

## An Experience-Utility Explanation of the Preference for Larger Assortments

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### ABSTRACT

Although choosing from large assortments has often been found to be demotivating, a robust finding in the marketing literature is that consumers generally prefer larger product assortments. Standard explanations for this preference for larger assortments have focused on reason-based considerations revolving around large assortments enabling potentially “better” choices. This paper offers a different and novel, affect-based explanation. We argue that the relative preference for larger assortments is driven in part by the greater experience utility that consumers derive from reviewing such assortments. Because most products are carriers of positive affect, consumers tend to derive greater experience utility from reviewing larger assortments compared to smaller assortments. Support for this general proposition was found across four experimental studies using different strategies to document the role of affect-based experience utility in driving the preference for larger assortments. Theoretical and substantive implications are discussed.

**Keywords:** assortment size, affect, emotion, consumer decision making

From personal care brands such as Bath and Body Works to casual dining establishments such as The Cheesecake Factory and global travel companies such as Thomas Cook, many marketers pride themselves on providing large product assortments to their customers. Bath and Body Works, for example, distributes more than 120 different types of body washes and shower gels, The Cheesecake Factory lists more than 200 dishes on its menu, and Thomas Cook offers thousands of holiday packages. This strategy of providing large assortments is presumably intended to capitalize on the well-established finding that, everything else being equal, consumers are generally drawn to retailers and other providers that carry large product assortments (e.g., Arnold, Oum, and Tigert 1983; Broniarczyk, Hoyer, and McAlister 1998; Oppewal and Keolemeijer 2005; Pan and Zinkhan 2006). Three major theoretical explanations have been proposed for consumers' general preference for larger assortments (see Broniarczyk 2008 and Chernev 2012, for reviews). First, compared to smaller assortments, larger assortments obviously increase the probability that consumers will find products that match their particular needs and tastes (see Baumol and Ide 1956). Second, larger assortments can better satisfy consumers' variety-seeking motives and tendencies (Broniarczyk 2008). Finally, larger assortments allow greater flexibility when consumers are uncertain about their future preferences (Kahn and Lehmann 1991).

While these major explanations focus on “rational” and logical arguments for preferring larger assortments—namely, a greater probability of making an optimal choice—more subtle psychological processes that are independent of choice quality may also be at work (Broniarczyk 2008). For example, consumers may perceive greater psychological freedom when choosing from larger as opposed to smaller product assortments (Reibstein, Youngblood, and Fromkin 1975). The purpose of this paper is to propose a different explanation of the appeal of large assortments—a psychological explanation that complements previously established explanations and broadens our understanding of the phenomenon. Unlike the primary explanations advanced in prior research, which are mostly

cognitive and involve “rational” considerations, ours is mostly affective and emphasizes experiential factors. We argue that part of the reason why consumers tend to prefer larger product assortments is that they often derive positive experience utility from the mere reviewing of such assortments. To the extent that many products in the market are carriers of positive integral affect—for instance, exciting new products in an electronics store, attractive designs in a clothing store, enticing smells in a bakery—larger assortments should increase the subtle pleasure that consumers experience from reviewing such products. It is partly because of this pleasure of reviewing the options—as opposed to the possibility of optimizing their choices—that consumers are often drawn to larger product assortments. Consistent with this proposition, results from four studies (and one replication) show that holding the possibility of making a better choice constant, the relative preference for larger assortments depends on the affective experience of reviewing the assortment.

The current research makes several important contributions. From a theoretical standpoint, it provides a new conceptual explanation for consumers’ general preference for larger assortments, a phenomenon that had been assumed to be fully understood. Compared to previous explanations of the phenomenon, our new explanation is noteworthy as it suggests that consumers’ attraction to larger assortments is not necessarily driven by the type of functional/rational considerations that the literature has historically assumed. Instead, it may be driven by the affective pleasure that consumers derive from reviewing the product assortment. In addition, our proposed explanation for the preference for larger assortments helps explain the paradoxical finding that while consumers tend to be attracted to larger assortments, they often end up being demotivated and dissatisfied by having to choose from such large assortments (Iyengar and Lepper 2000). As shall be elaborated in the general discussion, this apparent paradox arises in part because consumers’ general attraction to larger assortments is largely driven by affective processes, whereas the process of choosing from a given assortment tends to be driven by more cognitive processes. As elaborated in the

general discussion as well, our propositions and findings have important managerial implications for the design, management, and marketing of product assortments. For example, our results suggest that marketers with larger assortments should not just promote the functional benefits of their large assortments, they should also promote the affective benefits of these assortments.

## **THE APPEAL OF LARGE ASSORTMENTS: AN EXPERIENCE-UTILITY**

### **EXPLANATION**

#### The Appeal of Large Assortments

The size of a marketer's product assortment can have two distinct effects on consumer decisions, one nested in the other (Kahn and Lehmann 1991). First, the size of an assortment can influence whether consumers prefer this assortment over other available assortments (e.g., a consumer preferring to shop at store A rather than at store B because of A's larger assortment). Second, once an assortment has been selected, its size can influence how consumers choose a particular option from this assortment (e.g., the effect of store A's assortment size on the consumer's product choice).

With respect to the first effect, it is typically found that consumers prefer larger product assortments over smaller ones. This effect has been observed both in field investigations of the determinants of retail store patronage (e.g., Arnold, Oum, and Tigert 1983; Dhar, Hoch, and Kumar 2001; Pan and Zinkan 2006) and in lab studies of consumers' evaluation of and choice between assortments of different sizes (e.g., Broniarczyk, Hoyer, and McAlister 1998; Chernev 2003; Kahn and Lehmann 1991; Oppewal and Keolemeijer 2005). With respect to the latter effect (the effect of assortment size on choice *within* the assortment), it has been observed that larger product assortments, especially very large ones, can sometimes overwhelm consumers, resulting in lower choice satisfaction and demotivation (Iyengar and Lepper 2000). In other words, even though consumers generally prefer to have larger assortments to choose from, when it comes to choosing a particular

product from a selected assortment, consumers may sometimes suffer from having too many options (Schwartz 2004; but see Scheibehenne, Greifeneder, and Todd 2010). It is therefore important to distinguish consumers' *ex ante* attraction toward larger (versus smaller) product assortments from their *ex post* decision satisfaction after choosing from large (versus small) assortments. Our research focuses on the former effect (consumers' *ex ante* attraction toward larger assortments) and its underlying explanation.

Three major theoretical explanations have been proposed for consumers' *ex ante* preference for larger assortments. The first is the most obvious: With larger assortments consumers are more likely to find products that match their particular needs and tastes (see Baumol and Ide 1956). Consistent with this explanation, larger assortments have been found to be particularly attractive among consumers who have well-articulated preferences (Chernev 2003) and among consumers who are "maximizers" rather than "satisfiers" (Dar-Nimrod et al. 2009). Second, larger assortments can better accommodate variety-seeking when consumers are satiated or in need of a change (Broniarczyk 2008). Consistent with this explanation, the preference for larger assortments has been found to be stronger among promotion-focused consumers than among prevention-focused consumers (Pham and Chang 2010), the former being more open to novelty and change than the latter (Lieberman et al. 1999). A final major explanation is that consumers prefer larger product assortments because such assortments allow greater flexibility when consumers are uncertain about their future preferences (Kahn and Lehmann 1991). In such a case (e.g., what will I be in the mood to eat several days from now?), it is sensible to prefer larger opportunity sets (a restaurant with a larger menu), which typically provide greater decision flexibility (Kreps 1979).

It is important to note that these three major explanations all attribute the appeal of large assortments to the possibility of making a more optimal choice when choosing from larger as opposed to smaller product assortments. While we do not question the validity of these explanations, we believe that other explanations unrelated to choice quality further

contribute to the appeal of larger assortments (see Broniarczyk 2008). We present a novel explanation in the next section.

