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Ali Faraji-Rad, Shiri Melumad, Gita Venkataramani Johar

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Consumer Desire for Control as a Barrier to New Product Adoption

Ali Faraji-Rad

Nanyang Technological University, Singapore

Shiri Melumad

Gita Venkataramani Johar

Columbia University, USA

Author Note

Ali Faraji-Rad, Nanyang Business School and Institute on Asian Consumer Insight, Nanyang Technological University, 50 Nanyang Avenue, Singapore 639672. Shiri Melumad and Gita V. Johar, Graduate School of Business, Columbia University, 3022 Broadway, New York, NY, 10027, USA. The research was supported by a grant from Institute on Asian Consumer Insight, Nanyang Technological University, Singapore and the Columbia Business School Research Fund. Correspondence may be addressed to Ali Faraji-Rad, Nanyang Technological University (afaraji-rad@ntu.edu.sg).

Abstract

This research examines the relationship between desire for control and acceptance of new products. We hypothesize that desire for control—the need to personally control outcomes in one’s life—acts as a barrier to new product acceptance. Three experiments provide support for this hypothesis. This effect holds when desire for control is high as a dispositional trait (Studies 1 and 3) and when it is situationally induced (Study 2). We also identify an intervention to increase new product acceptance based on the idea that new products threaten one’s sense of control. Specifically, framing new products as potentially increasing one’s sense of control increases acceptance of new products by those high in desire for control (Study 3). This finding offers some evidence for the underlying process and helps guide managerial actions.

Desire for control is an innate motive or need to personally exert control over one's surrounding environment and to produce desired results (Leotti, Iyengar, & Ochsner, 2010; Kelly, 1955). This desire has been identified as a fundamental motivator of people's decisions and behaviors (Higgins, 2012; Leotti et al., 2010; Miller, 1979). Individual dispositions and situational factors can influence the degree to which a person desires control. A natural corollary of desire for control is that the more people desire control, the more likely they are to avoid situations that require relinquishing control (Burger, 1992; Hui & Bateson, 1991).

In a consumption context, higher desire for control has been shown to increase consumers' preference for larger assortment sizes (Inesi et al., 2011), "lucky" products (Hamerman & Johar, 2013), and high-effort products (Cutright & Samper, 2014). In this research we examine whether desire for control influences one other important type of consumption decision, namely the willingness to accept new (vs. traditional) products (Gourville, 2006). The term "new products" refers to any product that is perceived as novel or unfamiliar by an individual consumer. We posit that consumers perceive a loss of control associated with the potential consumption of a new product. As a result, we hypothesize that high desire for control acts as a barrier to the acceptance of new (vs. traditional) products. We further propose that this obstacle to new product acceptance can be overcome by framing new products as having the capacity to increase one's sense of control.

Desire for Control and New Product Acceptance

Firms spend billions of dollars developing and marketing new products. Nevertheless, new products face persistently high failure rates. Over the past few decades, 40% to 90% of new products across different product categories have failed (Castellion & Markham, 2013; Dillon & Lafley, 2011; Ernest & Young, 2011; Gourville, 2006). These odds have remained stable over

time, suggesting that transient factors such as the economic climate cannot fully account for such high failure rates (Gatignon & Robertson, 1989; Mukherjee & Hoyer, 2001). Research has revealed that more stable, psychological factors can often act as barriers to new product acceptance. For example, consumers tend to be less accepting of a new product if they are unable to mentally simulate its use (Zhao, Hoeffler, & Dahl, 2009), or if it is incongruent with consumers' extant product category schemas (Jhang, Grant, & Campbell, 2012).

