Asymmetric Effects of Counteractive Control

Ayelet Fishbach, University of Chicago
Ying Zhang, University of Texas, Austin
Kristian Myrseth, University of Chicago

Counteractive control theory predicts that goals decrease the motivational strength of tempting alternatives, whereas temptations increase the motivational strength of goal-related alternatives. We explore these asymmetric effects on motivation in three studies that tested for evaluations, predictions and performance. Study 1 finds that dieters devalue fatty foods and augment the value of healthy foods. Study 2 finds that individuals in a committed relationship devalue the perceived attractiveness of alternative partners and augment the attractiveness of their own partner. Study 3 finds that students set optimistic predictions of spending more time on academic activities and less time on leisure activities. These evaluations and predictions determine performance.

[to cite]:

[url]:
http://www.acrwebsite.org/volumes/13551/volumes/v35/NA-35

[copyright notice]:
This work is copyrighted by The Association for Consumer Research. For permission to copy or use this work in whole or in part, please contact the Copyright Clearance Center at http://www.copyright.com/.
SESSION OVERVIEW

The capacity to exert self-control is an important feature of human nature. Given the adaptive benefits of being able to control inner states and behavioral responses, self-control is of significant importance for achieving success in life (cf. Baumeister and Heatherton 1996). Self-control has also been studied from a consumer perspective, and particularly the self-control strength model has been gaining ground in consumer research (Baumeister 2002). According to this model, exerting self-control temporally depletes self-control in the same way as in which using a muscle temporally depletes its capacity to exert power. This vision presents a rather grim view on the consumer, who will find herself making decisions against her long-term self-interest all too often. Accordingly, the empirical focus in recent years has been on consumer choices not conducive to long-term self-interest (e.g., Shiv and Fedorikhin 1999; Vohs and Heatherton 2000; Vohs and Faber 2007). The purpose of this symposium is to present ongoing research that sheds light on the cognitive processes underlying self-control, thereby providing insights in how consumers might proactively overcome temptations.

Recent research has focused on consumer self-control failure (Shiv and Fedorikhin 1999; Vohs and Faber 2007). Self-control is typically shown to break down after the prior exertion of effort, for instance when resisting temptations. Some work attempted to shed light on the nature of depletion (e.g., Vohs and Schmeichel 2003; Webb and Sheeran 2002). Beyond its theoretical impact, such research has direct relevance to consumer research because it provides insights that may help to dampen the negative impact of the depletion state. The papers in this symposium fit into this stream of research in that they demonstrate the importance of cognitive processing in helping consumers to exert self-control. Thereby, all papers offer new insights in the nature of self-control, and simultaneously provide consumers with strategies that may help them to successfully deal with self-control dilemmas.

In the first paper, Vosgerau, Bruyneel, Dhar, and Wertebroch argue that the scarce resource on which all acts of self-control draw according to depletion theory is not self-control specific but rather of a more general nature, and that cognitions play an important role in the processes underlying depletion. In the second paper, Bruyneel and Dewitte argue that exerting self-control induces a concrete mindset, which subsequently drives depletion effects. The amount of effort exerted during the first task seems to be less important in producing depletion effects than the level of concreteness on which people process task-related information. In the third paper, Fishbach, Zhang, and Myrseth argue that goals decrease the motivational strength of tempting alternatives and prior exposure to temptations increase the motivational strength of goal-related alternatives. As a result of these counteractive shifts in evaluations, adhering to the goal is more valuable than yielding to the temptation and the initial conflict between the two is more likely to be resolved in favor of the goal. The underlying theme is that the three papers offer new insights in the nature of self-control, and hence in its applicability to consumer research.

EXTENDED ABSTRACTS

“Ego Depletion and Cognitive Load: Same or Different Constructs?”
Joachim Vosgerau, Carnegie Mellon
Sabrina Bruyneel, KULeuven
Ravi Dhar, Yale University
Klaus Wertebroch, INSEAD