### The Experience Utility of Reviewing Large Assortments

Whereas previous conceptualizations of consumers' evaluations of product assortments have tended to focus on the utility that consumers may derive from their eventual product choices (Kahn and Lehmann 1991), we propose that the process of reviewing product assortments is itself a source of utility. Specifically, we hypothesize that consumers derive some experience utility from the mere process of reviewing the options that are contained in a given product assortment. This is because products in the marketplace are often carriers of positive affect (see Krishna 2012). For example, there is inherent positive affect in the delicious flavors of coffee that a specialized coffee shop may provide, the exciting features that a new smartphone may possess, or the attractive designs that an apparel brand may offer. There is also positive affect in the colorful packages, appealing images, cool logos, and enticing displays frequently used to promote products.

When consumers evaluate products, they often extract some of the affect that products carry in order to assess how they feel about these products—a process known as the “how-do-I-feel-about-it” (HDIF) heuristic (see Pham 1998, 2004). Hence the mere reviewing of an assortment consisting mostly of products that carry positive affect will elicit positive feelings. We believe that these feelings are not just a source of information (as in the HDIF heuristic), they are also a source of experience utility, that is, a source of pleasure that has value in and of itself. This idea is consistent with the behavioral decision notion of “savoring,” which suggests that there is positive utility in the mere contemplation of future consumption options (Elster and Loewenstein 1992; Loewenstein 1987). One would expect this experience utility to be generally greater if the number of products in the assortment is large than if it is more limited (assuming, of course, that the products carry positive rather than negative affect). Therefore, our proposed explanation for the well-documented appeal of large assortments is

that consumers are attracted to larger assortments because they derive greater experience utility from the mere review of such assortments, and that this experience utility arises from the positive affect carried by the product options included in the assortments.

Our theorizing and predictions are broadly consistent with previous studies showing that positive affect tends to encourage variety-seeking behavior (Kahn and Isen 1993) and may mitigate the choice overload phenomenon (Spassova and Isen 2013). However, our research differs from these previous studies in several important respects. First, in Kahn and Isen (1993) and Spassova and Isen (2013), the source of positive affect—participants' mood—was incidental to the decision to be made, whereas in our research the source of affect is integral to the options being evaluated. Second, the previous studies focused on variety-seeking behavior within product assortments of a fixed size (Kahn and Isen 1993) and on choice satisfaction after choosing from a large versus small assortment (Spassova and Isen 2013), whereas our research examines consumers' *ex ante* preference for larger versus smaller assortments. Third, the specific processes underlying Kahn and Isen's (1993) and Spassova and Isen's (2013) propositions and predictions are different from those posited in our explanation. In both Kahn and Isen (1993) and Spassova and Isen (2013), the effects of the (incidentally induced) positive affect on variety seeking and choice satisfaction are conceived to be mediated by cognitive processes such as the retrieval of affect-consistent material from memories and a greater ability to discriminate the options within the assortment. Spassova and Isen (2013) in particular propose that positive mood attenuates and possibly reverses the choice-overload phenomenon by bringing to mind related category members and product features encountered previously, thereby enabling a greater appreciation of what a large assortment has to offer. In contrast, our explanation does not assume such cognitive changes. It instead posits a direct incorporation of feelings experienced while reviewing the assortment into consumers' evaluation of this assortment. Finally, while Kahn and Isen (1993) and Spassova and Isen (2013) focus primarily on the

contrast between positive and neutral mood, our research also speaks to settings in which the affect at issue is negative (see Study 4).

### Empirical Overview

Our empirical work encompasses four experiments (plus one replication). Across these experiments, our dependent measure, relative preference for larger assortments, was operationalized in two ways. In two of the studies (Studies 1 and 3), we assessed respondents' evaluations of various product assortments that were either larger or smaller. We inferred a relative preference for larger assortments whenever the reported liking of the larger version of the assortment was greater than the reported liking of the smaller version of the assortment. This between-subjects approach provides a more conservative assessment of the relative appeal of larger assortments, as differences in assortment size are not made overly salient. In another two studies (Studies 2 and 4), we exposed respondents to both larger and smaller assortments and assessed their preference for the larger assortment by having them choose between the two assortments. To capture participants' *ex ante* preference for larger assortments rather than their *ex post* experience of choosing from larger assortments, participants were asked to review the assortments for the purpose of a purchase decision but were not asked to make a final product choice from these assortments.

In order to document the mediating role of experience utility, we additionally manipulated the affective experience of reviewing the options using a variety of established methods, following a moderation-of-process strategy for testing mediation (Spencer et al. 2005). As predicted, the results consistently show that, everything else being equal, the relative preference for large assortments was stronger when the affective experience of reviewing the options was amplified and positive. Specifically, Study 1 shows that the relative preference for larger assortments is stronger when consumers are explicitly encouraged to rely on their feelings and emotions, as opposed to logic and reason, when reviewing the assortment. This result is important because it suggests not only that affect

plays a significant role in the preference for larger assortments, but this role may be stronger than that played by more “rational” choice-quality-related processes that, theoretically, should have been amplified when participants were encouraged to rely on logic and reason.

Conceptually replicating the results of Study 1, Study 2 shows that the relative preference for larger assortments is stronger when consumers have experiential motives, which encourage a reliance on feelings in judgments, as opposed to instrumental motives, which discourage such a reliance. Study 3 and a replication of this study show that the relative preference for larger assortments is stronger when the assortments are presented in an affect-rich manner than when they are presented in an affect-poor manner. Study 4 identifies a boundary condition of the phenomenon, showing that when the product is inherently unpleasant, the effect is reversed—a greater reliance on affect *reduces* the relative preference for larger assortments. This result supports the notion that the greater experience utility associated with reviewing larger assortments comes not from the sheer size of these assortments (and the variety, perceived freedom, or stimulation that they may provide), but from the positive affect that most products carry.

A potential alternative explanation for our pattern of results is that conditions of high affective engagement may elicit more heuristic processing, thereby encouraging reliance on a “larger-is-better” heuristic. To assess the plausibility of this alternative explanation, we collected measures of depth-of-processing in each of our studies. The results show that our various manipulations of affective engagement did not significantly impact participants’ depth-of-processing in any of the studies (see Faraji-Rad and Pham [2017] and Pham, Lee, and Stephen [2012] for similar results). This lack of observed difference in depth-of-processing across conditions is inconsistent with a heuristic-processing explanation of the findings. Moreover, the fact that in Study 4 the pattern of results reverses when the product category is inherently aversive also challenges the position that our findings are driven by an intuitive reliance on a “more-is-better” heuristic when affect was encouraged.

## STUDY 1

The purpose of this first study was to test the basic proposition that the appeal of larger product assortments is driven in part by the experience utility that consumers derive from the mere reviewing of the options. Participants were asked to review an appliance store's selection of either 6 or 18 blenders for a purchase decision, and then to evaluate the provided selection. If consumers have a relative preference for larger product assortments, evaluations of the blender selection should be higher in the larger-assortment condition than in the smaller-assortment condition, thus replicating the basic preference-for-large-assortment phenomenon documented by previous research. To demonstrate the role of experience utility in driving this phenomenon, we used two different methodological strategies for demonstrating mediation. First, we used a moderation-of-process strategy (Spencer et al. 2005). As explained by Spencer and colleagues (2005), other than the classic Baron and Kenny (1986) analytical strategy, a well-accepted method for demonstrating that a certain process mediates a particular effect is to manipulate this process independently and show that variation in levels of the manipulated process moderates the effect to be explained. In accord with this logic, in this study in addition to varying the size of the product assortment, we manipulated participants' degree of affective engagement while reviewing the assortment. Consistent with prior work by Pham and colleagues (Pham et al. 2001), the degree of affective engagement was manipulated by varying the judgment process that participants were instructed to follow to review the blenders. In one condition participants were instructed to review the selection based on their feelings and emotions, whereas in the other condition participants were instructed to review the selection based on logic and reason (see also Aydinli, Bertini, and Lambrecht 2014). We predicted that compared to a reliance on logic and reason, a reliance on feelings and emotions would strengthen the affective experience that participants have while reviewing the product assortments and thus heighten their evaluation of the larger assortment relative to the smaller assortment. Such a finding would not only

show that affective processes play a significant role in the preference for larger assortments, it would also suggest that this role is substantial relative to standard cognitive explanations of the phenomenon (e.g., the ability to match with one's preferences), which theoretically should be amplified if participants are asked to focus on logic and reason. In addition to the moderation-of-process strategy described above, we used a measurement-of-process, "Baron and Kenny"-type strategy by assessing participants' self-reported experience utility while reviewing the assortment and showing that this experience utility statistically mediated the effect of assortment size on assortment evaluation.

