

Research Article

The antecedents of anticipatory purchase: Reconciling the two routes to optimism

Elaine Chan ^{a,*}, Jaideep Sengupta ^b, Anirban Mukhopadhyay ^b

^a Department of Marketing, Tilburg University, Warandelaan 2, P. O. Box 90153, 5000 LE Tilburg, The Netherlands

^b Department of Marketing, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong

Received 13 June 2011; received in revised form 5 April 2012; accepted 18 April 2012

Available online 25 April 2012

Abstract

Consumers often behave optimistically, purchasing products that they are unable to use at the time of purchase, but anticipate being able to use in the future. This research investigates such anticipatory purchase behavior, and demonstrates that optimism exerts its influence on anticipatory purchase via two distinct routes. One is driven by the perceived ease of the process required to achieve a given outcome and prevails when sufficient cognitive resources are available, while the other is driven directly by the perceived favorability of the outcome itself and holds when cognitive resources are constrained. Within each route, the focus of thought (process vs. outcome-focus) moderates the influence of optimism, and the two routes converge on enhanced motivation. Multiple experiments provide support for predictions derived from this framework, illuminating the substantive domain of anticipatory purchasing and providing theoretical insights into the nature of optimism.

© 2012 Society for Consumer Psychology. Published by Elsevier Inc. All rights reserved.

Keywords: Optimism; Mental simulation; Goals; Planning; Self-regulation

Consumers often purchase products that they are unable to use at the time of purchase, but want to be able to use later. For example, a recent New York Times article described consumers who had bought cars despite not knowing how to drive (Sengupta, 2008). Similarly, a survey of over 2500 British women found that 63% had intentionally bought clothes that were too small to fit, and one in ten admitted to buying such clothes regularly. A pilot study we conducted found further evidence for such anticipatory purchasing. In an online survey of 274 Amazon.com users (42% male; average age: 31.8) from all over the world, as many as 250 people (91%) admitted having bought products, across categories as diverse as musical instruments, vehicles, and clothing, that they could not possibly use at the time of purchase but anticipated being able to use in the future.

As the survey indicates, such anticipatory purchase behavior is likely driven by the expectation of being able to use the product someday. For instance, people who buy clothes one

size too small may expect to lose a little weight. While several factors may drive expectations, this research examines one that is particularly pertinent—optimism—which affects much of consumer behavior, but has received relatively little scholarly attention (MacInnis, 2005; Yang, Markoczy, & Qi, 2007; Zhang, Fishbach, & Dhar, 2007). Optimists in general hold more favorable expectations of the future than pessimists (Scheier & Carver, 1985), and therefore optimists should be more likely than pessimists to buy products that they may never use. This research goes beyond this basic prediction and provides a more nuanced view by identifying the underlying mechanisms and boundary conditions. Specifically, we draw together perspectives on optimism, mental simulation, depth of processing, and motivation, to delineate two different routes by which optimism manifests in anticipatory purchasing. This dual-route framework allows us not only to understand the mediating mechanisms by which optimism exerts its expected effects, but also to identify the conditions under which these effects do not obtain.

Our work contributes in two major directions. First, this research illuminates the substantive domain of anticipatory

* Corresponding author. Fax: +31 13 466 8354.

E-mail address: y.l.chan@uvt.nl (E. Chan).

purchase, explaining why such behavior occurs, and also when it does not. Second, we add to theoretical knowledge on optimism, offering novel insights into the different routes by which optimism can manifest itself. Specifically, this research is the first to demonstrate that optimism can influence behavior both via enhanced favorability of a desired outcome and via expected ease of the steps required to achieve the outcome. We further contribute by identifying theoretically-derived conditions under which the impact of optimism is mitigated, i.e., we demonstrate that optimistic individuals do not always behave in a manner consistent with their positive expectations. Lastly—and of particular interest to those seeking to induce optimism—we show how optimism can be influenced via situational inductions.

Theoretical Framework

Optimism and anticipatory purchase

This inquiry focuses on the purchase of products that consumers are unable to use at the time of purchase and are uncertain about being able to use in the future, but desire to do so. For instance, as noted above, people often buy clothes that are currently too tight because they anticipate being able to lose weight. For ease of reference, we label such behavior as anticipatory purchasing. It is important to clarify two points up front. First, our focus is on products that consumers *desire* to use in the future. Thus, we do not look at purchases such as insurance, that relate to negative future events that one hopes will not occur (we return to this issue in the General Discussion). Second, anticipatory purchasing differs from activities such as stockpiling, because a consumer who stockpiles does not lack the ability to use the stockpiled product (even if they do not wish to consume all of it). In contrast, by our definition, a consumer who makes an anticipatory purchase is unable to properly use the purchased product without first taking some necessary actions (such as losing weight in order to wear smaller-sized clothes, or taking lessons in order to play a musical instrument). As a result, there is uncertainty as to whether s/he can in fact eventually use the product.

Expectations about the future should therefore be an important driver of such purchases. Individuals hold different levels of such expectations. This difference is captured by the optimism construct, which is defined in terms of generalized expectancies such that optimists tend to expect things to go their way and believe that good things will happen to them, whereas pessimists expect things to not go their way and anticipate bad outcomes (Scheier & Carver, 1985, 1992). Therefore, optimists and pessimists may be considered to lie at the ends of a continuum defined in terms of the favorability with which such expectations are chronically held (Scheier, Carver, & Bridges, 1994). In other words, beliefs about the future can be either positive or negative, and individuals who tend to hold generally positive (negative) expectations about the future are essentially high (low) in optimism. Moreover, following the literature, we use the terms “optimist” and “pessimist” to refer to individuals who are chronically high versus low in optimism (Scheier & Carver, 1985).

It is important to clarify that although it has typically been treated as a dispositional tendency, situational factors can influence temporary manifestations of optimism (and pessimism). For example, when faced with a difficult challenge, people sometimes deliberately lower expectations in order to cope with possible failure (“defensive pessimism”, Norem & Cantor, 1986). Conversely, when comparisons with others are made salient, people may perceive themselves as being more likely to obtain a positive outcome (“comparative optimism”, Chambers & Windschitl, 2004). Consistent with these views, and also with how other traits (such as assertiveness; Schwarz et al., 1991, and independence/interdependence; Gardner, Gabriel, & Lee, 1999) have been treated in the literature, this research allows optimism to be subject to both dispositional and situational factors. Further, it is also useful to compare optimism with the construct of hope (De Mello, MacInnis, & Stewart, 2007). While the two are related, hope is often characterized as a positive emotion about the future (MacInnis, de Mello, & Patrick, 2004). In contrast, our treatment of optimism takes a purely cognitive approach, focusing as it does on beliefs regarding the future (we provide a more nuanced comparison in the General Discussion).

Since optimists hold more favorable expectations about the future than do pessimists, a baseline prediction is simply that optimists will, in general, be more likely than pessimists to make anticipatory purchases. Rather than simply supporting this relatively straightforward prediction, our goal is to delineate the underlying mechanisms by which optimism exerts its effect. In so doing, we also identify the conditions under which the effect will be attenuated. To build our conceptualization, we draw on the literature on mental simulations to identify two different processes which govern the influence of optimism, and merge that literature with a depth-of-processing perspective to identify when each of these processes prevails. For ease of exposition, we illustrate our ideas using the example of clothes that are one size too small.

Mental simulations: outcome- versus process-focus

What mechanism underlies the different behavior of optimists versus pessimists? The literature largely converges on the idea that optimists construct more favorable images of the future than do pessimists (Taylor & Brown, 1988). Within this broad agreement, however, there is divergence as to specific content of these mental images. This divergence follows the literature on mental simulations (Taylor, Pham, Rivkin, & Armor, 1998), positing that individuals may simulate either the process leading to the achievement of an outcome (process-focus) or directly simulate the outcome itself (outcome-focus; Pham & Taylor, 1999; Zhao, Hoeffler, & Zauberman, 2007). The latter school of thought suggests that the effects of optimism occur because optimists directly perceive outcomes as being more favorable than pessimists (Epstein & Meier, 1989). Such outcome-based expectations are not derived from or tied to any consideration of the process required to achieve the outcome (Armor & Taylor, 1998; Epstein & Katz, 1992). For example, Aspinwall and Brunhart (1996) showed that optimists reported more positive beliefs about future healthfulness than did pessimists, without any explicit consideration of the steps involved in achieving this outcome. In the current context, such an

outcome-focused view would suggest that optimists (vs. pessimists) are more likely to directly visualize themselves as looking good (vs. bad) in the smaller-sized clothes they are considering buying, even without considering the intervening steps required to achieve this outcome (dieting, exercising, etc.). Essentially, imagining the favorable outcome should itself make optimists (vs. pessimists) more likely to make an anticipatory purchase.

A contrasting perspective suggests that optimism operates through a process-focus, wherein optimists (vs. pessimists) tend to perceive that any steps required to achieve the outcome are easy, and any impediments towards the goal can be overcome (Scheier & Carver, 1985). Because optimists regard the process leading to desired outcomes to be easy, the scenarios they construct may be oversimplified and do not adequately account for possible impediments (Armor & Taylor, 1998; Buehler & Griffin, 2003). For instance, Scheier, Weintraub, and Carver (1986) presented asked participants to write down what they would do given certain situations (such as coping with upcoming exams), and found that optimists (vs. pessimists) perceived these actions to be easy. In our context, such a process-based mechanism would argue that optimists (vs. pessimists) are more likely to visualize the steps required for them to fit into the smaller-sized clothes (e.g., dieting) as being easy (vs. difficult), thus triggering the anticipatory purchase.

To summarize, prior research is divided regarding the mechanism causing the differences in behavior exhibited by optimists vs. pessimists. One school of thought proposes that optimists simply imagine the future outcome to be more favorable, whereas another suggests that they imagine the intervening process to be easier. In the current context, this dilemma has to do with whether optimists engage in anticipatory purchasing because of a dominant focus on how good the end results will be (outcome-focus; e.g., visualizing oneself looking good in the jeans) or on how easy it will be for them to take the steps to use the purchased product (process-focus; e.g., visualizing exercising, dieting, etc.). Our research reconciles this conflict by arguing that *both* these routes are viable, depending upon the cognitive capacity available at the point of decision.

