The roles of trait prudence and desire in consumer self-control for temptations

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Abstract

Purpose – This paper aims to examine the role of volitive desire in self-control toward temptations. It extends prior research on the role of prudence in temptation resistance by empirically demonstrating that prudence bolsters self-control toward food temptations by lowering volitive desire motivation toward temptation enactment.

Design/methodology/approach – This study consists of a 2 (food type: temptation vs goal-congruent) × 2 (prudence level: low vs high) between-subjects quasi-experimental design. Hypothesis tests were conducted by using analysis of covariance and ordinary least squares regression-based moderated mediation analysis.

Findings – The results show that high-prudence participants experienced lower volitive desire toward eating the temptation food option than low-prudence participants. Consequently, high- (vs low-) prudence participants reported significantly weaker eating intentions toward the temptation food option. Moreover, volitive desire significantly mediated the effect of prudence level on intentions to eat the temptation food option.

Research limitations/implications – The study contains methodological limitations. First, the study operationalizes volitive desire as "non-appetitive, instrumental reasons for eating or not eating the food," yet in some contexts volitive desire can include appetitive reasons. Second, the procedure consisted of presenting participants with only a goal-consistent or temptation food option, rather than with both, which is more realistic. The study also focuses on a single goal context, healthy eating, to the exclusion of other contexts associated with consumer self-control. Additionally, the appetitive and volitive desire self-report measure method produced flawed ratings, requiring us to use the open-ended responses as this study's dependent variable. Finally, this study does not directly test the extent of prudence-driven deliberation about temptation enactment consequences.

Practical implications – Social marketing campaigns can encourage low prudence consumers to strengthen this behavioral trait by performing beneficial, slightly to moderately challenging utilitarian tasks (e.g. making one's bed each morning, flossing one's teeth every evening, etc.) that involve exercising self-control on a regular basis. Social marketing ads can also appeal to the consequence-vigilance of high prudence consumers by increasing the salience of consequences of self-control failures in behaviors related to social issues such as pollution, drinking and driving, smoking and recreational drug use. An additional implication is that marketers of health goal-related products and services could segment the market based on trait prudence and target high-prudence consumers with ads that increase the salience of consequences associated with not using the company's health product or service or the consequences of using the competition's products or services.

Social implications – Consumers can improve their well-being by exercising self-control consistently in low to moderately challenging tasks, which boosts their prudence. High-prudence consumers can intentionally focus on volitive motives when faced with temptations to ensure effective self-control.

Originality/value – This research examines the role of volitive desire as the process by which trait prudence affects intentions toward temptation options, which extends prior research on the role of prudence in self-control for temptations (Puri, 1996). This framework builds on the philosophy of action perspective on desire and shows that trait prudence can predict temptation enactment intentions through the mediating role of volitive desire. Thus, the findings illuminate the motivational mechanism by which prudence bolsters self-control in the face of temptation: volitive desire.

Keywords Self-control, Goal pursuit, Motivation, Desire, Temptation, Volition, Craving

Paper type Research paper

1. Introduction

Consumer behavior is mostly goal-oriented. It consists of pursuing short-term goals such as completing a 30-minute cardio workout as well as long-term goals such as maintaining a healthy lifestyle (Bagozzi and Dholakia, 1999). To achieve goal success, consumers must enact goal-consistent actions and refrain from goal-inconsistent actions. The latter endeavor

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Journal of Consumer Marketing
40/3 (2023) 380–391

[DOI 10.1108/JCM-12-2019-3537]

Received 12 December 2019
Revised 3 February 2021
6 August 2021
15 October 2021
10 May 2022
30 September 2022
Accepted 31 December 2022

refers to exerting self-control (e.g. restraining from ordering dessert after dinner when one is trying to lose weight). Most consumers regularly encounter goal-inconsistent action options that threaten goal success. Thus, increasing the understanding of self-control mechanisms is beneficial for consumers as well as for goal pursuit researchers.

Extensive research establishes the central role of cognitive processes in effective self-control. When individuals encounter a goal-inconsistent action option, such as sleeping-in instead of waking up early to work out at the gym, they generally engage in some extent of cognitive processing, which determines their intentions to enact or resist the temptation. For instance, research shows that people can decrease their desire toward a temptation by accentuating their perception of the temptation's threat to their goal achievement (Zhang *et al.*, 2010). In other research, the type of prior temptation experiences consumers recalled (i.e. memories of succumbing to versus resisting a similar temptation) differentially influenced the extent to which chronically impulsive versus non-impulsive individuals resisted (vs succumbed) to current temptations (Mukhopadhyay *et al.*, 2008). Also, extensive research on implementation intentions asserts that the cognitive process of creating plans for future goal-directed behavior (i.e. *if* I find myself in situation X, *then* I will perform action Y) and rehearsing said plans facilitates automatic enactment of self-controlled actions when individuals come across the situation that their plan specifies (Fujita, 2011). These examples and many others illustrate the crucial role of cognitive processing for self-control in successful goal pursuit.

Studies show that situational factors and individual difference factors influence the cognitive processes that support self-control. In a study about situational factors conducted by Nordgren and Chou (2011), participants who were in a "cold" or non-visceral state generated cognitions that supported self-control when faced with a temptation. Conversely, those in a "hot" or visceral state (e.g. hunger, thirst, sexual arousal) generated impulse enactment-related thoughts when faced with a temptation. Another study showed that when participants' cognitive resources were constrained by a memory task, individuals' ability to consider and weigh the costs of a temptation to their goal success was impaired, resulting in a greater inclination to yield to temptation (Shiv and Fedorikhin, 1999).

Research also shows that individual differences in a behavioral trait, prudence, influence consumers' cognitive processing for self-control in temptation situations. In particular, the cost-benefit accessibility framework of impulsivity suggests that upon encountering a temptation, high-prudence consumers (i.e. those with chronic prudence values and behavior) consider the costs to goal achievement more extensively and weigh them more heavily than low-prudence consumers, which enhances self-control (Puri, 1996). Interestingly, although trait prudence is manifested as an inherited trait in some individuals (Cesarini *et al.*, 2010; Simonson and Sela, 2011), it can also develop as a learned trait through regular effortful practice of self-controlled behaviors (Puri, 1996). Given the positive effect of prudence on overcoming temptations and its potential to develop and grow through the individual's intentional self-control conditioning training, we focus on this valuable trait in our study.