We identify another potential psychological barrier to new product acceptance—the degree to which consumers desire control. As explained, desire for control is the need to *personally* exert control over one's surrounding environment. Both dispositional and situational factors can influence individuals' desire for control. Individual differences in desire for control can be reliably measured (Burger & Cooper, 1979). Prior work has shown that when situational factors reduce people's sense of control, a drive state is created that momentarily increases the desire for control (Cutright & Samper, 2014; Kay et al., 2009). The desire for control construct is distinct from risk aversion, which is defined as the likelihood of engaging in risky activities or decisions (Blais & Weber, 2006; Hammond & Horswill, 2001; Skinner, 1996; Woodward & Wallston, 1987). Desire for control is also different from locus of control, which is one's *belief* about whether events are controlled by external sources (i.e., luck, higher power) or the self (Rotter, 1966). Locus of control does not necessarily capture one's *desire* to personally control those events. Self-efficacy is one's belief in one's *ability* to influence events (regardless of whether one desires to personally control these events) (Bandura, 1977). Need for cognitive closure is the need to find an answer to end information processing specifically (Roets & Van Hiel, 2011). Therefore, desire for control is conceptually distinct from self-efficacy and need for cognitive closure as well.

Although we focus on documenting the effect of desire for control on acceptance of new products, we speculate that two complementary explanations might account for this effect. First, using a new product may entail changing prior routines or behaviors (e.g. Hoeffler, 2003), thereby reducing one's sense of mastery and control over the external environment (Skinner, 1996). As a result, consumers with higher desire for control may be less accepting of new products. Relatedly, new products are also often incongruent with consumers' prior cognitive categories or schemas (Jhang et al., 2012). Products that do not fit preexisting cognitive categories are harder to make sense of and cause more uncertainty (Jhang et al., 2012; Kagan, 1972), resulting in a lower sense of control over the environment. In sum, given that new products could pose a threat to one's perceived sense of control, we propose that consumers with higher desire for control will be less likely to accept new (vs. traditional) products. In contrast, a perceived threat to control posed by new (vs. traditional) products should not impact acceptance among consumers with lower desire for control. We test these hypotheses in our studies. If people with high desire for control are less willing to accept a new product because it threatens their sense of control, then framing the product as one that increases a sense of control should attenuate this effect. This finding would also provide process support for our proposed explanation. We test this proposition in Study 3.

Study 1

The purpose of Study 1 was to provide an initial test of the hypothesis that higher levels of trait desire for control are associated with lower rates of acceptance of new (vs. traditional) products.

Participants and Method

Two hundred and sixty four MTurk participants ($M_{Age} = 35.37$, $SD = 12.49$, 54.2% females) were randomly assigned to either the new-product or the traditional-product condition. At the start of the session participants completed Burger and Cooper's (1979) Desirability of Control scale, which is the most widely used measure of desire for control (see Appendix I). Then they completed a filler task consisting of over 50 additional personality items (Vallacher & Wegner, 1989; Singelis, 1994). All participants were then presented with information about a product – toothpaste – that consisted of a headline and four bullet-pointed pieces of information. Three of these bullet-points were held constant across conditions (minty taste, non-fluoride, animal-friendly development processes). In the new-product condition, the headline read “The New Formula Toothpaste,” and the first bullet-point described the toothpaste as keeping teeth white with a *new* whitening formula. In the traditional-product condition the headline read “The Classic Formula Toothpaste,” and the first bullet-point described the toothpaste as keeping teeth white with a *classic* whitening formula. A separate pretest confirmed that the manipulation influences the product's perceived newness and familiarity as expected, but does not impact its perceived quality or status, or feelings of disgust. Details of this pretest, as well as subsequent pretests, are presented in the technical appendix.

As a measure of acceptance of the product, participants indicated whether they would consider buying the toothpaste on a dichotomous “yes” (coded 1) versus “no” (coded 0) scale. Participants were also asked whether they could guess the purpose of the study, which none of them were able to do.