Cognitive capacity as moderator

Any decision that is based on expectations about the future involves a degree of uncertainty. For example, a consumer who is considering buying a pair of too-tight jeans has to make the decision not knowing for sure whether they will be able to lose the weight required to wear the jeans. In such situations, the individual needs to consider whether they can indeed take the actions needed to be able to use the purchased product later. Thus, deliberating on the process should help to reduce the uncertainty that is an inherent part of anticipatory decision-making. Consistent with this view, Taylor et al. (1998) argue that process simulation is superior to outcome simulation in regulating behavior, because outcome-based simulations do not contain a plan of action which can direct the underlying motivation into specific goal-appropriate behaviors. The importance of process simulation is also reflected in the goals literature, which posits that the first question that individuals often

ask in pursuit of a goal is whether they can undertake the actions required to achieve the goal (Zhang & Huang, 2010). Together, these views suggest that process considerations should predominate when making decisions about an uncertain future—e.g., deliberating the ease/difficulty of exercise and dieting when deciding whether to buy a smaller-sized jeans (with optimists likely to perceive the process as being easier than pessimists, and therefore more prone to making the purchase).

However, such careful deliberation may not always be evident, because process planning (as compared to simple appraisals of outcome favorability) is effortful (Taylor et al., 1998), and conditions may not always be conducive to such thoughtful processing. Research across many domains has found that, even given high motivation, the depth of deliberation is moderated by available cognitive capacity such that when capacity is constrained, decisions tend to be made relatively rapidly, on the basis of available heuristics (Eagly & Chaiken, 1993; Epstein, 1993; Sengupta & Dahl, 2008). In the context of anticipatory purchasing, such a heuristic strategy may be followed by simply considering the favorableness (or otherwise) of the final outcome without thinking through the required process—e.g., simply thinking about how one will look in the jeans (with optimists likely to make the purchase because of a rosier view of this outcome).

We posit, therefore, that optimism exerts its impact on anticipatory purchasing through two different routes: one under unconstrained conditions that is largely based on considerations of process ease, and the other, which is likely to prevail when capacity is constrained, that simply involves a direct evaluation of outcome favorability. Note that both routes lead optimists to be more prone to anticipatory purchasing than pessimists, but critically, the underlying mechanism differs, leading to different boundary conditions for each route, as described below.

Unconstrained processing

When cognitive resources are available, we argue that the influence of optimism on anticipatory purchasing is driven by considerations of process ease. This leads to testable predictions regarding the effect of explicitly requiring decision-makers to engage in a particular type of mental simulation (process- versus outcome-focused) as they consider the anticipatory purchase. Consider process-focused simulation first. Since, under unconstrained processing, the effect of optimism on anticipatory purchase is driven by process-focused thought, facilitating this type of simulation should simply produce the baseline effect of optimism: optimists should display greater anticipatory purchasing than pessimists.

In contrast, the effect of optimism on anticipatory purchasing should decrease if individuals under unconstrained processing are directed to engage in outcome-based imagery. Although optimists (vs. pessimists) in general may still regard the outcome as favorable, having to focus on the outcome will reduce the extent to which they can deliberate on the steps required to achieve that outcome. Optimists will therefore not evaluate the process as being as easy as they otherwise would have. Thus, even if optimists perceive the outcome to be favorable, they will consider the process relatively difficult. Which of these—outcome favorability or process ease—will exert a greater influence? Pertinently, the

Heuristic-Systematic Model of judgment and decision making (Chaiken, Liberman, & Eagly, 1989) posits that when the implications of two types of thoughts are in opposition, the output of systematic processing is deemed more diagnostic than that of heuristic processing, even though both types of processing may be concurrent. This premise has direct implications for our context. Because process-focus thought is based on more systematic analysis, it should be judged more diagnostic. Indeed, evidence for the diagnosticity of process (vs. outcome) thinking also exists in the goals literature: Zhang and Huang (2010) recently demonstrated that at the early stage of goal pursuit, individuals' primary concern in the pursuit of a goal had to do with its attainability (i.e., process ease), not its value (i.e., outcome favorability). We argue, therefore, that process ease considerations should be the primary driver of anticipatory purchase decisions under unconstrained conditions. Given an outcome focus, since optimists will not think of the process as being as easy as they would have if they had focused on the process alone, the difference in anticipatory purchasing between optimists and pessimists should accordingly be attenuated. This should be the case even though an outcome-focus will lead optimists (vs. pessimists) to form more favorable perceptions of the outcome, because simple considerations of outcome favorability will be less influential under unconstrained conditions.

Constrained processing

A different pattern should emerge when cognitive capacity is constrained when making the decision. Here, due to an increased reliance on heuristics, the effect of optimism on anticipatory purchasing should be driven by simple considerations of outcome favorability, with optimists likely to consider the outcome more favorable than pessimists and therefore being more prone to make anticipatory purchases. This again leads to testable predictions regarding the moderating impact of mental simulation. Explicitly inducing an outcome focus should simply produce the basic effect of optimism. However, a different result should obtain if individuals are required to focus on the process. Because process planning is relatively deliberative and requires cognitive capacity, the difference in perceived ease that would normally manifest for optimists vs. pessimists may not appear under constrained conditions. More importantly, because being asked to dwell on the process detracts from thoughts about the outcome, the difference in outcome favorability perceptions between optimists and pessimists is likely to be attenuated. Given the vital mediating role of outcome favorability under constrained conditions, this should result in a corresponding weakening of the effect of optimism on anticipatory purchasing.

Convergence of the two routes: motivation

Thus far, our conceptualization suggests that optimism can exert a positive influence on anticipatory purchase either through enhanced perceptions of process ease or outcome favorability. There is still a question, however, as to why exactly these enhanced perceptions influence behavior. Why do process ease perceptions (under unconstrained conditions) and outcome favorability perceptions (under constrained conditions) drive anticipatory

purchase? We propose that these two mechanisms share a final point of convergence en route to influencing behavior. In both cases, the effect of optimism should be mediated by the motivation to accomplish the goal associated with the purchased product (e.g., too-small clothes can be used if one accomplishes the goal of losing weight). This is because under constrained processing, optimists (vs. pessimists) see the outcome as being more favorable, whereas under unconstrained processing, thinking about the process causes optimists (vs. pessimists) to perceive the required steps to be easier—i.e., they have a greater expectancy of achieving the outcome. Goal theory (Atkinson, 1964; Kruglanski et al., 2002) characterizes the motivation to attain a goal as a multiplicative function of the value of the goal (i.e., outcome favorability) and the expectancy of its attainment (i.e., process ease). Consequently, an increase in either process ease or outcome favorability should produce an increased motivation to accomplish the goal. Under both unconstrained and constrained conditions therefore, the effect of optimism on anticipatory purchase should be finally mediated by the motivation to accomplish the associated goal.

Summary

This research examines the effect of optimism on anticipatory purchase. Our conceptual framework proposes that optimism exerts its influence through two routes: one that operates primarily through considerations of process ease, and another that is more focused on direct considerations of outcome favorability. Cognitive capacity at the time of decision-making determines which route is likely to dominate, and the impact of optimism within each route is then moderated by the type of mental simulation that decision-makers engage in. A match between the key mediating influence in each route (process ease under unconstrained conditions, and outcome favorability under constrained conditions) and the type of mental simulation engaged in (process vs. outcome focus) produces the expected effect of optimism, with optimists more likely to make anticipatory purchases than pessimists. However, a mismatch between the mediating influence and the form of mental simulation attenuates this difference. Finally, the process ease and outcome favorability mechanisms both influence anticipatory purchasing by enhancing the decision-maker's motivation to achieve the relevant goal. This formulation (see Fig. 1) thus identifies both the conditions and mechanisms by which optimism exerts an influence on anticipatory purchasing. Importantly, it also sheds light on when this influence may be mitigated. We now describe five experiments that test our predictions.

Pilot Study: the baseline effect of optimism on anticipatory purchase

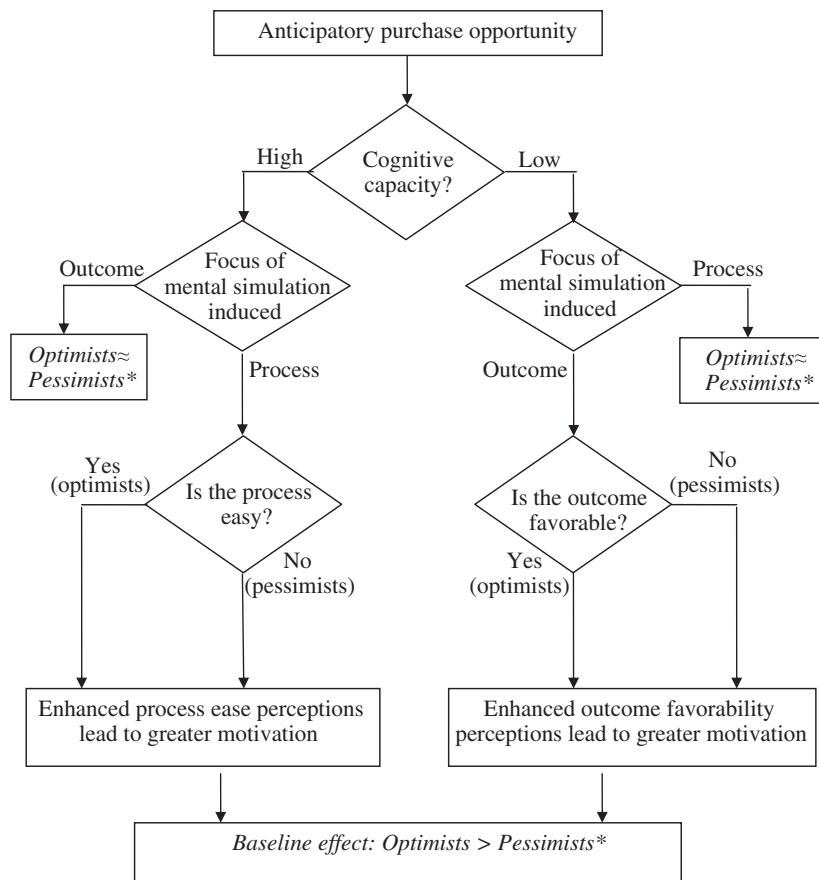
Design and procedure

To establish the baseline effect, a pilot study first examined the spontaneous influence of optimism on anticipatory purchasing (i.e., without explicitly requiring a process- or outcome-focus) and the default processing for both optimists and pessimists under both unconstrained and constrained conditions. Seventy-eight

undergraduate students participated in exchange for class credit, in a 2 (cognitive load: high vs. low) × 2 (optimism: high vs. low) between-subjects design. In order to create an anticipatory purchase context, all participants read about a pair of jeans that was one size smaller than their current size, and reported their likelihood of purchasing these jeans. In line with the predicted baseline effect of optimism, we expected optimists to exhibit a greater likelihood of anticipatory purchasing than pessimists, under both constrained (high load) and unconstrained (low load) conditions. Importantly, we argue that the mechanism responsible for this effect is different across conditions, with considerations of process ease [outcome favorability] being the key mediator under unconstrained [constrained] conditions. While later studies provide deeper insights into these mechanisms, Experiment 1 provides some initial evidence by examining the extent of process-based and outcome-based thinking across conditions. If our conceptualization is valid, the relative extent of process-based thinking should be greater under unconstrained (vs. constrained) conditions, while the reverse pattern should obtain for outcome-focused thought.