Although research shows that high-prudence consumers possess greater impulse control when faced with temptations relative to low-prudence consumers (Puri, 1996), self-control research is surprisingly silent about the motivational mechanism that underlies the effect of trait prudence on intentions to enact temptations. Desire is the motivational mechanism that underlies intentional behavior, and is of two main types: appetitive and volitive (Davis, 1984b, 1984a). Whereas appetitive desire imbues motivational energy into actions perceived as pleasurable, volitive desire transforms deliberated cognitions into action intentions (Perugini and Bagozzi, 2001). Although volitive desire is by its nature connected to deliberated action, prior research regarding its role or appetitive desire's role in prudence and self-control is scant.

Our research addresses this gap by shedding light on the pivotal role of desire in self-control toward temptations among low- versus high-prudence consumers. We build upon the philosophy of action literature's view of desire and action intentions to extend prior research on the role of prudence in temptation resistance by elucidating the differential roles of appetitive desire and volitive desire in motivating self-control toward temptations. The philosophy of action literature identifies volitive desire as a willful, rational motivational state that directs intention formation. Accordingly, we theorize that the consideration consumers give to the consequences of temptation enactment in Puri's (1996) framework correspond with the rational basis of volitive desire. Given the key influence of deliberation about the costs of yielding to temptation in self-control effectiveness, and the role of such rational considerations about costs as an input to volitive desire, our theoretical framework focuses on the interplay of trait prudence and volitive desire in determining consumers' self-control. We hypothesize and demonstrate empirically that high (versus low) prudence consumers experience lower intentions to yield to temptation due to lower volitive desire toward enacting the temptation. Accordingly, volitive desire mediates the effect of trait prudence on temptation intentions, whereas appetitive desire does not mediate this effect. The remainder of this article is organized as follows. First, the conceptual background elucidates the role of prudence in self-control for temptations, followed by the philosophy of action view of desire. Subsequently, we develop our hypotheses and present an empirical study that tests the hypotheses using a quasi-experiment conducted with an MTurk sample. Finally, the conclusion elaborates on the theoretical and substantive implications of our research findings, as well as the limitations and future research avenues.

2. Conceptual framework

2.1 Role of prudence in self-control for temptations

Prudence is synonymous with characteristics such as carefulness, mindfulness, preparedness, discretion and pragmatism. It is a trait that influences consumers' deliberation and self-restraint across different types of consumer choice problems. Simonson and Sela (2011) found that prudence is associated with chronic risk avoidance tendencies and choosing an utilitarian option over a hedonic one. Likewise, Cesarini's (2010) large scale study with sets of Swedish twins found

evidence that trait prudence is associated with less financial risk-taking. Puri (1996) suggests that prudent consumers have trained themselves to exercise will power or self-control when making decisions. Therefore, prudent consumers consider the consequences of enacting impulses more extensively than less prudent (hedonic) consumers and weigh such consequences more heavily in decision making. For example, a dieter who passes by the tempting box of sweet, fragrant doughnuts in the lunchroom at work has several potential consequences of yielding to this temptation to consider. High-prudence consumers are inclined to consider all possible and probable negative outcomes of eating a doughnut for achieving the goal of weight loss (e.g. excess calorie in-take could result in weight-gain, eating sweets could trigger further cravings and high-calorie indulgences, the feelings of guilt may demotivate further weight loss goal pursuit, etc.) and to assess greater importance to such consequences in their decision-making. Conversely, low-prudence consumers are likely to deliberate on fewer potential consequences and give such considerations less importance. This tendency to prioritize consideration of potential future consequences over immediate benefits of an action has also been referred to as the individual difference trait of "consideration of future consequences" in other research (Strathman *et al.*, 1994), and it is considered pivotal for successful self-control. Another research stream views the cognitive processing that high-prudence consumers chronically engage in as a type of "motivated reasoning," given that these individuals' motivation to arrive at the decision to refrain from temptation increases their reliance on consequence-related beliefs that support that decision (Kunda, 1990). Motivated reasoning is an effective means of self-control for prudent individuals because of their chronic tendency to use their cool system, which involves cognitive deliberation of rational, affectively neutral reasons, in lieu of their hot system, which entails impulsive response to affective mental representations (Metcalfe and Mischel, 1999; Nordgren and Chou, 2011).

Consistent with Puri's (1996) view that prudent consumers have trained themselves to consider the consequences of yielding to temptation as a self-control strategy, the model of self-control strength suggests that regularly practicing self-control strategies increases self-control ability (Muraven, 2010). Research has also shown that while people tend to consider potential positive outcomes in most types of situations, consideration of negative consequences influences self-control more strongly (Nenkov *et al.*, 2008). This finding provides further support for the importance of trait prudence, which increases the tendency to deliberate on potential negative consequences, in consumer self-control success.

2.2 The philosophy of action view of desire in action intention formation

Desire is a crucial antecedent of action intentions (Ajzen and Kruglanski, 2019; Perugini and Bagozzi, 2001; Perugini and Conner, 2000). It is a state of wanting that motivates intention formation, which leads to action (Bagozzi, 1992). Moreover, many consumer behavior and social psychology studies construe desire as the motivational element in temptation (Mead and Patrick, 2016). According to this view, desire is an affectively-charged focus on objects or activities associated with pleasure (Kavanagh *et al.*, 2005), which gives rise to cravings, appetites and whims (Dholakia *et al.*, 2005, 2006; Hildebrand *et al.*, 2019). Affect-driven motivational states such as these are identified as appetitive desire in the philosophy of action literature. Appetitive desire is a motivational state that is spontaneously triggered by and directed toward objects or actions perceived as intrinsically pleasurable or appealing (Davis, 1984a, 1984b). As Perugini and Bagozzi (2001) describe it, appetitive desire is a catalyst that releases an individual's latent desires. Some appetitive desires, such as a craving for pizza, develop in conjunction with a visceral state (e.g. hunger). However, appetitive desires can also arise in the absence of a visceral state as merely wanting to do something appealing, such as taking a walk on the beach in the cool breeze of the morning (Davis, 1984b). Appetitive desires may be directed toward temptations, such as going to a party instead of studying or eating chocolate cake while one is dieting, as well as toward goal-consistent objects (e.g. a fresh, juicy piece of fruit) or actions (e.g. taking a pleasant thirty-minute brisk walk with a friend).

