

# Consumer spending self-control effectiveness and outcome elaboration prompts

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**Abstract** Decision making related to finances is of significant importance. A major factor underlying financial decision making involves differences in consumers' spending self-control (CSSC). We conceptualize CSSC as an individual difference, distinct from general self-control, develop a parsimonious measure to assess it, and demonstrate important related consequences and behaviors. Further, we examine how underlying differences in CSSC impact the effectiveness of a self-control strategy that has recently received attention in public policy legislation—enhancing consumers' awareness of the future consequences of present behavior through the provision of outcome elaboration prompts. Results from our studies suggest that outcome elaboration prompts (that is, external stimuli used to encourage consumers to consider the future outcomes of their present decisions) differentially impact consumers' self-control effectiveness depending on their inherent CSSC. Specifically, the presence of outcome elaboration prompts enhances self-control for low CSSC consumers, but does not affect the choices of high CSSC consumers. Furthermore, we provide direct evidence that it is a differential focus on future outcomes that drives the distinct

responses of high- versus low-CSSC consumers to the provision of outcome elaboration prompts.

**Keywords** Self-control · Spending · Outcome elaboration prompts · Future outcome elaboration · Credit cards · Goals

Reports abound throughout the media regarding a plethora of financial hardships being faced by consumers. Regardless of recent turmoil in various economic markets, a consistent factor contributing to lowered consumer financial well-being resides in the lack of control many consumers have over their own spending. Specifically, Western society suffers from rising bankruptcies and foreclosures caused by overextension of credit and low savings rates. Recent reports from the American Bankruptcy Institute (2010) state that household debt to disposable income ratios are at a record high, and bankruptcy filings continue to soar. In addition to the frequent financing of consumption through the use of credit, a lack of personal savings threatens to further strain the financial future of citizens as illustrated by the continually low personal savings rate in the United States, which currently hovers at around 3% (Bureau of Economic Analysis 2010) and is consistently one of the world's lowest (Guidolin and La Jeunesse 2007).

Due to the severity of the consequences associated with the poor control of spending, it is critical to be able to more fully understand the ability of consumers to exercise effective spending self-control. This understanding could in turn contribute to the design of effective methods to increase spending self-control in order to avoid the detrimental financial (e.g., bankruptcy, poor credit), psychological (e.g., stress, guilt, anxiety), and social (e.g., strained relationships, divorce) consequences associated with uncontrolled spending.

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In pursuit of the objective to understand and enhance spending self-control, the purpose of the current research is to examine underlying individual differences in consumer spending self-control (CSSC), defined as the ability to monitor and regulate one's spending-related thoughts and decisions in accordance with self-imposed standards. We also establish the distinction between consumer spending self-control and general self-control, develop a parsimonious measure to assess CSSC, and study the relationship between CSSC differences and patterns of spending and consumption, which might have an impact on consumers' financial well-being. Further, the current research explores interventions that can at least temporarily enhance consumers' spending self-control effectiveness by investigating how underlying differences in CSSC lead to distinct interpretations of external efforts to influence spending behaviors. We examine the possibility that the provision of external prompts or strategies (i.e., prompts enhancing consumers' awareness of the future consequences of present behavior) can positively influence consumers who are the most at risk of self-control failure.

Conventional wisdom suggests that people should think about the consequences of their actions before they take them; that is, they should “think before they act/speak” and “look before they leap.” Indeed, strategies specifically bringing attention to future periods of time should increase self-control effectiveness as such cues allow individuals to consider consequences consistent with their higher-order goals (Fujita et al. 2006). In this paper, we examine one such strategy—the provision of outcome elaboration prompts—and assess conditions under which it effectively promotes self-control. We build upon extant research that has started to emphasize the beneficial effects of considering the outcomes that might occur in the future for the effective control of one's behavior in the present (e.g., Baumeister and Heatherton 1996; Nenkov et al. 2008) by specifically assessing the effects of outcome elaboration prompts, defined as external stimuli that prompt consumers to consider the potential consequences of present financial decisions (e.g., credit card disclosures of period of time and total interest it will take to pay off balance or warnings to think carefully before assuming more credit).

Understanding the effects of such prompts is of extreme importance given recent legislation on mutual fund and credit card advertising mandating the provision of such explicit future-oriented information about the outcomes of mutual fund investment and the use of credit (see e.g., Federal Register 2003; Office of Fair Trading Press Release 2004; White House Press Release 2009). In spite of the importance of outcome elaboration prompts, however, prior research has not tested for what people and in what situations outcome elaboration prompts would promote effective spending self-control.

The current research has two primary objectives that lead to important contributions to our understanding of consumer financial decision making. The first objective is to develop the conceptualization and measurement of the CSSC construct. In pursuit of this objective, in Studies 1a, 1b, and 1c, we develop a valid and reliable measure to capture CSSC, and we then present Studies 2 and 3, which illustrate the importance of CSSC by demonstrating its ability to predict relevant attitudes and behaviors in purchasing situations. As part of our measurement development process, we distinguish CSSC from general self-control. The second objective of this research is to propose interventions that can at least temporarily enhance consumers' spending self-control effectiveness. We propose that external outcome elaboration prompts can be used to improve spending self-control. Specifically, we argue that differences in CSSC lead to different reactions to external stimuli that prompt consumers to consider the potential consequences of present spending behaviors. In pursuit of this objective, in Studies 4 and 5 we show that outcome elaboration prompts improve spending self-control effectiveness for low CSSC consumers and do not affect the naturally strong spending self-control of high CSSC consumers. Moreover, in Study 5 we provide direct evidence that it is change in the focus on future outcomes that drives consumers' responses to outcome elaboration prompts.

The studies presented consider different dependent outcomes (e.g., impulse purchases, willingness to pay for products, tradeoffs between immediate consumption and debt incurrence and repayment) in order to demonstrate the wide-ranging applicability of the CSSC construct and its effects on a broad scope of spending-related behaviors.

### Conceptualizing consumer spending self-control

We begin with a brief overview of the individual trait of general self-control. Next, we introduce the present conceptualization of consumer spending self-control (CSSC) and discuss its relationship to other self-control related constructs.

#### General self-control

General self-control is defined as the ability to monitor one's behavior, have clear standards, and possess the capacity for change (Baumeister 2002; Carver and Scheier 1998; Vohs and Faber 2007). Inherent individual differences in self-control represent a stable characteristic of one's personality (Baumeister 2002). In fact, the well-established five-factor taxonomy of personality traits includes “conscientiousness, control, or constraint” as the

third factor (Goldberg 1990), providing evidence that self-control is an important personality trait capable of explaining a variety of individual differences in behavior (Baumeister 2002). Tangney et al. (2004) developed a trait measure of self-control, which focuses on resisting temptation, keeping good self-discipline, and breaking habits. While all of these dimensions relate to the overall human capacity to exert control over one's behaviors, this general tendency is likely to differ across domains. Tangney et al.'s (2004) measure addresses domains across a wide variety of behaviors, but it only tangentially addresses consumption-related phenomena (e.g., only one of the 36 items in their long scale version directly addresses consumption of financial resources).

### Consumer spending self-control

Within their study of self-control as related to consumption, Hoch and Loewenstein (1991) conceptualize consumer self-control as a struggle between willpower and desire that arises from preferences that are inconsistent with respect to time (also see Baumeister 2002; Wertenbroch 1998). Consumption-related self-control failures occur when indulgent local consumption is chosen at the expense of global goals, often due to the visceral influences that attractive consumption opportunities have on our behaviors (Loewenstein 1996). Control over one's spending certainly shares many commonalities with aspects of one's general self-control, and yet a more targeted study of spending self-control could help advance understanding of how to effectively enhance this essential form of self-control. While a general measure of self-control might have some explanatory value for spending- and consumption-related outcomes, we expect that a more specific conceptualization and measure of control within the domain of spending and financial behaviors should be able to better explain a variety of important and consequential behaviors and attitudes exhibited by consumers.

Recent research highlights the importance of domain specificity in better understanding the effects of individual traits (e.g., risk-taking tendencies, see Hanoch et al. 2006; propensity to plan, see Lynch et al. 2010). As such, we seek to demonstrate how self-control applies specifically to the study of consumers' spending behavior and decision making, an effort consistent with Baumgartner's (2002) call to develop frameworks in which more elemental traits are studied in conjunction with consumption-specific traits. This effort is also consistent with previous research, which has suggested that specificity in traits or attitudes will enhance the ability to predict relevant behavior (Fishbein and Ajzen 1975; Mowen 2000; Mowen and Spears 1999).