Results and Discussion

A logistic regression with condition (-1: traditional; 1: new), desire for control (mean-centered), and their interaction as predictors indicated greater willingness to buy the traditional

product than the new product ($\beta = -0.366$, Wald $\chi^2(1) = 4.48$, $p = .034$). Importantly, this main effect was moderated by desire for control ($\beta = -0.580$, Wald $\chi^2(1) = 4.83$, $p = .028$). As shown in Figure 1, spotlight analysis revealed that, as predicted, among participants with higher desire for control (1 standard deviation above the mean), willingness to consider the new product was lower than that for the traditional product ($\beta = -0.742$, Wald $\chi^2(1) = 9.76$, $p = .002$). In contrast, among participants with lower desire for control (1 standard deviation below the mean), newness of the product did not affect willingness ($\beta = -0.011$, Wald $\chi^2(1) = 0.002$, $p = .996$). Viewed from a different perspective, participants with higher desire for control reported lower willingness to buy the new product relative to participants with lower desire for control ($\beta = -0.917$, Wald $\chi^2(1) = 6.92$, $p = .009$). In contrast, participants with higher desire for control reported a similar willingness to buy the traditional product as participants with lower desire for control ($\beta = 0.244$, Wald $\chi^2(1) = 0.38$, $p = .538$). There was no main effect of desire for control (p -value = .203). These results provide initial evidence that higher desire for control is associated with lower willingness to accept new products.

Study 2

The purpose of Study 2 was to test whether findings from Study 1 would conceptually replicate if desire for control was manipulated rather than measured. This allows us to pin down the causal role of desire for control and rule out the alternative explanation that an unknown correlate of desire for control produced the results observed in Study 1.

Participants and Method

One hundred and twenty three MTurk participants ($M_{Age} = 37.39$, $SD = 13.49$, 48% females) were randomly assigned to either the high or the low desire for control condition. First, under the guise of a study aimed at compiling a database of people's daily experiences and

emotions, participants underwent the desire-for-control manipulation. Specifically, participants were given three minutes to recall and write about a situation in which they did not have control over their environment (high-desire-for-control condition) or a situation in which they had total control (low-desire-for-control condition). Consistent with the drive theory of motivation (e.g., Kay et al., 2009), we expected that recalling situations of not having (vs. having) control would create a high (vs. low) drive state for control, and thus would create a high (vs. low) desire for control. A pretest confirmed that the manipulation influences self-reported desire for control as expected and that it does not influence self-efficacy, need for cognitive closure, risk taking, or locus of control (see technical appendix).

Next, under the guise of an “unrelated” market research study about consumer preferences, participants were shown four pairs of potato-chip flavors and were asked to indicate which flavor in each pair they preferred. Each pair included one traditional flavor and one new flavor from Lay’s “Do Us a Flavor” marketing campaign. The pairs were “Traditional Cheddar and Sour Cream” versus “New New-York Reuben”, “Traditional Wavy Ranch” versus “New West Coast Truffle Fries”, “Traditional Kettle Cooked Sea Salt and Vinegar” versus “New Kettle Cooked Greektown Gyro”, and “Traditional Sour Cream Onion” versus “New Southern Biscuits and Gravy.” A pretest confirmed that the new flavors are perceived as newer and more unfamiliar than the traditional flavors but that the two flavor types do not differ in terms of perceived quality or status, or in eliciting disgust (see technical appendix).

At the end of the main study, to further verify that the new flavors were perceived as novel, participants were asked to indicate which of the eight flavors they had previously tried.

Results and Discussion

Preliminary analyses. As expected, participants reported having previously tried more of the traditional flavors ($M = 2.92$, $SD = 1.0$) than the new flavors ($M = 0.55$, $SD = 1.09$; $F(1,121) = 329.17$, $p < .001$) and these results did not differ across conditions ($F < 1$). The total number of new flavors chosen across conditions, which was the main dependent variable of interest, was not contingent on the particular pair of flavors presented ($F < 1$).

New product acceptance. The results of an ANOVA revealed that as predicted, participants in the high-desire-for-control condition chose fewer new flavors ($M = .97$, $SD = 1.06$) than those in the low-desire-for-control condition ($M = 1.53$, $SD = 1.36$; $F(1, 121) = 6.55$, $p = .012$). These results provide further causal support for the hypothesis that high desire for control acts as a barrier to new product acceptance.

