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RESEARCH ARTICLE

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To neglect or to consider? Opportunity cost consideration during product sampling can accelerate satiation

Baler Bilgin[1] | **Deniz Lefkeli**[2]

[1]Department of Marketing, Koç University, Istanbul, Turkey

[2]Department of Business and Management, LUISS Guido Carli University, Rome, Italy

Correspondence
Baler Bilgin, Department of Marketing, Koç University, Istanbul, Turkey.
Email: babilgin@ku.edu.tr

Abstract

Sampling provides limited experience with an offering to promote its purchase, either now or later. Sampling involves an ongoing choice about whether to buy the sampled option. We propose that *ongoing choice* feels more like a choice when people consider opportunity costs. Consequently, we predict that opportunity cost consideration will accentuate the impact of *ongoing choosing* on *enjoyment over time* of the sampled option (i.e., a slope effect). It follows that when ongoing decision evolves toward not choosing the sampled option today, its negative impact on enjoyment should become more pronounced when people consider their opportunity costs, decreasing overall enjoyment. Studies 1, 2, and 3 provided support for this key prediction. Studies 4 and 5 showed that when the best alternative use of a resource people considered was more attractive, they experienced accelerated satiation from an unchosen sampled option. While previous research showed that opportunity cost consideration accentuated the impact of *one-time choice* on *evaluation* (i.e., intercept effect), we showed that it accentuated the impact of *ongoing choice* on *enjoyment over time* (i.e., slope effect). We also contribute to the understanding of the factors that increase overall enjoyment of a sampling experience, which should influence future purchase likelihood.

KEYWORDS

enjoyment, financial constraints, ongoing choice, opportunity costs, sampling, satiation

1 | INTRODUCTION

Sampling is a routine consumption experience that has a larger effect on sales than any other form of marketing activity (Chandukala et al., 2017; McGuinness et al., 1992). Sampling provides limited experience with an offering to promote its purchase, either now or later. Accordingly, it involves experiential aspects such as touching, tasting, viewing, or smelling (Holbrook & Hirschman, 1982; Shiv & Nowlis, 2004) that are subject to satiation. As people consume something more, they enjoy it less (Coombs & Avrunin, 1977). Nearly all experiences involve satiation; for example, people enjoy viewing an art print less as they sample it more. All else being equal, sustained enjoyment from an option as it is being sampled should increase its purchase likelihood, either in the same or a later consumption episode.

While sampling, consumers often decide whether to spend their resources on the sampled option. Prior research showed that when deciding whether to spend their resources on an option, consumers can spontaneously consider alternative uses (i.e., their opportunity costs; Spiller, 2011). In this paper, we study how opportunity cost

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consideration influences enjoyment of a product over the course of its sampling.

Choices inform preferences like preferences inform choices (Bem, 1967; Brehm, 1956; Festinger, 1957). Post-choice preferences tend to shift in favor of chosen alternatives at the expense of unchosen alternatives (Ariely & Norton, 2008; Bem, 1967; Brehm, 1956; Sharot et al., 2010). To have this effect, however, choices must be perceived as such. Greenberg and Spiller (2016) showed that opportunity cost consideration accentuated the impact of one-time choice on evaluation by increasing how much the decision felt like a choice. We conceptualize sampling as an ongoing choice process; with each exposure, people become more or less likely to buy the sampled option. Hence, we conceptually extend the idea of opportunity cost consideration increasing how much *one-time choice* feels like a choice (Greenberg & Spiller, 2016) to how much *ongoing choosing* feels like a choice. Moreover, instead of studying how opportunity cost consideration affects *evaluation* of chosen versus unchosen items immediately after one-time choice (an intercept effect; Greenberg & Spiller, 2016), we study for the first time whether opportunity cost consideration influences *enjoyment over time* (i.e., slope effect).

Specifically, we propose that opportunity cost consideration will increase how much *ongoing choice* feels like a choice. As a result, the impact of *ongoing choosing* on *enjoyment over time* should be accentuated when people consider their opportunity costs during sampling. Accordingly, we predict that when preference evolves toward not buying the sampled option with each exposure, satiation from it will be quicker when people consider versus neglect their opportunity costs. By the same reasoning, when preference evolves toward *buying* the sampled option with each exposure, satiation from it will be slower when people consider versus neglect their opportunity costs. In this paper, our focus was on how an evolving preference toward not buying a sampled option influenced the rate of satiation from it. This was because most sampling experiences do not result in a purchase in the same consumption episode. People often sample products to decide whether to buy it later (i.e., include in their consideration sets). Future purchase likelihood depends on the overall enjoyment derived from a sampling experience. Hence, it is managerially relevant to understand the factors that affect overall enjoyment of a sampled option that is not chosen today to influence its purchase likelihood in the future.