## Method

*Participants and Design.* A total of 230 business students from a Dutch university participated in the study in exchange for course credit. They were randomly assigned to the conditions of a 2 (assortment size: large vs. small)  $\times$  2 (process instruction: reliance on feelings vs. reliance on reason) between-subjects design.

*Procedure.* The study was entirely computer-administered. All participants were asked to imagine visiting an appliance store to purchase a new blender because their current blender had stopped working. They were then asked to review a selection of blenders offered by the store that consisted of either 6 or 18 items. The items were actual blenders available on the market from various online retailers. All items were represented with a picture, along with brand and model name (see Web Appendix, Part 1). To ensure that, on average, the options were comparable across assortment-size conditions, the larger set of 18 blenders was split into three smaller sets of 6 blenders, which were counterbalanced across participants in the smaller-assortment condition. (The same assortment-balancing procedure was used in all studies where assortment size was manipulated.)

As in Pham and colleagues (2001), the degree of affective engagement was manipulated by asking participants to follow a specific judgment process to review the selection of blenders. Half the participants received instructions encouraging them to "review

this selection based on your feelings and emotions,” focusing on “your gut feelings and subjective emotions toward the different blenders shown.” Additional instructions suggested, “It is well known that people’s judgments and decisions about this type of product are better when people follow their gut feelings.” The other half received instructions encouraging them to “review this selection logically and analytically,” focusing on “rational reasons and logical arguments for assessing the different blenders shown.” Additional instructions suggested, “It is well known that people’s judgments and decisions are better when based on reason and logic.”

After reading these judgment process instructions and reviewing the selection, participants were asked, “How much do you like the selection of blenders offered at this store?” (1 = “Not at all”; 9 = “Very much”), which was the measure of assortment evaluation, our main dependent measure. Participants next responded to the question “How much pleasure did you experience while reviewing this blender selection?” (1 = “Not at all”; 9 = “Very much”), which served as a process measure of experience utility. As a confounding check for task involvement, participants were asked “How involved were you while evaluating the blender selection?” (1 = “Not at all involved”; 9 = “Very involved”). In addition, to address the possibility that our manipulation of affect engagement could alter the depth with which participants processed information, we collected an objective measure of depth-of-processing by recording the amount of time that participants spent on reviewing the blender selection and on answering the questions.

## Results

*Preliminary Analyses.* As expected, there were no effects of the manipulations on self-reported task involvement ( $ps > .426$ ). In addition, the time spent reviewing the blender selection and on answering the questions did not differ between the two processing-instruction conditions ( $ps > .622$ ), suggesting that participants in the reliance-on-feelings condition were no more likely to engage in heuristic processing than participants in the

reliance-on-logic condition. This lack of difference in depth-of-processing makes a heuristic-processing account of the findings unlikely (see the Web Appendix, Part 2 for further details on analyses of this alternative explanation across studies).

*Assortment Evaluation.* A  $2 \times 2$  ANOVA of participants' evaluations of the assortment revealed a main effect of assortment size, showing that evaluations of the larger assortment were higher ( $M = 6.52$ ) than evaluations of the smaller assortment ( $M = 5.96$ ;  $F(1, 226) = 8.50, p = .004$ ), consistent with previous findings. There was no main effect of process instruction ( $F(1, 226) = 2.54, p = .112$ ). However, as predicted, there was a significant interaction between assortment size and process instruction ( $F(1, 226) = 4.14, p = .043$ ). Specifically, the more favorable evaluation of the larger assortment compared to the smaller assortment was substantially greater when participants were encouraged to rely on their feelings and emotions ( $M_{\text{Large}} = 6.87$  vs.  $M_{\text{Small}} = 5.92, F(1, 226) = 12.81, p < .001$ ) than when participants were encouraged to rely on logic and reason ( $M_{\text{Large}} = 6.17$  vs.  $M_{\text{Small}} = 6.00, F(1, 226) = .37, p = .542$ ; see Figure 1). This amplification of the effect of assortment size when participants were encouraged to rely on their feelings and emotions is consistent with the proposition that the appeal of larger assortments is driven in part by the experience utility that consumers derive while reviewing the assortment.

To further verify that this effect cannot be accounted for by differences in depth-of-processing, participants' evaluations of the assortment were submitted to an ANCOVA with covariates controlling for participants' time spent on reviewing the blender selections and on answering the questions. In this analysis, the interaction between assortment size and process instruction remained significant ( $F(1, 224) = 3.95, p = .048$ ), consistent with the finding that the manipulation of affective engagement did not alter participants' depth-of-processing.<sup>1</sup>

[Insert Figure 1 about here]

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<sup>1</sup> The same was also true for the remaining studies, as detailed in the Web Appendix, Part 2.

*Experience Utility.* A similar ANOVA of participants' self-reported pleasure while reviewing the selection indicated no main effect of process instruction ( $F(1, 226) = .59, p = .444$ ), but a strong main effect of assortment size ( $F(1, 226) = 14.61, p < .001$ ). Participants reported greater pleasure—that is, greater experience utility—in reviewing the larger assortment ( $M = 4.34$ ) than in reviewing the smaller assortment ( $M = 3.49$ ). This effect was qualified by a marginally significant interaction with process instruction ( $F(1, 226) = 3.12, p = .079$ ). Specifically, the greater pleasure experienced in reviewing the larger assortment compared to the smaller assortment was more pronounced when participants were encouraged to rely on their feelings ( $M_{\text{Large}} = 4.62$  vs.  $M_{\text{Small}} = 3.37; F(1, 226) = 16.33, p < .001$ ) than when participants were encouraged to rely on logic and reason ( $M_{\text{Large}} = 4.06$  vs.  $M_{\text{Small}} = 3.60; F(1, 226) = 2.03, p = .156$ ).

*Statistical Mediation.* To test the proposition that the moderated effect of assortment size on assortment evaluation was indeed mediated by differences in experience utility across conditions, we submitted participants' assortment evaluations to an analysis of mediated moderation (Model 8 of the PROCESS macro [Hayes 2013]), with assortment size as the independent variable, process instruction as the moderator, and self-reported pleasure while reviewing the assortment as the mediator. As expected, self-reported pleasure while reviewing the assortment significantly mediated assortment evaluation in the instruction-to-rely-on-feelings-and-emotions condition (estimate = .56; LLCI = .2799, ULCI = .9268) but not in the instruction-to-rely-on-logic-and-reason condition (estimate = .21; LLCI = -.0875, ULCI = .5182). This finding provides further support to the proposition that the appeal of larger assortments is mediated in part by the experience utility that consumers derive from reviewing the assortments.

## Discussion

The results replicate the general finding that prior to having to make an actual choice from the assortment, consumers tend to prefer larger assortments over smaller assortments, as

evidenced by participants' more favorable evaluations of the larger assortment compared to the smaller assortment. More importantly, the results provide two types of evidence suggesting that, as we hypothesize, this phenomenon is driven in part by the experience utility that consumers derive from reviewing the assortment. First, it was found that the more favorable evaluation of the larger assortment compared to the smaller assortment was substantially stronger when participants were encouraged to rely on their feelings (which should theoretically amplify the effects of experience utility) than when participants were encouraged to rely on logic and reason (which should theoretically attenuate the effects of experience utility). Second, it was found that variations in assortment size and reliance on feelings indeed caused differences in experienced pleasure while reviewing the assortment, and that these differences in experienced pleasure mediated the effects of the manipulations on assortment evaluations.

