



## Now that's a Bright Idea: The Influence of Consumer Elaboration and Distance Perceptions on Sustainable Choices

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### Abstract

Integrating theory related to psychological distance and elaboration on potential outcomes, hypotheses are offered that predict that consumers' elaboration levels moderate the effect of temporal distance on choice of energy efficient products. In three experiments, the authors examine the influence of temporal and psychological distance and the moderating effect of a consumer's propensity to elaborate on potential outcomes (EPO) in retail choice-based situations. Results support these predictions with consumers lower in elaboration more likely to choose an energy efficient product when perceived distance is proximal versus distal, while the distance effect has less of an influence on consumers prone to higher elaboration. We test the effect of distance perceptions within a retail lab environment, as well as across ad and retail contexts. These results will help marketers better understand how to promote products in ad versus retail-based contexts and across different consumer groups. Findings offer implications for theory, retailers, product marketers, and NGO's interested in promoting energy efficient choices.

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In responding to increased consumer demand for environmentally friendly products, retailers have placed a stronger emphasis on sustainability both in their consumer marketing and business practices. For example, Walmart has been continually trying to conserve energy in their stores and operations, and they are currently working to provide retail customers with more energy efficient product offerings (Walsh 2014). Home Depot has been named the Energy Star 'partner of the year' in 2014 for their efforts to promote energy efficient products to consumers (The Home Depot 2014). Target recently announced its Sustainable Product Standard, in which information is being collected from some 7500 vendors, and ultimately will be used to provide product sustainability information to its customers (Elks 2013). Thus, many retailers believe that sustainability efforts can be an important component of shopper marketing

programs designed to influence consumer attitudes, patronage, and purchase behavior (e.g., Kotler 2011; Shankar et al. 2011).

However, while there is a growing trend toward consumers expressing greater *interest* in sustainable products and retailers emphasizing more sustainable options, recent research shows that there is a gap between consumer interest and actual behavior. For example, 83% of consumers view it as important for companies to support sustainable efforts, but only 22% of consumers say they are willing to pay more for sustainable products (Nielsen 2011). In part, this gap has to do with consumers' actual willingness to buy sustainable products, given the benefits received are not immediate and prices may be higher for energy efficient purchases (e.g., Gleim et al. 2013; Hopkins 2009). In sum, while customers are interested in sustainable products there are often substantial perceptual and economic barriers that affect purchase behavior.

Such barriers are particularly evident for energy efficient products. While energy efficient products can both save the consumer money in the long run and offer benefits for the environment, they almost always carry a price premium that is incurred by consumers in the short run. This trade-off

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contributes to differences in reported attitudes and choices, which has been termed the “energy efficiency gap” (Levine et al. 1995; Reynolds et al. 2012). When initially considering choice options in the shopping process, consumers may express an interest or preference for an energy efficient product that will provide future benefits. However, at the retail outlet when the actual choice decision becomes proximal, consumers often opt for a less expensive option, even though they would save money in the long-term through the choice of an energy efficient product.

Given the interest of major retailers, consumer packaged goods (CPG) manufacturers, and non-governmental organizations (NGOs) in promoting more sustainable consumer choices, the goal of this research is to examine effects of psychological distance perceptions on choices of more (vs. less) energy efficient products. We examine responses across consumer segments that may be more (or less) inclined to elaborate on potential outcomes of their choice behavior. We conduct three experimental studies, using a mix of retail shopping settings and shopping scenarios, to examine these effects. The first study examines the effect of temporal distance framing of product benefits communicated using promotional signage in a retail laboratory store context and provides initial insight to the influence of different promotional messages focusing on proximal or distal future product benefits. The second study examines these effects while taking into account several constraints and trade-offs (e.g., a budget) that consumers may face when making decisions to buy a product. The third study examines how consumers’ responses to product benefit messages may differ across retail and ad-based contexts. Specifically, the third study manipulates the context of the choice task to alter the perception of psychological distance as indicated by the perceived distance from the time of their decision. Results across the studies show that consumer propensity to elaborate on potential outcomes moderates the effect of temporal and psychological distance in choice-based situations. These results provide retailers and product marketers with insights on promoting energy efficient products, and possibly other products, that may provide consumers with future benefits.

## Theory and Hypotheses

### *Temporal Distance Effects*

Temporal distance effects generally consider the degree to which consumers account for (i.e., discount) events that occur in the future. The distances with which people perceive an event, which can be explicit (such as a specific amount of time (Liberman and Trope 1998)), or implicitly associated with the event (such as something that may happen to them personally versus someone they do not know (Chandran and Menon 2004; Kim, Zhang, and Li 2008)), can influence both their perceptions and the choices they make.

Construal level theory (CLT) has been widely used to examine how consumers respond to perceived distances. In general, the perception of felt distance is referred to as psychological distance (see Trope and Liberman 2010 for review), with temporal

distance as one primary dimension of psychological distance. Construal level theory contends that as distance increases, consumers’ perceptions differ, and this can lead them to place greater weight on some considerations over others (Bornemann and Homburg 2011; Chan and Mukhopadhyay 2010; Liberman and Trope 1998; Mowen and Mowen 1991; Zauberaman et al. 2009). This in turn can influence consumer evaluations and decisions (Kahn, Zhu, and Kalra 2011; Kim, Zhang, and Li 2008). More specifically, a more proximal, or near distance has been associated with low-level construals, which are typically more concrete thoughts regarding specific details. In contrast, greater distance has been associated with high-level construals which are typically more abstract (Liberman and Trope 1998) and focus on a bigger picture or a higher ideal. While various psychological distance dimensions have been proposed, a major focus of the CLT literature has been on temporal distance effects (e.g., Chandran and Menon 2004; Liberman and Trope 1998; Trope and Liberman 2010). Consistent with this prior emphasis, the first two studies in the current research primarily focus on temporal distance effects.

### *Consumers’ Elaboration on Potential Outcomes*

Research has indicated that some individuals have stronger biases toward more proximal versus more distal outcomes. These biases have been attributed to individual differences such as temporal orientation (e.g., Strathman et al. 1994; Zimbardo and Boyd 1999) or an individual’s propensity to be impulsive (Ainslie 1975; Loewenstein 1996). We propose that some consumers may be more predisposed toward thinking about and considering potential outcomes and thus, may be less likely to discount future events. However, other consumers will be less likely to elaborate on future events, and these individuals will be more likely to discount future outcomes because they generally will not give them as much consideration.

