Less Choosing, More Doing! Procedural Control Inoculates Against the Allure of More Choice

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Abundant literature reports a preference for large over small assortments. We reveal that this preference for more choice is driven by a desire for control, and as a result, granting consumers procedural control through co-production eliminates the lure of large assortments. This interactive effect is mediated by perceived control.

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EXTENDED ABSTRACT

A sense of control is essential to humans. Manipulating things in the environment is an infant’s first step to self-awareness (Furby 1978) and mastering challenges through agentic behavior is key to feelings of competence (de Charms 1968; White 1959). Feeling in control is associated with virtually all aspects of well-being, from happiness to health (Lachman and Weaver 1998; Larson 1989), and one of the most robust psychological phenomena is people’s striving for a sense of control (de Charms 1986). Consumer research shows that control is also important for customer satisfaction. People like actively partaking in product assembly because it addresses their need for control (Norton, Mochon, and Ariely 2012). Other research hints that choosing may also provide consumers with control. When perceiving little control, people are motivated to make multiple distinct product choices (Levav and Zhu 2009), and it has been posited that being offered more choice options—that is, a larger assortment—can function as a substitute for power and, more broadly, control (Inesi et al. 2011).

We explicitly test the idea that the widely acknowledged consumer preference for large assortments (Arnold, Oum, and Tigert 1983; Chernev 2003, 2006; Iyengar and Lepper 2000; McAlister and Pessemier 1982) is driven by a desire to feel in control. Furthermore, I find that giving consumers control in a more immediate way—by providing procedural control through greater behavioral involvement—eliminates the preference for larger assortments.

Study 1

Study 1 tested the basic assumption that desire for control attracts consumers to large assortments of choice options. If desire for control is a key driver, then states of low personal control should enhance people’s preference for large assortments.

Method

One hundred and sixty business undergraduate lab participants (38.1% women) were induced with a sense of high or low personal control via a pre-tested fluency manipulation. Specifically, participants generated few [versus many] examples of things in their lives that they could control, which enhanced [reduced] their sense of personal control because this task feels easy [hard].

During an ostensible break participants were given the opportunity to select a pack of chocolates from a vending machine in a room next door. The vending machine was filled with packs of small assortment of chocolate (containing five chocolates of a single flavor) as well as packs of large assortment of chocolate (containing five chocolates of five different flavors, specifically all 5 flavors represented in the small-assortment packs). Participants’ choice of assortment type was recorded.

Six participants guessed the hypothesis, and 25 participants chose not to get a snack. These individuals, who were distributed equally among conditions, were excluded from the analysis, though including them does not change the results.

Results and Discussion

A binary logistic regression with choice of chocolate packet as the dependent variable (single flavor assortment = 0, multi flavor assortment = 1) revealed that personal control significantly impacted assortment size choice ($\text{Exp(B)} = 2.5, \text{SE} = .42$, Wald $\chi^2(1) = 4.69$, $p = .03$). As predicted, the choice share of the larger assortment was significantly greater in the low control condition (33.3%) than in the high control condition (16.7%). In other words, people in the low personal control condition were more likely to choose a large assortment of chocolates i) than people in the high personal control condition, and also ii) than would be expected under random choice.

These results show for the first time that lower control drives preference for larger assortments. This finding supports the basic hypothesis that a major reason why consumers prefer large over small assortments is that large assortments of choice options promise more control. With this relationship documented, we next shift our attention to the impact of procedural control on attenuating this preference. To do this, we move from people’s general, abstract sense of control used in the first experiment to consumer contexts where procedural control through concrete behavioral involvement, along with assortment size, commonly varies in real life.

Study 2

Study 2 expanded upon this initial evidence that sense of control indeed plays a role in consumers’ preference for large over small assortments by investigating the effects of procedural control in preference for large assortments. Specifically, this experiment examined the respective impact of decisional control (stemming from assortment size) and procedural control (stemming from behavioral involvement) on perceived control, as well as downstream effects that perceived control has on the attractiveness of the consumption experience. This extension tested two predictions: first, that procedural control through behavioral involvement meets consumers’ need for control sufficiently, and second, that this makes decisional control from large assortments irrelevant, thus eliminating their attractiveness advantage.