2 | THEORETICAL BACKGROUND

2.1 | Sampling

Sampling provides limited experience with a product or service for free to promote its purchase at full price, either at the time of sampling or later. In some contexts, sampling involves incomplete or partial consumption of a product or experience. For example, when people see the preview for a movie, they get to sample only a portion of it. In other cases, sampling involves full exposure to but only limited experience with a product like sampling a food item or an art print. For example, when people sample an art print, they get to observe it in full. Yet, given time and physical limitations (e.g., relatively small size if sampled online), sampling an art print will not necessarily allow viewers to fully immerse in its details (e.g., the brushstrokes, selection of colors, deeper meaning conveyed by the artwork). Full consumption of an artwork in this sense requires hanging it on one's wall, so to speak.

Partly because of its experiential aspects, sampling is a very effective promotional tool (Gupta, 1988; Heilman et al., 2011; Rexha et al., 2010). Sampling has a bigger effect on subsequent attitudes and behavior than advertising and other promotions (Kempf & Smith, 1998). Given its effectiveness, it is not surprising that marketers spent about $32 billion on product sampling in 2018 (Brandshare, 2017) and product sampling reaches about 70 million consumers every quarter (Samplemax, 2018). In response to the explosive growth of e-commerce, marketers have introduced novel sampling methods. For example, online art retailers offer features that enable customers to preview artworks on their home walls. Netflix automatically starts playing a preview of a show when subscribers place their cursors on its thumbnail. The company also introduced Netflix Watch Free, which provides free access to nonpaying members to original shows and movies. Spotify and YouTube's business models involve offering free content in return for receiving ads with the goal of converting non-paying customers into paid ones at some point.

As these marketplace examples illustrate, the goal of sampling for retailers is not only to convert customers into buyers immediately after they sample an option but also to increase the chances that they will buy the sampled product or become a paying customer at some point. From the consumers' standpoint, they sample products in a category to learn and build knowledge (Hoch & Deighton, 1989), and not necessarily to make a purchase in the same consumption episode. Consistent with this, according to one poll, only about one in three consumers who sampled a product purchased it in the same shopping trip (Samplemax, 2018). In the same poll, sampling encouraged nearly half (47%) of customers who were new to the sampled product to purchase the product in the future. Although earlier research on sampling focused on its immediate impact, recent research has shown that the positive effect of sampling on consumers' purchase intention is not limited to the promotion period but continues over a longer period (Chandukala et al., 2017; Park et al., 2018).

The implication is that although consumers might choose to not buy a sampled option today, the sampling experience can influence their chances of buying it later. Whether people will buy a sampled product later depends on their overall enjoyment of the sampling experience. Thus, it is important for marketers to understand the factors that affect overall enjoyment during sampling to influence future purchase likelihood. Although previous research studied factors that affect the evaluation of sampled options (e.g., Stuppy & Van Den Bergh, 2022), no research to date has examined factors that affect the rate of enjoyment from a sampled product to influence overall enjoyment. In this paper, we study how opportunity cost

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consideration affects overall enjoyment from a sampled option that consumers choose to not buy today by influencing its rate of satiation.

2.2 | Opportunity cost consideration

Normatively, decisions require the consideration of opportunity costs (Alchian, 1968; Buchanan, 1978), which can be defined as "considering alternative uses for one's resources when deciding whether to spend resources on a focal option" (Spiller, 2011, p. 595). Tightwads (Frederick et al., 2009), those who are high in propensity to plan or have a future-orientation (Wu & He, 2012) consider opportunity costs on their own. Spiller (2011) also showed that financially constrained individuals spontaneously considered their opportunity costs. Shah et al. (2015) built upon this finding to show that people who experienced financial scarcity were more likely to think about trade-offs ("other things I won't be able to buy") when faced with a purchase. Likewise, Shah et al. (2018) found that financially constrained consumers are more likely to spontaneously think about money when considering everyday activities that have no explicit monetary dimension (e.g., drinking a beer at home). Dias et al. (2022) also showed that financial constraints decreased purchase happiness by increasing opportunity cost consideration. In addition to these factors, alternative uses that were more typical of a resource (e.g., coffee vs. a CD for a Starbucks gift card) were more likely to be spontaneously considered by virtue of being more accessible in memory (Spiller, 2011).