A construct that focuses on one’s propensity to think about or elaborate upon future or potential outcomes is elaboration on potential outcomes (EPO; Nenkov, Inman, and Hulland 2008). This construct differs from temporal orientation measures in that it captures whether people deliberate and consider future or potential outcomes, which has considerable implications for self-regulation and how consumers respond to situations involving tradeoffs. Outcome elaboration research finds that certain people are more predisposed to elaborating on possible outcomes. High elaborators are more prone to deliberation regarding the pros and cons of potential outcomes and to weigh the relative importance and likelihood of these outcomes. The predisposition to elaborate on potential outcomes tends to push consumers into more of a deliberate mindset where they do a more thorough job of weighing the possible outcomes of an event. For example, Nenkov, Inman, and Hulland (2008) show that higher elaborators plan on investing more money in a 401(k) plan compared to lower elaborators. This suggests that higher elaborators are more willing to make a sacrifice now in order to have a more positive future outcome. This also suggests that higher elaborators are less likely to be influenced by discounting

effects compared to lower elaborators, because these individuals are more aware of and assess potential future outcomes (i.e., higher outcome-elaborators) to a greater degree than lower elaborators.

Research on EPO also has suggested that, in general, consumers who are higher elaborators are less likely to be influenced by framing or priming effects when compared to lower elaborators (Nenkov, Inman, and Hulland 2008; Nenkov et al. 2009). For example, Nenkov et al. (2009) find that lower outcome-elaborators are more likely to invest in a mutual fund when the fund was described using negative framing (emphasizing gains missed from not investing in the fund) compared to positive framing (emphasizing gains realized from investing in the fund). There was no difference in intentions to invest across the framing conditions for participants who were higher outcome-elaborators. The authors also find that higher outcome-elaborators had more frame inconsistent thoughts compared to lower outcome-elaborators. This indicates that higher elaborators tend to think more broadly when weighing tradeoffs and benefits. Thus, compared to lower outcome-elaborators, higher outcome-elaborators are more likely to not only evaluate and think about the savings they can gain in the distant future, but are also likely to evaluate gains they may experience in the near future. This should result in less of a discounting effect and indicates that higher outcome-elaborators should be less influenced by distance effects. In turn, lower outcome-elaborators are less likely to elaborate on the potential savings of the product and will be more strongly influenced by the framing and context of the situation that is presented to them. Thus, lower outcome-elaborators are likely to focus on the more immediate benefits offered in a proximally framed savings message.

In considering the choice of energy efficient products, we predict that consumers' outcome-elaboration will moderate the effect of distance framing of product benefits. Consumers who are less likely to elaborate on potential outcomes (low outcome-elaborators) will be more strongly influenced by events that are temporally proximal versus temporally distal, as compared to higher outcome-elaborators. This will lead lower outcome-elaborators to be more likely to choose an energy efficient product when the benefits are framed in the near future. Given the literature, we believe that high outcome-elaborators should be able to more thoroughly account for the benefits and tradeoffs both in the near and distant future and are thus less likely to de-emphasize, or discount, distant benefits. This will result in an attenuated effect due to the distal framing of the message for consumers who are higher in outcome-elaboration, and thus the strongest impact of the distance framing effect on attitudes and choice should be found for low outcome-elaborators who will be more likely to discount distant benefits.

**H1.** Consumers lower in outcome-elaboration will be more likely to (a) choose products and (b) have more positive attitudes toward products whose benefits are framed in a proximal manner. The effect of distance is attenuated for consumers higher in outcome-elaboration.

## Study 1: Retail Store Choice Experiment

The first study tests product choice (H1a) in a retail lab setting and examines the effect of temporal distance framing, operationalized through modifying temporal frames presented within a promotional message provided on the retail shelf. This message highlights the savings that a consumer can realize from using an energy efficient product and the moderating effect of a consumers' elaboration on potential outcomes. In this study participants completed a shopping task in a retail laboratory setting in which they make a choice within a category appearing on standard retail store shelving. The temporal distance manipulation for the message was presented on in-store signage on shelving adjacent to the target product. Given the retail lab setting and shopping task, we focus on product choice in this study.

### Method

*Design.* Temporal distance was manipulated by varying the temporal distance of the stated product benefits. In-store promotional signage located on the shelf next to the product varied in the length of time that was stated (proximal – 1 month vs. distal – 3 years). For example, the proximal sign condition with light bulbs as the target energy efficient product stated, "Bright Effects bulbs can save you a significant amount on your electricity bills in just 1 month! Just think of the savings in just 1 month." In the distal psychological distance condition, "1 month" was replaced with "3 years."<sup>3</sup> To assess consumers' outcome-elaboration, the elaboration on potential outcomes (EPO) scale was used. The full EPO scale consists of three different dimensions including a generation/evaluation dimension, a positive outcome focus dimension, and a negative outcome focus dimension. We used the generation/evaluation dimension of the scale which focuses on the propensity to which people generate thoughts about potential consequences prior to decision making and evaluate the probabilities and the impact of those potential outcomes. Given that the choice of an energy efficient product can include both positive outcomes (energy and monetary savings) and negative outcomes (higher price) we were interested in the general influence of outcome-elaboration and not necessarily the extent to which consumers focus solely on just the positive or just the negative potential outcomes. Example items from the generation/evaluation portion of the EPO scale include, "Before I act I consider what I will gain or lose in the future as a result of my actions," and "I always try to assess how important the potential consequences of my decisions might be." The EPO items use seven-point scales with endpoints of 1 = "strongly disagree" and 7 = "strongly agree" ( $\alpha = .92$ ; Nenkov, Inman, and Hulland 2008).

*Procedure.* This experiment consisted of three stages. First, participants completed an online survey regarding their attitudes and familiarity with the focal product category used in the retail shelf portion of the study, along with a variety of other filler

<sup>3</sup> Light bulb packages normally represent their savings in terms of years, with three years being a very typical timeframe presented on the front of the package.

products that were not present in the retail portion of the study. In addition, participants responded to the generation/evaluation dimension of the EPO scale at this time in order to measure outcome-elaboration.

Approximately two weeks after responding to the various measures in the online survey, the second and third stages of the study were conducted in a behavioral lab. The behavioral lab used a mock retail environment setup with product alternatives presented on store shelving. Once in the lab, participants were given directions that included a shopping list instructing them to select products from three different product categories. Light bulbs were the category of interest, while the two other product categories served as filler products and also included product signage located on the shelves that was the same size and color as the signage for the light bulbs (but differed in type of messages conveyed). The light bulbs category included two different four-packs of bulbs, with similar packaging. The goal was to use products that participants perceived as relatively invariant and products that did not have brand names for which participants had strong preexisting perceptions. Participants' familiarity across the brand alternatives was consistently low and did not differ ( $M$ 's = 1.97 and 1.85;  $p > .10$ ), and ratings were significantly below the midpoint of four for both light bulb brands ( $p < .001$  for both). There was no difference in attitudes and purchase intentions when comparing the two brands ( $p$ 's  $> .10$ ) before being exposed to the manipulations.