The findings additionally suggest that the role that affective processes play in the preference for larger assortments may be quite substantial relative to standard cognitive explanations of the phenomenon. If the phenomenon were driven primarily by cognitive/rational processes, such as the ability to match options with one's preferences or the need for flexibility in the face of uncertainty, we should have observed stronger relative evaluation of the larger assortment in the condition where participants were explicitly encouraged to focus on logic and reason. Instead, relative evaluation of the larger assortment was stronger when participants were encouraged to focus on their feelings and emotions.

As noted earlier, a potential alternative explanation for the results is that instructions to rely on feelings and emotions may have elicited shallower processing, thereby encouraging a heuristic assessment that "larger must be better." Two types of arguments suggest that this is not a viable rival interpretation. First, prior research that employed similar manipulations of reliance on feelings has generally ruled out heuristic processing as an alternative explanation for the effects of the reliance on feelings (Chang and Pham 2013; Pham, Lee, and

Stephen 2012; Rad and Pham 2017). More importantly, the results in this study, as well as in the remaining studies, show that participants who were encouraged to rely on their feelings took about the same amount of time to review the assortments and make their decisions as participants who were discouraged from relying on their feelings. In other words, in our studies, there was no actual difference in depth-of-processing across conditions of high versus low affective engagement. Moreover, controlling for the amount of time that participants took to review the assortments and make their judgments leaves the results of this study, and of the subsequent studies, unchanged (see Web Appendix, Part 2), further undermining a heuristic-processing explanation of our findings.

Although a difference in depth-of-processing does not appear to provide a viable account for our results, we acknowledge that the manipulation of affective engagement used in this study was a little heavy-handed. To address this issue, we use different manipulations of affective engagement in Studies 2 and 3.

## **STUDY 2**

The purpose of this second study was to conceptually replicate and extend the results of the first study in two ways. First, whereas in Study 1 we used a between-subjects design to vary assortment size, in this study we used a within-subject design where participants were asked to choose between a larger and a smaller assortment. If an affect-based experience utility explains part of consumers' attraction toward larger assortments, it should also explain consumers' tendency to choose a larger assortment over a smaller one. Second, whereas in Study 1 affective engagement was manipulated through explicit encouragements to rely on feelings and emotions versus logic and reason, in this study affective engagement was manipulated by varying participants' motives for reviewing the assortments. Building on previous results showing a greater reliance on affect under experiential motives than under instrumental motives (e.g., Pham 1998; Pham, Meyvis, and Zhou 2001; see also Yeung and Wyer 2004), we gave participants either (a) an experiential motive for booking a hotel,

encouraging a focus on hedonic considerations, or (b) an instrumental motive, encouraging a focus on utilitarian considerations. We predicted that with a salient difference in assortment size, participants would exhibit a strong preference for the larger assortment, thus replicating previous results. More importantly, we predicted that the preference for the larger assortment (over the smaller one) would be stronger among participants with an experiential motive (whose degree of affective engagement was expected to be higher) than among participants with an instrumental motive (whose degree of affective engagement was expected to be lower). To provide further evidence of our proposed explanation, we additionally assessed participants' experience utility while reviewing the assortments. We predicted that difference in experience utility across assortments would mediate difference in preference for the larger assortment across conditions.

## Method

*Participants and Design.* A total of 260 US-based members of the MTurk online panel participated in the study in exchange for a nominal fee. They were randomly assigned to either the experiential-motive or instrumental-motive condition.

*Procedure.* All participants were asked to imagine planning a trip to London that required a two-night stay for which they needed to book a hotel online. In the experiential-motive condition, the trip was described as a romantic get-away with a partner to celebrate an important occasion. Participants were encouraged to focus on affective and experiential considerations in their hotel evaluation, such as the fun and beauty of the place, the romantic ambiance, and the potential to "relax and delight your senses." In the instrumental-motive condition, the trip was described as one to be taken with a colleague for an important job interview. Participants were encouraged to focus on practical and functional considerations in their hotel evaluation, such as the helpfulness of the staff and the availability of high-speed internet access. A pretest among 40 participants from the same population showed that compared to decisions in the instrumental-motive condition, hotel-booking decisions in the

experiential-motive condition were more likely to be based on how participants “would feel toward staying at the hotel” ( $M_{\text{Experiential}} = 5.53$  vs.  $M_{\text{Instrumental}} = 4.38$  on a 7-point scale;  $F(1, 38) = 4.70, p = .036$ ) and less likely to be based on “the logical balance of pros and cons of staying at the hotel” ( $M_{\text{Experiential}} = 4.63$  vs.  $M_{\text{Instrumental}} = 5.81$  on a 7-point scale;  $F(1, 38) = 5.50, p = .024$ ). The same pretest showed that the manipulation of experiential versus instrumental motive did not affect participants’ aspirations in terms of hotel quality ( $F < 1$ ).

After reading the experiential- or instrumental-motive instructions, participants were offered *two* different hotel selections, supposedly from different booking websites. One website featured a selection of 12 different hotels, and the other featured a selection of 24 different hotels. These were actual hotels in London, each presented with its name and a picture of the hotel’s exterior. The selections excluded hotels from major chains (e.g., Sheraton, Hilton) in order to mitigate the effects of prior knowledge and brand preference on participants’ evaluation process. We ensured that on average the two selections were comparable in terms of quality by randomizing across respondents whether a particular subset of hotels appeared as part of the smaller selection or as part of the larger selection. For each participant the two selections were presented one at a time in a randomized order. As the main dependent variable, participants were asked to indicate which website they would choose for their booking. In addition, as a process measure of experience utility, participants were asked to rate which website “would be much more fun to review” on a scale of 1 (“definitely website A”) to 7 (“definitely website B”). To further check the effectiveness of the consumption-motive manipulation of affective engagement, participants were asked “How much did you rely on your gut instinct and feelings while evaluating the hotel selection?” (1 = “Not at all”; 7 = “Very much”). Finally, as a confounding check of task involvement, participants were asked to respond to the question “How involved were you while evaluating the hotel selection?” (1 = “Not at all involved”; 7 = “Very involved”); they were also asked to rate their mood on five 7-point items (e.g., “annoyed/pleased”, “in a bad

mood/in a good mood”;  $\alpha = .93$ ). Consistent with Study 1, participants’ depth-of-processing was assessed by recording the amount of time they spent on making their decisions.

## Results

*Preliminary Analyses.* As expected, participants’ self-reported reliance on feelings was higher in the experiential-motive condition ( $M = 5.08$ ) than in the instrumental-motive condition ( $M = 4.61$ ;  $F(1, 258) = 5.44, p = .021$ ). There was no effect of the manipulation on reported task involvement and mood ( $ps > .265$ ). As in Study 1, the time participants took to make their decisions was not significantly different across the two motive conditions ( $M_{\text{experiential-motive}} = 10.05$  vs.  $M_{\text{instrumental-motive}} = 8.62$ ;  $F(1, 258) = 1.70, p = .193$ ).

*Assortment Choice.* As expected, there was a marked preference for the larger assortment: across all participants, 82.7% chose to make their booking from the larger assortment, an effect that did not depend on order of presentation ( $\chi^2(1) = 1.45, p = .23$ ). This finding replicates the standard preference-for-large-assortment effect. More importantly, this effect depended on the motive condition ( $\chi^2(1) = 4.30, p = .038$ ). As predicted, preferential choice of the larger assortment was higher in the experiential-motive condition, where affective engagement was greater and experience utility was presumably accentuated (87.6%), than in the instrumental-motive condition, where affective engagement was lower and experience utility was presumably attenuated (77.9%). This result conceptually replicates the findings of the first study. Controlling for the amount of time spent on the making the decision as a measure of depth-of-processing does not affect the significance of this result ( $p = .023$ ; see Web Appendix, Part 2).

*Experience Utility and Statistical Mediation.* To provide further evidence that this effect was mediated by differences in experience utility while reviewing the assortments, we analyzed participants’ reports of comparative fun while reviewing the two assortments. On average participants reported relatively greater fun in reviewing the larger assortment compared to the smaller assortment ( $M = 5.32$  on a 7-point scale,  $t$ -value of difference from

the mid-point = 13.68,  $p < .001$ ). More importantly, this effect was stronger in the experiential-motive condition ( $M = 5.53$ ) than in the instrumental-motive condition ( $M = 5.11$ ;  $F(1, 258) = 4.85, p = .029$ ). A bootstrapped test of mediation of categorical effect (Model 4 of the PROCESS macro [Hayes 2013]) confirmed that the main effect of motive on preferential choice of the larger assortment was mediated by the relatively greater perceived fun of reviewing the larger assortment (estimate = .54; lower level of 95% bootstrap confidence interval = .1013, upper level = 1.0974).