Other social psychology and consumer behavior studies conceptualize desire as a motivational state that results from individuals' rational consideration of justifications for a particular action (Hur and Nordgren, 2016; Perugini and Bagozzi, 2001, 2004; Perugini and Conner, 2000). The philosophy of action literature identifies this type of desire state as volitive desire. Volitive desires are directed by one's will, and develop in an intentional, controlled manner (Davis, 1984b). Consumers consciously regulate their volitive desire using their rationality (Binswanger, 1991). Consequently, volitive desire is generally directed toward objects that individuals perceived to be rational or reasonable to pursue (Davis, 1984a). For instance, a consumer may desire (volitively) to eat meals low in saturated fats because doing so will help him lose weight and lower his cholesterol. In this example, utilitarian reasons are the primary source of volitive desire. However, appetitive desire at times provide an emotional basis to act that energize intentions through volitive desire (Davis, 1984b, 1984a). In other words, a person may consciously regard their affective motive as a reason for acting. For example, a consumer considering a fresh, colorful fruit salad may deliberately consider their appetitive desire toward the salad as a reason to eat the salad.

Prior research regards volitive desire as a direct predictor of action intentions (Ajzen and Kruglanski, 2019; Perugini and Bagozzi, 2001; Perugini and Conner, 2000). Relatedly, self-regulation research considers logic and reasoning, which are the main sources of volitive desire, as essential drivers of effective self-control (Baumeister *et al.*, 2000; Hofmann and Vohs, 2016). Given that the need for self-control is salient in temptation situations, we argue that volitive desire is a central mechanism to subjugate appetitive desires toward goal-incongruent objects or actions (i.e. temptations). Furthermore, prudence is an individual difference trait that may influence volitive desire and, in turn, decrease temptation enactment intentions.

2.3 Hypotheses development

As an individual difference trait, prudence is associated with a chronic tendency to extensively consider and heavily weigh the potential negative consequences of yielding to temptations (Puri, 1996). This sort of deliberative processing is distinctively

associated with individuals' motivation to act through volitive desire, rather than appetitive desire (Perugini and Bagozzi, 2001). Appetitive desire is an affective, stimulus–response-based motivation that is driven by the individual's perception of the intrinsic hedonic attributes of the stimulus, rather than by contemplating rewards or consequences due to trait prudence. Given that appetitive desire develops outside of prudence-directed deliberation, we do not expect that trait prudence differentially influences appetitive desire toward a tempting chocolate cake versus a goal-congruent fruit salad. These options will arouse appetitive desire based on the perceived pleasure of the stimulus regardless of the consumer's trait prudence. Thus, we reason that consumers' trait prudence specifically determines differences in volitive desire intensity when they face temptations versus goal-congruent options. Moreover, consumers' instrumental reasons to avoid the temptations, such as setbacks to goal progress, increased likelihood of goal failure or anticipating the discomfort of feeling guilt or regret, would reduce volitive desire to enact temptations. We propose that when high-prudence consumers encounter temptations (versus goal-consistent options), their tendency toward deliberation about consequences will result in less volitive desire to enact the temptation than low-prudence consumers. Thus, we hypothesize as follows:

H1. High (vs low) trait prudence decreases volitive desire relative toward a temptation (vs goal-congruent) option.

Prior research shows that prudent consumers are adept at resisting temptation due to their chronic tendency to deliberate extensively about the negative consequences of temptation enactment, which helps to attenuate their impulses (Puri, 1996). Similarly, other studies have found that prudent individuals are less likely to take risks that threaten goal attainment and prefer utilitarian over hedonic options (Simonson and Sela, 2011). Consistent with prior research, we expect that intentions to enact temptations will be lower for high (versus low) prudence consumers. Alternately, goal-congruent options are less characterized by negative consequences and/or risk considerations such as those that would elicit prudence-related processing. Thus, individuals' trait prudence is unlikely to differentially influence intentions toward goal-congruent options. Stated formally:

H2. High (vs low) trait prudence results in lower action intentions toward a temptation (vs goal-congruent) option.

Prior research indicates that volitive desire directly influences intention formation (Bagozzi and Edwards, 1998; Perugini and Bagozzi, 2001). Given our assertion that prudence influences consumers' volitive (versus appetitive) desire toward enacting a temptation, it stands to reason that volitive desire mediates the effect of prudence on intentions to enact a temptation.

As we argue above, appetitive desire is driven by individual differences in perception of the intrinsic hedonic attributes of a stimulus rather than by contemplating consequences and risks, which is representative of trait prudence. Given that trait prudence is not expected to differentially affect appetitive desire toward temptations versus goal-congruent options, appetitive desire is not expected to mediate the effect of prudence level on action intentions. Rather, we expect that prudence mediates the effect such that high- (vs low-) prudence consumers will experience less volitive desire toward enacting a temptation, thereby resulting in lower intentions to enact the temptation among high-prudence consumers. Thus, we hypothesize as follows:

H3. Volitive desire mediates the effect of prudence level on intentions to enact a temptation (vs a goal-congruent option), such that high (vs low) trait prudence decreases volitive desire, resulting in lower intentions toward a temptation option.

3. Method

This study consists of a 2 (food type: fruit salad vs chocolate cake) × 2 (prudence level: low vs high) between-subjects quasi-experimental design that exposes participants that are high or low in the individual difference trait prudence to healthy or unhealthy food images to observe the effect on volitive desire, appetitive desire and intentions toward eating the encountered food option.

3.1 Goal pursuit context relevance

The goal context for this study is healthy eating, a topic that has gained considerable attention in consumer research (e.g. Gardner *et al.*, 2014; Wansink and Chandon, 2014; Finkelstein and Fishbach, 2010; Goldberg and Gunasti, 2007). Healthy eating is a widespread consumer goal for diverse reasons, such as enhancing physical appearance, improving physical well-being and preventing obesity-related diseases. Furthermore, temptations in the form of appealing, but unhealthy food options are prevalent. Thus, healthy eating seems to be a reasonable context for studying the influence of trait prudence on temptation restraint through volitive desire. To examine this assumption, we conducted a pretest with 78 participants recruited from MTurk. Using a Qualtrics online survey, we asked, "Right now, how important to you is the goal of eating healthy?" Participants responded using two seven-point semantic differential scales anchored by 1 = "very unimportant" to 7 = "very important" and 1 = "very insignificant" to 7 = "very significant." We averaged the two items to form a single index ($\alpha = 0.84$, M = 6.0, SD = 1.1). The high scale average (M = 6.0) indicates the prevalence of the goal of eating healthy. Indeed, only 6% of participants' ratings fell below the scale midpoint. This result bolsters the relevance of healthy eating as the goal context for our main study.