Participants were instructed to imagine that they were on a shopping trip and needed items from each category on their list. They were told to examine the alternatives available on the retail shelf and choose a product. Once participants finished reading the instructions, the experimenter gave participants a shopping basket to fill with items from the categories on their list. As noted, the distance manipulations were included on in-store signs that were placed on the shelves next to the products. To increase the realism of the task, products had prices listed on the shelf tags. The energy efficient light bulb was priced higher than the standard light bulb and prices were based on market prices obtained from local retail stores at the time of the experiment. When finished shopping, participants brought their choices to a person at a check-out counter. For the final stage, participants then completed a paper survey that measured manipulation checks, confound checks, attention, and hypothesis guessing questions. Data were merged from all three stages of the study. A total of 115 undergraduate business student participants completed all three parts of the study and were included in the analysis. The average age of participants was 22 and 52% were male.

To reduce possible effects of the brands influencing the results, the brands were counterbalanced in terms of which one was promoted as the energy efficient light bulb (i.e., as stated previously approximately half of the participants saw signage indicating that *Best Bulb* was the energy efficient light bulb while the other half saw signage indicating that *Bright Effects* was the energy efficient light bulb). The only indication of which brand was energy efficient was from the message on the sign and the shelf tags. The product's shelf position also was counterbalanced. Analyses indicated that there were no effects of the

brand name or location of the brands on the retail shelves (all  $p$ 's  $> .25$ ).

The dependent variable was product choice. Product choice was recorded by noting which product participants chose during the shopping task, either the more energy efficient light bulb (coded as a '1') or the less energy efficient light bulb (coded as a '0'). For the manipulation check, participants were asked questions regarding the temporal distance of the stated product benefit, using a two item seven-point bipolar scale. Participants responded to the question, "How soon can you save money on your electricity bill if you used the energy efficient light bulb?" (endpoints of "very soon-a long time from now," and "near future-distant future" ( $r = .75$ ; modified from Chandran and Menon 2004; Mogilner, Aaker, and Pennington 2008). Given that the evaluation took place in a realistic retail setting in which multiple product categories were evaluated, we were interested in being able to control for the amount of attention paid to the focal product information. Thus, participants responded to questions regarding their attention to the product information that asked if they paid attention to signage for each of the product categories on their shopping list. In our analysis we used this measure of attention to the light bulb signage.

## Results

*Manipulation checks.* Analysis of variance results indicated that participants in the distal temporal frame condition perceived the benefits from the light bulb as occurring in the more distant future compared to participants in the proximal temporal frame condition ( $M = 5.23$  vs.  $M = 3.09$ ;  $F(1,113) = 48.04$ ,  $p < .001$ ). These results are supportive of the temporal distance manipulation. In addition, there was no evidence of demand effects based on a hypothesis guessing question.

*Hypothesis test.* Hypothesis 1a predicts that the choices of consumers who are lower outcome-elaborators will be more strongly influenced by the temporal distance effect compared to consumers who are higher outcome-elaborators. The proximal temporal frame condition was coded as '-1' and the distal temporal frame was coded as '1'. To examine H1a, a logistic regression was performed and a spotlight analysis was used to test the interaction effect. All items were mean centered before analysis (Aiken and West 1991). The mean centered continuous outcome-elaboration measure was used in creating the interaction term. In the logistic regression, outcome-elaboration, the temporal distance frame, and the interaction between the outcome-elaboration variable and the temporal distance frame were entered into the logistic regression. To control for possible effects of attention, given that in a retail setting variance in attention to product information may affect the dependent variable, attention to the information was included as a covariate.<sup>4</sup> There was a direct effect of temporal frame on product choice ( $b = -1.24$ ,  $Z = -2.72$ ,  $p < .01$ ). There was not a significant influence of outcome-elaboration ( $b = -.26$ ,  $Z = -1.11$ ,  $p > .10$ ), but as predicted in H1, there was

<sup>4</sup> Attention was not related to outcome-elaboration or the temporal frame.

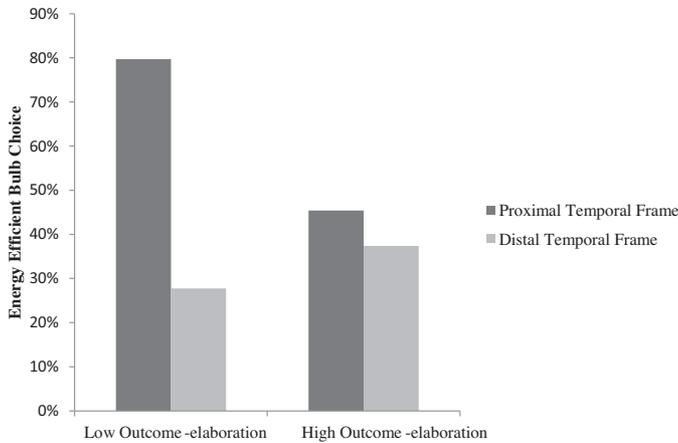


Fig. 1. Study 1: interaction effect of temporal distance frame and elaboration on potential outcomes on energy efficient product choice.

a significant interaction between temporal distance frame and outcome-elaboration ( $b = .93, Z = 1.98, p < .05$ ).

A plot of this interaction is shown in Fig. 1 using the probabilities from the conditional effects by taking one standard deviation below and above the mean of outcome-elaboration for the spotlight analysis (Hayes and Matthes 2009). Next, we examined the simple slopes and found that the simple effect shows that participants lower in outcome-elaboration were more likely to choose the bulb in the one month temporal condition compared to the three year temporal condition ( $b = -2.32, Z = -3.19, p < .01$ ). In contrast, there was not a significant difference across the temporal frame conditions for participants higher in outcome-elaboration ( $b = -.33, Z = -.52, p > .30$ ), consistent with our prediction in H1a.

### Study 1 Discussion

This first study demonstrates the effect of temporal distance frames in a retail shopping context. Results indicate that the effect of a temporally framed promotional message on product choice is moderated by a consumer's outcome-elaboration level. Consumers' varying propensities to elaborate on potential outcomes influence the choices they make across different temporal distance frames. Lower outcome-elaborators are more likely to choose the energy efficient option given the proximal (vs. distal) distance frame.