Participants were told that the research session consisted of several unrelated studies. The first study was purportedly a student profile survey, which included a set of questions about

themselves (e.g., their shoe size and their favorite color), and crucially, a question about the size of jeans that they could just fit in. Their answers to this question were used to create the anticipatory purchase situation that they saw later. The optimism manipulation then followed. Participants were told that as part of the student profile survey, the Student Office would like to study how undergraduates think about the future, especially their tendency to think optimistically in their daily lives. Consistent with the definition of optimism, participants were asked to recall situations where they had held positive, optimistic expectations before the outcomes became known to them, and were asked to write down some examples of such occasions. Optimism was situationally manipulated (as opposed to dispositionally measured as in subsequent experiments) via the number of instances they were asked to recall. Specifically, participants in the high (vs. low) optimism condition were asked to recall 2 (vs. 8) instances of optimistic thinking. Example of optimistic instances included “I can play at my best level against my opponents in the football match. I believe I am physically fit for the match”. We expected that, in accordance with Schwarz et al. (1991), participants would find it more difficult (vs. easy) to generate 8 (vs. 2) instances, and hence would be more likely to infer that they were relatively low (vs. high) in optimism.



*The “≈” and “>” signs represent the predicted differences between optimists and pessimists in their likelihood of making anticipatory purchases.

Fig. 1. Conceptual framework.

In order to reinforce the manipulation, after participants had listed their required number of instances, they were asked to wait for feedback, which was purportedly to help them to know more about themselves. After five minutes, they received written feedback informing them that their responses had revealed them as being optimistic (in the 2 instances condition) or pessimistic (in the 8 instances condition) individuals.

We then manipulated cognitive load. Participants were asked to memorize either a 2-digit number (low-load condition) or an 8-digit number (high-load condition; Shiv & Fedorikhin, 1999) before proceeding to the next phase of the study, which was presented as a decision making survey. Participants were told that different products and purchase situations would be presented to different students, while in fact all participants were exposed to the same anticipatory purchase situation. They were asked to imagine that they were interested in buying a pair of jeans, and had come across a pair online. The next page presented all participants with a description of a pair of jeans, including common attributes such as color and style. Highlighted in the text was the size of the jeans, which was always one size smaller than the participant's current size. For example, participants who had reported a size 28 received a description of size 27 jeans. After reading about the jeans, all participants were asked to recall the number that they had been asked to memorize. Subsequently, they responded to two measures of anticipatory purchase likelihood: how likely they were to buy these jeans, and how likely they were to put these jeans into their online shopping basket (1 = absolutely don't want to buy it / very unlikely to put it into the basket; 100 = really want to buy it / very likely to put it into the basket; $r = .76$).

Following a few filler items, we assessed the focus of participants' thoughts (process vs. outcome) while making the anticipatory purchase decision by asking them to indicate the extent to which their thoughts focused more on the steps that they would take to wear the jeans (1) versus the end benefits of wearing the jeans (6). Finally, participants responded to a manipulation check for optimism, by rating their agreement with three statements taken from the optimism scale (LOT; Scheier & Carver, 1985): (a) In uncertain times, I usually expect the best; (b) I hardly ever expect things to go my way (reverse-coded); (c) Overall, I expect more good things to happen to me than bad (1 = strongly disagree; 5 = strongly agree). An index of optimism was created by averaging responses to these three statements ($\alpha = .79$).

Results and discussion

Manipulation check

We expected participants to be more optimistic in the 2-instances versus the 8-instances condition. In accordance, the optimism index revealed only a main effect of instance frequency, such that participants in the 2-instances condition reported greater optimism than those in the 8-instances condition ($M_s = 3.37$ vs. 2.66 ; $F(1, 74) = 7.71$, $p < .01$).

Purchase intentions

We examined anticipatory purchase intentions in a 2 (cognitive load: high vs. low) \times 2 (optimism: high vs. low) ANOVA.

As expected, results revealed only a main effect of optimism ($F(1, 74) = 4.63$, $p < .05$). Planned contrasts revealed, as predicted, that optimists were more likely to engage in anticipatory purchasing than pessimists under both constrained ($M_s = 72.61$ vs. 64.11 ; $F(1, 74) = 4.07$, $p < .05$) and unconstrained processing ($M_s = 70.49$ vs. 61.18 ; $F(1, 74) = 5.39$, $p < .05$).

Thought focus

We argued that the extent of focus on process (versus outcome) considerations would be relatively higher under unconstrained vs. constrained conditions. As predicted, analyses on the measure of focus revealed only a significant main effect of cognitive load, such that participants reported thinking less about outcome (i.e., more about process) in the unconstrained ($M = 4.01$) versus constrained condition ($M = 4.85$; $F(1, 74) = 6.67$, $p < .05$).

Discussion

The major purpose of this pilot study was to demonstrate the baseline effect of optimism on anticipatory purchasing under both constrained and unconstrained conditions. As expected, we found that optimists are more likely to engage in anticipatory purchasing than pessimists, irrespective of the cognitive capacity at the time of decision. It is worth noting that these results were obtained via a situational induction of optimism. Past research has treated optimism as a measured construct, and hence it is of theoretical and methodological interest to show that optimism is indeed susceptible to situational effects.

Of importance, the results also offer some insight into our proposition that the effect of optimism on anticipatory purchasing may be caused by two distinct mechanisms. Our theorizing posits that unconstrained (vs. constrained) processing increases the focus on process thinking, and optimists engage in more anticipatory purchasing than pessimists because they consider the process to be easier. On the other hand, outcome-based thinking increases under constrained processing, and optimists engage in greater anticipatory purchasing than pessimists because they are more likely to expect a positive outcome. This conceptualization implicates two major elements: a) the relative focus on process vs. outcome differs for unconstrained vs. constrained conditions, b) within either kind of focus, the valence of thought (process ease and outcome favorability) differs for optimists vs. pessimists. In showing that capacity constraints influence the extent of process- vs. outcome-thought, the pilot study provides support for the first part of this reasoning (the second part of our rationale is examined in Experiment 2).

A final note regarding our situational manipulation of optimism (based on recalling 2 vs. 8 instances of optimistic behavior) is in order. We have argued that this manipulation influenced the extent to which participants thought optimistically or pessimistically, and accordingly, determined the likelihood of anticipatory purchasing. An alternate possibility is that the manipulation influenced positive affect, such that those who reported two optimistic instances were more likely to engage in anticipatory purchasing because they felt happier and/or more hopeful than those who had to recall eight such instances. A separate post-test was run to examine this possibility. Ninety-four participants were asked to recall either 2 or 8 instances of

optimistic thinking, as in the pilot study. While the pilot study used 3 items taken from the optimism scale because of time constraints, this post-test used the full 12-item optimism scale (LOT; Scheier & Carver, 1985). Further, as checks for affect, participants reported the extent to which they felt happy, sad (the sadness measure was reverse-coded and these two items were averaged, $r = .57$), and hopeful (all measures 1 = not at all / 7 = extremely). The order of the optimism scale and the affect measures was counterbalanced, and there was no effect of order. As before, participants who were asked to report 2 instances were more optimistic than those in the 8 instances condition ($M_s = 3.47$ vs. 2.88 ; $F(1, 92) = 6.98$, $p < .01$). More importantly, there was no difference in either general affect ($M_{2\text{-instances}} = 4.92$; $M_{8\text{-instances}} = 4.71$, $F < 1$) or hopefulness ($M_{2\text{-instances}} = 4.12$; $M_{8\text{-instances}} = 4.13$, $F < 1$).

Experiment 1A: unconstrained processing

Experiment 1A sought to obtain a better understanding of anticipatory purchasing under default (i.e., unconstrained) conditions, by examining the effects of manipulating outcome vs. process-focus. If the difference between optimists and pessimists under unconstrained conditions is driven by process-based thought, an external induction of process focus should yield the baseline effect documented in the pilot study: more anticipatory purchasing at greater levels of optimism. However, as discussed, inducing an outcome-focus should attenuate this effect of optimism. Such a pattern of results would be consistent with the mechanism we have posited for unconstrained processing, and would also delineate a situation in which optimists do not act any more optimistically than do pessimists.

The other experiments we report use jeans as stimuli, so another goal of Experiment 1A was to increase generalizability by studying a different product category. Corresponding to our definition of anticipatory purchase, we investigated participants' responses to musical instruments that they do not know how to play, and examined whether optimism would be more likely to have an effect when consumers imagined the intervening steps required to use the instrument (e.g., taking lessons) or the end benefits of playing it. Also adding to generalizability, instead of being manipulated via the situational induction used in the pilot study, optimism in this study was measured using a standard scale.

Design and procedure

One hundred students took part in this study, which examined the interactive effect of manipulated mental focus (outcome vs. process) and measured optimism. The procedure was similar to that in the unconstrained conditions of the pilot study. Participants first took part in a student profile survey, included in which was a set of questions about their knowledge and interest regarding each of six different musical instruments (1 = not at all knowledgeable/ interested; 5 = extremely knowledgeable/ interested). After an unrelated filler task, participants took part in a purportedly different survey about buying a musical instrument on the internet. The specific instrument that

each participant read about was always one that they had previously reported as being "not at all knowledgeable" about but highly interested in. Hence participants read about instruments that they were interested in ($M = 3.56$), but did not know how to play ($M = 1.16$). The focus manipulation, which followed Pham and Taylor (1999), came next. In the outcome-focus condition, participants were asked to visualize the end benefits of playing the instrument (e.g., how good they would sound when playing it), while those in the process-focus condition were asked to visualize the process they would need to go through to be able to play the instrument (e.g., the steps they would take to learn how to play it). Participants then indicated their decision to purchase the instrument or not (0 = no purchase; 1 = purchase).