3.2 Study design and sample

This study consisted of a two-factor, between-subjects quasi-experimental design. Food type is a manipulated factor (chocolate cake [temptation] vs fruit salad [goal-consistent]) and trait prudence is measured and categorized as low or high level using median split. In exchange for a monetary compensation ($1), 89 participants (57% female, M_{age} = 33.7) were recruited using MTurk to complete the online study via a Qualtrics survey.

3.3 Procedure

The cover story welcomed participants to the "food attitudes study" and informed them that there were no right or wrong answers. Participants were randomly assigned to the fruit salad (goal-consistent) or chocolate cake (temptation) group at the beginning of the survey. Next participants completed a battery of questions that included demographic items, a diet restraint scale (Polivy *et al.*, 1978) and the prudence subscale of the Puri's (1996) consumer impulsiveness scale. Then, participants were told they would be shown an image of a food item and to imagine being offered the food item to eat right now. The image of participants' assigned food option appeared on screen subsequently. Next, participants completed the eating intention measure. Then they completed a thought protocol task that asked them to describe in detail what motivates them to want (or not want) to eat the food item if it was offered to them at that moment. All participants listed seven thoughts or feelings. Next, participants rated each thought they listed according to the extent that it represented craving (appetitive desire) and then they rated the extent that each thought represented a willful decision (volitive desire) [1]. Finally, they completed a stimulus vividness item and then were thanked and debriefed.

3.4 Stimuli

The food images were vivid and in full color. Participants in the temptation group viewed a plate with a slice of chocolate cake with layers of chocolate frosting. Participants in the goal-consistent group viewed an attractively arranged serving of fruit salad (strawberries, blueberries, bananas, mandarin slices and apple slices). To ensure that participants attended to the stimulus, the next question asked them to briefly describe the food item in the picture. Among the fruit salad condition participants, 95.5% of the descriptions involved fruit and, among the chocolate cake condition participants, 100% of the descriptions involved chocolate cake. Participants completed two items to measure stimulus vividness using a three-point bipolar scale (1 = "It was not easy to visualize eating this food item" to 3 = "It was easy to visualize eating this food item"; 1 = "I could not imagine myself eating the food item" to 3 = "I could imagine myself eating the food item"). The chocolate cake (M = 2.81) and the fruit salad (M = 2.80) did not differ significantly in perceived vividness [t (87) = 0.07, $p > 0.9$].

3.5 Measures

To measure the individual difference trait prudence, participants rated their agreement using seven-point scales (1 = "strongly disagree" to 7 = "strongly agree") regarding whether the following traits describe them: "self-controlled," "farsighted," "responsible," "restrained," "rational," "methodical" and "a planner" (Puri, 1996). The "farsighted" item was dropped due to poor item-total correlation (corr = 0.16). The remaining items were averaged (α = 0.75, M = 5.1, SD = 0.83). Next, we used a median split to categorize participants into the low-prudence group (n = 45) and high-prudence group (n = 44).

To measure eating intention, participants were asked to rate "How likely would you be to eat this food item right now if it was offered to you?" using three bipolar seven-point scales (1 = "it is very unlikely" to 7 = "it is very likely"; 1 = "it is impossible" to 7 = "it is possible" and 1 = "it is very improbable" to 7 = "it is very probable"), which were averaged (α = 0.99, M = 5.0, SD = 2.1).

The measure of appetitive desire and volitive desire consisted of a thought protocol in which participants listed seven motives that influenced them to want to eat or not eat the food item if it was offered to them at that moment. Responses for the fruit salad included statements such as: "It looks healthy for you," "delicious," "fruits are good," and "looks attractive." Responses for the chocolate cake included: "the texture of the cake makes me want to eat it," "I love chocolate," "there's nothing nutritional in that cake" and "tempting." Two independent judges coded the thoughts for membership in four categories of motives:

1 positive appetitive desire;
2 negative appetitive desire;
3 positive volitive desire; and
4 negative volitive desire.

A motive was coded with a "1" if the independent coder judged the listed thought as conforming to the definitional categories below and a "0" if the listed thought did not match the definition to any extent. The appetitive motive thoughts were coded according to the philosophy of action literature's conceptualization of appetitive desire (Davis, 1984a, 1984b). However, volitive desire can potentially include appetitive motives given that appetitive desires, "generally provide reasons for volitive desires" (Davis, 1984b, p. 186). Thus, to avoid confounding and to maintain distinctive categories for hypothesis testing, the coding definitions for volitive desire used in this study focus on instrumental (non-appetitive) reasons for eating or not eating the food item:

- Positive appetitive motive: thoughts that relate to craving, positive feelings or perception of food item as pleasurable, appealing or appetizing (e.g. "I like fruit," "I love sweet, sugary things" and "it looks rich and satisfying").
- Negative appetitive motive: thoughts that relate to disgust, distaste, negative feelings or perception of food item as repugnant, unpleasant or unappealing (e.g. "I don't like bananas much," "I do not like cake" and "the frosting is unappealing").
- Positive volitive motive: thoughts that relate to instrumental reasons in favor of eating the food item as a rational, sensible choice (e.g. "antioxidants," "fruit is good for you" and "I deserve to treat myself").
- Negative volitive motive: thoughts that relate to instrumental reasons why eating the item is not a rational, sensible choice (e.g. "it is empty calories," "it will turn into fat" and "it will give me a stomachache").

Next, the number of thoughts in each motive category were summed. Finally, a summary measure of appetitive desire was created by subtracting the number of negative appetitive motives from the positive appetitive motives, and a summary measure of volitive desire was created by subtracting the number of negative volitive motives from the positive volitive motives.

To statistically control for individual differences in dieting behaviors, participants completed the behavioral items from the Polivy *et al.* (1978) dietary restraint scale. The five scale items (e.g. "How often are you dieting?," "Do you eat sensibly in front of others and splurge alone?," "Do you give too much thought to food?," "Do you have feelings of guilt after overeating?," "How conscious are you of what you're eating?"