While this study examined the effect in a realistic retail shopping context and participants saw differences in the prices for energy efficient versus non-energy efficient products, a limitation is that they were not explicitly asked to consider the budgetary constraints that a typical retail shopper faces. Research has indicated that there is a gap in attitudes toward sustainable products and actual behavior regarding choosing sustainable products (e.g. Gleim et al. 2013; Hopkins 2009). Consumers may be interested in the energy efficient product, but when faced with constraints and tradeoffs, such as a higher price coupled with budgetary concerns, they may choose not to buy the energy efficient product. Given that Study 1 did not ask consumers to consider such tradeoffs, Study 2 examines

if the pattern found in the first study will extend to a context where consumers are constrained by budgetary concerns and have monetary consequences when choosing one product over another. In the second study, we examine the influence of giving participants a budget to consider and the possibility of receiving a certain amount of money back, depending on whether an energy or non-energy efficient product is chosen.

## Study 2

### Method

**Pilot test.** To enhance the generalizability of findings, the product evaluated for this study was a power strip/surge protector. Results of a pilot test, consisting of 32 student participants, confirmed that a power strip/surge protector is a relevant product to this sample population, as the mean relevance was significantly above the midpoint (4) on a 7-point scale ( $M = 5.32, t(31) = 5.67; p < .001$ ). In addition, 66% of participants indicated that they needed a power strip/surge protector, and 78% said that they thought they would buy one in the future.

**Procedures.** In this study we followed prior research incorporating a budget (Ding 2007; van Ittersum et al. 2013) to assess our predictions while providing participants with a more realistic spending situation (i.e., the consumer has a certain amount of money available to make their purchase and would have money remaining based on the product choice they made). In addition to choice, this study also considers effects on consumers' product attitudes (H1b). In the instructions a scenario was used to place participants in a shopping context that had them imagine that they had a specific budget to consider and were told that they would be entered into a raffle where if they won the prize they would receive money back and the product of their choice following the situation they were given (van Ittersum et al. 2013). As a part of the scenario, we also wanted to control for quality of the products because consumers may perceive an energy efficient product to be of higher quality. Given these concerns, the information provided indicated that the products were rated the same on quality. The scenario given to participants was as follows:

*Imagine that you are about to purchase a power strip. You have \$20 in cash to spend. You go to the nearest big box retailer to pick up this product. Below you see the products that you have to choose from. Look over the products carefully and decide which one you would choose if you were out shopping and had a budget of \$20. Given this situation, please make your choice.*

*Remember, you have a \$20 cash to use toward your purchase. If you choose the Colony Power Strip you will have \$4 in cash left over. If you choose the Rosewill Power Strip you will have \$8 in cash left over. Both power strips are similar on features. They have the same number of outlets and you check the quality of the products using your smartphone and find that both have a 4 (out of 5) star rating for quality.*

In order for consumers to take a budget seriously, the budget needs to be consequential in some way (Thaler 1999). To make participants decisions seem more impactful, past studies have given participants budgets and rewards based on the choices that are made (e.g., Tellis and Gaeth 1990) or have entered participants into a raffle for the product of their choice (e.g., Simonson and Tversky 1992). To incentivize participants to consider a budgeted amount when making choices other studies have awarded some participants with the products that they chose in the study, plus a residual monetary amount based on the choices made and their budget (e.g., Ding 2007; Ding, Grewal, and Liechty 2005; van Ittersum et al. 2013). Consistent with this literature, participants were entered into a raffle, and if they were a winner they received both the power strip they chose in the study and the remaining amount of money from the allocated budget. Four raffle winners were chosen. Participants were shown a picture of a mock retail store shelf with two options for the power strip that included shelf price tags for each product. One choice was an energy efficient power strip priced at \$16 and the other choice was a standard power strip priced at \$12.<sup>5</sup> Participants could discern which product was the energy efficient power strip and which was not from the product packaging that identified the energy efficient product as an “Energy Efficient Power Strip.”

The temporal frame was manipulated similar to the first study using a product message that described when money would be saved by using the product. The proximal (distal) message stated the following, “This Energy Efficient Power Strip can save you a significant amount on your electricity bill in just 1 month (3 years)! That will result in substantial savings in just 1 month (3 years)!”<sup>6</sup> The manipulation was randomly assigned to study participants who were recruited from business school classes to take part in the experiment. A total of 92 participants completed the study. The average age was 25 and 57% were female.

**Measures.** As in the first study, outcome-elaboration was measured using the same six-item generation/evaluation dimension of the elaboration on potential outcomes scale ( $\alpha = .90$ , Nenkov, Inman, and Hulland 2008). To assess product choice, participants were asked “Which product would you choose?” (Burton et al. 2015), with the choices being the Colony power strip (energy efficient power strip) or the non-energy efficient Rosewill power strip. Attitude toward the energy efficient power strip was measured using the following three-item scale: “What is your attitude toward the Colony power strip?” with bipolar endpoints of “negative-positive,” “unfavorable-favorable,” “bad-good” ( $\alpha = .93$ ).

<sup>5</sup> These prices are realistic prices for these types of products at the time of the study based on observed prices at local retail outlets.

<sup>6</sup> This message was pretested to ensure that the proximal frame induced a lower level construal and the distal frame induced a higher level construal. A two-item scale was used to measure construal level. The items asked participants if they were able to generate a mental picture of themselves shopping and whether their thoughts while making their choices were hazy and indistinct (reverse coded) (modified from Chandran and Menon 2004). Results indicated that the temporally distal condition induced more of an abstract mindset compared to the temporally proximal message that put participants into a more concrete mindset ( $b = .38, t = 2.20, p < .05$ ).

Several measures were included as potential control variables. To ensure that perceptions of product quality did not influence the results, we measured product quality for the Colony power strip using three-items with bipolar endpoints of “poor quality–good quality,” “an inferior product–a superior product,” “worse than average product–better than average product” ( $\alpha = .90$ ) (modified from Buchanan, Simmons, and Bickart (1999)). Given the budget condition included in this study, it also is possible that price consciousness affects consumer choice given that previous research has indicated that price conscious consumers are more likely to choose the less expensive item (van Ittersum et al. 2013) and providing a budget may enhance this effect. Thus, to control for any effect of price consciousness on the results, participants responded to three questions (“I usually buy consumer products when they are on sale.” “I buy the lowest priced brand that will suit my needs.” “When it comes to choosing most consumer products, I rely heavily on price.”). All price consciousness items were anchored by “strongly disagree” to “strongly agree” ( $\alpha = .74$ , Lichtenstein, Block, and Black 1988). In addition, given that the sample consisted of students, participants were asked whether they pay any portion of an electricity bill. For the manipulation check we tested the perceived timing of the product benefits, using the measure from the first study (Chandran and Menon 2004; Mogilner, Aaker, and Pennington 2008).