Consider for example why an individual who is generally high in self-control might have difficulties when

it comes to curtailing spending, or why someone who is generally average in self-control could be an extremely self-controlled health fanatic. We believe that an important part of the answer lies in taking into account how consumers decide to allocate their self-regulatory resources. Although one's pool of resources can be increased over time (Baumeister 2002; Muraven and Baumeister 2000), it is relatively fixed during a shorter time period. As such, consumers must make resource allocation decisions either implicitly or explicitly. Ego depletion accounts propose that individuals will have to choose the areas in which they most want to exert their limited self-control resources and conserve energy in other domains (Muraven et al. 2006). Thus, self-control will differ across domains, even though use of regulatory resources across domains draws from a common resource (Baumeister et al. 2007). Recognition of the differential application and abilities of a single individual to exercise self-control relevant to a specific domain is apparent in the development of measures related to control over food consumption (e.g., the Dieting Restraint Scale; Herman and Polivy 1975) and control over the use of time (Procrastination Scale; Lay 1986). As such, we suggest that a more focused examination of consumer spending self-control would facilitate our understanding of consumers' specific ability to regulate their spending-related behaviors and decisions.

Conceptualization of CSSC should take into account the primary aspects of self-control, namely, monitoring, having clear standards, and capacity for change (regulating) (Baumeister 2002; Carver and Scheier 1998; Vohs and Faber 2007). The monitoring aspect involves tracking one's behavior with respect to the standards that have been created. It is important that these standards are self-imposed and/or personally adopted by the consumer, or otherwise behaviors that are counterproductive may not truly be self-control failures, but simply matters of choice. Finally, individuals must have the capacity to actually change or regulate problematic behavior in a way that is consistent with the achievement of self-control goals. Therefore, we define consumer spending self-control (CSSC) as *the ability to monitor and regulate one's spending-related thoughts and decisions in accordance with self-imposed standards*.

### Related constructs

*Frugality* Lastovicka et al. (1999, p. 88) define frugality as "a unidimensional consumer lifestyle trait characterized by the degree to which consumers are both restrained in acquiring and in resourcefully using economic goods and services to achieve longer-term goals." This definition suggests similarities with CSSC, especially regarding restraint associated with pursuit of longer-term goals. As such, one would expect a positive relationship between

frugality and CSSC, such that individuals who are more frugal should also exhibit higher CSSC. Frugality is also distinct from CSSC because of frugality's emphasis on the resourceful use of acquired resources (e.g., restricting length of showers, using less than the recommended amount of detergent) and of its ideological nature stemming from various religious perspectives (Lastovicka et al. 1999). In contrast, CSSC focuses on the acquisition or lack of acquisition associated with control of spending decisions and can be considered more neutral with respect to ideology.

*Impulsive consumption* Much of the extant literature on consumer self-control has focused upon impulse purchasing, which is often conceptualized as unregulated, unplanned purchase behavior influenced by ones' chronic values regarding impulsiveness and the situational accessibility of costs and benefits (Baumeister 2002; Puri 1996; Rook and Fisher 1995; Vohs and Faber 2007). A common assumption is that self-control problems are often evidenced by impulsive behavior (Wertenbroch 1998), and impulsive buying is generally associated with the amount of control one has over their spending (e.g., Dholakia et al. 2006; Fujita et al. 2006; Vohs and Faber 2007). Of course, impulsive phenomena are not necessarily required in order for self-control of purchasing and consumption to be problematic (Ridgway et al. 2008; Shehryar et al. 2001). Similarly, impulsive behavior does not necessarily equate to self-control failure. For example, consumers could allot themselves money with which to make impulsive purchases, thereby preplanning to add a component of spontaneity into their lives.

*Compulsive consumption* We also note that compulsive consumption could be related to CSSC, although these phenomena are quite different conceptually. Specifically, O'Guinn and Faber (1989) define compulsive buying as chronic, repetitive purchasing that becomes a primary response to negative events or feelings and emphasize that although short-term benefits may exist, compulsive buying ultimately creates negative consequences. Consequences associated with high compulsive consumption include hiding behavior, family arguments, and frequent returns of purchased items (Ridgway et al. 2008). While several of the consequences associated with CSSC are similar to those of compulsive consumption, CSSC focuses upon the control aspects of consumer spending. As such, consumer spending self-control failure can be a contributing factor in both impulsive and compulsive buying. However, CSSC is a more pervasive trait that can be expressed in less chronic and more varied purchase and consumption decisions than behaviors associated with impulsive and compulsive buying.

*Other constructs* The pain that a consumer associates with spending money on products has been investigated by Rick et al. (2008). Rick et al. (2008) introduce a measure of tightwads and spendthrifts that examines general attitudes toward spending and the pain consumers associate with buying. While this distinction is relevant to CSSC, tightwad-spendthrift does not focus per se on standards, monitoring, or control over spending decisions. Finally, recent research, which introduced the elaboration on potential outcomes (EPO) trait (Nenkov et al. 2008), suggests that consumers differ in their tendencies to engage in pre-decision outcome elaboration and that those who tend to generate and evaluate potential outcomes when deciding how to behave exhibit more effective self-control. EPO emphasizes the future time perspective often associated with self-control (Hoch and Loewenstein 1991) and should be related, yet distinct from CSSC. Overall, several existing constructs are conceptually linked to and informative in considering self-control in a consumer context, and yet none of these constructs or their corresponding measures directly assesses one's attitudes and behaviors toward consumer spending self-control. As such, we next turn to developing a measure that can capture self-control differences in this important context.

## CSSC measurement development

### Item generation and judging

Three primary sources were used to develop an initial pool of items for evaluation in measuring the CSSC construct: the extant literature, the authors, and open-ended responses from 12 adult respondents. These methods resulted in an initial item pool of 66 items that reflect the previous definitions of general self-control (i.e., standards, monitoring, and regulating) but are specific to spending related decisions. The content validity of the items was assessed in two stages (see e.g., Netemeyer et al. 1995). First, the 66 items were randomly divided into two groups and sent to one of two panels of eight expert judges. Judges were given the overall conceptual definition of CSSC and asked to indicate whether each item was "not applicable," "somewhat applicable," or "very applicable." Items were not retained if more than two judges indicated that an item was not applicable, resulting in the elimination of 15 items. Second, the remaining 51 items were sent to a new expert panel of nine judges. Items were eliminated if fewer than six of the judges agreed on item content. This second judgmental stage eliminated 19 items, resulting in a total of 32 items.

Studies 1a and 1b: measurement refinement and reliability

For Study 1a, responses to the 32 remaining items were collected from adults via an online panel. A total of 164 (81 females) complete responses were received. Eighty-seven percent of the respondents were employed at least part-time, 61% reported annual income of \$50,000 or more, and the mean age was 34.6 years. In this study and all subsequent studies, responses to the CSSC measures were collected using 7-point scales where 1 = strongly disagree and 7 = strongly agree. Items were retained based on the following criteria, based upon Bearden et al. (1989): (1) corrected item-to-total correlations above .45 and (2) a clean (i.e., no cross-loadings) factor loading above .50. These analyses resulted in a reduced set of 19 items. The construct reliability and average variance extracted estimates for the CSSC measure were .91 and .52 and the average mean score (standard deviations) was 5.00 (1.13).

For Study 1b, 176 (100 females) complete responses were received using a new adult panel. Eighty-seven percent of the respondents were employed at least part-time, 55% reported annual income of \$50,000 or more, and the mean age was 35.8 years. The remaining 19 items were analyzed using a series of confirmatory factor analyses. After deletion of nine items with low reliability, these analyses resulted in a single factor model comprised of ten

items. The items are presented in the first column of Table 1. Multiple fit statistics demonstrated acceptable fit according to recommended cut-offs (Bollen 1989; Hu and Bentler 1999) and are displayed, along with the corresponding estimates from Study 1a, in Table 1. The construct reliability and average variance extracted estimates for the CSSC measure were .93 and .58 and the average mean score (standard deviations) was 5.06 (1.20).

Study 1c: discriminant validity and socially desirable responding

Study 1c incorporates general self-control for the purpose of investigating discriminant validity, while also addressing the issue of socially desirable responding. A total of 224 (119 females) responses were received from non-student adults. Ninety percent of the respondents were employed at least part-time, 53% percent reported annual income of \$50,000 or more, and the mean age was 42.0 years. In addition to the 10-item CSSC ( $\alpha=.93$ ) scale, we assessed the 13-item version of general self-control ( $\alpha=.82$ ; Tangney et al. 2004) and six items from a measure of desirable responding proposed by Paulhus (1998), Impression Management (IM).