Other research suggests that people can neglect their opportunity costs (Frederick et al., 2009; Jones et al., 1998; Legrenzi et al., 1993; Magen et al., 2008; Northcraft & Neale, 1986). For example, Frederick et al. (2009) asked participants whether they would buy a desirable video that they have been thinking about buying a long time for $14.99. The decision to not buy it was varied such that "not buy this entertaining video" option in the implicit opportunity costs condition was accompanied by "keep the $14.99 for other purchases" in the explicit opportunity costs condition. The two frames are formally equivalent. Yet, this reminder reduced the purchase rate of the focal option by highlighting opportunity costs, indicating that participants did not consider their opportunity costs on their own.

2.2.1 | Perceived attractiveness of outside options

The effect of opportunity cost consideration on purchase rates depends on the attractiveness of the particular outside options considered. Previous research showed that opportunity cost consideration led to a decrease in the purchase rate of the focal option when they were more attractive, but not when they were less attractive, than the focal option. For example, a reminder that the choice of the cheaper option meant a $300 cash saving was much less effective when accompanied by an unattractive example of how that money could be spent (i.e., a weekend trip to Des Moines, Iowa; Frederick et al., 2009). Consistent with this, Spiller (2011) found that the consideration of outside options that were less attractive than the focal option increased purchase rates of the focal option.

Past research we have reviewed so far focused primarily on direct effects of opportunity cost consideration on purchase rates. We next discuss research that has examined how opportunity cost consideration can indirectly affect product evaluation by increasing how much choice is perceived as such.

2.2.2 | "Whether or not" versus "which-one"

Greenberg and Spiller (2016) examined how opportunity cost consideration affected the evaluations of chosen and foregone options. They observed that when people neglected their opportunity costs, they failed to notice that the choice was from among multiple options. Hence, they proposed that opportunity cost consideration turned "whether-or-not" decisions that focused on the absolute value of the focal option into "which-one" decisions that focused on the value of the focal option relative to the opportunity cost that was considered. Although the task involved a one-time choice in both cases, considering versus neglecting opportunity costs increased how much choice was perceived as such.

It is well-known that post-choice preferences tend to shift in favor of chosen alternatives at the expense of unchosen alternatives (Ariely & Norton, 2008; Bem, 1967; Brehm, 1956; Sharot et al., 2010). If opportunity cost consideration increased how much choice is perceived as such, then opportunity cost consideration at the time of choice should increase the post-choice spread between evaluations of the (chosen) focal option and (unchosen) opportunity costs. This was indeed the pattern that Greenberg and Spiller (2016) observed, supporting that opportunity cost consideration accentuated the impact of one-time choice on evaluation.

As the foregoing discussion demonstrates, past research on opportunity cost consideration focused on intercept effects (i.e., purchase rates, evaluation) after a *one-time choice*, and not on slope effects. We propose, however, that opportunity cost consideration will influence *enjoyment over time* from a sampled option, and thus predict a slope effect. Importantly, unlike Greenberg and Spiller (2016), we do not anticipate an intercept effect of opportunity cost consideration in a sampling context. In the next sections, we reconcile our prediction of a slope effect without an intercept effect with Greenberg and Spiller's (2016) finding of an intercept effect of opportunity cost consideration.

2.3 | Satiation

Satiation refers to a decrease in enjoyment driven by repeated exposure or consumption of an item (Galak & Redden, 2018). Satiation arises in virtually all consumption domains (for a review,

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Table 1) including art (Lasaleta & Redden, 2018), music (Ratner et al., 1999), food (Rolls et al., 1984), video games (Galak et al., 2013), TV shows (Nelson et al., 2009), and even interpersonal relationships (Galak et al., 2009).

Satiation has a psychological component (McSweeney & Murphy, 2000). For example, reminding people of the variety that they had consumed in the past (Galak et al., 2009) or would consume in the future (Sevilla et al., 2016) slowed current satiation. Specifically, Sevilla et al. (2016) found that participants experienced slower satiation on the current consumption of a specific flavor of jellybeans when they were reminded of alternative flavors they could consume in the future. Such slower satiation occurred because the anticipatory thoughts about variety allowed consumers to start mentally "pre-consuming" the future item in the present, which led to an overall more enjoyable and less satiating current experience.

