For example, if one encounters a cue that threatens goal progress but is not the cue specified by the implementation intention, the implementation intention will not be effective. Alternatively, even if one encounters the anticipated cue, it is possible that context in which it is encountered does afford the behavior specified as the response. For example, the implementation intention "If I am hungry, then I will eat an apple!" is only applicable and useful if an apple is indeed available in the context in which the individual feels hungry.

Increasing the level or generality of implementation intentions—both the level of the cue and the level of the planned response—may increase the applicability of such plans to a broader array of situations. CLT would predict that greater distance would lead people to increase the level of their spontaneous implementation intentions. However, it is possible that such generality may decrease the effectiveness of implementation intentions which may rely on their specificity to be useful in guiding behavior in a specific situation. While there is some data consistent with these

proposals (e.g., Gollwitzer & Sheeran, 2006), more definitive and direct tests are an avenue for future research.

While prospective planning may be one of the most effective ways to promote self-regulation, fortunately, even in those situations where people find themselves confronted with an immediate temptation that they did not plan for, they still have the ability to adopt different perspectives to influence construal level. For example, one way to induce high-level construal in the moment is to engage in the mindset exercises discussed earlier, such as generating reasons why one performs a given behavior or generating superordinate categories to a series of exemplars (Fujita et al., 2006). Additionally, research indicates that imagining a situation from a third-person or "fly on the wall" perspective (as compared to a self-immersed first-person perspective) encourages high-level construal and has been shown to help promote self-regulatory outcomes (e.g., Libby, Shaeffer, & Eibach, 2009). As noted before, research also suggests that self-affirmation too may be an effective means of promoting high-level construal in the heat-of-the-moment and bolster self-control (e.g., Agrawal & Wan, 2009; Schmeichel & Vohs, 2009; Wakslak & Trope, 2009). This suggests that prompting people to engage in these and similar exercises may promote better self-control outcomes.

Similarly, research suggests that mundane features of the decision-making context may help "nudge" high-level construal and thus promote self-control. For example, when people are physically elevated, they appear to engage in high-level construal and, as a result, display increased willingness to delay gratification (Aggarwal & Zhao, 2015; Slepian, Masicampo, & Ambady, 2015). Similar, factors such as positive versus negative moods (e.g., Gasper & Clore,

2002), cooler ambient temperatures (IJzerman & Semin, 2009), darkness (Steidle, Werth, & Hanke, 2011), and ceiling height (Meyers-Levy & Zhu, 2007) all appear to promote high-level construal and can be expected to promote self-control. Taken together, these findings suggest ways in which environments can be engineered by others to promote high-level construal and thus self-control.

Some of the most promising ways to promote self-control via high-level construal may be by manipulating the way in which choice options are presented to an individual. For example, research suggests that stimuli presented verbally, as opposed to pictorially, tends to encourage high-level construal (Rim et al., 2015). Applying this work to the self-control context, Carnevale and colleagues (2015) demonstrated that presenting choice options as words rather than pictures promotes preferences that are more consistent with more valued global goals. Similarly, research has shown that black-and-white relative to color images promote high-level construal (Lee, Deng, Unnava, & Fujita, 2014). Thus, presenting choice options in black-and-white rather than color might promote self-control. These findings suggest that carefully considering how choice options are presented may help encourage better self-control.

High-Level Construal Is Not a Panacea

Although applying construal level theory to understand self-control promises novel ways to promote people's self-control in health and well-being, one should recognize several limits to the potential impact of any new intervention or application based on this work. Changing health behavior addressing a number of challenges, only some of which require self-control. There are

many other challenges that people might confront, including setting appropriate goals, receiving proper education or training, generating useful behavioral plans, effectively executing skilled behaviors, and coping with setbacks (e.g., Mann, de Ridder, & Fujita, 2013). Although many of these issues are outside the scope of self-control (i.e., they do not require people to resolve a motivational conflict), they may nevertheless represent significant barriers to effective change. This is important to note, because the effect of high-level relative to low-level construal on the resolution of these challenges may be very different from the effect of construal level on self-control. Indeed, research suggests that some of these challenges – such as planning, behavioral execution, and coping – may be better addressed by engaging in low-level rather than high-level construal (e.g., Fujita & Carnevale, 2012). Thus any application of construal level theory to health behavior change needs to recognize whether the central problem people face is self-control or otherwise, and will require training these individuals to match the appropriate construal to the particular challenge with which they are struggling most.

Conclusions

In this chapter, we described the role of construal level in self-control decision-making, particularly as it relates to health and well-being. Specifically, we explored the hypothesis that engaging in more abstract, high-level (relative to more concrete, low-level) construal enhances self-control. We reviewed empirical evidence for this claim, explored psychological mechanisms, and highlighted the various implications this work has for improving self-control. With this review, we hope to elucidate processes involved in self-control with the intention of developing a better understanding of how to promote self-control in populations seeking to

improve their own health and well-being. Taken together, the evidence presented here suggests that self-control in health domains may be improved by encouraging people to take a proverbial step back to see the forest beyond the trees.

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