Additional support for the 10-item, one-factor model of CSSC was provided from confirmatory factor analysis of the proposed scale (see Table 1). The correlation between

**Table 1** Confirmatory factor analysis results

Item <sup>a</sup>	Factor loading estimates		
	Study 1a (n=164)	Study 1b (n=176)	Study 1c (n=224)
1. I closely monitor my spending behavior.	0.75	0.74	0.73
2. I am able to work effectively toward long term financial goals.	0.65	0.77	0.68
3. I carefully consider my needs before making purchases.	0.75	0.74	0.78
4. I often delay taking action until I have carefully considered the consequences of my purchase decisions.	0.61	0.73	0.75
5. When I go out with friends, I keep track of what I am spending.	0.71	0.74	0.74
6. I am able to resist temptation in order to achieve my budget goals.	0.79	0.78	0.79
7. I know when to say when regarding how much I spend.	0.76	0.82	0.79
8. In social situations, I am generally aware of what I am spending.	0.71	0.78	0.79
9. Having objectives related to spending is important to me.	0.65	0.65	0.62
10. I am responsible when it comes to how much I spend.	0.79	0.87	0.83
Goodness of Fit Statistics	Study 1a	Study1b	Study1c
Comparative Fit Index (CFI)	0.95	0.96	0.94
Normed Fit Index (NFI)	0.94	0.95	0.93
Tucker-Lewis Index (TLI)	0.94	0.95	0.93
Standardized Root Mean Residual (SRMR)	0.06	0.05	0.06
Chi-square, 35 df	124.15	139.86	191.25

<sup>a</sup> Items measured on a 1–7 “strongly disagree” to “strongly agree” scale

CSSC and the general self-control measure was .48, indicating that the two self-control measures are correlated as expected, but still reflect distinct constructs. Confirmatory factor analyses, using the procedures recommended by Gerbing and Anderson (1988), were used to investigate discriminant validity. The chi-square difference test supported discriminant validity between CSSC and general self-control ( $\Delta\chi^2=837.80$ , 1 d.f.,  $p<.01$ ). Comparison of the AVE estimates with the squared phi coefficient reflecting the correlation between the measures of general self-control and CSSC provided additional evidence of discriminant validity. With respect to response bias, CSSC was not correlated with IM ( $r=.02$ ,  $p<.90$ ), which suggests that CSSC responses are not strongly influenced by impression management motives.

### The impact of differences in CSSC

Having established a valid, reliable, and parsimonious measure of consumer spending self-control, we now consider the impact of this important individual difference as manifested in a variety of consumption-related contexts in order to provide evidence of CSSC's ability to predict relevant behaviors. In this section, we propose some specific effects of consumer spending self-control on consumption attitudes and behaviors. Despite the inherent differences across consumers' financial situations, CSSC is expected to be insightful into general patterns of spending and consumption. In the following two studies, we focus on differences in responses to an unexpected impulsive purchase opportunity as well as differences in the actual amount of money that consumers are willing to pay for a variety of products, both of which have been associated with the amount of control one has over their spending (e.g., Dholakia et al. 2006; Fujita et al. 2006; Vohs and Faber 2007). Moreover, past literature has suggested that consumers who really want a present temptation are likely to pay more for it, that is, they will pay more to speed up consumption when they feel a strong desire to consume immediately (Fujita et al. 2006). Thus breakdown of control can also be associated with the amount the individual is willing to pay for immediate consumption to avoid experiencing a delay in desire fulfillment. Specifically, we predict that:

H1: Consumers lower in CSSC are overall more likely than consumers higher in CSSC to (a) make impulsive purchases, and (b) pay more for products.

Again, despite the inherent differences across consumers' financial situations, CSSC will provide insight into general patterns of spending and consumption (note that these patterns of spending and consumption would not necessarily be construed as bad or suboptimal for all consumers, for example, intentionally incorporating some impulsive buying

or spontaneity into one's life may enhance overall satisfaction; Haws and Poynor 2008). In the two studies that follow, we present participants with unexpected purchase situations and show that inherent differences in CSSC lead to such consequences as an enhanced likelihood to buy things on impulse, testing H1a (Study 2) and a tendency to pay more for products, testing H1b (Study 3). Studies 2 and 3 also demonstrate the relative predictive validity of CSSC beyond general self-control and other related constructs described earlier. Furthermore, following Studies 2 and 3, we explore whether CSSC differences predict consumers' willingness to forgo spending on immediate consumption in favor of repaying debt (Study 4) and their likelihood of incurring debt to finance immediate consumption (Study 5). We note that in some respects, these predicted effects are but illustrative of the types of behaviors that are likely to be affected by differences in CSSC, and our purpose is to illustrate the wide-ranging applicability of studying underlying differences in consumer spending self-control. Therefore, and as suggested in our subsequent discussion, additional opportunities exist for exploration in future research.

### Study 2: CSSC and purchase opportunities

In Study 2, we seek to provide support for H1a by testing how one's level of CSSC is related to responses to unexpected yet attractive consumption opportunities.

*Method* First, we examine differences in purchase decision making based on levels of CSSC, and we again distinguish CSSC from general self-control. Study 2 was conducted in two phases separated by 4 weeks to ensure that there would be no demand effects from responding to the CSSC measurement items and to provide a stronger test of our predictions. The two data collection phases were presented to participants as two ostensibly unrelated consumer decision making studies. Participants were 204 undergraduate students (102 females) who participated in exchange for extra course credit. In phase one, participants completed the 10-item CSSC scale ( $\alpha=.93$ ;  $M=5.00$ ;  $SD=1.06$ ) and the 13-item general self-control scale ( $\alpha=.86$ ; Tangney et al. 2004). Our analyses were unaffected by demographic variables; hence they are not discussed further. Four weeks later, in phase two, all participants were asked to imagine a fictional Ms. A encountering an attractive unplanned purchase opportunity for a jacket, adapted from Dholakia et al. (2006):

Ms. A is a 22-year old college student with a part-time job. It is 2 days before she gets the next paycheck and at present, she has only \$25 left for necessities in her bank account. In addition, she does have two credit cards that she sometimes uses. Today, Ms. A needs to buy a pair of warm socks for an

outdoor party coming up this weekend. After work, she goes with her friend Ms. B to the mall to purchase the socks. As they are walking through Macy's, Ms. A sees a great looking jacket on sale for \$50. The jacket is of a style that she has wanted to buy for a long time, and is in her favorite color. The helpful salesperson tells Ms. A that they have just one piece left in her size, and it is unlikely that they will get more pieces in this style in the future.

Following the scenario, participants were asked to indicate the probability that they would purchase the jacket if they were Ms. A using a percentage scale bounded by 0% and 100% chance with each 10% increment labeled.

**Results** We anticipated that individuals higher in CSSC would be less likely to make the unplanned credit card purchase than individuals lower in CSSC. A regression analysis simultaneously entering both CSSC and the general self-control measures as continuous predictor variables on the dependent measure of purchase likelihood revealed that CSSC was a significant predictor ( $b=-.19$ ,  $t=-2.33$ ,  $p=.02$ ), while general self-control was not ( $b=-.01$ ,  $t=-.13$ ,  $p=.90$ ).<sup>1</sup> A variance inflation factor of 1.3 indicated that multicollinearity was not an issue in our results. This result provided initial evidence that consumers lower in CSSC are more likely to purchase tempting products than are consumers higher in CSSC, providing support for H1a. Further, results confirmed that CSSC is a better predictor of spending-related decisions than general self-control, providing evidence that addressing self-control through the more domain-specific CSSC approach provides greater predictive ability.

### Study 3: CSSC and actual purchase behavior

In Study 3, we sought to extend our findings to actual purchase behavior by examining the amount consumers are willing to pay in an unexpected purchase situation (H1b) rather than just the likelihood to purchase. Specifically, this study investigates purchase behavior through the use of a modified Becker, DeGroot, and Marschak (Becker et al. 1964) willingness to pay elicitation procedure (Kahneman et al. 1991; Lerner et al. 2004). Although the modified BDM procedure is typically used in studying the endowment effect, the procedure also enables the elicitation of more precise willingness to pay estimates. Importantly, Study 3 included the use of real money and real purchases as described below. We also included a battery of other measures from the consumer behavior literature in order to

examine their relationship to both CSSC and general self-control, to further highlight the unique importance and predictive power of CSSC.

**Method** Participants were 136 undergraduate business students (74 females). The study was conducted in two phases separated by 2 weeks. Again, the two data collection phases were presented to participants as two ostensibly unrelated consumer decision making studies. In the first phase, participants responded to several individual difference measures including CSSC ( $\alpha=.90$ ;  $M=5.19$ ;  $SD=1.07$ ), the purpose of which was to demonstrate that CSSC would still remain a predictor of purchase decisions in the presence of other constructs. Specifically, these measures included general self-control ( $\alpha=.80$ ; Tangney et al. 2004), frugality ( $\alpha=.76$ ; Lastovicka et al. 1999), compulsive shopping ( $\alpha=.79$ ; Ridgway et al. 2008), tightwad-spendthrift ( $\alpha=.73$ ; Rick et al. 2008), elaboration on potential outcomes ( $\alpha=.91$ ; Nenkov et al. 2008), impulsiveness ( $\alpha=.90$ ; Rook and Fisher 1995), and price consciousness ( $\alpha=.92$ ; Lichtenstein et al. 1993). Lastly participants provided basic demographic information. Two weeks later, participants completed the second phase of the study, involving the use of a modified BDM procedure designed to elicit precise willingness to pay measures as described below.