Method

One hundred and ten participants recruited through Amazon’s MTurk (45.5% women) imagined an ice cream parlor that offered high or low procedural control and a small or large assortment of toppings. Specifically, people read that they were at an ice cream shop where they [versus the clerk] would scoop one topping of their choice onto their ice cream, and that this ice cream shop had 3 [versus 15] different toppings available (not further specified).

Assortment Attractiveness Measure. Participants rated the attractiveness of the ice cream parlor ($I = \text{not at all attractive to } 6 = \text{very attractive}$).

Perceived Control Measure. Afterwards, they responded to three items pertaining to perceived control, rating how much influence they would have, how responsible they would be, and to what degree the experience would be under their control ($I = \text{not at all to } 6 = \text{very much}$, combined into an index of Perceived Control, $\alpha = .85$).

Manipulation Check for Perceived Choice. Further, participants indicated how much choice they felt this process offered ($I = \text{very little to } 6 = \text{a lot}$). To ensure that this perceived choice question tapped into perceptions of choice options stemming from the breadth of the assortment, not from the number of decisions involved in the activity of topping one’s ice cream, people rated how many options the assortment contained as well as how many decisions they would make at the ice cream parlor.
Results and Discussion

Nine participants failed an attention check regarding the number of topping options in the scenario and were thus excluded from the analysis.

Manipulation Check for Perceived Choice Results. As expected, there was a main effect of assortment size \( (F(1, 97) = 4.07, p = .047) \), such that participants in the high procedural control conditions, who imagined topping their ice cream themselves, perceived significantly more control \( (M = 4.78, SD = .88) \) than did participants in the low procedural control conditions, who imagined a clerk doing it \( (M = 4.41, SD = 1.04) \). This confirms the strength of the procedural control manipulation. In addition, there was a main effect of assortment size \( (F(1, 97) = 4.42, p = .038) \), such that people who imagined having many topping options felt they had greater control \( (M = 4.78, SD = .89) \) than did people who imagined having few topping options \( (M = 4.43, SD = 1.03) \). Importantly, however, the effect of assortment size on perceived control was qualified by a significant interaction with procedural control \( (F(1, 97) = 7.74, p = .006) \).

Perceived Control. As predicted, there was a main effect of procedural control \( (F(1, 97) = 4.86, SD = .89) \) than a small assortment \( (M = 3.96, SD = 1.00; F(1, 97) = 10.95, p < .001) \). However, as predicted, under high procedural control, people perceived an equal degree of control, regardless of whether the assortment was small \( (M = 4.84, SD = .88) \) or large \( (M = 4.71, SD = .91; F(1, 97) = .25, p = .62) \).

Assortment Attractiveness Results. Results for attractiveness were analogous to those for perceived control. While procedural control did not have a main effect on attractiveness ratings \( (F(1, 97) = .79, p = .378) \), there was a main effect of assortment size \( (F(1, 97) = 10.33, p = .002) \), such that an ice cream shop with many toppings was significantly more attractive \( (M = 5.02, SD = .99) \) than an ice cream shop with few toppings \( (M = 4.44, SD = 1.01) \). More importantly, as predicted, the effect of assortment size on attractiveness was qualified by a significant interaction with procedural control \( (F(1, 97) = 6.01, p = .011) \).

Follow-up contrasts revealed a pattern similar to that for perceived control. Only under low procedural control was a large assortment more attractive \( (M = 5.39, SD = .94) \) than a small assortment \( (M = 4.26, SD = .92; F(1, 97) = 15.47, p < .001) \). Under high procedural control, people found the ice cream parlor equally attractive, regardless of whether the assortment was small \( (M = 4.59, SD = 1.08) \) or large \( (M = 4.71, SD = .94; F(1, 97) = .21, p = .644) \).

Furthermore, a bootstrapping mediation analysis provided evidence for moderated mediation (Hayes 2013). Specifically, only under low procedural control circumstances did choice exert its positive effect on attractiveness by enhancing perceived control, \( B = .39, CI = .13 – .77 \), but not under high procedural control circumstances \( B = -.05, CI = -.28 – .16 \).

This study revealed two important findings. First, though assortment size affects perceptions of choice, it does not inevitably lead to greater attractiveness of larger assortments. Only under low procedural control did more options enhance feelings of control; under high procedural control, options did not add anything. Second, the attractiveness of larger assortments mirrors perceptions of control. Only under low procedural control was the larger assortment more attractive. A mediation analysis formally corroborated the idea that perceived control drives assortment attractiveness: People ultimately strive for control, and if they cannot actively exert procedural control, larger assortments of choice options are attractive as a control substitute. However, when they can actively exert control in the process, more choice options are meaningless.