[2]) were rated on five-point scales (1 = "Never," 2 = "Rarely," 3 = "Sometimes," 4 = "Usually," 5 = "Always"). These scores were averaged ($\alpha = 0.72$, M= 3.1, SD = 1.0).

3.6 Results and discussion

3.6.1 Volitive and appetitive desire

As predicted, a 2 × 2 ANCOVA on volitive desire, controlling for gender and diet restraint, revealed a significant food type by prudence interaction [F (1, 83) = 4.47, $p < 0.05$; see Table 1, Panel A]. The prudence level main effect was not significant [F (1, 83) = 1.30, $p > 0.2$] and the food type main effect was statistically significant [F (1, 83) = 60.93, $p < 0.001$]. Importantly, high-prudence participants reported weaker volitive desire (M = −2.18, SD = 2.12) than low-prudence participants [M = −0.72, SD = 2.09; F (1, 84) = 4.86, $p < 0.05$] toward eating the chocolate cake (temptation option). With the fruit salad (goal-congruent option), however, prudence level did not affect volitive desire ($M_{Low\text{-}Prudence}$ = 1.78, SD = 2.06 vs $M_{High\text{-}Prudence}$ = 2.22, SD = 2.08; $F < 1$; see Table 1, Panel B). As an ancillary analyses, we conducted a 2 × 2 ANCOVA on appetitive desire, controlling for gender and diet restraint. The food type by prudence level interaction effect was not statistically significant [F (1, 83) = 2.61, $p > 0.10$; see Table 2, Panel A]. The main effect of prudence level was not significant [F(1, 83) = 0.35, $p > 0.5$] and the food type main effect was significant [$M_{\text{fruit salad}}$ = 1.76, SD = 2.13 vs $M_{\text{chocolate cake}}$ = −0.16, SD = 2.13; F (1, 84) = 18.11, $p < 0.01$; see Table 2]. These results support our hypothesis that high trait prudence affects consumer motivation by lowering volitive desire when the consumer faces a temptation (vs goal congruent) option (*H1*).

3.6.2 Action intentions

A 2 × 2 ANCOVA on eating intentions, controlling for gender and diet restraint, revealed a significant food type by prudence level interaction effect [F (1, 83) = 6.40, $p < 0.05$; see Table 3, Panel A]. The food type main effect was not significant [F (1, 83) = 0.77, $p > 0.3$] and the prudence main effect was significant [F (1, 83) = 4.10, $p < 0.05$]. Importantly, high trait prudence resulted in lower eating intentions (M = 3.79, SD = 2.07) than low trait prudence [M = 5.78, SD = 2.05; F (1, 84) = 10.13, $p < 0.01$] with regard to the chocolate cake. Alternately, when the food option was goal-congruent (fruit salad), trait prudence did not affect eating intentions [$M_{Low\text{-}Prudence}$ = 5.05, SD = 2.02; $M_{High\text{-}Prudence}$ = 5.29, SD = 2.04; F (1, 84) = 0.16, $p > 0.6$; see Table 3, Panel B]. These results support our prediction that high trait prudence produces lower action intentions toward a temptation (vs goal-congruent) option.

3.6.3 Moderated mediation

A moderated mediation analysis (Model 7; PROCESS, Hayes, 2022) using food type as the moderator, volitive desire as the mediator and gender as a covariate (due its statistical significance in the eating intentions ANCOVA model; see Table 3, Panel A) revealed a significant conditional indirect effect (95% bias-corrected CI [−1.49; −0.01], Index = −0.65, BootSE = *0.38*). As predicted, the conditional indirect effect (i.e. prudence → volitive desire → intentions) was significant and negative (95% bias-corrected CI [−1.04; −0.06], Index = −0.49, BootSE = *0.25*; see Table 4, Panel C; Figure 1). This effect consists of the negative simple effect of prudence level on volitive desire for chocolate cake ($b = -1.40$, $t = -2.20$, $p < 0.05$; see Table 4, Panel A, Simple effects), and the positive effect of volitive desire on eating intentions ($b = 0.35$, $t = 4.71$,

Table 1 Tests of between-subjects effects on volitive desire ratings

Panel A. Dependent variable: Volitive desire scores

Source	df	F	Sig.	Type III sum of squares
Corrected model	5	13.40	0.0001	285.15[a]
Intercept	1	2.41	0.124	10.27
Gender	1	1.43	0.235	6.08
Diet restraint	1	0.45	0.505	1.91
Food type	1	60.93	0.0001	259.34
Prudence level	1	1.30	0.258	5.53
Food type × Prudence level	1	4.47	0.038	19.01
Error	83			353.25
Total	89			646.00
Corrected total	88			638.40

R^2 = 0.447 (Adjusted R^2 Squared = 0.413)

Panel B. Dependent variable: Volitive desire scores

	Chocolate cake[b]		Fruit salad[c]	
	Low prudence	High prudence	Low prudence	High prudence
Mean	−0.72[a]	−2.18[a]	1.78[a]	2.22[a]
SD	2.09	2.12	2.06	2.08
Cell size	22	22	23	22

Notes: [a]Covariates appearing in the model are evaluated at the following values: Gender = 1.57, diet restraint = 2.65; Results of planned comparisons: [b]Significant mean difference (F (1, 84) = 4.86, $p < 0.05$); $\bar{x}$is significantly lower for high-prudence than low-prudence participants; [c]Non-significant mean difference [F (1, 84) = 0.57, $p > 0.4$]

Table 2 Tests of between-subjects effects on appetitive desire ratings

Panel A. Dependent variable: appetitive desire scores				
Source	df	F	Sig.	Type III sum of squares
Corrected model	5	4.08	0.002	91.53a
Intercept	1	1.38	0.243	6.19
Gender	1	0.57	0.455	2.53
Diet restraint	1	0.01	0.924	0.04
Food type	1	17.84	0.0001	80.00
Prudence level	1	0.35	0.556	1.56
Food type × Prudence level	1	2.61	0.110	11.71
Error	83			372.23
Total	89			522.00
Corrected total	88			463.75
Panel B. Descriptive statistics				
Dependent variable: Appetitive desire scores				
Condition	Mean		SD	N
Chocolate cake	−0.16[b]		2.13	44
Fruit salad	1.76[b]		2.13	45

