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Consideration of future consequences, ego-depletion, and self-control: Support for distinguishing between CFC-Immediate and CFC-Future sub-scales

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Abstract

We examine how individual differences in the consideration of future consequences (Strathman et al., 1994) impact trait self-control, and temporal discounting under conditions of ego-depletion. Study 1 ($N = 986$) reveals that the CFC scale contains two underlying factors, which can be labeled the CFC-Immediate (CFC-I) and CFC-Future (CFC-F) sub-scales. Supporting the distinction between the two sub-scales, Study 2 ($N = 147$) shows that lower levels of trait self-control are best predicted by higher levels of CFC-I (not CFC-F), while Study 3 ($N = 104$) reveals that ego-depletion leads to more temporal discounting only among those high in CFC-I. Future use of the two sub-scales is encouraged.

Keywords: Consideration of future consequences; Ego-depletion; Self-control; Temporal discounting

1. Introduction

By definition, most acts of self-control involve sacrificing short-term happiness (e.g., directing money one might spend today into a retirement fund) to achieve long-term well-being (e.g., retiring with enough money to live comfortably) (Rachlin, 2000). As a result, personality psychologists interested in understanding self-control have long been interested in traits related to an individual's concern with immediate vs. future consequences. One construct that has received a fair amount of attention in this regard is known as the *consideration of future consequences* (Strathman et al., 1994; cf. Zimbardo & Boyd, 1999). Individual differences in CFC reflect "the extent to which people consider the potential distant outcomes of their current behaviors and the extent to which they are influenced by these potential outcomes" (Strathman et al., 1994; p. 743). Individuals low in CFC attach a high degree of importance to the immediate consequences of behavior, while individuals high in CFC attach a high degree of importance to the future consequences of behavior.

A growing body of research indicates that individual differences in CFC predict a range of behaviors reflective of self-control (for a review, see Joireman, Strathman, & Balliet, 2006). For example, relative to those scoring low in CFC, individuals scoring high in CFC report less use of tobacco and alcohol (Strathman et al., 1994), less aggression (Joireman, Anderson, & Strathman, 2003), more fiscally responsible behavior (Joireman, Sprott, & Spangenberg, 2005), and more frequent exercise (Ouellette, Hessling, Gibbons, Reis-Bergan, & Gerrard, 2005). High levels of CFC are also positively correlated with personality traits related to self-control including conscientiousness

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and delay of gratification (Strathman et al., 1994) and negatively correlated with impulsivity (Joireman et al., 2003).

Despite this impressive body of evidence, questions remain about the underlying nature of the CFC construct, and these questions have important implications for how best to interpret past research linking CFC to various measures of self-control. In particular, while the CFC construct is conceptualized as "the extent to which people consider the potential distant outcomes of their current behaviors" the actual items in the scale reflect a concern with distant, as well as immediate, consequences of one's actions. In their original paper, Strathman et al. (1994) reported exploratory and confirmatory factor analyses that supported the presence of one underlying factor, and past research has without exception found that the 12-item CFC scale possesses a high level of internal reliability (alphas typically range from .80 to .85). However, in a more recent study, Petrocelli (2003) reported a series of factor analyses that support the presence of two underlying factors, including an immediate and a future sub-factor. Petrocelli did not, however, examine the implications of the two factors, so it is unclear whether it is useful to distinguish between what we will label "CFC-Immediate" and "CFC-Future" sub-scales.

Accordingly, the purposes of the present paper are threefold. First, we report a large sample confirmatory factor analysis that attempts to replicate Petrocelli's finding that the CFC scale contains two underlying sub-factors, focusing on immediate and future consequences, respectively (Petrocelli, 2003). Second, we explore the validity of a two-factor solution by examining whether the two sub-factors are differentially predictive of trait self-control. Finally, we offer a second test of the validity of a two-factor solution by examining whether the two sub-factors differentially interact with ego-depletion to predict a decision process closely related to self-control (i.e., temporal discounting).

2. CFC predicts self-control, but why? Susceptibility vs. buffering hypotheses

As noted, individual differences in CFC predict a range of behaviors related to self-control. To date, however, no studies have reported a relationship between CFC and trait self-control. At one level, establishing a relationship between CFC and self-control might appear unnecessary in light of past research. However, it is important to recognize that past research has never explored which aspect of CFC is most closely related to self-control. For example, past studies have shown that high scores on the CFC scale predict a weaker tendency to engage in impulse buying (Joireman et al., 2005). But, because the CFC scale contains questions tapping concern with immediate and concern with future consequences, at least three interpretations can be offered to explain this result. First, it is possible that those who have a high concern with immediate consequences are more likely to engage in impulse buying. Second, it is possible that those who have a high concern with future consequences are less likely to engage in impulse buying. Finally, it is possible that impulse buying is predicted by a combination of concern with immediate and concern with future consequences. By separating out concern with immediate and concern with future consequences, it is possible to gain more insight into the possible mechanisms contributing to impulse buying, or any other behavior requiring self-control. More specifically, according to a *susceptibility hypothesis*, concern with immediate consequences should be the best predictor of (low) self-control (i.e., people concerned with immediate consequences are susceptible to self-control failure). On the other hand, according to a *buffering hypothesis*, concern with future consequences should be the best predictor of self-control (i.e., a concern with future consequences buffers a person against self-control failure).

3. CFC and temporal discounting

Establishing that the two CFC sub-scales differentially predict trait self-control would provide initial evidence for the validity of that distinction. To provide additional evidence for that distinction, we also explored whether the two sub-scales might differentially predict a decision process closely related to the notion of low self-control, namely the tendency to discount the value of future outcomes. In the typical temporal discounting paradigm, participants are given a choice between a smaller, more immediate reward ($5 in two days) and a larger delayed reward ($10 in 7 days) (e.g., Kirby, Petry, & Bickel, 1999). Not surprisingly, past research has shown an inverse relationship between scores on the CFC scale and temporal discounting (Joireman et al., 2005). Here again, however, no attempt was made to examine whether the two subscales differentially predicted temporal discounting. Following our earlier logic, a *susceptibility hypothesis* would predict that concern with immediate consequences should best predict temporal discounting, while a *buffering hypothesis* would predict that concern with future consequences should be the best predictor of temporal discounting.

4. Ego-depletion and temporal discounting

As a final test of the validity of distinction between the CFC-Immediate and CFC-Future sub-scales, we also explore whether these two sub-scales differentially interact with features of the situation (ego-depletion) to predict temporal discounting. According to the depletion model of self-regulation, self-regulation operates like a muscle, such that regulating behavior in one domain can reduce an individual's ability to regulate their behavior in a subsequent domain (Baumeister & Heatherton, 1996; Muraven, Tice, & Baumeister, 1998). Many studies using various manipulations intended to deplete self-regulatory resources (e.g., emotion suppression, attention regulation) have shown that when people are required to regulate their behavior in one domain, their ability to regulate in another domain dimin-