## Discussion

The results conceptually replicate those of Study 1 with a different manipulation of affective engagement and a different operationalization of the dependent variable. When given the choice between a large and small assortment, participants' relative preference for the larger assortment was amplified, as their level of affective engagement increased. This result is consistent with the proposition that this preference is driven in part by the affect-based experience utility that consumers derive from reviewing the assortments. In addition, the results add further support to this proposition by showing that differences in relative preference for larger assortments are statistically mediated by differences in perceived fun while reviewing the assortment, which is also consistent with an experience-utility explanation of the phenomenon. Again there was no evidence that the effect could be due to greater heuristic processing under high affective engagement.

## STUDY 3

The first two studies show that stronger affective engagement during the review of the assortment amplifies the relative preference for larger assortments, which is consistent with an experience-utility explanation of the phenomenon. The purpose of this next study was to provide further evidence that the phenomenon is due to the extraction of affect associated with the options when consumers review product assortments. To this end, whereas in the previous studies we manipulated participants' level of affective engagement in the decision

process, in this study we held the level of engagement constant across participants and instead varied how much affect participants could extract from the review of the assortment. Participants were asked to evaluate either a small or a large selection of smartphone game applications. In one condition, the assortment was presented in an affect-rich manner using color pictures of the apps, whereas in the other condition the assortment was presented in an affect-poor manner using black-and-white pictures of the same apps (see Lee, Amir, and Ariely 2009 for a similar manipulation of affect richness). To test the reliability of the predicted findings across variations of assortment size, two replications of the study with different sizes of assortments were conducted. We predicted that in both replications the relative preference for the larger assortment would be stronger in the affect-rich condition than in the affect-poor condition.

## Method

*Participants and Design.* A total of 433 US-based members of the MTurk panel participated across two replications of the study in exchange for a nominal fee (N = 163 in Replication A; N = 270 in Replication B). Within each replication participants were randomly assigned to the conditions of a 2 (assortment size: large vs. small) × 2 (presentation mode: affect-rich [color pictures] vs. affect-poor [black-and-white pictures]) between-subjects design. In Replication A the small versus large assortments contained 12 and 36 apps, respectively, whereas in Replication B the small versus large assortments contained 42 and 84 apps, respectively. The different sizes of assortments across the two replications were partly informed by a pilot test that had shown that, on average, people owned 24 game apps on their smartphones. According to this pilot test, in Replication 1 the small assortment contained fewer apps than people would normally expect to have on their mobile phones, whereas in Replication 2 the small assortment contained more apps than people would normally expect to have on their mobile phones. These two replications thus allow us to

examine the sensitivity of our results over meaningfully different ranges of “small” versus “large” assortments.

*Procedure.* All participants were asked to imagine visiting a mobile app retailer to purchase a game app for their smartphone. They were then asked to carefully review a selection of game apps, with the size of the assortment varying across conditions and replications. In both replications, the affect-richness of the product-assortment stimuli was manipulated by varying the presentation mode. In the affect-rich-presentation-mode condition participants were shown color pictures of the apps, whereas in the affect-poor-presentation-mode condition, the same apps were presented with black-and-white pictures. After reviewing the selection, participants were asked to rate how much they liked the selection of apps offered and how much pleasure they experienced while reviewing the selection using the same scales as in Study 1. To control for potential differences in objective product information between the two app conditions, participants were additionally asked to rate how much information was conveyed through the app pictures on a 1–9 scale. To assess potential differences in depth-of-processing, we again recorded the amount of time that participants spent on reviewing the app selection and on answering the questions.

## Results

*Preliminary Analysis.* A  $2 \times 2$  ANOVA of perceived product information did not reveal any effect of the manipulations in either replication (Replication A:  $ps > .34$ ; Replication B:  $ps > .13$ ), indicating that participants did not perceive any significant difference in product information depending on whether the apps were presented in color or in black and white. This suggests that any effect of presentation mode cannot be interpreted in terms of perceived differences in product information. As in the previous studies, the amount of time took to review and evaluate the assortment did not differ across the two

presentation-mode conditions (Replication A:  $ps > .36$ ; Replication B:  $ps > .29$ ), suggesting no difference in depth-of-processing.

*Assortment Evaluation.* Two-way ANOVAs of participants' evaluations of the assortment within each replication revealed main effects of assortment size in both replications ( $F_A(1, 159) = 13.92, p < .001$ ;  $F_B(1, 266) = 4.41, p = .037$ ). Consistent with previous findings, within each replication participants liked the larger assortment more than they liked the smaller assortment ( $M_{\text{Large-A}} = 6.64$  vs.  $M_{\text{Small-A}} = 5.70$ ;  $M_{\text{Large-B}} = 6.29$  vs.  $M_{\text{Small-B}} = 5.82$ ). There was no main effect of presentation mode in Replication A ( $M_{\text{Color}} = 6.20$  vs.  $M_{\text{B\&W}} = 6.14$ ;  $F(1, 159) = .05, p = .82$ ), but there was one in Replication B, with participants liking the affect-rich assortment presented in color ( $M = 6.62$ ) more than the affect-poor assortment presented in black-and-white ( $M = 5.53$ ;  $F(1, 266) = 25.19, p < .001$ ). More importantly, there was a significant assortment-size-by-presentation-mode interaction in both replications ( $F_A(1, 159) = 8.05, p = .005$ ;  $F_B(1, 266) = 4.15, p = .043$ ). Consistent with the results of the first two studies, the more favorable evaluation of the larger assortment compared to the smaller assortment was substantially greater in the affect-rich, color-picture condition (Replication A:  $M_{\text{Large}} = 7.02$  vs.  $M_{\text{Small}} = 5.37, F(1, 159) = 21.71, p < .001$ ; Replication B:  $M_{\text{Large}} = 7.10$  vs.  $M_{\text{Small}} = 6.19, F(1, 266) = 8.00, p = .005$ ) than in the affect-poor, black-and-white-picture condition (Replication A:  $M_{\text{Large}} = 6.25$  vs.  $M_{\text{Small}} = 6.02, F(1, 159) = .04, p = .53$ ; Replication B:  $M_{\text{Large}} = 5.54$  vs.  $M_{\text{Small}} = 5.53, F(1, 266) = .002, p = .96$ ; see Figure 2). (Again, controlling for the amount of time spent on reviewing and evaluating the assortment did not reduce the significance of the critical interactions, thus ruling out a depth-of-processing interpretation of the results.) Therefore, attenuating the affect that consumers would normally extract from reviewing a product assortment decreases the relative preference for larger assortments. This is again consistent with the proposition that the appeal of larger assortments is driven in part by the experience utility that consumers derive from reviewing such assortments.

[Insert Figure 2 about here]

One may notice that in Replication A the assortment-size-by-presentation-mode interaction seemed to be driven in part by the small assortment being evaluated less favorably in the affect-rich condition compared to the affect-poor condition ( $M_{\text{Color}} = 5.37$ ,  $M_{\text{B\&W}} = 6.02$ ,  $F(1, 159) = 3.43$ ,  $p = .066$ ), whereas according to our conceptualization the interaction should be driven mostly by the larger assortment being evaluated more favorably under affect-rich conditions than under affect-poor conditions. We believe that this is mostly a calibration issue related to the fact that in Replication A the number of options offered in the small assortment (12 apps) was substantially smaller than the typical number of game apps that people have on their mobile phones (24 according to the pilot test). Given research showing that affect-based evaluations tend to be more reference-dependent (Pham 2007; Pham, Faraji-Rad, Toubia, and Lee 2015), it is possible that participants in the affect-rich condition were more likely to compare the small assortment of apps offered to them to the substantially larger assortment that they would typically expect, thereby lowering their evaluations. Indeed, in Replication B, where the smaller assortment was larger than the number of apps that people typically have on their mobile phones, there was no lowering of evaluations of the small assortment in the affect-rich condition relative to the affect-poor condition. Rather, as illustrated in Figure 2, evaluations of the small assortment were higher in the affect-rich condition than in the affect-poor condition ( $M_{\text{Color}} = 6.19$ ,  $M_{\text{B\&W}} = 5.53$ ,  $F(1, 266) = 4.78$ ,  $p = .030$ ). The difference was even more pronounced for the large assortment ( $M_{\text{Color}} = 7.10$ ,  $M_{\text{B\&W}} = 5.54$ ,  $F(1, 266) = 23.28$ ,  $p < .001$ ), indicating that the interaction was mostly driven by greater liking of the larger assortment under affect-rich conditions, as our theory would predict.