Four items then assessed the focus manipulation. The first two items asked participants to rate the extent to which they thought about: (a) the process they would have to go through to be able to play the instrument; (b) the steps that they would take to play the instrument (1...9: to a small...large extent). An index of process-focused thought was created by averaging these items ($r = .73$). Similarly, an index of outcome-focused thought was created by averaging the next two items, which asked participants to rate the extent to which they thought about: (a) the end benefits of playing the instrument; (b) how they would sound when playing the instrument ($r = .70$). Finally, following a filler task, all participants filled out a battery of personality items including the standard 12-item optimism scale ($M = 3.08$; Scheier & Carver, 1985).

Results and discussion

Manipulation checks. We expected that participants' thoughts would focus more on the process in the process-focus condition, and on the outcome in the outcome-focus condition. Using the continuous measure of optimism (after mean-centering), we ran two separate regressions on process-focused and outcome-focused thinking, with optimism, focus, and their interaction as predictors. In support of the manipulation, the index of process-focused thought showed a significant effect of focus, with more process-related thought in the process-focus vs. outcome-focus conditions ($M_s = 5.66$ vs. 4.32 , $t(96) = 2.66$, $p < .01$). Similarly, a significant effect of focus was obtained on the outcome-focus index, with more outcome-related thinking reported in the outcome-focus vs. process-focus conditions ($M_s = 6.25$ vs. 4.72 , $t(96) = 2.93$, $p < .01$). No other effects were significant.

Purchase decision

A logistic regression on purchase decision, using optimism, focus, and their interaction revealed a significant interaction between optimism and focus ($b = 1.45$, $\chi^2(1) = 4.52$, $p < .05$). We had predicted an effect of optimism on anticipatory purchasing in the process-focus condition, but not in the outcome-focus condition. In support, slopes analysis (Aiken & West, 1991) showed that under process-focus, increasing optimism led to an increasing likelihood of anticipatory purchasing ($b = 1.67$, $\chi^2(1) = 4.39$, $p < .05$), but this effect was attenuated under outcome-focus ($b = .72$, $\chi^2(1) = .66$, $p > .42$; see Table 1).

Discussion

This study provided important insights into the mechanism by which optimism exercises its influence on anticipatory purchasing under unconstrained conditions. Our conceptualization posits that given unconstrained processing, this influence is driven primarily by process considerations—optimists perceive the process to be easier than do pessimists. Consistent with this, we found that optimists were more likely to engage in anticipatory purchasing when they were explicitly encouraged to simulate a process focus. In contrast, a direct focus on the outcome itself, by detracting from process-related deliberation, should attenuate the effect—as we found. This result is important because it documents a condition (outcome-focus) in which optimists are not always more likely to make anticipatory purchases than pessimists. Rather, in line with our theorizing, the effect of optimism on purchase is moderated by the content of mental simulation. This moderator is particularly noteworthy given the emphasis in the optimism literature on the outcome-process distinction.

Two alternate accounts are worth noting for the key finding that an outcome-focus attenuates the effect of optimism on anticipatory purchasing. Both of these alternates have to do with the specific manipulation of outcome-focus used in this research, which asks participants to focus on the end benefits of the purchase (this manipulation is taken directly from past work on outcome-focus, e.g., Escalas & Luce, 2004). First, directing participants to focus on “benefits” might reduce differences between optimists and pessimists by forcibly directing both groups towards thinking in terms of a positive outcome. Second, it could be argued that the no-difference result in the outcome-focus condition is a result of optimists becoming too narrowly restrictive in their thinking because of explicitly being asked to think of only one aspect of the purchase (the final benefits). This account argues that if they were not restricted in this manner, it is possible that optimists would engage in more and richer thought, which would then produce a difference between optimists and pessimists. Experiment 1B examined these possibilities by using a broader induction of outcome-focus, wherein participants were allowed to freely think about the end result of the purchase without explicitly being restricted to focusing just on benefits. According to our conceptualization, as long as the outcome-focus detracts from the perceptions of process ease, optimists and pessimists should display a similar likelihood of anticipatory purchasing. As a result, regardless of whether the outcome is specified to be about end “benefits” or not, the effect of optimism should still be attenuated.

Experiment 1B: a closer look at outcome focus

Design and procedure

Experiment 1B used a 3 (focus: outcome-positive vs. outcome-neutral vs. process) × optimism (measured) design. Similar to Experiment 1A, we expected optimists (vs. pessimists) to report a higher likelihood of anticipatory purchasing when focused on the process required to use the purchased product. More importantly, the effect of optimism on anticipatory purchasing should be

attenuated regardless of whether participants focused on the end benefits of the purchase (outcome-positive) or just the end result itself (outcome-neutral).

As in the pilot study, the product involved was a pair of jeans one size too small for current use. Participants ($N=179$) first took part in a survey that recorded the size of their jeans. After a filler, as in the pilot study, they were given the decision making survey regarding the jeans. Thought focus was then manipulated with participants in the outcome-positive condition asked to specifically visualize the end benefits of wearing the jeans (i.e., looking good), as in Experiment 1A. Those in the outcome-neutral condition were more broadly directed to visualize the end result of wearing the jeans (i.e., how they would look when wearing the jeans)—note that the latter condition did not require participants to specifically think about positive outcomes. Finally, participants in the process-focus condition were asked to make their decisions by visualizing the process they would need to go through in order to get to the size of the jeans. Next, all participants read the description of the jeans at their own pace, and reported their purchase likelihood on the same 101-point scale used in the pilot study. Finally, following a filler task, all participants filled out the 12-item optimism scale ($M=3.16$; Scheier & Carver, 1985).

Results and discussion

Purchase intentions

We regressed purchase intentions on optimism, focus, and their interaction. As predicted, there was a significant 2-way interaction ($F(2, 173)=3.22, p<.05$). Slopes analyses revealed that optimism enhanced purchase intentions under process-focus ($b=20.93, t(173)=3.01, p<.01$), but not under either outcome-positive ($b=-.16, t(173)<1$) or outcome-neutral focus ($b=-1.88, t(173)<1$).

Discussion

These results replicated our earlier findings that under unconstrained conditions, optimists are more likely to make anticipatory purchases when they visualize the process required to use the product rather than the outcome. Of note, the effect of optimism is attenuated regardless of whether the induction of outcome-focus restricts individuals to thinking about possible benefits (outcome-positive condition) or whether there is no such restriction (outcome-neutral condition). This suggests that it is the outcome-focus itself that detracts from process-related deliberations, and argues against possible alternate accounts for the similar attenuation obtained in the outcome-positive condition of Experiment 1A.

Collectively, the results of these first two studies are consistent with the process-based mechanism posited to drive the effects of optimism under unconstrained condition. It is important to note that optimists under an outcome-focus may consider the outcome favorably (as compared to pessimists), even though these outcome favorability perceptions do not translate to a greater likelihood of anticipatory purchasing. Our theorizing suggests that under unconstrained conditions, outcome valence is not a primary driver of anticipatory purchase decisions; rather, it is the

Table 1
Summary of results.

	Unconstrained processing						Constrained processing					
	Process-focus			Outcome-focus			Process-focus			Outcome-focus		
	Optimists	Pessimists	35 ^a	Optimists	Pessimists	53.08 ^a	Optimists	Pessimists	64.16 ^a	Optimists	Pessimists	63.78 ^b
Experiment 1A (N=100) % purchasing the musical instrument*	49 ^a	25 ^b	32 ^a	55.15 ^a	59.94 ^a	52.73 ^a	66.00 ^a	64.16 ^a	72.33 ^a	5.11 ^a	4.94 ^a	4.94 ^a
Experiment 1B (N=179) Likelihood of purchasing smaller-sized jeans (0–100)*	68.11 ^a	56.82 ^b	63.40 ^a	66.92 ^a	66.92 ^a	66.92 ^a	4.76 ^a	4.91 ^a	5.11 ^a	5.84 ^a	6.04 ^a	5.42 ^b
Experiment 2 (N=191) Likelihood of purchasing the smaller-sized jeans (0–100)	74.21 ^a	62.04 ^b	63.40 ^a	66.92 ^a	66.92 ^a	66.92 ^a	4.76 ^a	4.91 ^a	5.11 ^a	5.84 ^a	6.04 ^a	5.42 ^b
Perceived process ease (1–9)	5.55 ^a	4.48 ^b	4.78 ^a	4.96 ^a	4.96 ^a	4.96 ^a	4.76 ^a	4.91 ^a	5.11 ^a	5.84 ^a	6.04 ^a	5.42 ^b
Outcome favorability (1–9)	5.74 ^a	5.98 ^a	6.25 ^a	5.36 ^b	5.36 ^b	5.36 ^b	5.84 ^a	6.04 ^a	6.45 ^a	5.84 ^a	6.04 ^a	5.42 ^b
Experiment 3 (N=226) Likelihood of purchasing the smaller-sized jeans (0–100)*	66.84 ^a	55.32 ^b	58.51 ^a	61.50 ^a	61.50 ^a	61.50 ^a	56.35 ^a	59.59 ^a	69.14 ^a	56.35 ^a	59.59 ^a	49.32 ^b
Accessibility of fitness goal: facilitation score (log transformed)*	.021 ^a	-.017 ^b	.003 ^a	.014 ^a	.014 ^a	.014 ^a	.004 ^a	.015 ^a	.019 ^a	.004 ^a	.015 ^a	-.011 ^b

^{a,b}The contrast of optimists vs. pessimists in adjacent columns within focus condition is significant ($p < .05$) if superscripts are different.