Notes: [a]R^2 = 0.197 (Adjusted R^2 = 0.149); [b] Covariates appearing in the model are evaluated at the following values: Gender = 1.57, diet restraint = 2.65

Table 3 Tests of between-subjects effects on eating intention ratings

Panel A. Dependent variable: Eating intentions				
Source	df	F	Sig.	Type III sum of squares
Corrected model	5	2.57	0.033	52.65[a]
Intercept	1	40.82	0.0001	167.10
Gender	1	4.87	0.030	19.92
Diet restraint	1	0.03	0.873	0.11
Food type	1	0.77	0.381	3.17
Prudence level	1	4.10	0.046	16.79
Food type × Prudence level	1	6.40	0.013	26.21
Error	83			339.75
Total	89			2597.44
Corrected total	88			392.40

Panel B. Dependent variable: Eating intention ratings

	Chocolate cake[c]		Fruit salad[d]	
	Low prudence	High prudence	Low prudence	High prudence
Mean	5.78	3.79	5.05	5.29
SD	2.05	2.07	2.02	2.04
Cell size	22	22	23	22

Notes: [a]R^2 = 0.134 (Adjusted R^2 = 0.082); [b]Covariates appearing in the model are evaluated at the following values: Gender = 1.57 ($p < 0.05$), diet restraint = 2.65 ($p > 0.8$). Results of planned comparisons: [c]Significant mean difference (F (1, 84) = 10.13, $p < 0.01$); $\bar{x}$is significantly lower for high-prudence than low-prudence participants; [d]Non-significant mean difference [F (1, 84) = 0.16, $p > 0.6$]

$p < 0.001$; see Table 4, Panel B). When the food option was goal-consistent (fruit salad), however, the conditional indirect effect was not significant (95% bias-corrected CI [−0.27; 0.68]; see Table 4, Panel C; Figure 1). As an ancillary analyses, we conducted a moderated mediation analysis (Model 7; PROCESS, Hayes, 2022) using food type as the moderator, appetitive desire as the mediator and gender as a covariate, demonstrated that the conditional indirect effect (i.e. Prudence → Appetitive desire → Intentions) was not statistically significant (95% bias-corrected CI [−1.90; 0.25]; see Table 5). These results support our prediction (*H3*) that volitive desire mediates the effect of trait prudence on action intentions toward a temptation (vs goal congruent) option, such that high trait prudence results in lower volitive desire and, in turn, lower eating intention toward the chocolate cake (vs fruit salad).

3.6.4 Results summary

In support of *H1*, the results show that high-prudence participants experienced lower volitive desire toward the temptation food option than low-prudence participants, whereas volitive desire to eat the goal-congruent food did not differ significantly. As expected, appetitive desire toward each food type

Table 4 Moderated mediation results with volitive desire dependent variable

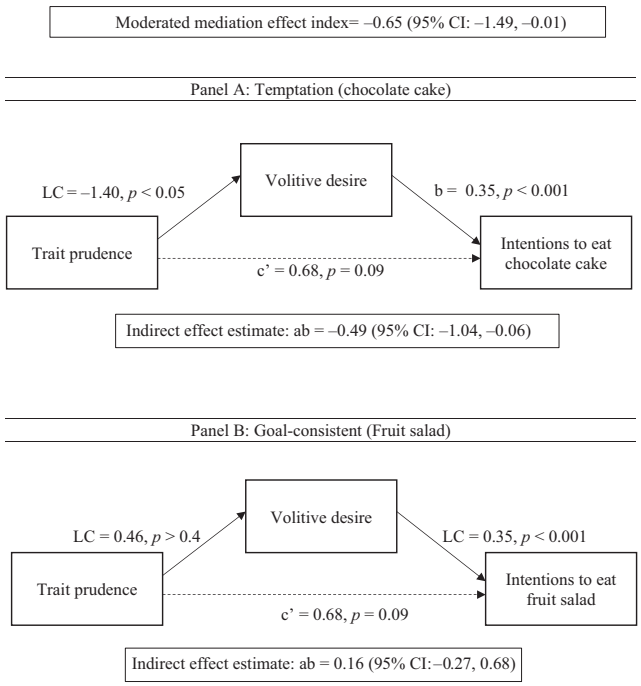
Predictor variable	Ordinary least squares regression-based moderated mediation (n = 89)					
Panel A. Outcome variable: Volitive desire score						
Model summary						
R	*R-sq*	*MSE*	*F*	*df1*	*df2*	*p*
0.67	0.44	4.23	16.75	4	84	0.00001
Predictor variable	*b*	*SE*	*t*	*P*	*Lower*	*Upper*
Constant	2.65	0.83	3.18	0.002	0.99	4.31
Prudence level	0.46	0.62	0.75	0.453	−0.76	1.69
Food type	−2.54	0.62	−4.12	0.0001	−3.76	−1.31
Prudence level × Food type	−1.87	0.89	−2.09	0.040	−3.65	−0.09
Gender (cov)	−0.56	0.46	−1.22	0.227	−1.46	0.35
Simple effects of prudence level on volitive desire for each food type						
	b	SE	*t*	*p*	Lower	Upper
Fruit salad	0.46	0.62	0.75	0.45	–0.76	1.69
Chocolate cake	−1.40	0.64	–2.20	0.03	–2.67	–0.14
Panel B. Outcome variable: Eating intentions						
Model summary						
R	*R-sq*	*MSE*	*F*	*df1*	*df2*	*p*
0.50	0.25	3.44	9.68	3	85	0.00001
Predictor variable	*b*	*SE*	*t*	*P*	*Lower*	*Upper*
Constant	6.33	0.71	8.97	0.0001	4.92	7.73
Prudence level	−0.68	0.40	−1.72	0.089	−1.47	0.11
Volitive desire	0.35	0.07	4.71	0.0001	0.20	0.49
Gender (cov)	−0.71	0.40	−1.77	0.080	−1.50	0.09
Panel C. Direct effect of prudence level on eating intentions						
	b	*SE*	*t*	*P*	*Lower*	*Upper*
	−0.68	0.40	−1.72	0.09	−1.47	0.11
Indirect effect of prudence level on eating intentions by food type						
	b	*BootSE*		*BootLower*		*BootUpper*
Fruit salad	0.16	0.24		−0.27		0.68
Chocolate cake	−0.49	0.25		−1.04		−0.06
Conditional indirect effect of prudence level on eating intentions						
	b	*BootSE*		*BootLower*		*BootUpper*
	−0.65	0.38		−1.49		−0.01

did not differ between low versus high-prudence participants. Supporting *H2*, high-prudence participants reported significantly weaker eating intentions toward the temptation food option than low-prudence consumers, while intentions to eat the goal-congruent food option did not differ significantly. Finally, as predicted in *H3*, the conditional indirect effect was statistically significant such that volitive desire significantly mediated the indirect effect of prudence level on eating intentions toward the chocolate cake, but not toward the fruit salad. Conversely, the conditional indirect effect was not significantly mediated by appetitive desire. Taken together, these results support our theoretical framework.