*Experience Utility.* A  $2 \times 2$  ANOVA of participants' experienced pleasure while reviewing the selection of apps in Replication A indicated no main effect of presentation mode ( $F(1, 159) = .005$ ,  $p = .94$ ) but a strong main effect of assortment size ( $F(1, 159) =$

11.77,  $p = .001$ ). Participants reported greater pleasure—that is, greater experience utility—in reviewing the larger assortment ( $M = 5.01$ ) than in reviewing the smaller assortment ( $M = 4.32$ ). In Replication B a similar ANOVA of participants' experienced pleasure while reviewing the selection of apps indicated no main effect of assortment size ( $F(1, 266) = .378$ ,  $p = .539$ ), but a significant main effect of presentation mode ( $F(1, 266) = 22.90$ ,  $p < .001$ ). Participants reported greater pleasure—that is, greater experience utility—in reviewing the affect-rich assortment ( $M = 6.23$ ) than in reviewing the affect-poor assortment ( $M = 5.14$ ). Importantly, as expected, there was a significant assortment-size-by-presentation-mode interaction across both replications (Replication A:  $F(1, 159) = 4.02$ ,  $p = .047$ ; Replication B:  $F(1, 266) = 5.68$ ,  $p = .018$ ). Mirroring the effects observed on assortment evaluation, the greater pleasure experienced while reviewing the larger assortment of apps compared to the smaller assortment of apps was stronger when the apps were presented with affect-rich, color pictures (Replication A:  $M_{\text{Large}} = 5.22$  vs.  $M_{\text{Small}} = 4.12$ ;  $F(1, 159) = 14.87$ ,  $p < .001$ ; Replication B:  $M_{\text{Large}} = 6.60$  vs.  $M_{\text{Small}} = 5.89$ ;  $F(1, 266) = 4.20$ ,  $p = .041$ ) than when they were presented with affect-poor, black-and-white pictures (Replication A:  $M_{\text{Large}} = 4.80$  vs.  $M_{\text{Small}} = 4.51$ ;  $F(1, 159) = 1.01$ ,  $p = .32$ ; Replication B:  $M_{\text{Large}} = 4.91$  vs.  $M_{\text{Small}} = 5.33$ ;  $F(1, 266) = 1.68$ ,  $p = .196$ ).

*Statistical Mediation.* To further test whether experience utility mediated the effect of assortment size on assortment evaluation under different levels of affect-richness, we submitted participants' assortment evaluations to an analysis of mediated moderation similar to that of Study 1 (Model 8 of the PROCESS macro [Hayes 2013]), with assortment size as the independent variable, presentation mode as the moderator, and self-reported pleasure as the mediator. As expected, in both replications, self-reported pleasure while reviewing the assortment significantly mediated the relationship between assortment size and assortment evaluation when the apps were presented with affect-rich, color pictures (Replication A: estimate = .9744, LLCI = .5997, ULCI = 1.4969; Replication B: estimate = .4936, LLCI =

.1129, ULCI = .8774) but not when the apps were presented with affect-poor, black-and-white pictures (Replication A: estimate = .2555, LLCI = -.3352, ULCI = .8311; Replication B: estimate = -.2911, LLCI = -.8149, ULCI = .2192). This finding provides further support for the proposition that the appeal of larger assortments is mediated by the experience utility that consumers derive from reviewing the assortments.

## Discussion

The results of Study 3 provide further support for the proposition that the relative preference for larger assortments is driven in part by the greater experience utility that consumers derive from reviewing larger as opposed to smaller assortments. Specifically, consistent with a moderation-of-process pattern of conceptual mediation, it was found across two replications that the more favorable evaluation of the larger assortment compared to the smaller assortment was substantially stronger when the products were presented in an affect-rich manner than when the products were presented in an affect-poor manner. This finding supports our conceptualization because affect-poorness should theoretically dampen the experience utility that consumers derive from reviewing the product assortment. In addition, we found measurement-of-process evidence that the self-reported pleasure (experience utility) that participants experienced while reviewing the assortment statistically mediated the effects of assortment size on assortment evaluation.

While both replications converge in showing that affective enrichment of how the options are presented increases the relative preference for larger assortments, the slightly different pattern of results observed in the two replications suggests that there may be variations in the specific location of this effect, depending on people's assortment size expectations for a given category. In general, evaluations of larger assortments should tend to increase under conditions of higher affective engagement. However, if the smaller assortment is significantly smaller than what consumers have come to expect for the category,

evaluations of the smaller assortment may additionally suffer under conditions of higher affective engagement.

#### STUDY 4

The first three studies show across three different product categories that conditions that strengthen consumers' affective experience while reviewing product assortments amplify consumers' relative preference for larger assortments. This is consistent with the thesis that part of the appeal of larger assortments comes from the experience utility that consumers derive from the process of reviewing these assortments. According to our conceptualization, the source of this experience utility lies in the integral positive affect that most products in the marketplace carry (through their design, features, packaging, images, etc.)—positive affect that consumers spontaneously access in the course of reviewing product selections and which is naturally amplified with larger assortments.

A slightly different interpretation would be that the higher experience utility of reviewing larger product assortments comes not from the affect inherent in the products themselves but from the sheer number and variety of options that larger assortments provide. For example, it could be that consumers experience a greater sense of perceived freedom and increased stimulation when reviewing larger as opposed to smaller assortments. Another alternative account would be that positive affect extracted from reviewing the product options under conditions of greater affective engagement triggers the retrieval of product-related materials from memory, thereby fostering a stronger appreciation of the larger assortment (Spassova and Isen 2013).

To help tease apart these different interpretations, in this study we provided participants with a different product category: coffins. Compared to the type of categories used in the preceding studies, the coffin category has two distinct characteristics. First, the product is inherently aversive, thus allowing us to test our proposition that if consumers generally prefer larger assortments it is in part because they derive some pleasant hedonic

experience from the positive affect associated with many products. Second, unlike commonplace products such as kitchen equipment, hotels, and mobile phone apps, coffins are products that consumers rarely have direct experience and strong familiarity with. This fact makes it unlikely that the types of processes posited by Spassova and Isen (2013), which revolve around the retrieval of and comparison with past product experience and memories, could be at work.

In this study, participants' degree of affective engagement while reviewing the assortment was manipulated in the same way as in Study 1. That is, we varied the judgment process that participants were instructed to follow to review the coffin selections: a reliance on either feelings and emotions or logic and reason. We reasoned that if the appeal of larger assortments indeed comes from the experience utility that consumers derive from the process of reviewing these assortments, the effects observed in our previous studies would reverse when affect inherently associated with the product is negative.

*Participants and Design.* A total of 347 US-based members of the MTurk panel participated in exchange for a nominal fee. They were randomly assigned to conditions of either reliance on feelings and emotion or reliance on logic and reason.

*Procedure.* Participants were asked to imagine having to purchase a coffin for a recently deceased loved one. They were presented with coffin selections from two different funeral homes, one offering 18 different coffins, and the other offering 36 different coffins. Each coffin was represented by a picture and a product name (see Web Appendix, Part 1). We followed the same randomization and counterbalancing procedures as in Study 2.