*For ease of comparison, the means are based on median splits.

perception of process ease that is the key diagnostic input into the purchase decision.¹ As described earlier, this argument is consistent with the Heuristic-Systematic model of judgment and decision making (HSM; Chaiken et al., 1989). The attenuation postulate of the HSM posits that even though heuristic processing can co-occur with deliberative, systematic processing under unconstrained conditions, judgments are guided by the output of systematic processing when the implications of the two modes of processing oppose each other. That is, the effect of heuristic processing on final judgments gets attenuated (Maheswaran & Chaiken, 1991; Maheswaran, Mackie, & Chaiken, 1992). In the current context, even though requiring optimists to think about the outcome can lead to favorable outcome perceptions, it can lower perceptions of process ease. Because the latter is based on more systematic, deliberative thought, it will serve as the primary determinant of the purchase decision given unconstrained processing, attenuating the potential influence of outcome favorability perceptions and thus lowering the likelihood of anticipatory purchase. Experiment 2 seeks to provide empirical support for these arguments by measuring both outcome favorability and process ease perceptions, and examining their influence on the purchase decision. Our theorizing predicts that under unconstrained conditions, it is process ease that exercises the key mediating influence on the purchase; therefore, favorable outcome perceptions in themselves may not translate to increased anticipatory purchasing.

The other major goal of Experiment 2 is to examine the second route by which the effect of optimism manifests, namely, the outcome-focused route. Our conceptualization holds that just as deliberative process-focus thinking drives the effects of optimism under unconstrained conditions, simple considerations of outcome favorability should drive the effects of optimism when cognitive capacity is constrained and accordingly conducive to a greater impact of heuristic processing. Therefore, under a cognitive load that constrains processing, the baseline effect of optimism should prevail given an external induction of outcome-focus: optimists will harbor more favorable outcome perceptions than pessimists, and will thus be more likely to engage in anticipatory purchasing. In contrast, because having to dwell on the process will detract from outcome thinking, requiring individuals to engage in

¹ To test whether process ease is indeed more diagnostic than outcome valence under unconstrained conditions, we conducted a post-test (N=35) using the same scenario as in Experiment 1B. Participants indicated the extent to which process vs. outcome aspects were diagnostic for the decision to buy the jeans. Diagnosticity was measured using two items: the extent to which process vs. outcome aspects were (a) more relevant; and (b) more useful for the purchase decision (on each scale: 1=the process; 9=the outcome; $r = .84$). Scores lower than the scale mid-point would therefore indicate greater reliance on process (vs. outcome). Participants also allocated 100 points to process vs. outcome aspects, to indicate the relative importance of each to their purchase decision. Results on the direct measure of diagnosticity showed that participants regarded process-focus thought as more relevant and useful for their decision as compared to outcome-focus thought ($M = 4.11$, significantly lower than the scale midpoint of 5, $t = 2.69$, $p < .01$). On the point allocation measure, process-focus was allocated 57.56 points, above the indifference point of 50 ($t = 1.68$, $p < .05$, one-tailed). Thus, consistent with our theorizing, these findings suggest that process ease is indeed considered to be a more diagnostic input than outcome valence.

process-focus thinking should attenuate the difference between optimists and pessimists by converging their perceptions of outcome favorability.

In sum, Experiment 2 provides a detailed examination of the two different routes to optimism: the process-focus route, which is held to dominate under unconstrained conditions, and the outcome-focus route, which is held to dominate under constrained processing conditions. We do this by simultaneously adopting a moderator-based approach (examining how the type of mental simulation interacts with optimism to influence anticipatory purchasing) and a mediational approach, which looks at the relative impact of process ease and outcome favorability under different processing capacity. The former should drive the purchase decision under unconstrained conditions, and the latter under constrained conditions.

Experiment 2: Explicating the Two Routes to Optimism

Design and procedure

Experiment 2 used a 2 (cognitive load: high vs. low) \times 2 (focus: outcome vs. process) \times 2 (optimism: high vs. low) design. As in Experiment 1, we expected that under unconstrained processing, optimists (vs. pessimists) would report higher anticipatory purchase likelihood when focused on the process required to use the purchased product. In contrast, under constrained processing, the effect of optimism on anticipatory purchasing should prevail when participants focused on the end benefits rather than on the intervening process. Finally, the effect of optimism on anticipatory purchase should be mediated by the perceived ease of the process in the unconstrained condition and by outcome favorability in the constrained condition.

This experiment used procedures and manipulations based on the previous studies. Participants ($N=191$) first took part in a survey that recorded the size of their jeans. This was followed by the optimism manipulation, with participants in the high (vs. low) optimism condition asked to recall 2 (vs. 8) instances of optimistic thinking. Subsequently, as a manipulation of cognitive load, they memorized either a 2-digit number (low-load condition) or an 8-digit number. They were then presented with the decision making survey regarding the jeans. Similar to Experiment 1A, thought focus was manipulated by asking participants to make their decisions by visualizing either the end benefits of wearing the jeans (outcome-focus condition) or the process they would need to go through in order to get to the size of the jeans (process-focus condition). Next, they read the description of the smaller-sized jeans at their own pace, following which they were asked to recall the number they had memorized. Participants then reported their purchase likelihood on the same 101-point scale as before.

Following a few filler items, a number of measures were taken to assess the underlying mechanisms. First, checking perceived process ease, participants reported how easy they thought it would be to take the steps required to get to the size of the jeans, and how simple they thought it would be for them to take these steps (1=not at all easy / simple; 9=extremely easy / simple; $r=.75$). Next, to examine outcome favorability perceptions, participants indicated how they thought they would look in the jeans (1=not at

all good / attractive; 9=extremely good / attractive; $r=.73$). The order of the process ease and outcome favorability measures was counterbalanced; there was no effect of order. Finally, as a manipulation check for optimism, participants completed the same three-item index as in the pilot study ($\alpha=.79$).

Results and discussion

Manipulation checks

A 2 (cognitive load: high vs. low) \times 2 (focus: outcome vs. process) \times 2 (optimism: high vs. low) ANOVA revealed, as expected, that participants who were asked to report 2 instances of optimism reported more optimistic thinking than those in the 8 instances condition ($M_s=3.52$ vs. 2.80; $F(1, 183)=8.49$, $p<.05$). No other effect was significant.

Purchase intentions

A 2 (cognitive load) \times 2 (focus) \times 2 (optimism) ANOVA on purchase likelihood revealed the predicted 3-way interaction ($F(1, 183)=4.97$, $p<.05$). Under low cognitive load, we expected to replicate Experiment 1: optimism should increase anticipatory purchasing under process-focus, but not under outcome-focus. In support, there was a significant interaction between focus and optimism in the low cognitive load condition ($F(1, 183)=5.12$, $p<.05$). Planned contrasts showed that as before, under process focus, optimists were more likely to engage in anticipatory purchasing than pessimists ($M_s=74.21$ vs. 62.04; $F(1, 183)=6.11$, $p<.05$), but not under outcome-focus ($M_s=63.40$ vs. 66.92, $F<1$). We expected the reverse pattern under high cognitive load: here, optimists should be more likely to purchase under outcome-focus, but not under process-focus. As hypothesized, optimists reported higher purchase likelihood than pessimists ($M_s=72.33$ vs. 63.78, $F(1, 183)=4.70$, $p<.01$) under outcome-focus, but the difference was attenuated under process-focus ($M_s=66.00$ vs. 64.16, $F<1$; see Table 1). Again, the 2-way interaction was significant ($F(1, 183)=4.55$, $p<.05$).

Process ease

A 2 (cognitive load) \times 2 (focus) \times 2 (optimism) ANOVA on perceived ease of process revealed a 3-way significant interaction ($F(1, 183)=4.22$, $p<.05$). We examined this interaction separately under each level of cognitive load. The pattern under low load is of particular interest, since here the effect of optimism on anticipatory purchase should be driven by perceptions of process ease: optimists infer greater ease than pessimists under process-focus, but not under outcome focus. In accordance, in the low cognitive load conditions, there was a significant interaction between focus and optimism ($F(1, 183)=4.68$, $p<.05$). Planned contrasts revealed, as predicted, optimists regarded the steps to be easier than pessimists under process-focus ($M_s=5.55$ vs. 4.48, $F(1, 183)=5.49$, $p<.05$), but not under outcome-focus ($M_s=4.78$ vs. 4.96, $F<1$). This pattern is exactly parallel to that obtained for purchase intentions under low load, an insight reinforced by the mediation analyses below. Under high cognitive load, in contrast, we predict that optimism does not work through perceptions of process ease. Moreover, limited cognitive capacity will in general make it hard to generate the required steps, leading to low process ease across

conditions. In support, the interaction between optimism and focus was not significant under high load ($F < 1$), with the means indicating that optimists and pessimists perceived the steps to be similarly difficult irrespective of their focus of thought.

Outcome favorability

There was a significant interaction between optimism and focus on perceptions of outcome favorability ($F(1, 183) = 5.29$, $p < .05$). The pattern under *high* load is of greater interest, since now the effect should be driven by outcome favorability—thinking about the end benefits should induce optimists to visualize a more favorable outcome than pessimists, but not under process focus. As predicted, planned contrasts under high load revealed that under outcome-focus, optimists expected the outcome to be more favorable than pessimists ($M_s = 6.45$ vs. 5.42 , $F(1, 183) = 5.17$, $p < .05$), but not under process-focus ($M_s = 5.84$ vs. 6.04 , $F < 1$). Interestingly (as suggested by the lack of a 3-way interaction), exactly the same pattern held under conditions of low load: optimists viewed the outcome more favorably than pessimists when explicitly induced to think about the outcome ($M_s = 6.25$ vs. 5.36 , $F(1, 183) = 4.01$, $p < .05$), but not when induced to think about the process ($M_s = 5.74$ vs. 5.98 , $F < 1$). Importantly however, as illustrated below, these difference in perceptions of outcome favorability do not influence anticipatory purchasing, which under low load is driven by process ease rather than outcome favorability.

Mediation

We proposed that the effects of optimism on anticipatory purchase are driven by the perceived ease of the process in the unconstrained condition, but by outcome favorability in the constrained condition (as described in Fig. 1). These predictions were tested using bootstrapping techniques (Preacher, Rucker, & Hayes, 2007) with optimism, focus, cognitive load, and their interactions as the independent variables, process ease as the mediator, and purchase intentions as the dependent variables. Because the process ease is predicted to drive purchase intentions in the unconstrained condition only, the path from process ease to purchase intentions should be moderated by cognitive load. As expected, the indirect effect in this model was indeed significant ($b = .09$, $SE = .17$; 95% $CI = .04$ to $.61$). Also, in support of our framework, further bootstrapping analyses revealed that process ease mediated the effect in the low cognitive load condition ($b = .27$, $SE = .32$; 95% $CI = .11$ to 1.18), but not in the high load condition ($b = .02$, $SE = .28$; 95% $CI = -1.13$ to $.39$).