4. Theoretical implications

Drawing from the philosophy of action perspective on desire, this research sheds new light on the motivational implications of a self-control-related individual difference trait, prudence. Our study also fills a research gap concerning the role of desire in prudence-related self-control toward temptations. The study results illuminate the differential roles of appetitive desire and volitive desire in the relationship of prudence and self-control intentions. We extend prior research on the role of prudence in temptation resistance (Puri, 1996) by showing that trait prudence can predict temptation enactment intentions through the mediating role of volitive desire, but not through appetitive desire. These findings increase our understanding of the roles of appetitive desire and volitive desire in prudence-driven self-control and show that volitive desire, construed as instrumental, non-appetitive reasons for acting, rather than appetitive desire, constitutes the motivational mechanism by which prudence bolsters self-control in the face of temptation. The study findings show that high-prudence participants experienced less volitive desire to enact a food temptation than low-prudence participants. Volitive desire is rooted in deliberation about reasons for performing an action. Thus, the lower volitive desire ratings exhibited by high prudence participants is indicative of Puri's (1996) suggestion that highly prudent consumers deliberate

Figure 1 Conditional indirect effect of prudence on eating intentions toward a temptation (vs goal-consistent) option



about the consequences of temptation enactment more extensively than less prudent consumers. High-prudence participants' weaker volitive desire resulted in lower intentions to eat the tempting food option, which supports prior research findings concerning the relationship between prudence and low risk-taking and preference for utilitarian over hedonic options (Simonson and Sela, 2011). Further, the study shows that low and high prudence participants did not differ significantly in their experience of appetitive desire toward either food option. This finding implies that, in spite of higher trait prudence, individuals cannot control or suppress the experience of appetitive desire in response to stimuli they are naturally, hedonically drawn toward.

Our findings add to the body of research concerning desire and intention formation, and to research on consumer self-control. First, our findings demonstrate that prudence, which influences consumers' deliberation about consequences when facing a temptation, influences consumers' motivational state. We build on Puri's (1996) cost-benefit accessibility framework by incorporating the philosophy of action perspective to provide insights into the influential role of desire in the relationship between prudence and temptation resistance. Integrating the role of desire into Puri's impulse control framework expands our understanding of the desire mechanism that drives self-control for temptations. Our research is timely given the rising interest in illuminating the role of desire in action intentions, illustrated by models that have expanded Fishbein's (1979) Theory of Reasoned Action by integrating desire as a central motivational mechanism (Theory of Reasoned Goal Pursuit: Ajzen and Kruglanski, 2019; Model of Goal-Directed Behavior: Perugini and Bagozzi, 2001). Our research also goes beyond prior work by including both types of desire, appetitive and volitive, in our study to isolate the prudence-driven motivational mechanism that underlies self-control for temptations. The results support our theorizing, showing that prudence influences intentions toward temptation enactment through volitive rather than appetitive desire.

4.1 Limitations and future research directions

Our study possesses several methodological limitations worth noting. First, our study operationalizes desire as four discrete categories of positive and negative appetitive desire and positive and negative volitive desire, which are then combined into summary measures of appetitive desire and volitive desire. We recognize that in some contexts appetitive desire could include volitive reasons (Davis, 1984b). However, to avoid confounding our appetitive desire and volitive desire measures, we defined volitive desire as instrumental (non-appetitive) reasons for eating or not eating the food item for coding purposes. Although examining the additional interplay of appetitive desire on volitive desire was outside the scope of this study, future research should address the possibility that the effect of prudence on volitive desire depends on whether appetitive desire is also influencing volitive desire.

Second, our experiment was limited by presenting participants with only one behavioral option – eating either a healthy or an unhealthy food. Consumers commonly encounter situations where they have multiple options. For instance, when dining at a restaurant, the menu may offer an unbalanced set such as four decadent (unhealthy) desserts and only one healthy option or a balanced set such as two of each. Researchers should examine whether prudence differentially influences volitive desire toward temptations encountered in balanced versus imbalanced sets of goal congruent versus temptation options.

Another limitation is that our study focused on a single goal context (healthy eating), whereas, consumers often simultaneously face choices related to different goal domains. For instance, in a food court, a consumer may face the choice of eating a healthy versus unhealthy meal, of sitting down to eat versus eating while exercising by briskly walking the length of the shopping mall, and of buying something inexpensive or splurging on an expensive meal. Recent research suggests that fulfilling a particular goal in one domain can produce satiation, thereby reducing the consumers' need to pursue that goal in a different domain (Chernev, Hamilton and Gal, 2011). Thus, it may be possible for a consumer to satisfy a hedonic goal within a benign domain, such as indulging in sitting someplace comfortably and enjoying a nice view, to facilitate satisfying more prudent goals in other domains, such as healthy eating and saving money. Future studies should investigate this possibility.

Also, the present study focused on consumers' privately held volitive motives (vs social norms) for pursuing a health goal-congruent behavior (e.g. The fruit provides me with fiber) or avoiding a health goal-incongruent one (e.g. The cake will make me fat). However, social influences play an important role in intentional behavior (Ajzen and Fishbein, 1986). Thus, another avenue for future research is to investigate the interplay of private versus social volitive motives in consumer self-regulation. Individual differences and situationally primed differences in self-construal (independence versus interdependence) may increase the influence of private versus social volitive motives in suppressing goal-incongruent appetitive desires (e.g. Markus and Kitayama, 1991).