As in Study 1, participants in the reliance-on-feelings condition were instructed to focus on their "gut feelings and subjective emotions" toward the different coffins, whereas participants in the reliance-on-reason condition were instructed to focus on "rational reasons and logical arguments" for assessing the different coffins. After reading these instructions and reviewing the selections, participants were asked to indicate which funeral home they

would choose for their coffin purchase. As a process measure of experience utility, they were asked to rate which coffin selection “would be more unpleasant to review”, “would make you feel more uncomfortable to review”, and “would make you feel more unhappy to review” (1 = “definitely the one from funeral home A”; 9 = “definitely the one from funeral home B”). These three items were averaged into an index of (negative) experience utility ( $\alpha = .95$ ). Next, to check the effectiveness of the affective engagement manipulation, participants were asked “how much did you rely on your feelings toward the various coffins?” when reviewing the selection of coffins (1 = “I did not rely on my feelings at all”; 9 = “I did rely on my feelings a lot”). To control for potential confounds of the manipulations, participants were asked to rate their task involvement on a 7-point scale and their mood on five 7-point items (e.g., “annoyed/pleased”, “in a bad mood/in a good mood”;  $\alpha = .93$ ). Finally, as in the previous studies, participants’ depth-of-processing was assessed by recording the amount of time that they spent on reviewing the two selections of coffins and on answering the questions. Participants were additionally asked to indicate which of eight coffins presented to them were among the ones offered by the funeral homes whose assortments they reviewed earlier, which provided another objective measure of depth-of-processing.

## Results

*Preliminary Analyses.* As expected, participants’ self-reported reliance on feelings was higher in the reliance-on-feelings condition ( $M = 7.40$ ) than in the reliance-on-reason condition ( $M = 5.48$ ;  $F(1, 258) = 76.87, p < .001$ ). There were no effects of the manipulations on reported task involvement and mood ( $ps > .433$ ). Nor was there any difference in time spent reviewing the coffin selections and answering the questions ( $ps > .144$ ), or in memory for the coffins ( $ps > .147$ ), again rendering a heuristic-processing account of the finding unlikely.

*Assortment Choice.* As expected, instructions to rely on feelings and emotions versus logic and reason significantly impacted participants’ probability of choosing the larger

assortment over the smaller assortment ( $\chi^2(1) = 6.00, p = .014$ ). Whereas participants in the reliance-on-logic condition, where affective engagement was lower and *negative* experience utility was presumably attenuated, tended to choose the larger assortment (53.4%) over the smaller assortment (46.6%), participants in the reliance-on-feelings condition, where affective engagement was greater and *negative* experience utility was presumably accentuated, were more likely to choose the *smaller* assortment (59.8%) over the larger assortment (40.2%). (Again this effect did not change after controlling for the various measures of depth-of-processing.) The finding that the effect of affective engagement on the preference for larger assortments reverses when products are inherently aversive is consistent with our proposition that the typical preference for larger assortments is driven by the experience utility that consumers derive from reviewing the assortment.

*Experience Utility and Statistical Mediation.* As expected, participants reported relatively greater *negative* experience utility in reviewing the larger assortment compared to the smaller assortment ( $M = 5.26$  on a 9-point scale, difference-from-the-mid-point- $t = 2.12, p = .035$ ). More importantly, this effect was stronger in the reliance-on-feelings condition ( $M = 5.51$ ) than in the reliance-on-reason condition ( $M = 5.02; F(1, 344) = 3.94, p = .048$ ). A bootstrapped test of mediation of categorical effect (Model 4 of the PROCESS macro [Hayes 2013]) confirmed that the main effect of process instructions on preferential choice of the larger assortment was indeed mediated by the relatively greater *negative* experience utility derived from reviewing the larger assortment (estimate =  $-.62$ ; lower level of 95% bootstrap confidence interval =  $-1.2621$ , upper level =  $-.0003$ ).

## Discussion

This study identifies an important boundary condition of the pattern of results documented in the first studies, thereby shedding further light on the proposed experienced-utility explanation. When given a choice between a large and a small assortment of coffins, a presumably unpleasant affective prospect, the pattern observed in the previous studies

reversed: participants exhibited a weaker relative preference for the larger assortment (and a stronger relative preference for the smaller assortment) when they were encouraged to rely on their feelings and emotions than when they were encouraged to rely on their logic and reason. Further mediation analysis showed that the observed reversal was mediated by the relatively greater *negative* experience utility derived from reviewing the larger assortment.

The results of this final study help us to differentiate our proposed affect-based account from other plausible accounts. First, the results clarify that the additional experience utility derived when reviewing larger assortments arises not from the sheer size or variety of the assortment, or the perceived freedom that larger assortments provide, but from affect associated with the products themselves. Had the source of the greater experience utility resided in the sheer number of options offered by larger assortments, the effects observed in the first three studies should replicate even if the product at issue is aversive. Second, the fact that our predictions were corroborated with a product category where participants were unlikely to have relevant product experience and knowledge to tap into makes the type of affect-related memory-retrieval mechanism proposed by Spassova and Isen (2013) unlikely. Finally, the observed reversal of the main result, together with the absence of any effect of our manipulation of affective engagement on various objective measures of depth-of-processing (e.g., memory for the products, time spent on task), confirms once again that the pattern of results observed in our studies is not due to a greater heuristic reliance on a general belief that larger assortments are simply better.

## **GENERAL DISCUSSION**

### Affect and the Preference for Larger Assortments

Although it has been found that *ex post* choice from large assortments can be demotivating and may result in lower choice satisfaction, a robust finding in the marketing literature is that *ex ante* consumers generally prefer larger product assortments. Standard explanations for this preference have focused on large assortments somehow enabling

“better” choices by allowing finer preference matching, reducing uncertainty, and facilitating variety-seeking. While we agree that these reason-based explanations may be at work, we offer a theoretically and qualitatively different, affect-based explanation. Specifically, we argue that the preference for larger assortments is substantially driven by the greater experience utility that consumers derive from reviewing such assortments. Because most products are carriers of positive affect, consumers derive greater experience utility from reviewing larger assortments compared to smaller assortments.

### Summary of the Findings

Consistent with this general proposition, we found across four studies that various manipulations of the affective experience associated with the review of a product assortment moderate the relative appeal exerted by large as opposed to small assortments. Specifically, we found that the relative preference for larger assortments was more pronounced (a) when participants were explicitly instructed to rely on their feelings and emotions rather than on logic and reason (Study 1); (b) when participants had experiential motives rather than instrumental motives (Study 2); and (c) when participants were presented with affect-rich rather than affect-poor representations of the assortments (Study 3, Replications A and B). These three studies’ findings provide converging moderation-of-process evidence that the affective experience of reviewing the assortment plays a significant role in explaining the preference for larger assortments. In addition, we obtained measurement-of-process (“Baron and Kenny”-type) evidence that the relative preference for larger assortments was statistically mediated by the relative pleasure of reviewing the assortments.

Additional results show that when the product is inherently unpleasant, the effect is reversed—a greater reliance on affect reduces the relative preference for larger assortments (Study 4). This reversed pattern supports the proposition that the greater experience utility that arises from reviewing larger assortments comes not from the sheer size and variety of these assortments, and the perceived freedom that they may provide, but from the positive

affect that most products carry. This study's findings further show that our results are not due to our manipulations of affect engagement triggering a reliance on a general "larger-assortment-is-better" heuristic, nor to the memory-retrieval of prior product-related knowledge that facilitates a greater appreciation of larger assortments.

### Theoretical Implications

Our research makes significant contributions to the literature on assortments. First, recall that in our studies we manipulated participants' affective experience of reviewing the assortments independently of the assortments' sizes. By doing so, we effectively held constant the assortments' ability to match participants' preferences, reduce their uncertainty, and address their variety-seeking motives across affective-experience conditions. That our various manipulations of affective experience were found to consistently moderate the relative attractiveness of the larger assortments compared to the smaller assortments clearly shows that something beyond the standard rational explanations also governs consumers' relative preference for larger assortments.