Upon entering their individual stations in a behavioral research laboratory, participants encountered a mock store comprised of a variety of products including a university t-shirt, a toothbrush, a stainless steel coffee mug, an energy drink, a bag of gourmet trail mix, and a super-soaker water gun. These products were selected for appropriateness and relevance based on a series of pretests using the same undergraduate student population. Participants were asked to complete a computer-based study related to the products in their mock store. The computer instructions first informed them that they would be receiving \$20 for their participation in the study, but that they would have an opportunity to use some or all of that money to purchase an item (Vohs and Faber 2007). Next, participants reviewed an example of a BDM task in which an individual was asked to choose whether or not he/she would prefer to keep an amount of money or trade money for a product (water bottle) for several different incrementally larger amounts of money. Participants were then told that they would use a similar procedure to express how much they valued the products on display by choosing "keep money" or "trade money for product" for each of a combination of 12–18 evenly spaced price levels per product (customized to fit the general price increments and fit reasonably well on a single computer screen), all of which were under \$20 (the amount of money participants received). As such, participants indicated their own willingness to pay for each of the products on the scale provided by indicating at each

<sup>1</sup> Using a step-wise regression approach produces the same result. Individually, CSSC is a significant predictor, while general self-control is not.

monetary value whether they would keep the money or trade for the product, and the price level at which they last indicated that they would “trade money for product” (i.e., the highest price at which they were willing to trade the money for the product) was interpreted as their willingness to pay (Lerner et al. 2004).

The instructions encouraged the participants to act as though they were in a real retail environment and were free to inspect and touch the products as desired. Participants were told that there would be only one product available to actually buy in each session, but that this selected product and price would not be announced until the session’s end. Therefore, it was emphasized that their decision for each product was important and that the amount for the randomly selected product would be binding. These instructions ensured that participants knew that they would be spending real money on the items; they simply did not know which item would be chosen. As such, we were able to successfully obtain their willingness to pay for all of the items. At the end of the session, the selected product and price combination for that session were announced. If students were willing to pay the selected amount or more, they received the product plus \$20 minus the “winning” price for that session. If they were not willing to pay that amount, they simply received \$20 in cash.

**Results** Descriptive statistics as well as intercorrelations among all variables measured in this study are presented in Table 2. The six products available for purchase were combined to form a single willingness to pay index (Vohs and Faber 2007). In order to test whether or not CSSC provides explanatory power in the domain of financial purchase decision making, a series of regression analyses were executed. First, we conducted a regression analysis by using the index of product prices as the dependent variable and CSSC plus the other seven individual difference measures (i.e., self-control, frugality, compulsive shopping, tightwad-spendthrift, elaboration on potential outcomes, price consciousness, and impulsiveness) as predictors, entered simultaneously ( $F(7, 129)=7.90, p<.01$ ). CSSC emerged as the only significant predictor in this analysis ( $b=.25, t=2.10, p<.05$ ). None of the other variables were significant predictors of respondents’ willingness to pay for the set of products (all  $p$ 's $>.24$ ). Examination of the VIF statistics (all $<2.91$ ) from the full model regression in which all eight predictors (i.e., CSSC plus the seven additional predictors) were included suggested that multicollinearity did not account for the results.<sup>2</sup>

<sup>2</sup> To further confirm our results, we also used a stepwise regression where the index of product prices was again regressed on CSSC plus the other seven potential predictors, and again, CSSC emerged as the only significant predictor ( $b=.24, t=2.81, p<.01$ ).

Overall, CSSC emerged as a significant positive predictor above and beyond other related variables. As such, CSSC appears to capture unique variation in individuals’ willingness to pay for real products using real money, providing support for H1b and offering useful insights into financial decision making. Study 3 provides evidence that CSSC is linked to actual purchase behaviors, suggesting that in general, across a basket of various products, those with higher levels of CSSC pay less for products than do those with lower levels of CSSC. In addition, this study provided an opportunity to distinguish between CSSC and other related constructs.

Studies 2 and 3 demonstrated some of the variations in consumer spending attitudes and behaviors that result from inherent differences in CSSC and provided support for H1. So far, results show that CSSC is a distinct construct and is predictive of relevant spending behaviors. Consumers low in CSSC exhibited an enhanced likelihood to buy unplanned things on impulse and a tendency to pay more for products than did their higher CSSC counterparts. These findings suggest that lower CSSC consumers would be particularly vulnerable to the negative financial consequences of excessive spending discussed earlier. Given these negative consequences of CSSC failure, identifying simple approaches to enhance consumer spending self-control can have enormous benefits. Next, we propose that promoting a focus on future outcomes through the provision of outcome elaboration prompts is one such approach.

### Improving CSSC through outcome elaboration prompts

Are there simple steps or contextual changes that can guide consumers toward regulating their behavior and making decisions more consistent with their overall goals? Researchers have argued that the process of transcending the present and anticipating potential desired and undesired outcomes lies at the heart of self-regulation (Baumeister et al. 1994; Baumeister and Heatherton 1996; Carver and Scheier 1998). Moreover, recent work has empirically demonstrated that individual proclivity to engage in outcome elaboration is beneficial for successful self-regulation (Nenkov et al. 2008). Therefore, considering future consequences can enhance self-control by helping individuals focus on the future and transcend present temptations.

We seek to understand how using external stimuli to prompt consumers to consider future outcomes might affect self-control. Past research has examined the impact of directly encouraging consumers to consider potential outcomes by instructing them to list the potential outcomes before making a decision (Nenkov et al. 2008). While these



**Table 2** Study 3: Construct correlations and descriptive statistics

	Mean	Alpha	Beta	1	2	3	4	5	6	7	8	9
1 Six-item Product Index	26.98	NA	NA	1								
2 CSSC	5.19	0.90	0.27	0.18	1							
3 Self-Control	4.36	0.80	0.02	0.13	0.40	1						
4 Frugality	4.63	0.76	-0.08	0.05	0.47	0.30	1					
5 Elaboration on Potential Outcomes (Evaluation)	5.14	0.91	0.00	0.01	0.39	0.33	0.37	1				
6 Impulsive Buying	2.60	0.90	0.09	-0.11	-0.60	-0.55	-0.47	-0.45	1			
7 Compulsive Buying	2.80	0.79	-0.12	-0.10	-0.51	-0.27	-0.27	-0.32	0.63	1		
8 Price Consciousness	4.37	0.82	-0.03	0.01	0.14	0.12	0.40	0.18	-0.27	-0.02	1	
9 Tightwad-Spendthrift	NA	0.73	0.05	-0.08	-0.56	-0.29	-0.49	-0.32	0.56	0.56	-0.22	1

Correlations of .15 and greater are significant at least at the .05 level

Note: We confirmed that the correlation between CSSC and each related construct,  $\pm$ two standard errors, did not include the value of one, providing evidence for their discriminant validity (Netemeyer et al. 2003).

authors examined the effects of explicitly asking people to engage in outcome elaboration, prior research has not examined the potential of using external stimuli to prompt outcome elaboration. Hence, we add to this recent literature by examining how external stimuli, in the form of outcome elaboration prompts, can be differentially effective for promoting better self-control.

This quite practical approach allows us to test the effects of priming outcome elaboration via external interventions, a practice mandated by a number of recent financial industry regulations and critical to understanding public policy efforts aimed at helping consumers make more informed spending and credit decisions. For example, the Credit Card Accountability Responsibility and Disclosure Act, in effect as of February 2010, requires credit card issuers to provide more detailed information about consumers’ credit situation including disclosures regarding the period of time and total interest to be paid in order to pay off the card balance using only minimum monthly payments (White House Press Release 2009). More generally, external prompts and disclosures have been shown to affect consumers’ preferences and choices. For example, the mere presence of credit card cues (e.g., MasterCard insignias) increased consumers’ likelihood to spend more and to spend more quickly (Feinberg 1986).

Recent research has revealed that some consumers may be less susceptible to framing effects (i.e., responding differently to distinct but objectively equivalent descriptions of the same message) than others (Nenkov et al. 2009; Simon et al. 2004). However, little prior research has examined whether certain consumer segments might be more susceptible to the presence of outcome elaboration prompts. As such, we propose that the provision of outcome elaboration prompts will have differential effects on consumers with varying CSSC tendencies. Past research

has shown that high self-control consumers tend to have better outcomes in the long-term (Tangney et al. 2004) and that a higher-level focus on the future is associated with enhanced self-control (Fujita et al. 2006). These results suggest that consumers with high CSSC should already be more likely to transcend the immediate situation and focus on the future without encouragement. Therefore, they should not be impacted by the presence of outcome elaboration prompts and should consistently make choices that demonstrate a high level of spending self-control, independently of whether prompts are provided externally. However, the same outcome elaboration prompts should enhance the usually low self-control of low CSSC, who remain myopically focused (Tangney et al. 2004) and, therefore, need encouragement to transcend the immediate situation and consider future outcomes and goals. Specifically, we predict that:

H2: Outcome elaboration prompts will improve self-control effectiveness for consumers with inherently low CSSC, but will not affect high CSSC consumers’ choices.