The theory of ego depletion states that all acts of self-control draw on a common limited resource that is akin to energy or strength. Hence, exertion of self-control is necessarily followed by a period of diminished capacity to exert subsequent self-control. Eventually, with sufficient rest, the resource should build up again (e.g., Muraven and Baumeister 2000). Researchers have demonstrated depletion for behaviors as diverse as thought suppression (Muraven, Tice, and Baumeister 1998), persistence at strenuous tasks (Baumeister, Bratslavsky, Muraven and Tice 1998), emotion control (Vohs and Heatherton 2000), response inhibition (Wallace and Baumeister 2002), intellectual performance (Schmeichel, Vohs, and Baumeister 2003), self-presentation (Vohs, Baumeister, and Ciocco 2005), and active choice-making (Bruyneel, Dewitte, Vohs, and Warlop 2006). This pattern of findings raises the question as to what extent these behaviors actually involve self-control conflicts, given that many researchers define self-control conflicts much more narrowly as conflicts between smaller, immediate versus larger, delayed rewards (e.g., Loewenstein 1996; Metcalfe and Mischel 1999; Trope and Fishbach 2000; Wertebroch 1998; Wertebroch et al. 2008). In other words, is ego depletion self-control specific, or might it be just another form of mental fatigue?

The concept of cognitive capacity has played an important role in the literature on (consumer) decision-making. One way to reduce cognitive capacity is to cognitively load participants, resulting in similar effects as ego depletion (Dhar, Nowlis, and Sherman 2000; Drolet and Luce 2004; Shiv and Fedorikhin 1999). Given that cognitive load can produce similar effects as ego depletion, the question becomes whether depletion can produce similar effects as cognitive load, and if so, whether and how depletion differs from cognitive load.

In the first study, we investigated whether depletion and cognitive load produce differential effects on memory for previously presented product information. The experimental design is a 2 (depletion vs. no depletion) by 2 (cognitive load vs. no cognitive load). We used a variation of the Stroop task as depletion manipulation (Wallace and Baumeister 2002). Participants were asked to indicate the ink color of 50 color names. In the non-depleting condition, words and ink colors were matched (e.g., RED in red ink). In the depleting condition, words and ink colors were mismatched (e.g., RED in yellow ink). In addition, when a word in blue ink appeared participants were instructed to indicate the word rather than the ink color. Subsequently, participants saw information on a luxurious Italian holiday resort, while at the same time had to keep either a one-digit (no cognitive load) or a nine-digit number (cognitive load) in mind (Chun and Kruglanski 2006).

After the depletion and cognitive load manipulations, we administered a memory test consisting of free recall and recognition.
of holiday resort features (Lynch, Marmorstein, and Weigold 1988). We found a main effect of both depletion and cognitive load on free recall, indicating that depleted participants recalled fewer holiday resort features than participants who were not depleted, and that cognitively loaded participants recalled fewer holiday resort features than participants who were not cognitively loaded. The depletion by cognitive load interaction was not significant. Cognitively loaded participants also recognized fewer holiday features, however no such effect was found for depletion.

In the second study, increased the number of holiday features to test whether the same pattern of recall and recognition can be found for depletion as for cognitive load. The design of Study 2 is similar to the one of Study 1. We replicated the effects found in Study 1, such that cognitively loaded participants recalled fewer holiday features than participants who were not cognitively loaded. A similar effect was found for correct recognition of holiday features. However, an interaction of recall and recognition indicated that cognitive load impaired recall to a greater degree than recognition. The same interaction was found for depletion. Depleted participants recalled and recognized fewer holiday features than non-depleted participants, but the effect was more pronounced for recall than for recognition. The overall effect of depletion was much weaker than the overall effect of cognitive load.

Our findings demonstrate that cognitive load and depletion can produce similar effects on variables unrelated to self-control exertion. So, the scarce resource producing depletion effects is not self-control specific, as is typically suggested in the depletion literature. Depletion and cognitive load produce similar effects, suggesting that they recruit the same underlying processes. However, depletion effects are weaker than cognitive load effects on memory recall. Depletion is an after-effect because learning is impaired after participants are depleted, whereas cognitive load is an immediate effect because learning is impaired while participants are cognitively loaded. Future studies are planned to look whether depletion and cognitive load are moderated by the same factors. If so, we would have further evidence that depletion and cognitive load both recruit the same underlying psychological processes.