Study 3

In the final study, participants evaluated a product that varied along two dimensions—its novelty (new vs. traditional) and its framing (control-increasing vs. control-reducing). In addition, participants' desire for control was measured during a separate, prior session. Based on our conceptualization that only new (vs. traditional) products threaten consumers' sense of control, a control-increasing frame should not improve product evaluations when the product is traditional. Further, consumers with a low desire for control are less averse to a threat to their sense of control in the first place. Therefore we expected a control-increasing (vs. control-reducing) frame to improve the evaluation of the product only when consumers have a high desire for control *and* the product is new. This predicted pattern of results implies a three-way interaction driven by a significant two-way interaction among those with higher (but not lower) desire for control. An additional purpose of Study 3 was to test whether the observed effects are specific to desire for control or whether they extend to other similar constructs such as need for

cognitive closure, self-efficacy, risk aversion and locus of control. We therefore measured these traits in addition to desire for control during the initial session, but expected the aforementioned three-way interaction to emerge only with desire for control.

Participants and Method

First Phase. Study 3 was conducted in two separate phases. In the first phase, 619 MTurk members were asked to complete the Desirability of Control scale (Burger & Cooper 1979) as well as the Need for Cognitive Closure (Roets & Van Hiel, 2011), the Self-Efficacy (Sherer et al., 1982), the DOSPERT (Weber et al., 2002) and the Locus of Control scales (Sapp & Harrod, 1993) (see Appendix II for correlations).

Second Phase. After at least two weeks, all respondents from the first phase were invited to participate in a “market research survey.” A total of 345 (56%) participants responded ($M_{Age} = 36.77$, $SD = 12.06$, 57.1% females). Participants were randomly assigned to the conditions of a 2 (product-type: new vs. traditional) \times 2 (framing: control-increasing vs. control-reducing) between-subjects design. Depending on the condition, participants were shown one of four possible advertisements for a smoothie product, which consisted of a headline and six bullet-pointed pieces of information. Five of the bullet-points were held constant across conditions and provided information such as “No fat,” “No preservatives,” etc. The first bullet point varied only across product-type conditions. In the new-product condition the bullet point read “A blend of five fruits and vegetables, distinguishable by a new smoothie taste that provides a new sensation for most customers.” In the traditional-product condition it read “A blend of five fruits and vegetables, distinguishable by a classic smoothie taste that provides a familiar sensation for most customers.” In addition, the headline of the advertisement varied across each of the four conditions. In the traditional-product condition, the control-increasing headline read “Take

Charge of Your Taste Buds with This Classic Blend,” whereas the control-reducing headline read “Let the Classic Blend Take Charge of Your Taste Buds.” In the new-product condition the phrase “Classic Blend” in the two headlines above was replaced with the phrase “New Sensation Blend.” A pretest confirmed that the new product is perceived as newer and more unfamiliar than the traditional product. The control-increasing frame increased participants’ perceived sense of control relative to the control-reducing frame. However, neither manipulation influenced perceived quality, status, or elicited disgust (see technical appendix).

After seeing this advertisement, participants in the main study reported the likelihood that they would buy the product (“1: very unlikely” to “7: very likely”), the favorability of their attitude towards the product (“1: completely unfavorable” to “7: completely favorable”), whether the product was a good choice for them (“1: very bad choice” to “7: very good choice”), and how much they liked the product (“1: dislike” to “7: like”). Responses to these four items were averaged to compute an overall product evaluation measure ($\alpha = .91$).