Further, we directly assess whether the effects of outcome elaboration prompts are driven by a differential focus on the future on the part of consumers high versus low in CSSC, which to our knowledge has not been previously tested with respect to self-control differences. We propose that providing outcome elaboration prompts will not impact high CSSC consumers, whose future outcome focus would generally be high, but will increase focus on the future for low CSSC consumers, who are usually more myopically focused. In turn, we expect that this shift in focus will mediate the effect of outcome elaboration prompts and CSSC differences on exhibited self-control effectiveness.

H3: Future outcome focus will mediate the effects of outcome elaboration prompts and CSSC on exhibited self-control effectiveness.

Moreover, in the following two studies we broaden our conceptualization of spending behaviors and look at spending decisions related to debt incurrence and repayment, a key negative financial consequence of low CSSC (e.g., Norvilitis et al. 2003). Specifically, we explore whether CSSC differences predict consumers' willingness to forgo spending on immediate consumption in favor of repaying debt (Study 4) and their likelihood of incurring debt to finance immediate consumption (Study 5).

#### Study 4: specific outcome elaboration prompts

In Study 4, we examine how the presence versus absence of outcome elaboration prompts pointing to the negative outcomes of credit card use might affect consumers' decisions to exercise spending self-control. This approach is consistent with prior research, which has suggested that it is the consideration of the negative outcomes of self-control failure that drives the beneficial effects of outcome elaboration on self-control (Nenkov et al. 2008). Specifically, we seek to explore our hypothesis that consumers who possess relatively lower levels of CSSC will be impacted by outcome elaboration prompts to a greater extent than those who possess relatively higher levels of CSSC. Consistent with the newly signed Credit Card Accountability, Responsibility, and Disclosure Act discussed earlier, which requires that credit card issuers disclose the period of time and total interest it will take consumers to pay off the card balance if only minimum monthly payments are made, our first study included a manipulation that provided consumers with outcome elaboration prompts pointing to these two potential consequences of credit usage. In this study we assess the effects of CSSC on consumers' willingness to forgo spending on immediate consumption in favor of making a larger payment toward their credit card debt.

*Method* Data for this study were collected via an online questionnaire administered to 137 undergraduate students (66 females) in a research computer lab, who received course credit for participating in a study on consumer decision making. Participants were asked to imagine that last month they purchased a new TV for their room for \$450 and charged it on their credit card. They were then told that their credit card payment is due so they need to decide how to allocate their funds between repaying their debt and spending on immediate consumption. Specifically, they were asked to decide whether to pay the whole balance of \$450, pay part of their balance, or make only the \$10

minimum payment and spend the money on something else that they want or need right now. Participants were randomly assigned to one of two experimental conditions and were provided with a credit card statement, which contained our outcome elaboration prompts manipulation. In the control condition, the statement contained only basic account information that was typically included on credit card statements before the newly signed credit card legislation (i.e., account balance, minimum payment due, APR, payment due date). In the outcome elaboration prompts condition, the statement contained the same basic information plus additional information related to specific future outcomes, which was mandated by the new legislation: the length of time to pay-off and total finance charges, given only minimum payments are made (see Appendix A for stimuli).

Participants were asked to indicate how much they would pay on the credit card account that month (an amount between \$10 and \$450). Participants then responded to questions regarding scenario credibility and comprehension (measured on a 7-point semantic differential scale: credible—not credible; difficult to comprehend—easy to comprehend). At the end of the experiment, after approximately 15–20 min of unrelated filler tasks, we measured individual differences in CSSC ( $\alpha=.94$ ;  $M=5.12$ ;  $SD=1.18$ ).

*Results and discussion* We first ensured that there were no differences across experimental conditions in participants' perceptions of scenario credibility ( $M_{\text{control}}=3.45$ ;  $M_{\text{OEP}}=3.29$ ,  $t(136)=1.59$ ,  $p<.2$ ) and comprehension ( $M_{\text{control}}=5.24$ ;  $M_{\text{OEP}}=5.40$ ,  $t(136)=.84$ ,  $p<.4$ ), and that there was no relationship between participants' CSSC scores and perceptions of scenario credibility ( $F(1, 135)=1.64$ ,  $p<.2$ ) and comprehension ( $F(1, 135)=2.34$ ,  $p<.2$ ), suggesting that our treatments were not confounded with these variables. Next, to test H2 we ran a regression on credit card payment amount using experimental condition, CSSC scores (as a continuous measure), and their interaction as independent variables and gender and age as controls ( $F(5, 131)=2.77$ ,  $p<.05$ ). Results revealed a significant main effect of experimental condition ( $b=.99$ ,  $t=2.65$ ,  $p<.01$ ), with participants making higher payments when outcome elaboration prompts (OEP) were provided ( $M_{\text{control}}=\$302$ ;  $M_{\text{OEP}}=\$345$ ,  $t(136)=1.83$ ,  $p<.07$ ), and no main effect of CSSC ( $b=.19$ ,  $t=1.51$ ,  $p=.19$ ). Importantly, a significant interaction between participants' CSSC and experimental condition emerged ( $b=-.87$ ,  $t=-2.28$ ,  $p<.05$ ). Neither age nor gender had a significant effect on the dependent variable nor interacted with CSSC or experimental condition.

Additional analysis of the group means revealed that, as predicted, payment amounts for high CSSC consumers (based on a median split; note that in all studies variables are

analyzed continuously and dichotomized only for illustrative purposes) were not affected by the nature of the information provided ( $M_{\text{control}}=\$325$ ;  $M_{\text{OEP}}=\$337$ ,  $t(136)=.51$ ,  $p>.1$ ; see Fig. 1), whereas low CSSC participants increased their intended payments when presented with outcome elaboration prompts ( $M_{\text{control}}=\$285$ ;  $M_{\text{OEP}}=\$360$ ,  $t(136)=1.96$ ,  $p<.05$ ; see Fig. 1). Thus, while our findings reveal that high CSSC consumers are not affected by the nature of information provided in a credit card statement, we find low CSSC consumers exercise better self-control and make higher credit card payments when provided with outcome elaboration prompts, in support of H2.

Study 4 results support H2 and confirm that the presence of specific outcome elaboration prompts impacts consumers with high versus low levels of CSSC differently. These results suggest that outcome elaboration prompts facilitate self-control by causing low CSSC consumers to think about consequences that they would not normally consider, whereas these same prompts are consistent with high CSSC consumers' tendencies to focus on the future, and do not change their behavior. In our next study, we directly test this contention.

Study 5: general outcome elaboration prompts

In Study 5, we build on the findings from Study 4 in two ways. First, we test whether providing outcome elaboration prompts serves to shift consumers' focus on the potential outcomes of their behavior and whether this future outcome focus is driving the effects of outcome elaboration prompts on self-control. Second, we employ a different outcome elaboration prompt manipulation and a different spending-related dependent variable (i.e., likelihood of incurring debt to finance immediate consumption).

*Method* Data for this study were collected via an online questionnaire administered in a research computer lab to 140 undergraduate students (70 females) who received

course credit for participating in a study on consumer decision making. Participants were randomly assigned to one of two experimental conditions. To begin, all participants read the following:

You are considering whether to buy an expensive electronic item at Best Buy that you have really wanted for a long time. You are considering charging it on your credit card, even though you know that this purchase will cause you to reach your credit line limit.

Participants in the outcome elaboration prompts condition, however, were also given an additional paragraph containing prompts about the general negative outcomes of reaching their credit card limit. Specifically, these prompts included the possibility of not being able to repay their debt, not having any "emergency funds," and the potential for negatively impacting their credit history. Next, all participants were asked to indicate the likelihood that they would buy the item (measured on a 7-point scale where 1 = not at all and 7 = very much so). Following the primary dependent measure, we assessed the proposed shift in participants' future focus by asking the extent to which they thought about future outcomes when making the decision, measured on a 7-point scale (1 = not at all; 7 = very much so). Next, we assessed the credibility and ease of comprehension of the scenario (as in Study 4). CSSC was measured at the end of the experiment after a series of unrelated, filler tasks ( $\alpha=.90$ ;  $M=5.03$ ;  $SD=1.19$ ). Finally, gender and age were collected.

