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Taking a fresh perspective: Vicarious restoration as a means of recovering self-control

Patrick M. Egan *, Edward R. Hirt, Samuel C. Karpen

Department of Psychological and Brain Sciences, Indiana University, USA

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ABSTRACT

In the realm of self-regulation, recent work shows that the state of ego depletion can be vicariously transmitted from a target to a perceiver simply by imagining the perspective of a depleted target (i.e., vicarious depletion; Ackerman et al., 2009). The present study asked whether such vicarious effects can extend to the domain of self-regulatory recovery. In Experiment 1, depleted participants who took the perspective of someone engaging in a restorative activity showed recovered self-control on a later task. Experiments 2 and 3 expanded upon this effect by illustrating that such vicarious self-regulatory processes only emerge if the target is similar to the participant. Taken together, the present studies offer a powerful method by which mental resources can be replenished, and identify one critical boundary condition of its effectiveness.

Introduction

From controlling our food intake (Kahan, Polivy, & Herman, 2003) to facilitating intelligent responses (Baumeister, Twenge, & Nuss, 2002) to inhibiting racial prejudice (Gailliot, Peruche, Plant, & Baumeister, 2009), self-control allows us to act in ways that are better for ourselves and for society as a whole. With such practical and personal relevance to our everyday lives, researchers have been greatly interested in the stability of people's self-regulatory capacities across time and context. For over a decade, the depletion model of self-regulation has been one of the most prominent perspectives to consider these questions of self-control. In short, this model proposes that self-control is a limited resource that, when depleted, significantly impairs future self-regulation (Baumeister, Bratslavsky, Muraven, & Tice, 1998). Thus, when people self-regulate their behavior in one situation (e.g., resisting unhealthy food while on a diet), they are less able to self-regulate in a subsequent situation (e.g., inhibiting stereotypes when forming impressions of others).

Interestingly, recent work suggests that one need not even engage in a self-regulatory activity to experience ego depletion effects. Borrowing from the burgeoning literature of vicarious mood (e.g., Neumann & Strack, 2000), behavior (e.g., Chartrand & Bargh, 1999), and personality (e.g., Goldstein & Cialdini, 2007) effects, Ackerman, Goldstein, Shapiro, and Bargh (2009) showed that people can be vicariously depleted of their mental resources simply by imagining the self-control behaviors of another individual. Compared to individuals who took the perspective of a target that engaged in neutral behaviors, participants who took the perspective of a target that resisted his or her impulses showed poorer self-control on a subsequent task. These results imply that it is not the act of perspective-taking and the cognitive effort that act requires which leads to depletion effects; rather, it is the nature of the perspective one takes which has the ability to deplete mental resources.

Regardless of its actual or vicarious origins, the numerous negative impacts of depletion have led researchers to hypothesize methods by which this aversive state can be combated. Recent work on this issue has yielded increased understanding of how self-regulatory energy can be restored following an initial act of depletion. For instance, variables such as glucose (Gailliot et al., 2007), positive mood (Tice, Baumeister, Shmueli, & Muraven, 2007), self-affirmation (Schmeichel & Vohs, 2009), motivation (Muraven & Slessareva, 2003), and goal activation (Martijn, Tenbult, Merckelbach, Dreezens, & de Vries, 2002) have all been shown to positively impact an individual's overall level of self-control resources. The present paper seeks to expand this emerging line of literature by proposing that self-control restoration can take place vicariously. Thus, just as individuals can have their self-control restored via direct behavioral manipulations, we argue that this process of restoration may also emerge indirectly when individuals are asked to imagine a restorative experience from another person's perspective.

The power of perspective-taking

Several recent works in cognitive science and social neuroscience have shown that imagination and perspective-taking lead to a myriad of consequences akin to vicarious experience (e.g., Ackerman et al., 2009; Ames, Jenkins, Banaji, & Mitchell, 2008; Decety & Jackson, 2006; Goldman, 2006; Ruby & Decety, 2004; Weisbuch & Ambady,

* Corresponding author at: Department of Psychological and Brain Sciences, Indiana University, 1101 E. 10th Street, Bloomington, IN 47405, USA.
E-mail address: pmegan@indiana.edu (P.M. Egan).

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2008). We attempt to outline some of these findings before ultimately tackling the question of vicarious restoration.

The most substantive evidence for the power of perspective-taking comes from studies on the neurological effects of imagining another's thoughts and behaviors. One central finding from such work is that perspective-taking actually increases self-referential processing within the brain (Ames et al., 2008). This implies that when we imagine the actions of another, we necessarily rely on bridging our own experiences with those of the social target. Thus, taking another's perspective should effectively put the perceiver "in the shoes" of the target, allowing the target's experiences and feelings to mentally transfer to the perceiver. Consistent with such theorizing, much recent work shows that taking the perspective of a social target's behaviors activates the same pattern of neural responses associated with the individual's own performance of such behaviors (Goldman, 2006; Ruby & Decety, 2004; see also Gutsell & Inzlicht, 2010). For example, Goldman's (2006) simulation theory argues that imagining the enactment of any particular behavior involves the same types of brain activation that are implicated in the perception and action of this behavior. Applied to vicarious restoration, such work would imply that taking another person's restored perspective is tantamount to observing or engaging in a particular restorative action oneself.