Results and Discussion

A regression analysis revealed no significant main effects of product-type (-1: traditional product; 1: new product), framing (-1: control-reducing frame; 1: control-increasing frame), or desire for control (mean-centered), and no significant two-way interactions on product evaluations (p -values $> .1$). In contrast, as expected the three-way interaction was significant ($\beta = .21$, $t(337) = 2.34$, $p = .02$). Spotlight analyses revealed a significant product-type \times framing interaction ($\beta = .19$, $t(337) = 2.31$, $p = .02$; Figure 2) among participants with high desire for control. Among participants with high desire for control, a control-increasing (vs. control-reducing) frame led to more favorable product evaluations when the product was new ($\beta = .31$, $t(337) = 2.77$, $p = .01$) but not when the product was traditional ($\beta = -.06$, $t(337) = -.51$, $p > .6$).

Among participants with low desire for control there was no product-type \times framing interaction effect ($\beta = -0.08$, $t(337) = -1.03$, $p > .3$).

We also ran a separate regression analysis (similar to the one above) for each of the other measured personality traits. These analyses did not reveal any similar significant three-way interactions (largest $\beta = .11$, $t(337) = 1.46$, $p = .15$ for Self-Efficacy). We additionally ran a regression analysis with desire for control while controlling for all other measured related variables. The product-type \times framing \times desire-for-control interaction remained significant ($\beta = .24$, $t(327) = 2.81$, $p = .005$). These results suggest that the effects observed across our studies are driven by people's desire for control in particular.

In sum, the results of Study 3 show that framing a new product as control-increasing can serve as an effective intervention for firms concerned with increasing new product acceptance among consumers with higher desire for control.

General Discussion

Across three studies we find evidence that desire for control can act as a psychological barrier to new product acceptance. Specifically, results from our studies show that when desire for control is high—as an individual trait as well as a situational state—consumers are less willing to accept new (vs. traditional) products. Study 3 shows that among consumers with high desire for control, framing a new product as control-increasing leads to more favorable evaluations than framing a new product as control-reducing. In other words, these results suggest that the barrier to new product acceptance posed by high levels of desire for control may be overcome by framing new products as control-increasing. At the same time, such framing does not affect new product evaluations among consumers lower in desire for control suggesting that the framing intervention may be an effective blanket intervention for innovative products

regardless of levels of desire for control in the market. An additional study not reported here for reasons of space also found results consistent with Study 3. This study, reported in the online technical appendix as Additional Study I, shows that framing new products as control-increasing, rather than novel, increases new product acceptance among consumers with high (vs. low) desire for control.

These findings are important for marketers concerned with the success of new product introductions, and stand in contrast to the conventional wisdom that marketers should emphasize the novelty of new products. Emphasizing the novelty of new products may be specifically problematic among consumers segments that are high in desire for control, which can be identified through aggregate level proxy measures. For example, prior research has shown that political conservatives are particularly likely to have higher desire for control and that this influences their consumption choices (Fernandes & Mandel, 2014). In addition, data that we have collected suggests cross-cultural differences in desire for control and acceptance of new products. We examined the two largest Asian markets—India and China—and found that Indian-born participants living in the United States reported higher levels of trait desire for control relative to Chinese-born participants. Consistent with the effects of desire for control on new product acceptance, a second study revealed that Chinese participants did not differ in their evaluations of a new (blk. brand) versus traditional (Voss brand) bottled water brand. However, Indian participants evaluated the new product less favorably than the traditional product, suggesting a lower willingness to accept new products. A third study found that students at a university in China were not sensitive to a control-increasing versus control-reducing framing of a new product (i.e. Cinnamon Altoids Mints, which were not available in India or China at the time). However, students in Indian universities evaluated the product more favorably if it was

advertised with a control-increasing (vs. control-reducing) frame (see Additional Study II in the online technical appendix). These results replicate the findings reported in this paper and provide preliminary evidence that Indian consumers have higher desire for control, and could therefore be less open to new products, than Chinese consumers. If this pattern of findings holds among larger representative samples in the two countries, then our conceptualization suggests that firms should use control-increasing frames when marketing new products in India and other markets with high desire for control.