Study 3

Study 3 tested the extension of these findings in a context where exerting high procedural control is more consequential and thus undesirable.

Method

One hundred and sixteen participants (50% women) recruited via MTurk considered going to a Korean restaurant where they would either have high or low procedural control and a small or large assortment of meats to choose from. Specifically, they imagined a Korean BBQ where they personally [versus a chef] grilled the food and they could select one of 3 versus 15 meat options. Then they responded to the same focal dependent measures as in study 2.

Results and Discussion

Nine participants failed an attention check regarding the number of meat options in the scenario and were thus excluded from the analysis.

Perceived Control Results. As expected, there was a main effect of procedural control \( (F(1, 103) = 44.30, p < .001) \), such that high procedural control lead to higher perceived control \( (M = 5.18, SD = .72) \) than low procedural control did \( (M = 4.04, SD = 1.03) \). This confirms the success of the procedural control manipulation.

In this study, there was no main effect of assortment size \( (F(1, 103) = 1.12, p = .292) \), but once more there was a significant interaction between assortment size and procedural control \( (F(1, 103) = 5.71, p = .019) \).

Follow-up contrasts showed that, again, only under low procedural control did a larger assortment produce greater perceived control \( (M = 4.33, SD = .93) \) than a small assortment \( (M = 3.75, SD = 1.04; F(1, 103) = 6.39, p = .013) \). Once more, under high procedural control, people perceived an equal degree of control, regardless of whether the assortment was small \( (M = 5.28, SD = .63) \) or large \( (M = 5.06, SD = .81; F(1, 103) = .82, p = .37) \).

Assortment Attractiveness Results. Again, the results for attractiveness mirrored those for perceived control; only under low procedural control was a large assortment marginally more attractive \( (M = 5.25, SD = .65) \) than a small assortment \( (M = 4.66, SD = 1.05; F(1, 103) = 3.28, p = .07) \). Under high procedural control, people found the restaurant equally attractive, regardless of whether it offered a large \( (M = 3.87, SD = 1.58) \) or a small assortment \( (M = 4.00, SD = 1.54; F(1, 103) = .14, p = .71) \).

These results corroborate the evidence that the impact of large assortments stems from an associated sense of control. Further, it affirms that if control is conferred otherwise—through procedural control—the effect of having more choice options within large assortments is obiterated.

Study 4

Study 4 translated the question into a realistic brand choice setting using conjoint methodology.

Method

Three hundred and twelve undergraduates (41% women) completed a choice-based conjoint study (Green and Srinivasan 1990) in which they read about pizza products involving no, low, or high procedural control (between-subjects) and chose between brands that featured small, medium, or large assortments of flavor...
(within-subject). Specifically, participants made decisions about from-scratch pizza kits (i.e., rolling out dough, spreading sauce, dispersing toppings) or design-your-own-pizza kits (i.e., only dispersing toppings) or frozen pizza (i.e., only removing pizza from package) and chose between pizza brands that offered either 3, 6, or 9 flavors.

They made a total of 12 choices from different sets of pizzas that varied in the focal attribute—assortment size—as well as brand, price, and product rating. From these choices, we derived part-worths (i.e., utility) of different product attributes and attribute levels.

Results and Discussion

Procedural control had a significant effect on the marginal utility of having a larger assortment of flavors. Specifically, the marginal utility of increasing assortment size from small to medium was significant only in the no control (B = .16, SE = .05, p < .01) and low control conditions (B = .18, SE = .09, p < .05), but not in the high control condition (B = .14, SE = .09, p >.13).

General Discussion

Contributing to the literature on personal control generally and the emerging field of co-production and Do-It-Yourself products specifically, procedural control may be a more powerful conveyor of perceived control than breadth of choice. Adding to research on assortments, process evidence suggests that perceived control is an underlying driver of assortment attractiveness. Further, although having procedural control renders assortment size irrelevant for perceptions of control and thus attractiveness, the effect of greater perceived control need not always be positive: If it poses the risk of worse outcomes, consumers dislike exerting procedural control. Offering a suggestion to practitioners, offering co-production or other means of procedural control may be a suitable way for firms to stay attractive if they cannot offer large assortments as long as co-production is not viewed as detrimental to the experience (as was the case for the restaurant).

REFERENCES