In contrast, we had predicted outcome favorability to be the mediator under constrained conditions. A second model was run with optimism, focus, and their interactions as the independent variables, outcome favorability as the mediator, and purchase intentions as the dependent variables. Because outcome favorability should influence purchase intentions under constrained conditions only, the path from outcome favorability to purchase intentions should be moderated by cognitive load. The indirect effect in this model was also significant ($b = .16$, $SE = .19$; 95% $CI = .11$ to $.55$). Further bootstrapping analyses showed that, as expected, outcome favorability mediated the effect under high cognitive load ($b = 0.48$, $SE = .27$; 95%

$CI = .06$ to $.79$), but not under low load ($b = -.14$, $SE = .24$; 95% $CI = -1.16$ to $.78$).

Discussion

Experiment 2 fully explicated the two different routes by which optimism leads to anticipatory purchasing. In line with our framework (Fig. 1), this study demonstrated that focusing on either process or outcome can lead optimists to engage in anticipatory purchase—but under very different conditions. Under unconstrained processing, higher optimism enhanced purchase likelihood only when participants imagined the process required to use the product. In contrast, under constrained processing, focusing on the likely benefits of the purchase, rather than on the process required to use the purchased product, led to an enhanced purchase likelihood for optimists (vs. pessimists). Of importance, this experiment provided detailed, mediation-based insights into these two routes by directly measuring perceived process ease and outcome favorability. Analyses revealed that the influence of optimism on anticipatory purchasing is mediated by the perceived ease of the process under unconstrained conditions and by perceived outcome favorability under constrained conditions. Collectively, these findings both enhance our understanding of the substantive domain of anticipatory purchasing, and inform the extant literature on optimism by showing not only that optimism can exert its influence through two different routes, but also delineating the conditions under which each route prevails.

Experiment 3: the mediating role of motivation

The results obtained so far support our dual-route conceptualization which posits that optimism exerts its influence on anticipatory purchase either through enhanced perceptions of process ease or outcome favorability. The final step is to demonstrate how exactly these enhanced perceptions influence purchase behavior. We argue that in both cases, the effect of optimism should finally be driven by the consumer's enhanced motivation to accomplish the goal that will enable him/her to use the product. Experiment 3 tests this proposed role of motivation by using implicit measures of goal accessibility, based on the premise that the greater the motivation to attain a certain goal (in this case “fitness”), the more accessible the goal itself (Aarts, Dijksterhuis, & De Vries, 2001; Mukhopadhyay, Sengupta, & Ramanathan, 2008).

Design and procedure

Experiment 3 used a 2 (cognitive load: high vs. low) \times 2 (focus: outcome vs. process) design with optimism being measured. We expected that under low load, increasing optimism would lead to higher anticipatory purchase likelihood only under process (and not outcome) focus, whereas under high load, the effect of optimism on anticipatory purchase should occur only under outcome focus (and not process focus). In both cases, the effect of optimism on anticipatory purchase should be mediated by greater accessibility of the underlying fitness goal.

This experiment followed a similar procedure as Experiment 2. Participants ($N = 226$) took part in a survey that recorded the

size of their jeans, followed by first the cognitive load manipulation and then the thought focus manipulation. Next, they read the description of the smaller-sized jeans, following which they were asked to recall the number they had memorized. After reporting the number, all participants performed a lexical decision task to assess goal accessibility (Mukhopadhyay et al., 2008). They were asked to judge whether a presented string of letters was a meaningful word or not, as fast as possible. Included were some target words that pertained to fitness and some neutral words. The task commenced with a fixation cross that appeared in the center of the screen for 250 ms and was replaced by a blank screen for 150 ms (hence the stimulus onset asynchrony, SOA, was 400 ms). A stimulus string then appeared on the screen and remained till respondents pressed one of two keys to indicate whether the stimulus was a word or a non-word. Participants were instructed to press the key as quickly and accurately as possible, and the computer recorded their response times and accuracy. Participants began the task with a set of 18 trials (9 neutral and 9 non-words) that were meant to familiarize them with the task. Thirty-two experimental trials followed, with eight words related to fitness (e.g., thin), eight neutral words (e.g., desk), and 16 non-words. After this lexical decision task, participants reported their purchase likelihood for the jeans on the same 101-point scale as before. Finally, they filled out a battery of personality items including the optimism scale ($M=3.12$).

Results and discussion

Purchase intentions

We regressed purchase intentions on optimism, focus, cognitive load, and all interactions. As predicted, there was a significant 3-way interaction ($b=13.46$, $t(211)=2.11$, $p<.05$). Under low cognitive load, slopes analyses revealed that optimism enhanced purchase intentions under process-focus ($b=15.89$, $t(211)=2.30$, $p<.05$), but not under outcome-focus ($b=-1.16$, $t(211)<1$); the 2-way interaction was significant ($b=15.43$, $t(211)=2.42$, $p<.05$). In contrast, under high cognitive load, optimism increased the likelihood of anticipatory purchasing under outcome-focus ($b=19.45$, $t(211)=2.64$, $p<.05$), but not under process-focus ($b=-1.99$, $t(211)<1$); this 2-way interaction was also significant ($b=13.97$, $t(211)=2.13$, $p<.05$; see Table 1). Thus, this study replicated the patterns obtained in Experiment 2 for both high- and low-load conditions, this time with optimism as a measured variable.

Mediation by goal accessibility

Data from the lexical decision task were prepared for analysis by removing all trials that contained errors (.01%) and those that had response latencies greater than 4000 ms (.02%). Next, we computed a facilitation score by subtracting each participant's average (log-transformed) response times for fitness-related words from those for neutral words. A positive facilitation score would therefore indicate fast response times and thus greater accessibility of the fitness goal. The facilitation scores were regressed on the continuous measure of optimism,

cognitive load, focus and all interactions. A significant 3-way interaction ($b=-.07$, $t(211)=-3.51$, $p<.01$) was obtained. Following the same pattern as for purchase likelihood (see Table 1), slopes analyses showed that under low cognitive load, greater optimism increased the fitness goal accessibility under process-focus ($b=.05$, $t(211)=2.55$, $p<.01$), but not under outcome focus ($b=.01$, $t(211)<1$). In contrast, under high load, optimism enhanced goal accessibility under outcome-focus ($b=.04$, $t(211)=2.24$, $p<.01$), but not process-focus ($b=.01$, $t(211)<1$). We then tested whether goal accessibility mediated the effect. Bootstrapping tests (Preacher et al., 2007) with optimism, cognitive load, focus and all interactions as the independent variables confirmed the mediating role of goal accessibility on purchase intention ($b=.20$, $SE=.51$; 95% CI=.10 to 1.79).

Discussion

Experiment 3 provided fresh evidence for the moderating influence of mental simulation on the optimism-anticipatory purchase link under both constrained and unconstrained conditions, using measured optimism. More importantly, an implicit measure of goal motivation revealed that under both constrained and unconstrained conditions, the influence of optimism on anticipatory purchasing is proximally mediated by the individual's motivation to achieve the goal that will make the purchase usable. These findings round out the picture as to the two different routes by which optimism exerts an effect on anticipatory purchasing. Depending upon available cognitive capacity at the time of decision-making, the two routes diverge in terms of process- vs. outcome-based thinking, and the effect of optimism is therefore differentially affected in these two routes by the type of mental simulation engaged in. The two routes then converge on heightened goal motivation, which is the proximal driver of anticipatory purchase behavior.

General Discussion

This research offers new insights into optimism and anticipatory behavior. Drawing together the literatures on optimism, mental simulation, and goal motivation, we build an overall conceptualization which delineates how and why optimism influences anticipatory purchasing. Going beyond the simple prediction that optimists should be more likely to make anticipatory purchases than pessimists, our framework provides a nuanced picture of the mechanisms by which optimism influences anticipatory purchase, and the boundary conditions for this effect. We argue that optimism exerts its influence via two distinct routes—one that is driven by the perceived ease of the process required to achieve a given outcome and another that is driven directly by the perceived favorability of the outcome itself. Which of these two routes prevails is determined by the depth (constrained vs. unconstrained) of processing; further, within each route, the externally-induced focus of processing (process vs. outcome-focus) moderates the baseline effect of optimism. Finally, despite their initial divergence through the process vs. outcome routes, the two mechanisms eventually converge: in each case, the positive

influence of optimism on anticipatory purchasing is mediated by the motivation to achieve the associated goal.

Results from five studies support these predictions. First, the pilot study demonstrates the baseline effect, showing that greater optimism leads to a higher likelihood of anticipatory purchase whether cognitive capacity is constrained or not; however, the relative focus on process vs. outcome differs depending on resource availability. Next, Experiments 1A and 1B provide initial insights into the mechanism by demonstrating the process-focus route to optimism under default (unconstrained) conditions: optimists are more likely to make anticipatory purchases than pessimists when they focus on the process, but the difference disappears when they focus on the outcome. Moreover, Experiment 1B also demonstrates that the effect of optimism is attenuated using both the standard manipulation of outcome-focus (i.e., focusing on the end benefits) and a broader induction of outcome-focus (i.e., thinking about end results without a specific focus on benefits). Experiment 2 then provides detailed insights into both the outcome-focus route (constrained capacity) and the process-focus route (unconstrained capacity) to optimism. This study replicates the positive effect of process- (vs. outcome-focused) thought under unconstrained conditions, and obtains the predicted reversal under constrained conditions. Note that the effect of optimism is attenuated under both the outcome-focus (unconstrained capacity) and process-focus route (constrained capacity), not eliminated or reversed. Importantly, Experiment 2 also demonstrates the mediating roles of process ease in the unconstrained condition and outcome favorability in the constrained condition. Finally, Experiment 3 completes the picture by demonstrating that the two routes converge on the motivation to accomplish the associated goal. Collectively, these studies enhance our understanding both of the mechanisms driving optimism, and the domain of anticipatory purchasing.