This paper focuses on documenting the phenomenon and does not pin down its exact underlying mechanism. Results of Study 3 provide preliminary evidence for the suggestion that perceptions of loss of control caused by new products leads to the negative effect of desire for control on new product acceptance. The finding that the effect is attenuated when a sense of control is restored through framing supports this suggestion through a “moderation-of-process” design (Spencer, Zanna, & Fong, 2005). These results, however, do not elucidate *why* new products cause a sense of loss of control. We suggest two possible accounts. First, using new products may entail changing prior routines, which could thereby reduce one’s sense of mastery and control over the external environment. Second, new products may entail deviating from one’s prior cognitive categories or schemas, which could result in a sense of uncertainty about the external environment and a lower sense of control over it. Future research could empirically investigate why new products lead to a perceived loss of control. One direction may be to explore whether the effect differs across product categories. For example, based on our first speculative account, one may predict a stronger effect among product categories with very specific or hard-to-learn usage routines. On the other hand, based on the second account one may predict a stronger effect in product categories with well-established schemas (e.g., due to

extensive use, familiarity with the product, or experimental reinforcement of product schema through priming manipulations).

Future research could explore the boundaries of the effects as well. For example, the present research focused mainly on the novelty dimension of new products while holding other dimensions constant. However, new products often promise to provide additional benefits such as added functionality, better designs, etc. Further research could investigate whether the observed effects generalize to these contexts. It is possible that added functionalities of new products themselves create perceived control, thus attenuating the observed effect.

Our research also provides a theoretical contribution to the extant work on consumer control. Research has predominantly focused on compensatory consumption, or the ability of product choices and consumption experience to restore consumers' diminished sense of control (Cutright & Samper, 2014; Hamerman & Johar, 2013; Inesi et al., 2011). In contrast, our research suggests that the consumption experience in itself can sometimes *negatively* impact one's sense of control. Future research is needed to identify other product dimensions that can threaten consumers' sense of control so that effective interventions can be designed and implemented when marketing to consumers with high desire for control. Relatedly, it would be interesting to investigate whether product dimensions previously found to increase the sense of control would help mitigate the loss of control caused by product newness. For example, Hammerman and Johar's (2013) finding that lack of control increases preference for lucky products may suggest that high-desire-for-control consumers may no longer be averse to new products if the product is presented as a lucky product (e.g., its price consists of a lucky number). These ideas are important questions for future research on new product adoption, a key issue in marketing.

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Appendix I: The Items of the Desirability of Control Scale (Burger & Cooper, 1979)

1. I prefer a job where I have a lot of control over what I do and when I do it.
2. I enjoy political participation because I want to have as much of a say in running government as possible.
3. I try to avoid situations where someone else tells me what to do.
4. I would prefer to be a leader than a follower.
5. I enjoy being able to influence the actions of others.
6. Others usually know what is best for me. (R)*
7. I enjoy making my own decisions.
8. I enjoy having control over my own destiny.
9. I would rather someone else take over the leadership role when I'm involved in a group project. (R)
10. I consider myself to be generally more capable of handling situations than others are.
11. I'd rather run my own business and make my own mistakes than listen to someone else's orders.
12. A small unforeseen event can spoil everything, even with the best planning.
13. I like to get a good idea of what a job is all about before I begin.
14. When I see a problem, I prefer to do something about it rather than sit by and let it continue.
15. When it comes to orders, I would rather give them than receive them.
16. I wish I could push many of life's daily decisions off on someone else. (R)
17. When driving, I try to avoid putting myself in a situation where I could be hurt by another person's mistake.
18. I prefer to avoid situations where someone else has to tell me what it is I should be doing.
19. There are many situations in which I would prefer only one choice rather than having to make a decision. (R)
20. I like to wait and see if someone else is going to solve a problem so that I don't have to be bothered with it. (R)