TABLE 1 A sample of research exploring satiation.

Authors	Year	Independent variable(s)	Main finding
Hetherington et al.	2006	Variety	Incorporating variety into consumption slows down hedonic decline.
Redden	2008	Categorization level	Subcategorization of the consumption experience slows down satiation.
Galak et al.	2009	Variety	Recalling the variety of products that have been consumed in the past leads to a recovery from satiation.
Galak et al.	2011	Variety and consumption rate	Variety increases enjoyment when the consumption experience is continuous; however, when it is interrupted, variety decreases enjoyment.
Poor et al.	2012	Emotional differentiation	In a consumption experience, differentiating between positive and negative emotions slows down hedonic decline.
Redden and Galak	2013	Consumption inference	The perceived amount of consumption influences hedonic decline.
Redden and Haws	2013	Self-control	Consumers who have higher (vs. lower) levels of self-control satiate faster on unhealthy foods as opposed to healthy foods.
Galak et al.	2014	Subjective time perception	An increase in the temporal distance slows down hedonic decline.
Larson et al.	2014	Evaluation	Repeated evaluations of the product accelerate hedonic decline.
Sevilla and Redden	2014	Availability of the product	Limited availability of a product slows down hedonic decline.
Areni and Black	2015	Constraints in consumption	Small portions increase hedonic decline.
Chugani et al.	2015	Identity relevance	Identity relevance of the product slows down the hedonic decline.
Crolic and Janiszewski	2016	Multilayered sensory experience	Experiencing, identifying, focusing on, and remembering additional details of the consumption experience led to hedonic escalation.
Sevilla et al.	2016	Variety	Anticipation of variety that will be incorporated into consumption in future slows down hedonic decline.
Redden et al.	2017	Choosing the product to experience	Choosing accelerates hedonic decline as it increases the perceived repetitiveness.
Haws, McFerran, and Redden	2017	Price	The presence of price accelerates hedonic decline.
Nelson and Redden	2017	Memory	Utilizing a greater working memory capacity accelerated hedonic decline.
Bhargave et al.	2018	Joint consumption	Coexperiencing a stimulus with others accelerates hedonic decline.
Lasaleta and Redden	2018	Similarity and categorization	In incorporating variety into the consumption experience, similarity of products accelerates satiation when the products are categorized together, while it slows down satiation when they belong to inherently different categories.
Mead et al.	2019	Information about future variety	Providing a low detailed description (vs. high) about future variety slows down hedonic decline.
Tang et al.	2023	Consumers' scheduling styles	Relying on internal temporal cues (e.g., event time scheduling) as opposed to external temporal cues (e.g., clock time scheduling) accelerates hedonic decline.
Current research (Bilgin and Lefkeli)	2023	Opportunity cost consideration	When preference evolves toward not buying a sampled option with each exposure, satiation from it will be quicker when people consider versus neglect their opportunity costs.

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2.4 | The effect of opportunity cost salience on satiation

As mentioned earlier, opportunity cost salience transformed a one-time choice from "whether-or-not" into "which-one," accentuating the effect of one-time choice on preference (Greenberg & Spiller, 2016). Greenberg and Spiller (2016) examined the effect of the act of choosing on preference immediately after people made a one-time choice (i.e., an intercept effect) and not over time (i.e., a slope effect). In this paper, we generalize the core idea of Greenberg and Spiller (2016) from *one-time choice* and *evaluation* to *ongoing choice* and *enjoyment over time* by conceptualizing the sampling process in terms of an ongoing decision about whether to buy the sampled option. Effectively, each exposure is an opportunity to help decide whether to buy the sampled option; with each exposure, people get closer to buying or not buying the sampled option.

To illustrate ongoing choice during sampling, imagine that you are undecided between buying versus not buying the sampled option during the initial stages of sampling. After the third exposure, however, you become noticeably inclined toward not buying it today. The fourth exposure further convinces you to not buy. Thereafter, you become more convinced, with each repetition, that you will not buy the sampled option today. We propose that the impact of the changes in choice likelihood with each exposure on enjoyment over time will be more pronounced when people consider their opportunity costs. Accordingly, we predict accelerated satiation from an unchosen sampled option, and slower satiation from a chosen sampled option, when people consider versus neglect their opportunity costs.