“To Have One’s Mind Set on it: Mindsets and Self-Control Dilemmas”  
Sabrina Bruyneel, KULeuven  
Siegfried Dewitte, KULeuven

The self-control strength model (Muraven and Baumeister 2000) states that exerting self-control taxes a limited resource akin to energy or strength, and thus brings people in a state of resource depletion. This state reduces people’s capacity to exert self-control subsequently. Although the basic finding is undisputed and several moderators and mediators of the depletion effect have been proposed (Martijn et al. 2002; Muraven and Slessareva 2003; Vohs and Schmeichel 2003; Webb and Sheeran 2003), the nature of the scarce resource remains elusive. The aim of this paper is to gain more insight in the processes underlying depletion. We claim that depletion effects result from being stuck in a concrete mindset that is adopted during initial self-control exertion.

It has been argued that concrete processing is associated with performance on challenging tasks (Mischel, Cantor, and Feldman 1996; Norman and Shallice 1986; Scheier and Carver 1988; Vallacher and Wegner 1987; Vallacher, Wegner, and Somoza 1989). As tasks that experientially have been shown to evoke concrete processing have important features in common with typical self-control tasks (Vohs and Baumeister 2004), we propose that the exertion of self-control will also evoke concrete processing, and will even induce a concrete mindset, in that the state of concrete processing will linger and influence how people deal with subsequent tasks. Indeed, the transfer of cognitive procedures from one task to an unrelated task is the hallmark of mindset priming (Gollwitzer 1990). We suggest that the resulting difficulties in organizing and reorganizing cognitive resources may explain self-control failures observed in typical depletion studies.

If we are right in assuming that exerting self-control induces a concrete mindset, we should observe carry-over effects of self-control manipulations on concreteness of processing while engaging in subsequent unrelated tasks. We investigated this in the first study. Participants were asked to engage in a thought-listing task. They were instructed to write down their thoughts and either to avoid thinking about a white bear (self-control condition) or to think about anything they wanted, including a white bear (no self-control condition). A similar task was a successful self-control manipulation in earlier research (Muraven and Slessareva 2003). Subsequently, participants imagined themselves in one of three situations (e.g., having a yard sale) and classified objects related to each situation (e.g., books, cutlery) in as many categories as they deemed suitable. This task is one of the standard measures of level of concreteness of categorization (Liberman, Sagristano, and Trope 2002). We found that participants who had exerted self-control formed more groups than participants who had not exerted self-control, suggesting that exerting self-control induces a concrete mindset.

In the second study, we manipulated the extent to which participants engaged in concrete processing while exerting initial self-control, and investigated whether this influenced the depletion effect. Participants were randomly assigned to one of three conditions. In the control condition, participants were presented with a series of products and rated how often they had been using each product in the past. In the choice condition, participants were presented with a series of binary product choices. A similar choice task was shown to produce depletion effects in previous research (Bruyneel, Dewitte, Vohs, and Warlop 2006). It also induced concrete processing as products in each binary choice set had to be compared on the attribute level (e.g., chocolate chip cookie versus raisin bran cookie; Johnson 1984). In the goal condition, participants were also presented with a series of product pairs, but they were asked to come up with a common goal that could be fulfilled by the products in each pair (e.g., a book and a pair of glasses both satisfy the goal of reading). This task was depleting as it required complex thinking (Schmeichel, Vohs, and Baumeister 2003). It also induced abstract processing as it required participants to focus on goals (Freitas, Gollwitzer, and Trope 2004). Subsequently, participants were asked how much they would be willing to pay for several products. We found that choice participants were willing to pay more than control participants, replicating the typical depletion effect. Choice participants were however also willing to pay more than goal participants. We found no differences between control and goal participants. Interestingly, choice and goal participants indicated that they had exerted a comparable amount of effort during the first phase of the study, and that they had exerted significantly more effort than control participants.

In the third study, we attempted to replicate the findings of study 2 using different depletion and mindset manipulations. Participants were randomly assigned to one of four conditions. In the control and the thought suppression conditions, participants engaged in the same thought listing task as in study 1. They were asked to list their thoughts and were either or not allowed to think of a white bear, respectively (Muraven and Slessareva 2003). In the choice condition, participants engaged in a similar depleting binary choice task as in study 2 (Bruyneel et al. 2006). The double
condition was the most informative one. In this condition, the task requirements of the other two depletion conditions were combined. Participants were asked to not think of a white bear while actively making binary product choices. We hypothesized that it would be harder for participants in this condition to engage in concrete processing than it would be for participants in the other two depletion conditions, as they could not entirely focus on the task characteristics of one particular task. Our dependent measure again was willingness to pay for several products. We found that control participants were willing to pay less than thought suppression and choice participants, the latter two conditions not being significantly different. This finding replicated the typical depletion effect. In addition however, participants in the double condition were also willing to pay less than participants in the other two depletion conditions. Participants in the double condition did not differ from control participants. Participants in the three depletion conditions indicated that they had exerted a comparable amount of effort during the first phase of the study, and that they had exerted significantly more effort than control participants.