*Results and discussion* Five participants failed to complete the CSSC measure and were removed from the sample. The remaining 135 participants form the basis of our analyses. We again ensured that there were no differences across experimental conditions in participants' perceptions of scenario credibility ( $M_{\text{control}}=3.24$ ;  $M_{\text{OEP}}=3.00$ ,  $t(134)=1.19$ ,  $p<.3$ ) or comprehension ( $M_{\text{control}}=5.90$ ;  $M_{\text{OEP}}=5.97$ ,  $t(134)=.01$ ,  $p<.9$ ), and that there was no relationship between participants' CSSC scores and perceptions of scenario credibility ( $F(1, 133)=.17$ ,  $p<.7$ ) or comprehension ( $F(1, 133)=.31$ ,  $p<.6$ ).

To test H2, we ran a regression on participants' likelihood of buying the product using experimental condition, CSSC scores, and their interaction as independent variables and gender and age as controls ( $F(5, 129)=7.1$ ,  $p<.001$ ). Results revealed significant main effects of experimental condition ( $b=-.85$ ,  $t=-2.42$ ,  $p<.001$ ), with participants being less likely to purchase the item when outcome elaboration prompts (OEP) were provided ( $M_{\text{control}}=2.8$ ;  $M_{\text{OEP}}=1.9$ ,  $t(134)=3.3$ ,  $p<.01$ ) and CSSC ( $b=-.54$ ,  $t=-2.43$ ,  $p<.01$ ), with high CSSC participants being less likely to purchase the item ( $M_{\text{low CSSC}}=3.0$ ;  $M_{\text{high CSSC}}=1.8$ ,  $t(134)=4.4$ ,  $p<.01$ ). Importantly, there was a significant interaction between CSSC and experimental condition ( $b=.65$ ,  $t=1.96$ ,



Fig. 1 Study 4: Outcome elaboration prompts and CSSC impact payment amount

$p < .05$ ). None of the control variables had a significant effect on the dependent variable. Further analysis revealed that, as expected, providing outcome elaboration prompts enhanced self-control for participants inherently low in CSSC and made them less likely to purchase the item ( $M_{\text{control}}=3.7$ ;  $M_{\text{OEP}}=2.2$ ,  $t(134)=-3.6$ ,  $p < .001$ ; see Fig. 2a). Participants inherently high in CSSC, on the other hand, did not differ significantly in the amount of self-control exercised based on the presence or absence of outcome elaboration prompts ( $M_{\text{control}}=1.9$ ;  $M_{\text{OEP}}=1.5$ ,  $t(134)=-1.08$ ,  $p < .3$ ; see Fig. 2a). Thus, we provide additional support for the proposed differences in response to outcome elaboration prompts based upon difference in CSSC, using a different set of prompts and a different dependent measure.

As suggested previously, perceptions of time play a critical role in efforts to control one's behavior. To test H3 we next examined the mediating role of focus on future outcomes, following the procedure recommended by Baron and Kenny (1986). Step 1 was confirmed in our previous analysis regarding the impact of the interaction of CSSC and experimental condition on exhibited self-control. For step 2, we ran a regression on future outcome focus with the same independent and control variables used above ( $F(5, 129)=$

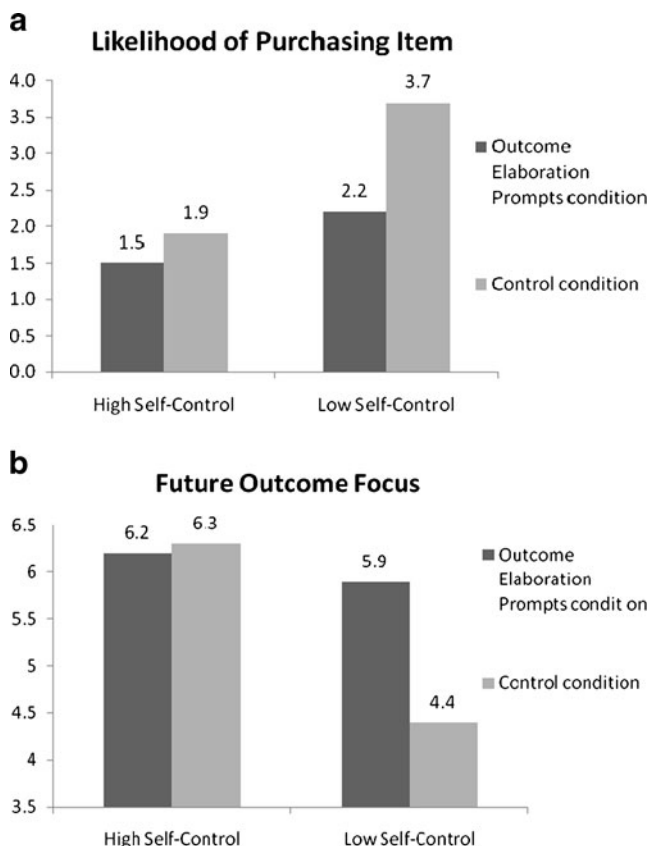
$5.3$ ,  $p < .001$ ). Results revealed significant main effects of experimental condition ( $b=1.13$ ,  $t=3.12$ ,  $p < .01$ ) and CSSC ( $b=.58$ ,  $t=4.55$ ,  $p < .01$ ) and a significant interaction between CSSC and condition ( $b=-1.00$ ,  $t=-2.76$ ,  $p < .01$ ; see Fig. 2b).

In step 3, we ran a regression testing whether participants' outcome focus scores predict their spending self-control choices and confirmed that this is indeed the case ( $F(1, 133)=39.3$ ,  $p < .001$ ;  $b=-.48$ ,  $p < .001$ ). Finally, in step 4, we ran a regression on participants' likelihood to buy the item with both the experimental condition X CSSC interaction and future outcome focus scores as independent variables and found that when future outcome focus is included in the model as a predictor of purchase likelihood, the effect of future outcome focus was significant, while the experimental condition X CSSC interaction became non-significant ( $F(4, 130)=15.1$ ,  $p < .001$ ,  $b_{\text{OEP} \times \text{CSSC}}=.28$ ,  $p < .4$ ,  $b_{\text{future outcome focus}}=-.35$ ,  $p < .001$ ). Further analysis on the mediated effect confirmed that it is indeed significant (Sobel  $z=-1.91$ ,  $p < .05$ ). These results show that the effect of outcome elaboration prompts and CSSC on the dependent variable is fully mediated by participants' future outcome focus and provide direct evidence that differential future outcome focus underlies the divergent effect of outcome elaboration prompts on self-control for those who are inherently higher or lower in CSSC, in support of H3.

Overall then, we found a significant difference in the extent to which the presence of the outcome elaboration prompts caused participants higher and lower in CSSC to think about the future consequences of their decision. Specifically, high CSSC participants reported that they thought about future consequences in both conditions, while for low CSSC participants the outcome elaboration prompts significantly increased their focus on future consequences. Furthermore, we showed that this differential future outcome focus mediates the effects of outcome elaboration prompts provision on consumers' self-control effectiveness. As such, Study 5 provides experimental evidence that part of the reason that high CSSC consumers experience more success in exerting self-control is because they naturally elaborate on the potential consequences of their actions more, regardless of environmental prompts. This more distant focused perspective indeed appears to enhance self-control (Fujita et al. 2006) in the current choice situation. Both Studies 4 and 5 show expected increases in self-control for those who are naturally lower in CSSC; that is, they were helped by provided information that prompted them to recognize the potential consequences of their behavior.

## General discussion

Many consumers are choosing to spend beyond their means, albeit for a variety of reasons. As such, understanding differences in self-control within the context of



**Fig. 2** a Study 5: Outcome elaboration prompts and CSSC impact purchase likelihood. b Study 5: Outcome elaboration prompts and CSSC impact future focus

consumer financial decision making is a crucial endeavor. Studies 1a–1c develop a simple tool for assessing underlying differences in CSSC. Studies 2 and 3 further establish the validity of CSSC by demonstrating that CSSC is distinct from general self-control and that CSSC has important financial consequences. Moreover, our research provides new insights into outcome elaboration—an important approach that can be utilized by consumers when trying to make successful self-control decisions. Results from our subsequent studies (Studies 4 and 5) revealed that the effectiveness of outcome elaboration for enhancing consumers' self-control depends on CSSC and how it interacts with the provision of outcome elaboration prompts. This set of studies provides support for our contention that outcome elaboration prompts enhance self-control for those consumers who naturally have less CSSC but do not affect the behavior of high CSSC consumers. Based on these findings it seems that consumers who are naturally lower in self-control can be helped by external interventions such as the provision of outcome elaboration prompts, whereas consumers who are higher in self-control are less influenced by external “help” in the form of specific potential consequences.