Second, Study 1's results suggest that the role of affective processes in the preference for larger assortments may in fact be quite substantial relative to standard rational explanations of the phenomenon. Recall that in that study the relative preference for the larger assortment was found to be greater when participants were explicitly instructed to focus on their feelings and emotions than when they were instructed to focus on logic and reason. If the *ex ante* preference for larger assortments were driven primarily by cognitive/rational processes, as the literature suggests (i.e., enabling finer preference matching, reducing uncertainty, and facilitating variety-seeking), one would have expected stronger evaluation of the larger assortment when participants were explicitly encouraged to focus on logic and reason. Our proposed explanation is therefore not just another explanation for the preference for larger assortment: it is a genuinely important explanation.

Third, our research helps explain why consumers' *ex ante* preference for larger assortments is so strong despite evidence that *ex post* consumers may experience greater choice difficulty when choosing from larger assortments. If *ex post* consumers do experience greater decision difficulty when choosing from larger assortments, why are they drawn to such assortments in the first place? This paradox is not easy to explain with standard accounts of the *ex ante* preference for larger assortments. If this *ex ante* preference were mostly driven by the possibility of making a better choice from larger assortments, one would logically expect people to appreciate having a larger assortment even *ex post* or at least to anticipate the *ex post* difficulty of making a choice from a large assortment. Our results suggest that the paradox arises in part because processes that are qualitatively different underlie the *ex ante* preference for larger assortments and the *ex post* satisfaction of choosing from a large assortment. Whereas the former rests largely on affective processes, as our studies indicate, the latter is more likely to involve more cognitive and logical processes (Bettman 1979). In this light, there is no real incompatibility between liking large product assortments because they are fun to review, and then subsequently finding it difficult to make a choice from these large assortments.

Finally, our findings help understand and predict conditions under which a preference for large assortments might *not* be observed. A relative preference for larger assortments is theoretically less likely whenever consumers' reliance on feelings is expected to be low or when affect associated with the products could be unpleasant. In an informal meta-analysis of 33 published and unpublished studies (including many of our own and the four studies reported here), we found that 15.2 percent of the variation in the relative preference for larger assortments can be explained by the degree to which consumers expect a review of the assortment to be "pleasurable and fun" (see Web Appendix, Part 3).

*Managerial Implications*

Our findings have important practical implications for marketers and retailers. First, while marketers and retailers may be tempted to increase their assortment size as a means to attract customers, our research suggests that this strategy may be more effective for certain marketers and retailers than for others. Specifically, a large assortment size strategy is likely to be more effective in settings where customers are more likely to rely on affect when considering the assortment. For example, a large assortment strategy would generally be more effective for hedonic products (e.g., ice cream, candies, wine, perfume, luxury watches) than for utilitarian products (e.g., vitamins, cooking oil, dish towels, batteries). Holding the product category constant, large assortments are also more likely to be effective when consumers are expected to have experiential motives (e.g., a consumer booking a hotel or renting a car for a vacation) than when they are expected to have instrumental motives (e.g., a consumer booking a hotel or renting a car for business purposes), as was observed in Study 2. To the extent that consumers are more likely to rely on their feelings when making decisions for themselves than when making decisions for others (Raghunathan and Pham 1999), large assortments would be more effective for products and services purchased for one's own consumption (e.g., getting a spa treatment) than for products and services purchased for others (e.g., gift certificates for spa treatments).

Our results further suggest that if marketers have large assortments, it is generally to their advantage to encourage consumers to rely on their feelings in their assessment of the assortment. One way of doing this is through brand positioning. For example, Bath and Body Works has used the slogan "We Make Fragrance Fun!"—a blatantly hedonic positioning—to market its more than 120 fragrances of bath and beauty products. Another way of doing it is by increasing the affect-richness of one's marketing, products, and retailing materials (e.g., website, advertisements, package designs, retail atmospherics), as suggested by the findings of Study 3. Conversely, if marketers or retailers have relatively small assortments, it is to their advantage to discourage a reliance on feelings. For example, companies may adopt a

more functional positioning, as L'Occitane does when emphasizing the naturalness and authenticity of its relatively small assortment of products. Small-assortment companies may also want to decrease the affective richness of their materials.

Finally, our findings suggest that certain marketers and retailers may in fact hurt themselves by pursuing a large assortment strategy. When products are inherently aversive (e.g., medical procedures, funeral products, alarm systems, life insurance), marketers may be better served by offering more limited assortments. If the assortment size cannot be reduced, such marketers may consider decreasing the chance that the assortment will be assessed affectively.

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FIGURE 1

## STUDY 1: THE EFFECT OF PROCESS INSTRUCTION AND ASSORTMENT

## SIZE ON ASSORTMENT EVALUATION

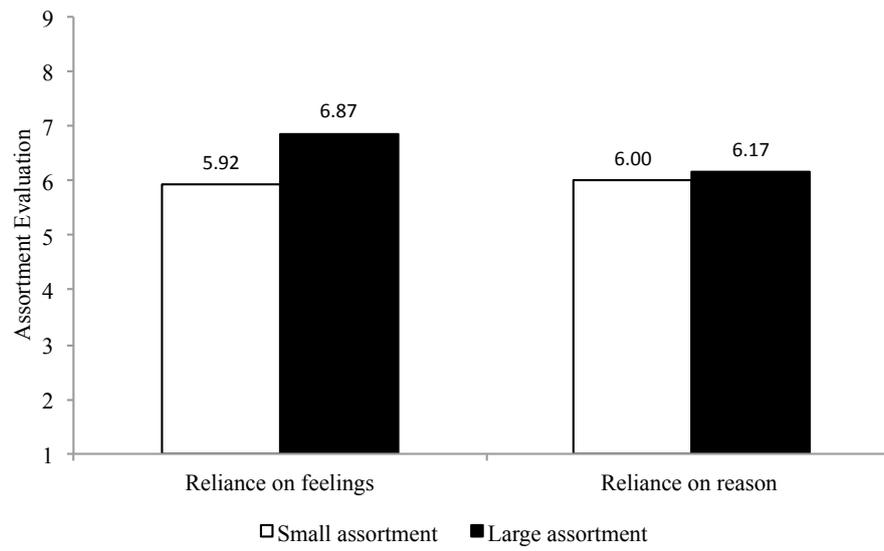
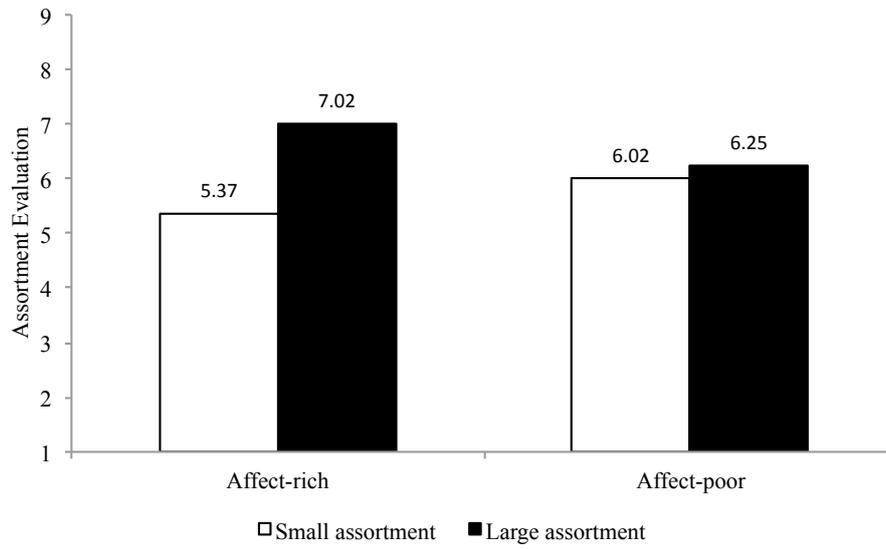


FIGURE 2

STUDY 3: THE EFFECT OF PRESENTATION MODE AND ASSORTMENT SIZE ON ASSORTMENT EVALUATION (REPLICATION A, REPLICATION B)

## REPLICATION A



## REPLICATION B