Other indirect evidence for the power of perspective-taking is derived from an examination of the action-perception literature. In particular, much emerging work suggests that the mere perception of another's actions causes the mammalian brain to neurologically mimic these actions on an unconscious level (e.g., Lui et al., 2008; see Cattaneo & Rizzolatti, 2009 for a review). Although controversial to some, these findings have a great deal of relevance for the effects of perspective-taking. Assuming that perspective-taking at minimum involves the *perception* of a particular action (if not the *experience* of this action; Goldman, 2006), this perception in and of itself should be entirely sufficient in promoting vicarious processes (Cattaneo & Rizzolatti, 2009). Thus, regardless of whether perspective-taking truly involves a veridical neurological experience of an overt behavior, or just the mental representation of this behavior's typical enactment, either of these processes should inherently allow the emergence of vicarious restoration for the perceiver.

Overview

Given the direct (e.g., Goldman, 2006) and indirect (e.g., Cattaneo & Rizzolatti, 2009; Gutsell & Inzlicht, 2010) links between perspective-taking and direct neurological experiences, it follows that taking another's perspective can lead to emotional (e.g., Weisbuch & Ambady, 2008), behavioral (e.g., Ackerman et al., 2009), and even personality (e.g., Goldstein & Cialdini, 2007) convergence between a social perceiver and a social target. The current work seeks to expand this perspective-taking literature by examining whether such vicarious effects can also be obtained in the realm of self-regulatory recovery. In other words, if one imagines another person engaging in energy restoration, can the restorative feelings of the target spontaneously transfer to the perceiver?

Three experiments attempt to answer the question of vicarious restoration. In Experiment 1, we test our initial hypothesis of vicarious restoration by asking already depleted participants to take the perspective of (or simply read about) a target who does or does not engage in a restorative behavior. In Experiment 2, we attempt to further illustrate the generalizability of this vicarious restoration effect, as well as delineate the potential moderating role of target-participant similarity. Finally, Experiment 3 attempts to rule out one possible alternative explanation of Experiment 2 while expanding the scope of our vicarious effects.

In addition to testing the effects of perspective-taking on self-regulatory recovery, we also seek to investigate whether such vicarious effects are potentially mediated by various state measures that have been previously associated with ego depletion and restoration effects. In particular, we attempt to examine mood, perceived depletion, and motivation as possible mediators of vicarious restoration effects. However, in line with a direct neural account of vicarious restoration (e.g., Cattaneo & Rizzolatti, 2009; Goldman, 2006), we anticipate that such transient state measures will be relatively unaffected by our experimental manipulations.

Experiment 1

The purpose of Experiment 1 was to examine whether participants could be vicariously restored by taking the perspective of a target who engaged in a restorative activity. To test this hypothesis, we first depleted participants, then asked them to take the perspective of (or read about) a target who did (or did not) restore energy via resting. By including a reading comparison condition, we hoped to isolate the specific effects of perspective-taking that are not due to simple priming mechanisms. After this task, we gave participants a series of problems to solve, some of which (unbeknownst to participants) were unsolvable. The amount of time participants persisted on these unsolvable problems was used as our index of self-control (e.g., Muraven, Tice, & Baumeister, 1998).

Method

Participants

105 Indiana University (IU) students (51 female) participated for partial course credit.

Design

Participants were randomly assigned to one of four conditions using a 2 (task: perspective-taking or reading) × 2 (story: restorative or non-restorative) between-subjects design. Two control conditions (i.e., a depleted and a non-depleted control) were also included for comparison purposes.

Procedure

Participants were first presented with a thought-listing task for 5 min (e.g., Tice et al., 2007). Depleted controls and all experimental conditions were asked to avoid thinking about a white bear during this task, whereas non-depleted controls were allowed to think freely about anything they wished (Wegner, Schneider, Carter, & White, 1987).

Following the thought-listing task, the experimental conditions were then directed to a restorative (or non-restorative) story. The control conditions did not complete this task. At the outset, some participants were informed that the objective of the task was to put themselves in the shoes of the target in an upcoming story and attempt to imagine what it would be like to perform the same actions as the target (perspective-taking condition). The remainder of participants were simply asked to read the story carefully (reading condition).

The story in question described a student (matched to the participant's gender) who was working at a local office and attempting to finish a work project by the end of the day. Participants in the non-restorative condition read that the student continued working on the project as the day went on. Participants in the restorative condition read that, in the middle of the day, the student decided to take a 30-minute nap and then continued working. Importantly, neither story implied that the target was currently experiencing high levels of mental depletion; the restorative condition simply read that the target napped and worked, whereas the non-restorative condition read that the target worked.

After completing this story, participants were asked several questions regarding their current state, as numerous transient state measures have been shown to predict the emergence of restorative effects (e.g., Clarkson, Hirt, Jia, & Alexander, 2010; Tice et al., 2007). First, participants completed several items regarding their current mood, adapted from the Brief Mood Introspection Survey (BMIS: Mayer & Gaschke, 1988). Specifically, the items asked participants how much