## Results

**Manipulation check.** As desired, analysis of variance results indicated that participants perceived the product benefits as occurring more in the distant future in the distal condition ( $M = 5.1$ ) compared to the proximal condition ( $M = 3.5$ ;  $F = 24.46, p < .001$ ).

**Interaction effect on choice and attitudes.** Consistent with the first study, we used logistic regression procedures to test the effect of the interaction on product choice (H1a) and linear regression was used to analyze effects on product attitudes (H1b). Product quality perceptions, price consciousness, and electrical bill paying status were entered as control variables. All predictor variables were mean centered for the analyses (Aiken and West 1991). For product choice, we found that there were no significant main effects ( $p$ 's  $> .50$ ), but as predicted there was a significant interaction between outcome-elaboration and the temporal frame condition ( $b = 1.02, Z = 2.02, p < .05$ ). Using spotlight and simple slope analysis procedures outlined by Hayes and Matthes (2009) to probe the logistic regression interaction (using one standard deviation above and one standard deviation below the mean of outcome-elaboration), we found the interaction was in the predicted direction (see Fig. 2). Consumers lower in outcome-elaboration were more likely to choose the energy efficient light bulb in the near temporal frame condition compared to the distal temporal frame condition ( $b = -1.81, Z = -2.18, p < .05$ ). Similar to the first study, there was no effect of the temporal frame on choice for those higher in outcome-elaboration ( $b = .50, Z = .72, p > .20$ ).

For attitude toward the energy efficient product, we found a pattern of results similar to that for product choice. There were

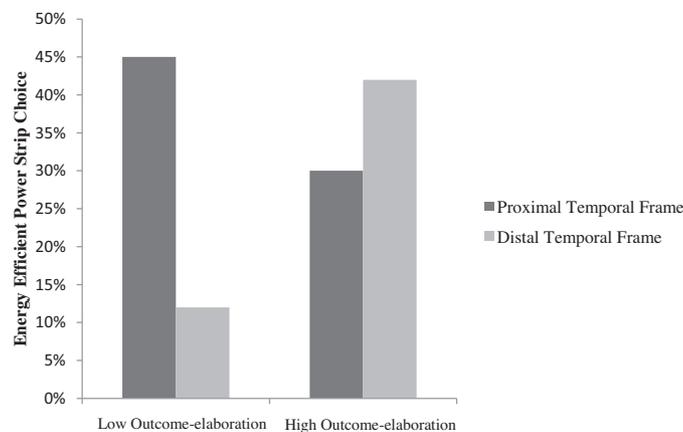


Fig. 2. Study 2: interaction effect of temporal frame and elaboration on potential outcomes on energy efficient product choice

no direct effects of outcome-elaboration or temporal frame condition ( $p$ 's > .10). However, as predicted, there was a significant effect of the outcome-elaboration by temporal frame interaction ( $b = .46, t = 2.21, p < .05$ ). Simple slope analysis (Hayes and Matthes 2009) of the interaction indicates that low outcome-elaborators have more negative attitudes toward the product when the benefits are framed in the distant future compared to the near future ( $b = -.79, t = -2.46, p < .05$ ). For participants higher in outcome-elaboration attitudes did not differ across the temporal frames ( $b = .19, t = .62, p > .20$ ).

### Study 2 Discussion

Study 2 confirms that the predicted interaction between the temporal distance manipulation and a consumer's outcome-elaboration extends to a context in which there is a budgetary limitation and a choice that involves tradeoffs. In addition, the results extend to a different type of energy efficient product, a power strip, enhancing the generalizability of the moderated effect.<sup>7</sup> The first two studies focused on consumers making their decisions in retail shopping context using a realistic retail setting (Study 1) and providing the consumer with a budget and consequential tradeoffs for their product choice (Study 2). In Study 3, we seek to determine if a very different manipulation of distance will have similar effects. Of particular relevance to marketers are manipulations regarding different consumer contexts. It is worthwhile for marketers to understand if consumers will have differing responses to a product choice task based on the specific consumer situation. In particular, retailers and advertisers would

<sup>7</sup> While our interest across these three studies focuses on energy efficiency, the theory suggests that the predicted moderated effects could also extend beyond energy efficient products. We assessed if the interaction between the temporal distance manipulation and a consumer's outcome-elaboration would extend to a non-energy efficient product (a printer that could save money by reducing the amount of toner used). Employing a design similar to Study 1 and using a non-student sample, the focal interaction ( $p < .05$ ) and pattern of the interaction again emerged, suggesting that the effect extends beyond just products that are positioned as energy efficient. Specific results for this additional study are available upon request.

benefit from knowing if consumers are likely to have different responses to products depending on whether consumers evaluate a product based on an advertisement (i.e., a more distal context) or if consumers are evaluating a product at the retail shelf (i.e., a more proximal context). To address this issue, the third study examines effects of psychological distance through manipulations of the situational context (an ad consumer context vs. a retail shelf environment). Thus, Study 3 seeks to demonstrate that different consumer contexts can influence perceptions of psychological distance and to extend the findings regarding the moderating effect of outcome-elaboration on choice.

### Study 3: Retail Versus Ad-based Evaluation

Many consumer experiments have addressed reactions in an ad-exposure context in which the consequence of any product or promotional evaluation occurs at some ambiguous point in the future and is detached from the more concrete task that occurs in a retail store shopping environment. The impact and recent focus on shopper marketing (e.g., Ailawadi et al. 2009; Bell, Corsten, and Knox 2011; Inman, Winer, and Ferraro 2009; Newman, Howlett, and Burton 2014; Shankar et al. 2011; Stilley, Inman, and Wakefield 2010) reflects the importance of the differences between consumer responses at the retail shelf compared to other environments. Shopper marketing concerns consumer responses when they are in a shopping mode and likely to take on a different role as an active shopper compared to when they are not at the retail outlet (Shankar et al. 2011). Shopper marketing implies that consumers may act differently in one role (e.g., evaluating an advertisement and making a choice at that point in time) versus another role (e.g., the active shopper making a choice at the retail shelf).

In addition to the shopper marketing literature, other research suggests that consumers may have different responses across consumer contexts. For example, Lee and Ariely (2006) examined the influence of phases of shopping on consumer construal and found differences between consumers who were in different stages of their shopping. Similarly, consumers are in different stages in their decision making when they are in an ad-based context versus an in-store shopping context. In the more abstract ad-exposure context (i.e., it is away from the specific point where alternatives are evaluated), a psychologically distant construal becomes more likely. In contrast, a retail shelf environment that typically includes packaging, price, and a need for immediate choices, creates a more concrete construal which is related to the specific choice task at hand.