Overall, our data provide support for the claim that exerting self-control induces a concrete mindset, which rather than the effort exerted subsequently drives depletion effects.

"Asymmetric Effects of Counteractive Control"
Ayelet Fishbach, University of Chicago
Ying Zhang, University of Texas at Austin
Kristian Myrseth, University of Chicago

Counteractive control theory describes the conditions that activate self control processes, the nature of those processes, and how they enable individuals to overcome temptation (e.g., Fishbach and Trope 2005; Trope and Fishbach 2000). According to this theory, when individuals feel that tempting alternatives threaten the attainment of their high order goals, they proactively employ self control strategies, designed to offset the influence of those temptations on their behavior. The stronger the temptation, the more likely are individuals to engage in counteractive control.

Our recent research on counteractive control addresses asymmetrical shifts in motivation: Goal-related cues undermine the value of temptations and lower the amount of time people plan to invest on tempting activities. Temptation-related cues augment the value of the goal and increase the amount of time people plan to invest on goal-related activities. Specifically, exposure to temptations increases the value that people assign to an overriding goal. In this respect, making individuals aware of plausurable alternatives to a goal may make the goal seem more positive. Correspondingly, reminding individuals of an overriding goal renders the value of tempting alternatives less positive. In themselves, temptations represent desirable outcomes that individuals would otherwise pursue. However, when these outcomes steer individuals away from an overriding goal, they would be devalued. As a result of counteractive shifts in evaluations, adhering to the goal is more valuable than yielding to the temptation and the initial conflict between the two is more likely to be resolved in favor of the goal. We present three studies that support these asymmetric shifts in motivation.

The first study tested for implicit evaluation of goals and temptations using an evaluative priming paradigm (cf. Bargh, Chaiken, Govender, and Pratto 1992). In the domain of healthy eating and overcoming food temptations, this study finds that dieters undermine the implicit value of fatty foods (e.g., chocolate) in response to cues for dieting, and they augment the value of healthy foods (e.g., apple) in response to cues for indulging. Such changes in the implicit value of healthy and unhealthy foods help dieters maintain their commitment to healthy eating when they encounter tempting foods.

The second study examines whether counteractive evaluations are elicited by available (rather than unavailable) temptations. According to our self-control perspective, making temptations available should make them less valuable, whereas making goals available should make them more valuable. Following a procedure developed by Simpson et al. (1990), we specifically tested how individuals in dating relationships versus not (i.e., singles) perceive the sexual attractiveness of others who are either in dating relationships and hence, they are unavailable, or not and hence, they are available. We find that those in dating relationships undermine the attractiveness of single (available) targets compared with (unavailable) targets in a dating relationship. In addition, they boost the perceived attractiveness of their own partners after evaluating available (vs. unavailable) potential partners. A devaluation of the attractiveness of a potential partner by a person in a dating relationship is therefore, a matter of availability.

Our final study examines asymmetric effects on the amount of time or resources that individuals plan to invest on a goal-related activity versus a tempting activity. We predict that in respond to temptations, individuals set higher performance standards to maintain their level of performance on goal-related activity. In addition, in respond to a goal, individuals underestimate the amount of time and resources that they would like to devote to a tempting activity. We explore these overly optimistic predictions in the domain of academic goals and overcoming leisure temptation. We find that students augment the predicted amount of time that they will spend on academic activities (e.g., completing their coursework) when they first consider the time spent on leisure activities (vs. not). We also find that students undermine the amount of time that they will spend on leisure activities (e.g., watching TV) if they first consider the time spent on academic activities (vs. not).

Taken together, these studies document asymmetric changes in motivation for goal pursuing and giving in to temptation: augmenting the goal value while undermining the temptation value, and setting optimistic expectations for more goal pursuit and less time spent on succumbing to temptation.

REFERENCES