* (R) = Reverse coded

Appendix II: Correlations Amongst Scales in Study 3

	NCC	SE	DOSPERT: E	DOSPERT: F	DOSPERT: HS	DOSPERT: S	DOSPERT: R	LC: I	LC: C	LC: P
DC ^a	.03	.47***	-.10*	.05	.03	.41***	.09*	.34***	-.18***	-.19***
NCC ^b	1	-.12***	.14***	.08	.02	-.01	-.08	.17***	.27***	.21***
SE ^c		1	-.43***	-.19***	-.28***	.22***	-.14**	.36***	-.48***	-.56***
DOSPERT ^d : E			1	.62***	.67***	.25***	.58***	.03	.45***	.47***
DOSPERT: F				1	.51***	.27***	.59***	.17***	.31***	.33***
DOSPERT: HS					1	.40***	.66***	.02	.25***	.26***
DOSPERT: S						1	.42***	.22***	-.05	-.03
DOSPERT: R							1	.15***	.20***	.20***
LC: I								1	-.15***	-.20***
LC: C									1	.71***
LC: P										1

^a Desirability of Control (Burger & Cooper, 1979)
^b Need for Cognitive Closure (Roets & Van Hiel, 2011)
^c Generalized Self Efficacy Scale (Sherer et al., 1982)
^d Domain Specific Risk Taking Scale (E: Ethical; F: Financial; HS: Health and Safety; R: Recreational; S: Social) (Weber et al., 2002)
^e Locus of Control (I: Internal; C: Chance; P: Powerful Others) (Levenson, 1974)

* p < .05, ** p < .01, *** p < .001

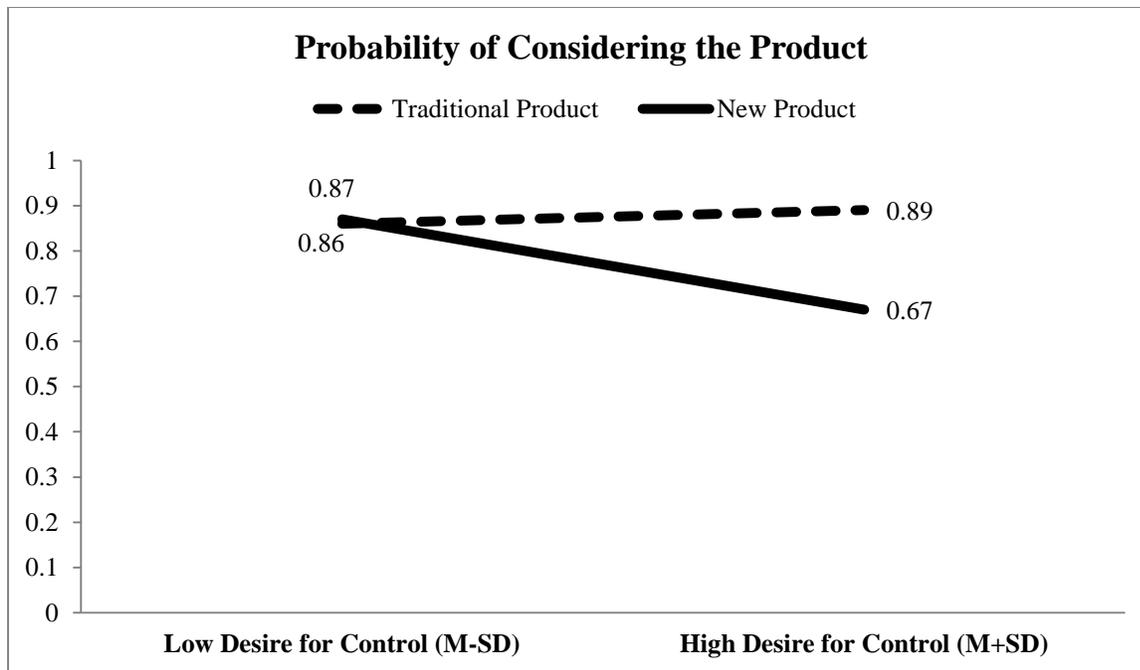


Figure 1. Results of Study 1: Probability of considering the toothpaste product as a function of desire for control and product type.