Indeed, exploring the possibility of interventions that may help consumers low in CSSC could be extremely important. Relatedly, Lastovicka et al. (1999) discuss the notion of converted frugals, that is, consumers who have used self-help literature or other means to train themselves to consume frugally. Likewise, appropriate training and intervention should be able to bolster a consumer's efforts to control his or her spending behaviors by strengthening knowledge of the benefits of setting standards, monitoring behaviors in accordance with these standards, and regulating behavior when confronted with situations in which spending should be restricted. Of note, our efforts to collect exploratory data from a consumer counseling agency suggested that training and intervention can play a positive role with respect to consumer control of spending behaviors. Specifically, we collected responses to the CSSC measure from 36 individuals who had completed a credit counseling program (primarily emphasizing budgeting and monitoring, as well as regulating techniques) provided by United Way. Results revealed that these consumers' mean scores on the CSSC measure were significantly higher than those of the adult samples we collected in this paper, providing further evidence that intervention may improve one's level of CSSC. A variety of self-control strategies could be fruitfully explored in future research in order to understand the types of actions consumers can take to enhance their overall spending self-control.

#### Contributions and implications

This paper provides several important contributions about how consumers make financial decisions and what can be

done to improve their decision making. First, we conceptualize CSSC, an individual trait defined here as the ability to monitor and regulate one's spending-related thoughts, emotions, and decisions in accordance with self-imposed standards. Second, we design a reliable and valid instrument to measure CSSC. The CSSC scale provides a parsimonious method for investigating differences in spending self-control that should prove useful in a variety of research domains. Being able to identify such differences would enable researchers to understand how to better help consumers overcome their self-control difficulties when it comes to spending. Moreover, the newly developed scale would be particularly useful for financial planners as well as government and independent agencies concerned with the prevalent high spending and low savings rates, as it allows the identification of low CSSC consumers, who are likely the ones most negatively affected by these detrimental trends. Note that our present studies also provide evidence of discriminant and predictive validity compared to general self-control, again suggesting that a focus on CSSC is essential to more fully understand and help consumers.

Moreover, in Studies 2 and 3 we demonstrate that CSSC differences lead to purchase intention differences in response to an unplanned impulsive purchase opportunity as well as differences in the actual amount of money that consumers are willing to pay for a variety of products, highlighting multiple financial consequences of CSSC differences arising from financial decision making. We also note that in another study not reported here, we found evidence that the negative consequences associated with CSSC extend beyond just financial outcomes, but also relate to such social outcomes as household disagreements and tension as well as psychological consequences including guilt, stress, shame, and regret. These results highlight the potential for broader life consequences that can result from spending-related self-control failures (Tangney et al. 2004; Xiao et al. 2004).

Our research also contributes to understanding consumer financial decision making by demonstrating that consumers respond differently to outcome elaboration prompts based on their inherent CSSC level (Studies 4 and 5). In addition, Studies 4 and 5 add to the self-control literature by providing novel insights into the effectiveness of future outcome elaboration for exerting self-control in the present. The current research is the first to demonstrate experimentally that a focus on future outcomes drives more effective self-control choices. Our findings thus point to the beneficial effects of encouraging consumers to take the time to consider the outcomes of extending their lines of credit by providing external prompts about the outcomes of incurring more debt or taking longer to pay off existing debt. In fact, our studies

demonstrate that providing outcome elaboration prompts can be useful for the consumers who “need” them the most (i.e., low CSSC consumers). At the same time, the provision of these specific outcomes did not help the self-control of those consumers naturally inclined to exhibit self-control, but did not hinder them either, suggesting that outcome elaboration prompts provision is a useful strategy for enhancing self-control. These findings are particularly timely given the recent legislation related to the types of disclosure information that must be revealed to consumers of credit, which often involve the provision of potential consequences.

Discovering more customized methods to facilitate better decision making is a critical endeavor and an important contribution of this research. While past work has shown that explicitly instructing consumers to engage in outcome elaboration via procedures that ask them to list specific outcomes can enhance their self-control (Nenkov et al. 2008), the current research goes one step further to show that this beneficial effect can also be achieved through the external provision of outcome elaboration prompts. As such, the current set of studies represents the first research to (1) demonstrate the potential of promoting better self-control by using external stimuli to prompt outcome elaboration (Studies 4 and 5), and (2) show experimentally that a focus on future outcomes drives more effective self-control choices (Study 5).

#### Limitations and future research

In addition to its important contributions and implications, this research has raised some issues that merit further research. While CSSC was distinguished from general self-control, future research should more systematically examine how general self-control translates into various domains (e.g., financial control, eating control, procrastination). Also, while we sought to focus on how CSSC differences would impact responses to externally-provided outcome elaboration prompts, there are a multitude of other self-control enhancement strategies (e.g., postponement, pre-commitment, and avoidance) that are likely to work differently based upon one’s inherent level of self-control even though most previous research fails to recognize these distinctions. Systematic future research regarding when and for whom certain strategies will work better based upon the CSSC-based differences in individuals will facilitate self-control while also helping consumers to consume in a more optimal manner (Haws and Poynor 2008; Poynor and Haws 2009).

We also note that the present research focuses on single decision making periods. However, self-control goal success depends upon a long and repetitive series of similar types of decisions (e.g., every day one must choose to eat

right, exercise, manage time well, and control spending). While some researchers have begun to investigate the impact of the accumulation of choices over time (e.g., Dhar et al. 2007; Khan and Dhar 2006), there is still much to be learned. Our studies examine isolated decisions (Study 2, Study 4, Study 5) or multiple decisions at the same point in time (Study 3). Future research should more explicitly explore how individuals take into account the impact of a current decision on a series of related future decisions, whose cumulative impact will directly determine progress toward the overall self-control goal. Clearly, individual differences like CSSC are critical to understanding such patterns, and studying differences in how consumers link or fail to link individual decision making episodes would further illuminate the benefits of future consequence elaboration for present decisions. Relatedly, additional work on individual differences in consumer spending self-control and ego depletion is warranted (Vohs and Faber 2007). Those naturally higher in CSSC should deplete more slowly than those lower in CSSC; however, different interventions, such as the outcome elaboration prompts examined in Studies 4 and 5 may reduce the resource drain required in exercising self-control and therefore effectively change the rate of depletion.

Future consequences could vary considerably as to the distance from the point of the consumption decision to which a potential future outcome applies, although we did not explicitly examine the temporal frame of future consequences. Past research has demonstrated significant differences in behavior based on whether one is considering the near future or the distant future (Trope and Liberman 2003). Future research should more explicitly examine the exact time frame underlying differences in self-control based upon the type of consequence provided externally or generated by the consumer. Finally, we chose to focus first on negative externally provided potential outcomes, which are more likely to provide desirable changes in behavior and are consistent with the types of potential outcomes actually used. Future work should also explore the impact of external provision of positive or balanced consequences.

Additional research examining the impact of other external prompts on spending/payment behaviors is warranted. We suggest that the magnitude of credit card premiums consumers are willing to pay and consumers’ reactions to credit card limits (Feinberg 1986) might differ based on CSSC levels. Specifically, consumers lower in CSSC are likely willing to pay greater credit card premiums and will be more influenced by set credit limits than consumers higher in CSSC. Furthermore, payment mode preferences may also differ between consumers of varying levels of CSSC. Such effects, imposed by external factors, are likely to impact a variety of consumer decisions and should therefore be studied in further detail. For example,

consumers low in CSSC may be more likely to rely on mortgage companies to tell them how much house they can afford. As such, low CSSC consumers are more likely to purchase a home at the top end of the range they have been approved for than are high CSSC consumers. The study of

other similar effects could provide invaluable insight into issues of significant public welfare/policy importance.

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**Appendix A**

Study 4 Stimuli

Control Condition:

*Account Summary for Account Number \*\*\*\* \* 0412*

<i>Account Balance:</i>	<i>\$450.00</i>
<i>Payment Due Date:</i>	<i>July 30, 2008</i>
<i>Annual Percentage Interest Rate:</i>	<i>12.00%</i>
<i>Minimum Payment Due:</i>	<i>\$10.00</i>

Outcome Elaboration Prompts Condition:

*Account Summary for Account Number \*\*\*\* \* 0412*

<i>Account Balance:</i>	<i>\$450.00</i>
<i>Payment Due Date:</i>	<i>July 30, 2008</i>
<i>Annual Percentage Interest Rate:</i>	<i>12.00%</i>
<i>Total Interest Paid if Only Minimum Payments Made:</i>	<i>\$150.60</i>
<i>Number of Payments if Only Minimum Payments Made:</i>	<i>60</i>
<i>Minimum Payment Due:</i>	<i>\$10.00</i>

**References**

American Bankruptcy Institute (2010). *Quarterly U.S. bankruptcy*. Retrieved from <http://www.abiworld.org>.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182.

Baumeister, R. F. (2002). Yielding to temptation: self-control failure, impulsive purchasing, and consumer behavior. *Journal of Consumer Research*, *28*, 670–676.

Baumeister, R. F., & Heatherton, T. F. (1996). Self-regulation failure: an overview. *Psychological Inquiry*, *7*(1), 1–15.

Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1994). *Losing control: How and why people fail at self-regulation*. San Diego: Academic.