Greenberg and Spiller (2016) studied the effect of opportunity cost consideration at the point of *one-time choice* and observed its impact on evaluation immediately after the one-time choice (i.e., an intercept effect). However, we study the effect of opportunity cost consideration as choice develops over time (i.e., ongoing choice). Theoretically, ongoing choice and one-time choice involve different processes insofar as they pertain to satiation; they are conceptually distinct constructs. Previous research showed accelerated satiation from listening to music when people engaged in ongoing choice (i.e., determining the order in which to listen to a number of songs while listening) compared to one-time choice before the start of the listening experience (Redden et al., 2017; study 5). Hence, showing that the effect of opportunity cost consideration on *one-time choice* extended to the conceptually distinct construct of *ongoing choice* would be novel.

While the effect of one-time choice predicted an intercept effect, our conceptualization of sampling as an ongoing choice predicted a slope effect of opportunity cost consideration. It is noteworthy that there is no reason why the previously observed effect of opportunity cost consideration on evaluation (intercept effect; Greenberg & Spiller, 2016) will necessarily translate into a slope effect. Let us first explain why we expected a slope effect of opportunity cost consideration. A product sampling context inherently involves ongoing choice because the decision to buy or not buy develops over the course of sampling. This is also what consumers expect of a sampling experience; when people sample a product, they typically expect that their decision to buy it will emerge over the course of sampling (i.e., they will engage in ongoing choice). That is, they treat sampling as an ongoing choice versus a one-time choice. Hence, they expect that with each exposure to the sampled option, the choice likelihood of the sampled option will increase or decrease by some degree. Accordingly, we predicted that opportunity cost consideration would accentuate the impact of changes in choice likelihood with each exposure on enjoyment. If the effect manifested on one-time choice, however, then we should observe an effect of opportunity cost consideration on the rating taken immediately after participants made their choice, but not on subsequent enjoyment ratings (i.e., no slope effect).

Unlike Greenberg and Spiller (2016), we did not expect to observe an intercept effect of opportunity cost consideration on enjoyment in a sampling context. As mentioned above, people often do not expect to make a choice about whether to buy a sampled option immediately after a quick exposure to it. This contrasts with one-time choice where people know that they will make a choice immediately after exposure to an option. The implication is that any change in the choice likelihood of a sampled option after a first exposure will likely be too small to influence enjoyment in a sampling context. It is only with additional exposures that ongoing choice toward buying or not buying will become clear and strong enough for its effect on enjoyment to manifest. Hence, at least a few exposures are needed for opportunity cost consideration to accentuate the effect of ongoing choice on enjoyment, meaning no intercept effect.

Building upon prior research (Frederick et al., 2009; Spiller, 2011), we also propose that satiation from an unchosen sampled option will be faster when people consider relatively more attractive opportunity costs. Imagine, for example, that you have a $20 gift card either from Amazon or art.com. When considering whether to buy a $20 art print with your gift card, it is likely that you will conjure more attractive alternative uses if your gift card was from Amazon versus art.com. After all, Amazon offers a much broader variety of options to choose from compared to art.com, increasing the likelihood that any one option you come up with will be more attractive. Accordingly, we predicted that satiation from an unchosen art print would be quicker when the retailer of the gift card that would be used to buy it was Amazon versus art.com. Figure 1 provides a graphical representation of our theory.

3 | OVERVIEW OF STUDIES

Our studies tested two key hypotheses. First, the consideration (vs. neglect) of opportunity costs during sampling would lead to quicker satiation from an unchosen sampled option (studies 1, 2, and 3). Second, satiation would be quicker when the best alternative use that people considered was relatively more attractive (studies 4 and 5).