Understanding optimism

The current research makes several theoretical contributions to the study of optimism, which is an important yet understudied construct in consumer research (MacInnis, 2005). First, although there has been some research demonstrating the positive effect of optimism on behavior (e.g., future borrowing behavior, Yang, Markoczy, & Qi, 2007), our framework goes beyond this by identifying when and why optimism will have an impact on behavior, and when it won't. Specifically, we show that greater optimism does not invariably lead to a greater likelihood of anticipatory purchasing. Thus, while prior research has regarded optimism as a stable construct such that optimistic individuals generally tend to behave in a manner consistent with their expectations (e.g., Taylor & Brown, 1988), our research illuminates the subtle and processing-specific ways in which this construct operates. Second, related to this view of optimism not being an invariant construct, and in line with much research in social psychology which has demonstrated that the manner of construct activation does not moderate its influence (Brewer & Gardner, 1996), we show that in addition to functioning as a dispositional trait, optimism can be manipulated quite easily through situational inductions.

Prior research on trait activation has demonstrated that traits can be situationally induced (e.g., ease of retrieval effect; Schwarz et al., 1991). We agree with this view and show that optimism has similar effects on anticipatory purchasing regardless of whether it is operationalized as an individual-difference trait or a situationally induced state. Third and most crucially, while prior research has characterized optimism either in terms of outcome perceptions being positive or the process (required to achieve the outcome) as being easy, our work is the first to show that optimism can manifest itself through both of these routes, and to systematically identify the conditions under which either route is more likely to prevail. The current studies demonstrate that cognitive constraints determine which type of simulation (outcome vs. process) is relied upon more. Importantly, optimists and pessimists do not differ in terms of *amount* of outcome vs. process thinking—this depends only on depth of processing. Finally, this research uses a motivational perspective to inform research on optimism; by doing so, we are able to show that with both routes, enhanced motivation functions as the proximal mediator of the effects of optimism. Recently, there has been research showing that optimism might not always increase motivation in goal pursuit (e.g., Geers, Wellman, & Lassiter, 2009; Zhang et al., 2007). Along similar lines, we demonstrate that optimism is not always associated with increased motivation. Instead, optimism only exerts its influence on motivation via a process-focus route given unconstrained capacity, and an outcome-focus route given constrained capacity. In other words, different types of simulations (outcome versus process) fit different conditions (constrained versus not), precisely because of the differences in capability produced by these conditions.

Understanding anticipatory purchasing

This investigation also enhances our understanding of anticipatory purchasing, a substantive domain of consumption that has received relatively little scholarly attention. As illustrated in the Amazon.com survey mentioned in the introduction, anticipatory purchase is a common phenomenon. This research offers a first step towards understanding this substantive domain by showing when and why enhanced optimism increases such purchase behavior. Moreover, marketers interested in enhancing anticipatory purchase may take heart from the finding that a key antecedent—optimism—may be easily influenced through situational means; for instance, by asking consumers to recall a few optimistic behaviors that they had engaged in previously. At the same time, our demonstration that optimism does not always increase the likelihood of making such anticipatory purchases suggests that marketers should also keep in mind the thought focus that the consumers engage in at the time of decision. For instance, in situations where consumers desire to take more time to deliberate (unconstrained processing), marketers should not only induce the consumers to think optimistically, but also direct them to think more about the processes that they have to go through in order to be able to actually use the products.

From a policy perspective, our findings also carry implications for those (e.g., social marketers and policy makers) wishing to diminish the unnecessary wastage caused by unfulfilled expectations (Morris & Bronson, 1970). There has been increasing concern about the vast amount of waste caused by unused consumption (Trocchia & Janda, 2002). Anticipatory and over-optimistic purchasing of the sort we study is clearly one factor underlying such waste. This is further substantiated by the Amazon survey we conducted: out of 250 participants who reported having made an anticipatory purchase, 105 participants (42%) admitted ending up not using the products. Of course, not all unused products are wasted (e.g., a proportion might enter the second-hand market), but the likelihood of waste is clearly enhanced by the prevalence of anticipatory purchasing. Our research suggests several mechanisms by which to mitigate such wasteful behavior. These include manipulations that reduce the likelihood of anticipatory purchasing itself, such as focusing attention on the required process at a point when consumers are cognitively-loaded. It should also be borne in mind that welfare can be improved not just by reducing the incidence of anticipatory purchases, but also by minimizing waste in a different way—namely, encouraging consumers to take the steps to actually use the products that they once bought in a fit of optimism. For instance, interventions that maintain the high levels of motivation that were present at the point of purchase would encourage later use of such products.

Links to extant research

Recent research by Tanner and Carlson (2009) ties in well with some of our findings. These scholars found that making an ideal-world prediction causes subsequent expectations to be corrected and made more realistic, as the salience of the ideal makes individuals realize that the real world is not perfect. We similarly show that forcing optimists to focus on a favorable outcome can lower anticipatory purchasing: a meta-analysis across our experiments found a significant difference between outcome-focused optimists and process-focused optimists under unconstrained processing, such that the latter reported higher intentions of anticipatory purchasing ($z = 2.45$; $p < .05$). We also extend Tanner and Carlson's research by identifying a different mechanism for this effect, as well as by obtaining a reversal under constrained capacity. In the latter case, an outcome-focus actually enhances the effect of optimism on anticipatory purchasing because of the heuristic-based processing that is likely to occur under such conditions.

Our focus in this research was in understanding the mechanisms driving optimistic behavior. Other scholars have studied the effects of related constructs. One of these, as noted earlier, is hope; a key distinction with optimism is that hope has typically been conceptualized as a positive *emotion* about the future (De Mello et al., 2007; MacInnis et al., 2004; Roseman, 1991). At an empirical level, this distinction between optimism and hope received support in our post-test, where our situational manipulation (recalling 2 vs. 8 instances of optimistic behavior) influenced optimism but not hope. Interestingly, while hope has predominantly been viewed as an emotion, Snyder (2002)

proposed a cognitive perspective on hope, viewing it as a positive expectation that arises when individuals perceive personal actions leading to desired outcomes. This is consistent with the process focused view of optimism (Scheier & Carver, 1985), except that it explicitly implicates the role of personal agency. In contrast, and similar to the outcome-focus view of optimism (Epstein & Meier, 1989), affective views of hope characterize it as an emotion that arises when desired positive outcomes are uncertain and are perceived to be caused by external circumstances (as opposed to the self; Roseman, 1991). MacInnis et al. (2004) characterize Snyder's (2002) perspective as describing an antecedent of hope (but not hopefulness itself), and it is possible that a reconciliation of these perspectives on hope (cognitive vs. affective) may mirror our resolution of the outcome- and process-focused views of optimism.

Besides hope, other researchers have looked at how certain situations motivate individuals to strategically be more optimistic or pessimistic (De Mello et al., 2007; Norem & Cantor, 1986). For instance, research on motivated reasoning proposes that individuals who wish to perceive themselves in positive light will search for, evaluate information, and form judgments with a self-serving purpose (Kunda, 1990). This suggests that optimists might well engage in selective processing in order to maintain positive expectations of the future. Along similar lines, we show that under unconstrained (constrained) processing, optimists selectively judge the process (outcome) to be favorable, which then drives the anticipatory purchase. At the same time, we also demonstrate that there is a limit to which optimists can engage in motivated reasoning. For instance, although optimists under unconstrained processing still regard the outcome to be positive, this does not influence their likelihood of anticipatory purchasing. Taken together, it may be possible that in some situations, optimists do engage in motivated reasoning, but they can also be responsive to the environment and adjust their processing and judgment accordingly. In support of this view, Aspinwall and Brunhart (1996) found that optimists (vs. pessimists) did not show greater attention to positive health information; rather, they paid more attention to and recalled more risk information. This therefore implies that optimists do not necessarily engage in more motivated reasoning than pessimists do.

Limitations and future research

The results obtained in this investigation support our proposed conceptualization and offer new insights into optimism. However, some limitations remain. For instance, although prior research on goal-directed behavior has reassuringly demonstrated close correspondence between scenario-based and "real" studies (e.g., Fishbach & Dhar, 2005; Kivetz & Simonson, 2002), future work should test our findings in actual purchase situations. Also, while our definition of anticipatory purchase is restricted to products associated with positive outcomes, it would be interesting to examine the influence of optimism in negatively-valenced contexts. For instance, driven by their greater expectations of negative outcomes, pessimists may actually be more willing to engage in prior purchasing of products associated with negative outcomes (e.g., insurance) than optimists. To

investigate this possibility, we conducted another study in which we asked participants their likelihood of purchasing accident insurance. As expected, pessimists were in fact more willing to buy the insurance than optimists ($b = -1.97$, $t(44) = -2.06$, $p < .05$). On a related note, our research focuses on anticipatory purchases where the desired outcomes are relatively achievable (e.g., getting one size smaller). What effect might optimism have when outcomes are less easy to achieve (e.g., getting five sizes smaller)? When a task is unsolvable, optimists are more likely to disengage than pessimists (Aspinwall & Richter, 1999). Accordingly, when desired outcomes become relatively impossible to fulfill, optimists might actually be less likely to make anticipatory purchases than pessimists.

Besides examining different types of anticipatory purchases, it would be interesting to further investigate other moderators that determine when the process-focus versus outcome-focus route to optimism prevails. The current research implicates cognitive capacity as the key moderating variable. Consistent with the Heuristic-Systematic Model, motivation to process the information may be another important factor that determines which route is adopted. Accordingly, it may be that the process-focus route prevails when individuals are highly motivated in the anticipatory purchase decision (e.g., a risky purchase). Note that in the current studies, individuals were fairly motivated. For example, in Experiment 1A, participants were interested in learning their allotted musical instrument ($M = 3.56$ on a five-point scale).

Other, more substantive opportunities also exist for further investigations. For example, future research could investigate what happens with regard to decisions made by the consumer after the anticipatory purchase decision. Consumers often make decisions in sequence and these decisions may be interdependent. One possibility arising from such interdependence is that the anticipatory purchase decision might enhance consumers' commitment toward the underlying goal and thus increase their likelihood of engaging in subsequent behavior that is consistent with the purchase (e.g., buying exercise equipment after purchasing a pair of jeans that is too small); alternately and interestingly, it could be argued that the likelihood of such "good" behavior will actually decrease, if consumers view the anticipatory purchase as itself having fulfilled good intentions (e.g., to get fit). Results from an ongoing investigation in our lab suggest that both of these opposing effects can prevail under different conditions. Research into these and other consequences of anticipatory purchasing carries the potential of both providing insights into the nature and effects of the optimism construct, and also enhancing learning about a domain of consumption that has hitherto received little attention.