Although our first two studies focused on temporal distance, this study extends the results by examining how different consumer contexts influence perceptions of psychological distance. Previous research has indicated that there are fairly consistent effects for various manipulations of psychological distance (e.g., Bar-Anan et al. 2007; Fiedler et al. 2012). For example, Bar-Anan et al. (2007) found that respondents were more likely to quickly classify words that were congruent with a psychological distance dimension (e.g., proximal stimuli with proximal words) compared to words that differed (e.g., proximal stimuli with distal words) in terms of psychological distance. In

addition, Fiedler et al. (2012) had participants think of different social behaviors and then had them evaluate the social behaviors in terms of the various psychological distance dimensions. They found that the ratings for different dimensions of psychological distance were all highly correlated, indicating that participants responded to these various types of psychological distance similarly. Given consistent findings across psychological distance dimensions and manipulations, we believe that the results should extend to critical consumer contexts (i.e., ad vs. retail shelf context) important both to CPG marketers and retailers. More importantly, given that consumers should respond similarly to different forms of psychological distance, consumers' perceptions of temporal distance should be influenced by the context manipulation, such that consumers should feel that their decisions are more distant in the ad-based context compared to the retail shopping context.

Considering research on psychological distance at different stages in the shopping process combined with the shopper marketing precept that consumers take on a different role in the active process of shopping, we predict that the consumer context will influence perceptions of distance associated with when actual choices will occur and influence perceptions of psychological distance via their construal level. Specifically, in the ad-based context, consumers will be more likely to construe the timing of the choice as occurring in the more distant future and be in a more abstract mindset. Conversely, in the retail shelf shopping context consumers will be more likely to construe the timing of their choice as occurring more proximally and will be in a more concrete mindset (H2). In addition, we predict that the effect of the ad versus retail shelf shopping context will interact with outcome-elaboration in a manner similar to the temporal distance framing manipulation presented in the first two studies. As found with the past literature (e.g., Nenkov, Inman, and Hulland 2008), low outcome-elaborators are more strongly influenced by context effects and are less likely to elaborate on potential outcomes, while the opposite is true for high elaborators. Thus, we believe that the low outcome-elaborators will be more strongly influenced by the felt distance of the situation and will be more influenced by the savings message in the proximal retail situation because the ad-based context should feel more distal. This will result in a greater likelihood of choosing the energy efficient product. Specifically, the choice of an energy efficient product will be influenced by the different context (i.e., advertisement vs. retail shelf) for consumers lower in outcome-elaboration, while those higher in outcome-elaboration will be less influenced by the consumer context (H3).

**H2.** Compared to consumers in the retail shelf shopping context, consumers in the ad-based context will (a) construe the timing of their purchase as more distant and (b) think more abstractly.

**H3.** Consumers lower in outcome-elaboration will be more likely to choose an energy efficient product over a less energy efficient product when presented with a retail shelf compared to the ad-based context. The effect on choice is attenuated for consumers higher in outcome-elaboration.

## Method

In a web-based experiment, participants were randomly assigned to one of two consumer context conditions: an advertising-based condition or a retail shelf condition. In the ad condition, participants were shown an advertisement with the following message: "Think before you buy. By buying and using energy efficient products you can save a significant amount on your electricity bills. Just think of the savings on your electricity bills!" The bottom of the ad stated, "Approximately 75% of consumers have stated that when buying new electronic products, they seek out energy efficient products. Don't be left out!"

Participants in the retail shelf condition were initially presented with a realistic visual of a retail shopping aisle that included light bulbs along with various other filler products. Next, they were presented with a close-up picture of the light bulbs on the retail shelves. One of the light bulb options had promotional signage next to it that described a message similar to the one used in the advertisement. The sign stated "Bright Effects can save you a significant amount on your electricity bills. Just think of the savings on your electricity bills!" The bottom of the sign presented the same message shown in the bottom of the ad ("Approximately 75% of consumers have stated that when buying new electronic products, they seek out energy efficient products. Don't be left out!"). Both the ad and retail shopping conditions presented participants with the same benefit information. Thus, the only difference was that participants were exposed to the promotional message either in an ad-based context or using shelf signage in the retail shelf context. A total of sixty-eight undergraduate students (mean age = 22) participated in the study in exchange for course credit.

The six item evaluative dimension of the EPO scale (Nenkov, Inman, and Hulland 2008) was again used to measure participants' outcome-elaboration ( $\alpha = .92$ ). To assess choice, participants were asked to select the light bulb they would purchase by selecting the product of their choice (1 = energy efficient light bulb, 0 = less energy efficient light bulb). To measure perceptions of when they would buy the product a two-item scale was created. Participants were asked "How soon do you think you will buy energy efficient products" with bipolar endpoints of "today" to "sometime over the next year" and "in the near future" to "in the distant future" ( $r = .63$ ). To assess construal level based on feeling of concreteness or abstractness, we asked participants the degree to which they were able to generate a mental picture of themselves shopping for the product, and if their thoughts regarding the product were hazy and indistinct (reverse-coded) (Chandran and Menon 2004).

## Results

*Perception of purchase timing and construal level.* We initially examined if the different conditions influenced consumers' perceptions of purchase timing and concrete/abstract construal levels. We expected consumers to perceive the timing of their purchase as more proximal and think more concretely in the retail shelf context and perceive the timing of their purchase as more distal and think more abstractly in the ad-based context.

We performed regression analyses with the context condition, outcome-elaboration, and the context condition by outcome-elaboration interaction. All terms were mean centered prior to computing the interaction (Aiken and West 1991). The retail shelf condition was coded as a ‘-1’ and the ad condition was coded as a ‘1.’ As predicted, there was an influence of the context condition on timing perception ( $b = .83, t = 2.31, p < .05$ ) and construal level ( $b = -4.57, t = -3.10, p < .01$ ), such that those participants in the retail shelf condition perceived their purchase decision as occurring in the more proximal future and thought more concretely compared to those in the ad-based context condition. There was a marginally significant interaction between outcome-elaboration and the context condition for perceptions of timing ( $b = -.66, t = -1.74, p = .09$ ) and no significant interaction for construal level ( $b = -.02, t = -.06, p > .50$ ). Thus, these initial findings indicate that the ad versus retail shelf context influenced perception of purchase timing and the abstract versus concrete construal, and there was not a significant moderating effect of outcome-elaboration. These results support H2.<sup>8</sup>