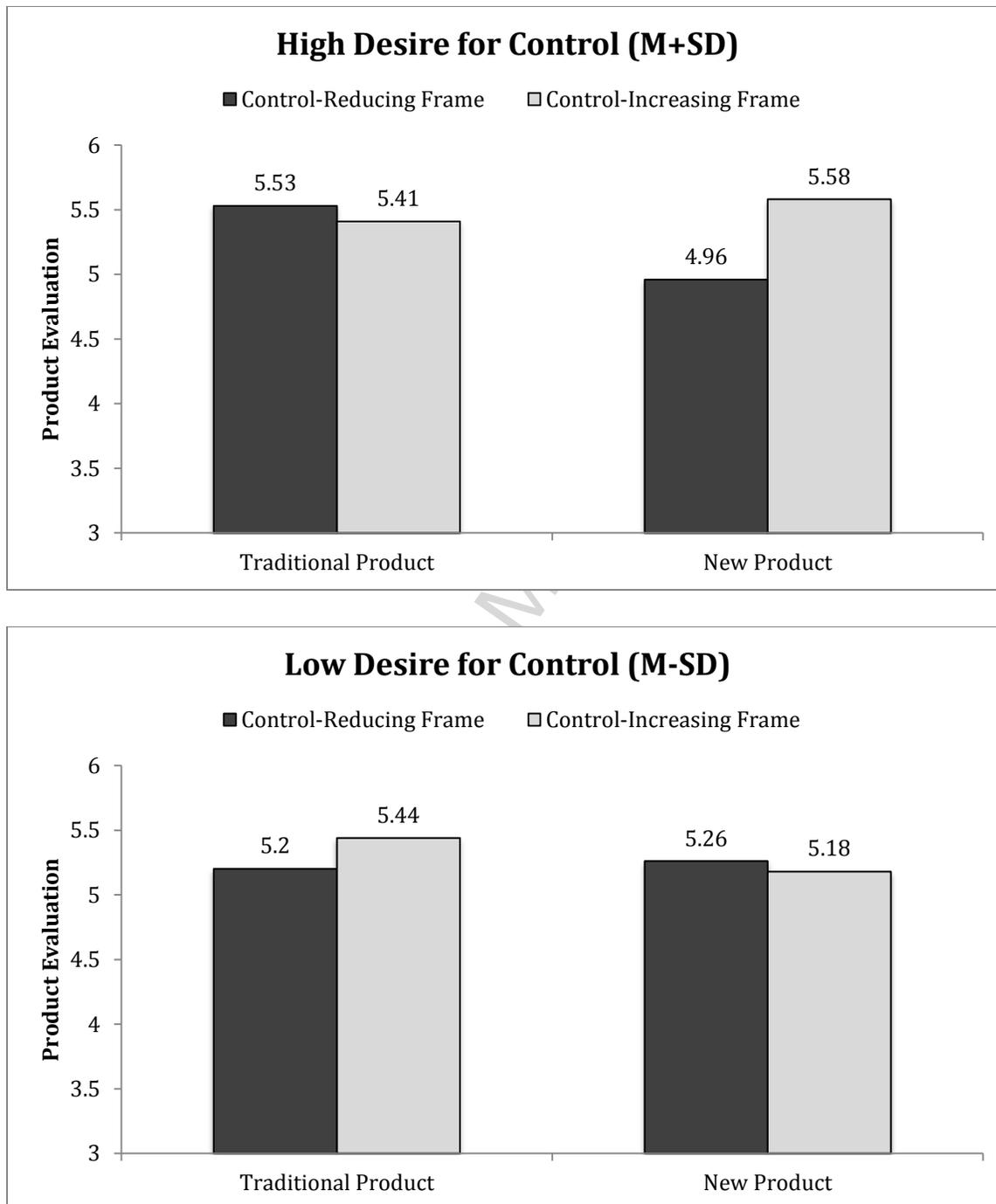


Figure 2. Results of Study 3: Product evaluation as a function of product framing, product type, and desire for control.