Acknowledgments

This research is based on the first author's doctoral dissertation, conducted under the supervision of the second and third authors, who contributed equally. We would like to acknowledge the Hong Kong Research Grants Council (GRF 642810) for financial support, and Esther Nip for invaluable

research assistance, and Rashmi Adaval, Ayelet Fishbach, Gerry Gorn, Jiewen Hong, and Rongrong Zhou for their helpful comments on previous versions of this manuscript.

References

- Aarts, H., Dijksterhuis, A., & De Vries, P. (2001). On the Psychology of Drinking: Being Thirsty and Perceptually Ready. *British Journal of Psychology*, *92*(4), 631–642.
- Aiken, L. S., & West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions*. Newbury Park, CA: Sage.
- Armor, D. A., & Taylor, S. E. (1998). Situated Optimism: Specific Outcome Expectancies and Self-Regulation. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology*, Vol. 30. (pp. 309–370) New York, NY: Academic Press.
- Aspinwall, L. G., & Brunhart, S. M. (1996). Distinguishing Optimism from Denial: Optimistic Beliefs Predict Attention to Health Threats. *Personality and Social Psychology Bulletin*, *22*(10), 993–1003.
- Aspinwall, L. G., & Richter, L. (1999). Optimism and Self-Mastery Predict More Rapid Disengagement from Unsolvable Tasks in the Presence of Alternatives. *Motivation and Emotion*, *23*(3), 221–245.
- Atkinson, J. W. (1964). *An Introduction to Motivation*. Oxford, England: Van Nostrand.
- Brewer, M., & Gardner, W. (1996). Who is This "We"? Levels of Collective Identity and Self Representations. *Journal of Personality and Social Psychology*, *71*(1), 83–93.
- Buehler, R., & Griffin, D. (2003). Planning, Personality, and Prediction: The Role of Future Focus in Optimistic Time Predictions. *Organizational Behavior and Human Decision Processes*, *92*(1–2), 80–90.
- Chaiken, S., Liberman, A., & Eagly, A. H. (1989). Heuristic and Systematic Information Processing Within and Beyond the Persuasion Context. In J. S. Uleman, & J. A. Bargh (Eds.), *Unintended thought* (pp. 212–252). New York, NY: Guilford Press.
- Chambers, J. R., & Windschitl, P. D. (2004). Biases in Social Comparative Judgments: The Role of Nonmotivated Factors in Above-Average and Comparative Optimism Effects. *Psychological Bulletin*, *130*(5), 813–838.
- De Mello, G., MacInnis, D. J., & Stewart, D. W. (2007). Threats to Hope: Effects on Reasoning about Product Information. *Journal of Consumer Research*, *34*(2), 153–161.
- Eagly, A. H., & Chaiken, S. (1993). *The Psychology of Attitudes*. Fort Worth, TX: Harcourt.
- Epstein, S. (1993). Emotion and Self-Theory. In M. Lewis, & J. M. Haviland (Eds.), *Handbook of Emotions* (pp. 313–326). New York, NY: Guilford.
- Epstein, S., & Katz, L. (1992). Coping Ability, Stress, Productive Load, and Symptoms. *Journal of Personality and Social Psychology*, *62*(5), 813–825.
- Epstein, S., & Meier, P. (1989). Constructive Thinking: A Broad Coping Variable with Specific Components. *Journal of Personality and Social Psychology*, *57*(2), 332–359.
- Escalas, J. E., & Luce, M. F. (2004). Understanding the Effects of Process-Focused versus Outcome-Focused Thought in Response to Advertising. *Journal of Consumer Research*, *31*(2), 274–285.
- Fishbach, A., & Dhar, R. (2005). Goals as Excuses or Guides: the Liberating Effect of Perceived Goal Progress on Choice. *Journal of Consumer Research*, *32*(3), 370–377.
- Gardner, W. L., Gabriel, S., & Lee, A. Y. (1999). "I" Value Freedom, But "We" Value Relationships: Self-Construal Priming Mirrors Cultural Differences in Judgment. *Psychological Science*, *10*(4), 321–326.
- Geers, A. L., Wellman, J. A., & Lassiter, G. D. (2009). Dispositional Optimism and Engagement: The Moderating Influence of Goal Prioritization. *Journal of Personality and Social Psychology*, *96*(4), 913–932.
- Kivetz, R., & Simonson, I. (2002). Earning the Right to Indulge: Effort as a Determinant of Customer Preferences Toward Frequency Program Rewards. *Journal of Marketing Research*, *39*(2), 155–170.
- Kruglanski, A. W., Shah, J. Y., Fishbach, A., Friedman, F., Chun, W. Y., & Sleeth-Keppler, D. (2002). A Theory of Goal-Systems. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology*, Vol. 34. (pp. 331–378) New York, NY: Academic Press.

- Kunda, Z. (1990). The Case for Motivated Reasoning. *Psychological Bulletin*, 108(3), 480–498.
- MacInnis, D. J. (2005). Finding Legs: Generativity and the Everyday Language of the Consumer. In G. Menon, & A. R. Rao (Eds.), *Advances in Consumer Research*, Vol. 32. (pp. 1–5) Duluth, MN: Association for Consumer Research.
- MacInnis, D. J., de Mello, G., & Patrick, V. M. (2004). Consumer Hopefulness: Construct, Relevance to Internet Marketing, Antecedents and Consequences. *International Journal of Internet Marketing and Advertising*, 1(2), 174–194.
- Maheswaran, D., & Chaiken, S. (1991). Promoting Systematic Processing in Low-Motivation Settings: Effect of Incongruent Information on Processing and Judgment. *Journal of Personality and Social Psychology*, 61(1), 13–25.
- Maheswaran, D., Mackie, D. M., & Chaiken, S. (1992). Brand Name as a Heuristic Cue: The Effects of Task Importance and Expectancy Confirmation on Consumer Judgments. *Journal of Consumer Psychology*, 1(4), 317–336.
- Morris, R. T., & Bronson, C. S. (1970). The Potential Loss in Money Income to the American people in Haphazard Purchasing. *Journal of Consumer Affairs*, 4(2), 103–112.
- Mukhopadhyay, A., Sengupta, J., & Ramanathan, S. (2008). Recalling Past Temptations: An Information-Processing Perspective on the Dynamics of Self-Control. *Journal of Consumer Research*, 35(4), 586–599.
- Norem, J. M., & Cantor, N. (1986). Anticipatory and Post Hoc Cushioning Strategies: Optimism and Defensive Pessimism in “Risky” Situations. *Cognitive Therapy and Research*, 10(3), 347–362.
- Pham, L. B., & Taylor, S. E. (1999). From Thought to Action: Effects of Process- versus Outcome-based Mental Simulations on Performance. *Personality and Social Psychology Bulletin*, 25(2), 250–260.
- Preacher, K. J., Rucker, D. D., & Hayes, A. (2007). Addressing Moderated Mediation Hypotheses: Theory, Methods, and Prescriptions. *Multivariate Behavioral Research*, 42(1), 185–227.
- Roseman, I. J. (1991). Appraisal Determinants of Discrete Emotions. *Cognition and Emotion*, 5(3), 161–200.
- Scheier, M. F., & Carver, C. S. (1985). Optimism, Coping and Health: Assessment and Implications of Generalized Outcome Expectancies. *Health Psychology*, 4(3), 219–247.
- Scheier, M. F., & Carver, C. S. (1992). Effects of Optimism on Psychological and Physical Well-Being: Theoretical Overview and Empirical Update. *Cognitive Therapy and Research*, 16(2), 201–228.
- Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing Optimism from Neuroticism (and Trait Anxiety, Self-Mastery, and Self-Esteem): A Reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*, 67(6), 1063–1078.
- Scheier, M. F., Weintraub, J. K., & Carver, C. S. (1986). Coping with Stress: Divergent Strategies of Optimists and Pessimists. *Journal of Personality and Social Psychology*, 51(6), 1257–1264.
- Schwarz, N., Bless, H., Strack, F., Klumpp, G., Rittenauer-Schatka, H., & Simons, A. (1991). Ease of Retrieval as Information: Another Look at the Availability Heuristic. *Journal of Personality and Social Psychology*, 61(2), 195–202.
- Sengupta, S. (2008). Indians Hit the Road Amid Elephants. *New York Times*, Jan 11.
- Sengupta, J., & Dahl, D. W. (2008). Gender-Related Reactions to Gratuitous Sex Appeals in Advertising. *Journal of Consumer Psychology*, 18(1), 62–78.
- Shiv, B., & Fedorikhin, A. (1999). Heart and Mind in Conflict: The Interplay of Affect and Cognition in Consumer Decision Making. *Journal of Consumer Research*, 26(3), 278–292.
- Snyder, C. R. (2002). Hope Theory: Rainbows of the Mind. *Psychological Inquiry*, 13, 249–275.
- Tanner, R. J., & Carlson, K. A. (2009). Unrealistically Optimistic Consumers: A Selective Hypothesis Testing Account for Optimism in Predictions of Future Behavior. *Journal of Consumer Research*, 35(5), 810–822.
- Taylor, S. E., & Brown, J. D. (1988). Illusion and Well-Being: A Social-Psychological Perspective on Mental Health. *Psychological Bulletin*, 103(2), 193–210.
- Taylor, S. E., Pham, L. B., Rivkin, I. D., & Armor, D. A. (1998). Harnessing the Imagination: Mental Simulation, Self-Regulation, and Coping. *American Psychologist*, 53(4), 429–439.
- Trochia, P. J., & Janda, S. (2002). An Investigation of Product Purchase and Subsequent Non-Consumption. *Journal of Consumer Marketing*, 19(3), 188–204.
- Yang, S., Markoczy, L., & Qi, M. (2007). Unrealistic Optimism in Consumer Credit Card Adoption. *Journal of Economic Psychology*, 28(2), 170–185.
- Zhang, Y., Fishbach, A., & Dhar, R. (2007). When Thinking Beats Doing: The Role of Optimistic Expectations in Goal-Based Choice. *Journal of Consumer Research*, 34(4), 567–578.
- Zhang, Y., & Huang, S. C. (2010). How Endowed Versus Earned Progress Impacts Consumer Goal Commitment and Motivation. *Journal of Consumer Research*, 37(4), 641–654.
- Zhao, M., Hoeffler, S., & Zauberger, G. (2007). Mental Simulation and Preference Consistency over Time: The Role of Process- Versus Outcome-Focused Thoughts. *Journal of Marketing Research*, 44(3), 379–388.