**Product choice.** To test the role of outcome-elaboration on the ad-based versus retail contextual conditions on product choice (H3) logistic regression was performed. First, the results indicate that consumers higher in outcome elaboration were more likely to choose the energy efficient option compared to those lower in outcome elaboration ( $b = 1.13, Z = 2.14, p < .05$ ). There was a marginal effect for the predicted interaction ( $b = 9.76, Z = 1.84, p = .065$ ). Given our specific H3 prediction, we further examined the interaction using spotlight analysis with simple slopes tests (Hayes and Matthes 2009). Examining results using one standard deviation above and below the mean of outcome-elaboration finds that those lower in outcome-elaboration were more likely to choose the energy efficient product in the (more proximal) retail shopping context, as compared to the (more distal) ad-based context ( $b = -13.12, Z = -1.73, p < .05$ ).<sup>9</sup> For those higher in outcome elaboration the difference in choice was reduced and did not reach a significant level ( $b = 6.72, Z = 1.29, p > .10$ ). The pattern for the psychological distance by outcome-elaboration interaction, shown in Fig. 3, is similar to the pattern observed in the first two studies.

### Study 3 Discussion

Study 3 extends findings of the first two studies by demonstrating there is an outcome-elaboration by consumer context interaction using two very different situational marketing contexts for the distance manipulation. Findings suggest that the ad versus retail shelf context with which consumers are presented can make a significant difference in how they respond to identical marketing claims. The results from this experiment indicate consumers are more likely to think in a more proximal, concrete construal in a retail shelf shopping context compared to

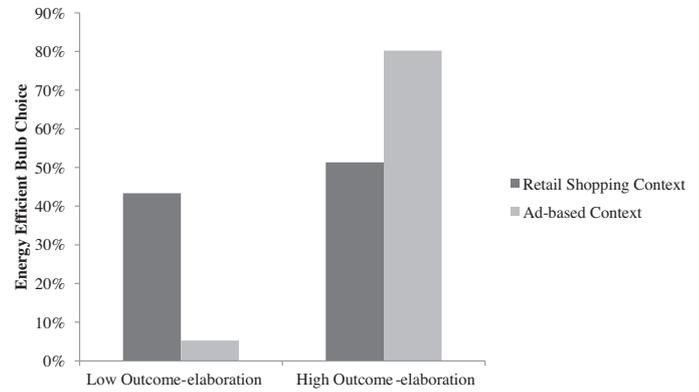


Fig. 3. Study 3: interaction effect of distance context (ad vs. retail shelf) and elaboration on potential outcomes on energy efficient product choice.

an ad evaluation context. These findings confirm that different marketing contexts influence consumers’ perceptions of psychological distance and therefore influence how they respond to identical promotion messages. The findings that consumers think in a more abstract construal when viewing an advertisement is generally consistent with literature that indicates that consumers think more abstractly when evaluating an online-only retailer compared to a retailer that has a local store (Benedicktus 2008). Of primary relevance to our predictions, we found that consumers lower in outcome-elaboration are more likely to choose the energy efficient product in the retail shelf condition compared to the ad condition. Similarly, consumers lower in outcome-elaboration perceive the action timing as related to the contextual condition. However, consistent with predictions, there is no difference in bulb choice for those who are higher in outcome-elaboration across the contextual conditions.

### General Discussion

There are substantial efforts being made by major retailers (e.g., Walmart, Target, Home Depot) and CPG manufacturers (e.g., P&G, Unilever, GE) to provide consumers with more sustainable products, and there is a strong emphasis on energy efficiency (Elks 2013; Walsh 2014). Given this concern and its importance to future generations of consumers (Kotler 2011), we examined effects on consumer choices for energy saving products in three experiments. We assessed the moderating role of consumers’ elaboration on potential outcomes on psychological distance effects through temporal framing in a promotional message and through manipulations of consumer choice contexts (ad vs. retail shopping contexts). Our results extend the literature regarding the different dimensions of temporal and psychological distance across consumers who have different propensities to elaborate on potential outcomes. Examining consumer outcome-elaboration levels is of particular interest because the combination of distance effects and outcome-elaboration have not been directly linked to choices of products with future benefits such as energy conservation products, or sustainable products in general. Findings should be of interest to retailers, product marketers, and NGO’s interested in sustainable development. The studies show that consumer elaboration

<sup>8</sup> Self-report involvement in the task was measured and we found that there was no difference in involvement levels across the retail/ad based contexts ( $p > .90$ ) or across levels of EPO ( $p > .50$ ).

<sup>9</sup> Given the specific directional prediction, we have used a one-tailed test.

levels can play an important role in product choice, particularly for energy efficient alternatives.

### *Overview of Findings and Implications for Theory*

We demonstrate that consumers who are lower in outcome-elaboration are more strongly influenced by the temporal framing of the product message, as compared to consumers who are higher in outcome-elaboration. Specifically, lower elaborators are more likely to choose the energy efficient product when primed with a proximal message frame compared to a distal frame describing when money will be saved through use of the product. Given the research on elaboration levels, we predicted there would be little difference for higher outcome-elaborators because they are able to more easily consider distal, as well as proximal, outcomes and are more stable in their behaviors across different contexts (Nenkov et al. 2009). In sum, while higher outcome-elaborators can appreciate long-term benefits, there seems little reason to believe they would be negatively biased or fail to consider the near-term benefits, and our results across the studies support this rationale. Given concerns regarding an attitude and behavior gap when considering consumers' purchases of potentially more expensive sustainable products (e.g., Gleim et al. 2013; Hopkins 2009), our second study included a budgetary constraint with actual consequences. Study 2 results indicate that the predicted interaction effect is found again, even when consumers are presented with real budgetary constraints and tradeoffs.

In Study 3 we tested the effect of elaboration-outcome levels and distance by using a different manipulation of psychological distance that is highly relevant to retailers and marketers in general. Participants were exposed to an identical promotion message in either an ad-based context or a retail shelf shopping context that described the savings consumers could receive from using energy efficient light bulbs. Participants were in a less concrete (i.e., more distal) mindset in the ad-based context compared to the retail shelf context. Thus, this study demonstrates another dimension of psychological distance which relates to the context that a consumer is in at the time of evaluation, a finding of particular interest to retailers and shopper marketing. While this study focused on the differences between the ad and retail context, the presentation of promotion messaging online may also be perceived as greater in perceived distance than the retail shelf, and examinations of these potential differences may offer further implications for theory and for retailers. Our current findings add to the psychological distance literature by demonstrating an effect beyond the traditional four dimensions of psychological distance cited in prior literature (Trope and Liberman 2010), and the online environment offers opportunities for consideration of an additional consumer context for retailers and marketers to consider regarding how to frame product messages.