Table 5 Moderated mediation results with appetitive desire dependent variable

Ordinary least squares regression-based moderated mediation (n = 89)						
Panel A. Outcome variable: Appetitive desire score						
Model summary						
R	*R-sq*	*MSE*	*F*	*df1*	*df2*	*p*
0.44	0.20	4.43	5.16	4	84	0.001
Predictor variable	*b*	*SE*	*t*	*P*	*Lower*	*Upper*
Constant	2.07	0.85	2.43	0.02	0.38	3.77
Prudence level	0.47	0.63	0.75	0.45	−0.78	1.73
Food type	−1.16	0.63	−1.84	0.07	−2.42	0.91
Prudence level × Food type	−1.50	0.92	−1.63	0.11	−3.32	0.33
Gender (cov)	−0.35	0.47	−0.75	0.45	−1.28	0.58
Panel B. Outcome variable: Eating intentions						
Model summary						
R	*R-sq*	*MSE*	*F*	*df1*	*df2*	*p*
0.59	0.35	3.02	14.97	3	85	0.001
Predictor variable	*b*	*SE*	*t*	*P*	*Lower*	*Upper*
Constant	6.05	0.66	9.10	0.0001	4.72	7.37
Prudence level	−0.71	0.37	−1.92	0.058	−1.45	0.03
Volitive desire	0.49	0.08	6.09	0.0001	0.33	0.65
Gender (cov)	−0.71	0.37	−1.90	0.061	−1.45	0.03
Panel C. Direct effect of prudence level on eating intentions						
	b	*SE*	*t*	*P*	*Lower*	*Upper*
	−0.71	0.37	−1.92	0.058	−1.45	0.03
Indirect effect of prudence level on eating intentions by food type						
	b	*BootSE*	*BootLower*			*BootUpper*
Fruit salad	0.23	0.43	−0.56			1.11
Chocolate cake	−0.50	0.24	−1.02			−0.08
Conditional indirect effect of prudence level on eating intentions						
	b	*BootSE*	*BootLower*			*BootUpper*
	−0.74	0.54	−1.89			0.25

Further, our study used a content analysis method to operationalize appetitive desire and volitive desire, given that closer scrutiny of participants' evaluations of the extent that their thoughts consisted of appetitive or volitive desire diverged considerably from the definition of these constructs. Refinement of measurement methods for operationalizing appetitive and volitive desire will benefit future research in this domain. Future research should develop a psychometrically validated measurement scale of appetitive desire and volitive desire. Additionally, our study assumes that volitive desire arises from high prudence due to more extensive consideration of the consequences of enacting the target behavior. However, we do not directly test the extent to which such consideration of consequences is taking place. It would be fruitful for future research to measure and/or manipulate the extent to which participants deliberate about the potential consequences of a consumption choice to further illuminate the mechanisms that underlie self-control.

Finally, although our study found that self-reported appetitive motives did not differ between low and high prudence participants, it would be interesting to examine under what conditions high- versus low-prudence consumers give lesser versus greater weight or importance to their appetitive desire toward tempting options. It may be that consumers' perceived progress toward a goal determines the importance of consequence- versus hedonic-related considerations when facing a temptation. Prior research shows that motivation decreases as people perceive high-progress toward goal attainment (Orehek *et al.*, 2008). It is possible that individuals that have made low goal-progress would give less consideration to appetitive desire toward a tempting option, whereas those that have achieved high goal-progress would give their appetitive desire stronger consideration. Future research should elucidate further on this possibility.

4.2 Implications for consumers and social marketing

One implication of our findings for social marketing practice regards helping consumers increase their prudence. Although some research suggests prudence represents a heritable predisposition to select more risk-averse, controlled, rational choices (Simonson and Sela, 2011), research also suggests that engaging in self-control regularly enhances subsequent self-controlled behavior (Dewitte *et al.*, 2009). Given that prudence is the result of training oneself to exercise will power and self-control when facing behavioral decisions (Puri, 1996), social marketing communications could encourage consumers to strengthen their prudence by committing to exercising self-control on a regular basis, albeit in domains that do not deplete regulatory resources extensively. For instance, social marketing ads could communicate that people who committedly make their bed and floss each

morning (overriding the tendency to wake up, get dressed and get going) become more effective at pursuing their health goals than individuals who do not exercise these simple self-control tasks every morning. Such ads would encourage consumers by depicting how they can benefit from exercising self-control consistently in low to moderately challenging tasks. Social marketing campaigns by government and non-government organizations can likewise appeal to the consequence-vigilance of high prudence consumers by reinforcing the importance of self-control in behaviors related to social issues such as pollution, smoking, recreational drug use, drinking and driving. Social marketing ads that emphasize the probable as well as possible negative consequences of giving in to temptation or to complacency will positively increase societally desirable behaviors among high prudence consumers.

An additional implication is that marketers of health goal-related products and services could segment the market based on trait prudence. Marketers could identify high-prudence consumers through gym attendance databases, using high attendance frequency as a proxy for high prudence assuming that regularly exercising at the gym involves exercising prudence by foregoing the tempting alternative of skipping the gym. Another potential means of identifying high-prudence consumers is through digital marketing by using search engine optimization with prudence-related keywords for the product category to drive traffic by high-prudence consumers to marketers' websites. For example, in the product category of meal kit services, such as Hello Fresh, prudent key words could include terms such as "healthy meals," "homemade meals" and "nutritious meals" that are associated with rational considerations, which prudent consumers give importance to in decision making. Given that high-prudence consumers place greater importance than low-prudence consumers on potential consequences of an action, health product or service (e.g. Hello Fresh meal kits) marketers could appeal to high-prudence consumers through marketing communications that emphasize the potential consequences of not using the product/service (e.g. health repercussions of eating frozen meals) or of using the competition's product/service (e.g. consuming foods lower in nutrients due to poor quality, non-fresh ingredients). In other words, marketers could design ads and product packaging that communicates the positive volitive motives for using healthy products and emphasizes the negative volitive motives for choosing unhealthy alternatives.

Notes

1. These scores were dropped from our analyses due to low correlation with our content analysis of the motive listings. Upon closer scrutiny, it was clear that many participants had inaccurately evaluated volitive motive statements (e.g. "it looks healthy") as appetitive, which compromised the validity of this measure.
2. This item was dropped due to poor item – total correlation (corr = 0.11).

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