Strategies for improving self-control among naïve, sophisticated, and time-consistent consumers ☆

Naomi Mandel [a,*], Maura L. Scott [b], Sunghoon Kim [a], Rajiv K. Sinha [c,1,2]

[a] Department of Marketing, Arizona State University, P.O. Box 874106, Tempe, AZ 85287-4106, United States
[b] Department of Marketing, Florida State University, 821 Academic Way, Rovetta Building 307-A, Tallahassee, FL 32306, United States
[c] Formerly of the Department of Marketing, Arizona State University, United States

ARTICLE INFO

ABSTRACT

Important prior research has established measurement scales (e.g., Tangney, Baumeister, & Boone, 2004) to determine individual differences in self-control and to predict behavior. However, these measurement scales do not account for the lack of awareness that many people have regarding their own self-control abilities. In the current research, the authors develop a new classification method based on O'Donoghue and Rabin's (1999a) theory of time-consistent, naïve, and sophisticated individuals, and they show that this method predicts future preferences and behavior. In addition, the authors test two alternative strategies for improving self-control: precommitment (Ariely & Wertenbroch, 2002) and outcome elaboration (Nenkov, Inman, & Hulland, 2008), and they demonstrate how these strategies differentially affect these three categories of consumers.

© 2017 Elsevier B.V. All rights reserved.

1. Introduction

People around the world seem to be suffering from self-control crises, resulting in large and growing levels of obesity and credit card debt. Consumers are making valiant attempts to overcome their self-control lapses, but evidence suggests they struggle to succeed at exerting self-control, as obesity and diabetes rates continue to rise (Ogden, Carroll, Kit, & Flegal, 2014). Legislation such as the Credit Card Accountability, Responsibility and Disclosure Act and the Menu Education and Labeling Act seem to assume that most consumers are unaware of the consequences of their choices, and that mere education about

consequences will prevent self-control lapses (Hirsch, 2009; Krudy, 2009). Nevertheless, studies have found very small or no reductions in caloric intake at restaurants since required menu labeling went into effect (Downs, Loewenstein, & Wisdom, 2009; Rabin, 2009). Many self-control lapses occur despite full knowledge of negative consequences (Downs et al., 2009), and thus merely increasing access to information is unlikely to override consumer impulses to overconsume (Hasler, 2008). Economists have formalized this phenomenon by proposing that most consumers are time-inconsistent (Loewenstein & Prelec, 1992; O'Donoghue & Rabin, 1999a).

In this paper, we build on O'Donoghue and Rabin's (1999a) theory to develop a new classification method, based on K-means clustering, to empirically identify individuals as time-consistent, naïve, or sophisticated. We do so by measuring the consistency between their ideal, predicted, and actual behaviors. We show that each consumer's assigned category accurately predicts his or her future behavior. We also test two alternative strategies for improving self-control, precommitment (Ariely & Wertenbroch, 2002) and outcome elaboration (Nenkov, Inman, & Hulland, 2008), and we demonstrate how these strategies differentially affect these three categories of consumers.

The current research offers a number of contributions to the existing literature. First, we develop, validate, and empirically test a method of categorizing individuals into time-consistent, naïve and sophisticated consumer segments. To our knowledge, only one published article has empirically categorized individuals into these categories. Specifically, Wong (2008) demonstrated that students' levels of sophistication and naiveté regarding exam studying predicted their academic class performance. We build on this prior work by showing that individuals' self-control tendencies in one domain (e.g., studying) can predict their performance in unrelated self-control domains (e.g., resisting tempting food and a cold-pressor task). In doing so, we offer a potential improvement to existing measures of self-control ability. Such measures have generally assumed that consumers are relatively higher or lower in self-control (e.g., on a 7-point scale; Tangney, Baumeister, & Boone, 2004). As our findings bring to light, a limitation of this traditional approach is that on a self-reported scale, naïve consumers score themselves as high in self-control (similar to time-consistent consumers), but in terms of actual behavior, they exhibit low self-control (similar to sophisticated consumers).

We also empirically test the effectiveness of two different self-control strategies on these three segments of consumers. In doing so, we demonstrate the importance of distinguishing between different types of consumers (time-consistent, naïve, and sophisticated), because self-control strategies that work for naïfs will not necessarily work for sophisticates, and vice versa. In line with the goals of this special issue, we believe that this work has the potential to aid in synthesizing perspectives from economics, psychology, and consumer behavior, and thusly to add to the existing knowledge regarding the measurement of these three consumer categories, as well as to offer a way forward for means to overcome intertemporal biases.

Furthermore, this research directly addresses the focus of this special issue. Specifically, we demonstrate that when it comes to self-control, what individuals prefer in the present (i.e., their ideal behavior) may be quite different from their predicted and/or actual behavior in the future. Also consistent with the theme of the special issue, we study the effects of two self-control techniques, precommitment and outcome elaboration, on temporary shifts in self-control behavior.

2. Time inconsistency and self-control

Definitions of self-control vary across scholarly disciplines. Social psychologists typically define self-control as the ability to override, interrupt, or otherwise alter one's natural responses (Muraven, Tice, & Baumeister, 1998). Self-control tasks in this paradigm may include solving moderately difficult math problems, making a series of consumer choices, holding a hand in ice-cold water (known as a cold-pressor task), or avoiding impulsive, unplanned purchases (Vohs & Faber, 2007; Vohs et al., 2008). In contrast, consumer behavior researchers in marketing often frame self-control tasks as a choice between heart and mind (Shiv & Fedorikhin, 1999), vice and virtue (Khan & Dhar, 2006), or hedonic and utilitarian (Dhar & Wertenbroch, 2000), such as the choice between chocolate cake and fruit salad.

Behavioral economists typically characterize the problem of self-control as a tradeoff between instant gratification and future costs (Loewenstein & Thaler, 1989). Economic theory has traditionally assumed that consumers discount future utility streams in an exponential manner, meaning that the utility of future events is discounted more strongly by a constant factor the further they lie in the future (see Frederick, Loewenstein, & O'Donoghue, 2002 for a review). The main implication of this exponential discounting model is that consumers make time-consistent choices: their decisions about a choice are not dependent on whether it is being made today or at a future time.

Numerous researchers have pointed out that this time-consistency assumption is at odds with observed consumer behavior (Hoch & Loewenstein, 1991). In general, people exhibit *time-inconsistent* behavior, in that today's preferences for a delayed reward are different from future preferences for the same delayed reward. In terms of self-control, time inconsistency leads to the inability to take virtuous actions in the present, such as consuming healthy foods, exercising, or investing in savings plans, or quitting smoking (Machado & Sinha, 2007). In each case, the penchant for instant gratification outweighs the benefits of delayed utility.

In the current research, we build on the self-control literature in economics, social psychology, and marketing to inform our definition and operationalization of self-control. We define a self-control task as an explicit trade-off between now and later, such as: (1) avoiding a reward now (e.g., candy or dessert) in order to receive a larger reward later (e.g., improved health and weight control) or (2) enduring discomfort now (e.g., studying for an exam), in order to get a reward later (e.g., a higher grade). According to our definition, a typical vice/virtue tradeoff, such as a choice between chocolate cake and fruit salad, would qualify as a self-control task (type 1), and a typical self-regulation task, such as a cold-pressor task,