### *Implications for Marketers and Retailers and Increasing Consumers' Sustainable Choices*

Recent interest has focused on determining how to encourage consumers to partake in behaviors that provide future benefits,

in particular sustainable behaviors (e.g., White and Simpson 2013). Research has indicated that many messages encouraging environmental consumer behavior may not be effectively reaching large segments of consumers (Kronrod, Grinstein, Wathieu 2012). Marketers need to refine their promotional efforts to bridge the gap between consumer attitudes and behavior in order to persuade consumers to use products that can provide future benefits for sustainable consumption, such as energy efficient products. Given this need, we examined the influence of the framing of product benefits across different distance conditions in product choice situations. Our studies provide insight to motivating consumers' to use energy efficient products even when given budgetary constraints. This suggests benefits both for consumers and society at large. Our results also are potentially relevant not only for energy efficient products, but any products that provide future benefits.

Across the dependent variables, results consistently indicate that low outcome-elaborators are more susceptible to context effects, which suggests that it should be easier to influence their perceptions and behavior. This is a promising finding, particularly as it relates to outcomes such as consumer choices, because it indicates that it may be relatively easier to persuade this group of consumers given some type of intervention. This potentially is important for both long-term personal and societal welfare. For example, as can be seen in the interaction plots (e.g., Fig. 1), choices for an energy efficient product for consumers higher in outcome-elaboration are relatively strong and do not vary significantly based on psychological distance. The greatest opportunity to increase energy efficient choices lies with changes in the psychological distance context for those lower in outcome-elaboration. Changing to a more proximal context positively influences choices for lower outcome-elaborators, yet across studies the more proximal versus distal context leads to no influence for higher outcome-elaborators. The proximal distance manipulation in Studies 1 and 2 drives choices for these lower outcome-elaborators up to a level similar to (or somewhat greater than) the higher outcome-elaborators. Thus, while it might be expected that consumers prone to elaborating on outcomes are the most natural segment for products with longer-term benefits, changes in psychological distance framing can positively affect choices even for those less prone to elaborate on potential future outcomes. Given that the greatest opportunity for behavioral change is with the lower elaborators, retailers should try to target lower elaborators by emphasizing immediate product benefits and by making the products prominently displayed in the store so that they attract attention of lower elaborators who may not be seeking out these types of products. Additionally, if retailers are able to gather EPO information along with other data gathered for frequent shopper programs, they could send appropriate targeted messages. If promotional messages are not presented near the point of purchase, then proximally framed messages would seem best to capture the most consumers, comprised of both higher and lower outcome-elaborators.

Study 3 results show that choice decisions may also depend upon the consumer context. Findings demonstrate that lower outcome-elaborators are more likely to choose an energy efficient product in a retail shelf (vs. ad-based) context. This shows

how an invariant promotional message may lead to different choices in a retail versus ad-based context, for certain segments of consumers. This clearly has potential implications for retailers and CPG manufacturers involved in shopper marketing and for the effects on the choices made in a retail setting compared to advertising identical products available at a retail location. Results suggest that when attempting to persuade consumers to make more energy efficient purchases, it may be important to attempt to push lower outcome-elaborators into more of a higher outcome-elaboration mindset when advertising those products. Thus, advertisements might want to slightly differ the framing of the message compared to the product packaging that is viewed at the point of purchase, given that consumers will have different distance perceptions that can influence how they respond to products.

### Future Research

We chose to focus on energy efficient products in part because of the recent interest and legislation in this area and the impact that energy efficient products can have on sustainability and the impact they can have on consumers in terms of lower energy bills. In addition, these products are of importance to a range of retailers and marketers. Although these studies focus on energy efficient products, there are a number of products that have primary benefits and outcomes that generally are perceived as occurring in the future, such as other 'green' products and those that broadly benefit consumer well-being and health, such as sunscreen, exercising, retirement accounts, insurance, and foods lower in calories, saturated fat, and sugar. Thus, in addition to the printer/toner study briefly noted in footnote 7, other future studies may examine if results extend to other diverse category contexts and to different types of future benefits. Research also has indicated that online only retailers can lead consumers to feel more distant from the retailer (Benedicktus 2008); therefore, combining differing product categories with future benefits with an examination of the retail *shelf* versus *online* environment contexts offers an opportunity for research with broad implications for marketers and retailers. Given that retailers may want to focus their attention on influencing lower elaborators, conducting a field study that manipulates message timeframe and its level of prominence would give further insight on how to more effectively target lower elaborators.

Prospect theory (Kahneman and Tversky 1979) has demonstrated that consumers respond differently to losses versus gains. Here, we focus on product benefits, but it would be of interest to examine outcome-elaboration and distance framing of messages focusing on the negative effects of *not* using the product that may occur over differing periods of time. When examining negative outcomes, considering the other dimensions of the EPO scale that measure consumers' propensity to elaborate on either negative or positive outcomes would seem beneficial. In addition, research could address effects across other psychological distance dimensions. For example, many products that have near or distant benefits may have probabilities associated with possible outcomes. Examining outcome probability framing, such as the probability of saving \$100 in a year, or the likelihood

of improving health, losing weight, and so forth, as a factor influencing psychological distance effects (Todorov, Goren, and Trope 2007) would be of interest for products with possible future, yet uncertain, outcomes.

Given the pattern of findings, the ability to manipulate consumers' outcome-elaboration may be particularly relevant to retailers and manufacturers. Previous research has manipulated consumers' outcome-elaboration by priming a deliberative mindset (Gollwitzer, Heckhausen, Steller 1990) through asking participants to consider possible negative and positive outcomes from their behavior (Nenkov, Inman, and Hulland 2008). If outcome-elaboration can be manipulated through a deliberative mindset, future research may examine if specific persuasive messages developed by retailers and product manufacturers can affect choices through priming a deliberate mindset.

### Conclusions

Across three studies we find that a consumer's propensity to elaborate on potential outcomes moderates the effect of psychological distance manipulations on choice of an energy efficient product. Consumers who elaborate more are influenced less by the distance manipulations presented in these studies, while consumers who elaborate less are more strongly influenced by distance. In particular, this research gives retailers initial insight on how to more effectively target and influence lower elaborators to change their choice behavior by focusing on the proximal benefits from choosing and using a product. These studies find robust results across different distance manipulations including comparing different consumer contexts, such as retail and advertising contexts. This research is of particular relevance for retailers, manufacturers of products that may have possible distant benefits, and to consumer welfare advocates and NGO's interested in promoting the use of products that are beneficial to consumers and society in the long run.

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