Baumeister, R. F., Vohs, K. D., & Tice, D. M. (2007). The strength model of self-control. *Current Directions in Psychological Science*, *16*(6), 351–355.

Baumgartner, H. (2002). Toward a personology of the consumer. *Journal of Consumer Research*, *29* (Sept.), 286–292.

Bearden, W. O., Netemeyer, R. G., & Teel, J. E. (1989). Measurement of consumer susceptibility to interpersonal influence. *Journal of Consumer Research*, *15*, 473–481.

Becker, G. M., DeGroot, M. H., & Marschak, J. (1964). Measuring utility by a single-response sequential method. *Behavioral Science*, *9*(3), 226–232.

Bollen, K. A. (1989). A new incremental fit index for general structure equation models. *Sociological Methods and Research*, *17*(3), 303–316.

Bureau of Economic Analysis (2010). *National economic accounts: Personal saving rate*. Retrieved March 26, 2010 from <http://www.bea.gov/briefm/saving.htm>.

- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. Cambridge: Cambridge University Press.
- Dhar, R., Huber, J., & Khan, U. (2007). The shopping momentum effect. *Journal of Marketing Research*, 44, 370–378.
- Dholakia, U., Gopinath, M., Bagozzi, R., & Natarajan, R. (2006). The role of regulatory focus in the experience and self-control of desire for temptations. *Journal of Consumer Psychology*, 16(2), 165–177.
- Federal Register (2003). Securities and Exchange Commission 17 CFR Parts 230, 239, 270, and 274 - Amendments to Investment Company Advertising Rules 68 (193), 57760–57782
- Feinberg, R. A. (1986). Credit cards as spending facilitating stimuli: a conditioning interpretation. *Journal of Consumer Research*, 12, 348–356.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading: Addison-Wesley.
- Fujita, K., Trope, Y., Liberman, N., & Levin-Sagi, M. (2006). Construal levels and self-control. *Journal of Personality and Social Psychology*, 90(3), 351–367.
- Gerbing, D. W., & Anderson, J. C. (1988). An updated paradigm for scale development incorporating unidimensionality and its assessment. *Journal of Marketing Research*, 25, 186–192.
- Goldberg, L. R. (1990). An alternative 'description of personality': the big-five structure. *Journal of Personality and Social Psychology*, 59(6), 1216–1229.
- Guidolin, M., & La Jeunesse, E. A. (2007). The decline in the U.S. personal saving rate: Is it real and is it a puzzle? *Federal Reserve Bank of St. Louis Review*, 491–514.
- Hanoch, Y., Johnson, J. G., & Wilke, A. (2006). Domain specificity in experimental measures and participant recruitment: an application to risk-taking behavior. *Psychological Science*, 17(4), 300–304.
- Haws, K. L., & Poynor, C. (2008). Seize the day! Encouraging indulgence for the hyperopic consumer. *Journal of Consumer Research*, 35, 680–691.
- Herman, C. P., & Polivy, J. (1975). Anxiety, restraint, and eating behavior. *Journal of Abnormal Psychology*, 84(6), 666–672.
- Hoch, S. J., & Loewenstein, G. F. (1991). Time-inconsistent preferences and consumer self-control. *Journal of Consumer Research*, 17, 492–506.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indices in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55.
- Kahneman, D., Knetsch, J. L., & Thaler, R. H. (1991). Anomalies: the endowment effect, loss aversion, and status quo bias. *Journal of Economic Perspectives*, 5(1), 193–206.
- Khan, U., & Dhar, R. (2006). Licensing effect in consumer choice. *Journal of Marketing Research*, 43, 259–266.
- Lastovicka, J. L., Bettencourt, L. A., Hughner, R. S., & Kuntze, R. J. (1999). Lifestyle of the tight and frugal: theory and measurement. *Journal of Consumer Research*, 26, 85–98.
- Lay, C. H. (1986). At last, my research article on procrastination. *Journal of Research in Personality*, 20, 474–495.
- Lerner, J. S., Small, D. A., & Loewenstein, G. (2004). Heart strings and purse strings: carryover effects of emotions on economic decisions. *Psychological Science*, 15(5), 337–341.
- Lichtenstein, D., Ridgeway, N. M., & Netemeyer, R. G. (1993). Price perceptions and consumer shopping behavior: a field study. *Journal of Marketing Research*, 30, 234–245.
- Loewenstein, G. (1996). Out of control: visceral influences on behavior. *Organizational Behavior and Human Decision Processes*, 65, 272–292.
- Lynch, J. G., Jr., Netemeyer, R. G., Spiller, S. A., & Zammit, A. (2010). A generalizable scale of propensity to plan: the long and the short of planning for time and for money. *Journal of Consumer Research*, 37, 1–21.
- Mowen, J. C. (2000). *The 3m model of motivation and personality: Theory and empirical applications to consumer behavior*. Boston: Kluwer Academic.
- Mowen, J. C., & Spears, N. (1999). A hierarchical model approach to understanding compulsive buying among college students. *Journal of Consumer Psychology*, 8(4), 407–430.
- Muraven, M., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources: does self-control resemble a muscle. *Psychological Bulletin*, 126(2), 247–259.
- Muraven, M., Shmueli, D., & Burkley, E. (2006). Conserving self-control strength. *Journal of Personality and Social Psychology*, 91, 524–537.
- Nenkov, G. Y., Inman, J. J., & Hulland, J. (2008). Considering the future: the conceptualization and measurement of elaboration on potential outcomes. *Journal of Consumer Research*, 35(1), 126–141.
- Nenkov, G. Y., Inman, J. J., Hulland, J., & Morrin, M. (2009). The impact of outcome elaboration on susceptibility to contextual and presentation biases. *Journal of Marketing Research*, 46, 764–776.
- Netemeyer, R. G., Burton, S., & Lichtenstein, D. R. (1995). Trait aspects of vanity: measurement and relevance to consumer behavior. *Journal of Consumer Research*, 21, 612–626.
- Netemeyer, R. G., Bearden, W. O., & Sharma, S. (2003). *Scaling procedures for self-report measures in the social sciences: Issues and applications*. Newbury Park: Sage.
- Norvilitis, J. M., Szablicki, P. B., & Wilson, S. D. (2003). Factors influencing levels of credit-card debt in college students. *Journal of Applied Social Psychology*, 33(5), 935–947.
- Office of Fair Trading Press Release (2004). OFT helps businesses understand new credit advertising rules. 173/04, October 15, 2004.
- O'Guinn, T. C., & Faber, R. J. (1989). Compulsive buying: a phenomenological investigation. *Journal of Consumer Research*, 16, 147–157.
- Paulhus, D. L. (1998). *The Paulhus deception scales: BIDR version 7*. Toronto/Buffalo: Multi-Health Systems.
- Poynor, C., & Haws, K. L. (2009). Lines in the sand: using category widths to define and pursue self-control goals. *Journal of Consumer Research*, 35, 772–787.
- Puri, R. (1996). Measuring and modifying consumer impulsiveness: a cost-benefit accessibility framework. *Journal of Consumer Psychology*, 5(2), 87–113.
- Rick, S. I., Cryder, C. E., & Loewenstein, G. (2008). Tightwads and spendthrifts. *Journal of Consumer Research*, 34, 767–782.
- Ridgway, N. M., Kukar-Kinney, M., & Monroe, K. B. (2008). An expanded conceptualization and new measure of compulsive buying. *Journal of Consumer Research*, 35, 622–639.
- Rook, D., & Fisher, R. J. (1995). Normative influences on impulsive buying behavior. *Journal of Consumer Research*, 22, 305–313.
- Shehryar, O., Landry, T. D., & Arnold, T. J. (2001). Defending against consumerism: An emergent typology of purchase restraint strategies. In M. C. Gilly & J. Meyers-Levy (Eds.), *Advances in consumer research* (Vol. 28, pp. 420–424). Valdosta: Association for Consumer Research.
- Simon, A. F., Fagley, N. S., & Halleran, J. G. (2004). Decision framing: moderating effects of individual differences and cognitive processing. *Journal of Behavioral Decision Making*, 17, 77–93.
- Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, 72, 271–322.
- Trope, Y., & Liberman, N. (2003). Temporal construal. *Psychological Review*, 110(3), 403–421.
- Vohs, K. D., & Faber, R. J. (2007). Spent resources: self-regulatory resource availability affects impulse buying. *Journal of Consumer Research*, 33, 537–548.
- Werthenbroch, K. (1998). Consumption self-control by rationing purchase quantities of virtue and vice. *Marketing Science*, 17(4), 317–337.
- White House Press Release (2009). Reforms to protect American credit card holders. May 22, 2009.
- Xiao, J. J., Sorhaindo, B., & Garman, E. T. (2004). Financial behaviors of consumers in credit counseling. *Consumer Interest Annual*, 50, 131–133.