We expected that most participants in our studies would choose to not buy the focal option. This is primarily because testing our research question required participants to go through the actual experience of

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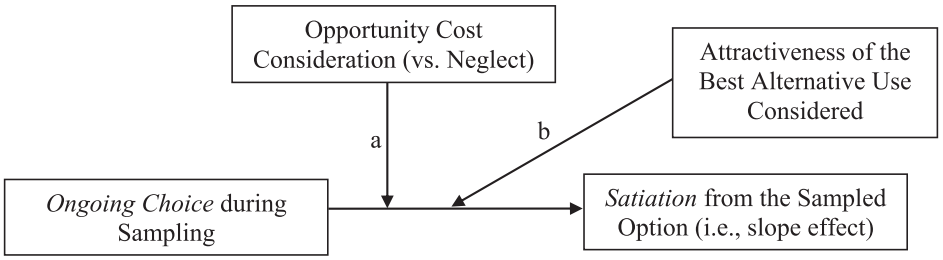


FIGURE 1 Graphical representation of the theory. Studies 1, 2, and 3 tested whether opportunity cost consideration (vs. neglect) would accentuate the impact of ongoing choice on enjoyment over time to accelerate satiation from an unchosen sampled option (link a). Studies 4 and 5 tested whether the relative attractiveness of the best alternative use people considered would accelerate satiation from an unchosen sampled option (link b). Note that by definition, link b applies only when people consider their opportunity costs. This means that the predictions of the model are two-way interactions; while link a predicts an interaction between opportunity cost versus neglect and iterations, link b predicts an interaction between the relative attractiveness of the best alternative use considered and iterations.

sampling a product, and not simply to imagine sampling it. This feature of our studies differentiated it from previous studies on opportunity cost consideration where participants were asked to imagine a product without experiencing it, which made it possible to observe relatively high purchase rates (e.g., imagine that the CD is one you have been thinking of buying for a long time; experiment 1, Frederick et al., 2009).

Building upon the finding that financial constraints increase the spontaneous consideration of opportunity costs (Dias et al., 2022; Spiller, 2011), the preregistered study 1 exploited the naturally occurring differences in consumers' financial constraints. Results showed that participants who felt financially constrained experienced accelerated satiation from an art print they chose not to buy today. Studies 2 and 3 built upon the finding from study 1 by manipulating opportunity cost consideration to show a causal effect on the rate of satiation. Study 2 showed that participants experienced faster satiation and reduced overall enjoyment from a (unchosen) $20 art print while sampling it when the "not buy" option provided before sampling was described with versus without the reminder that they could save $20 for other purchases. Study 3 replicated the effect in an incentive compatible design and provided evidence that the effect of opportunity cost consideration began to manifest *after* participants' decision to not buy the sampled art print began to emerge. Study 4 exploited the natural variance in the relative attractiveness of the alternative uses of an Amazon versus art.com gift card to show that an Amazon versus art.com gift accelerated satiation from an art print. As expected, an Amazon versus art.com brought to mind more attractive alternative uses. While we measured relative attractiveness of the best alternative use of a resource in study 4, we manipulated it in study 5. We found that listing the worst in addition to the best alternative use of an Amazon gift card before sampling an art print led to faster satiation from it, presumably by increasing the relative attractiveness of the best alternative use by comparison (i.e., a contrast effect).

We had decided before we began data collection to exclude all observations associated with duplicate MTurk IDs or IP Addresses, and to exclude those whose actual MTurk IDs were different than their reported IDs. In all studies, participants responded to simple screening questions before they could proceed to the main task (see the Web Supporting Information: Appendix A for the questions). Participants who failed to provide the correct responses to these questions were not allowed to proceed to or retake the study (Meyvis & Van Osselaer, 2018). We also disallowed for taking the studies on a cell phone as they entailed viewing images. We have reported all conditions and data exclusions, and measures of primary interest in the manuscript (see the Web Supporting Information: Appendix B for measures not reported here). The data for all our studies are accessible at https://researchbox.org/1521.

4 | STUDY 1

To goal of the current preregistered study (https://aspredicted.org/4NP_8XR) was to examine whether financially constrained consumers would experience accelerated satiation from an unchosen art print. To do so, we measured consumers' financial constraints and examined how they related to their enjoyment over time from an art print they sampled. We expected participants who felt more financially constrained to experience accelerated satiation from an art print that they chose not to buy today.

4.1 | Method

4.1.1 | Participants

As preregistered, we recruited 200 US residents (106 females; M_{age} = 42.7, standard deviation [SD] = 12.56) from the Amazon Mechanical Turk online panel who completed this study in exchange for a small payment. Two additional respondents completed the study without collecting payment. As indicated in our preregistration, we targeted at least 150 participants who chose not to buy the art print. Expecting that at least some of our participants would choose to buy the sampled art print, we posted the study for 200 MTurkers out of which 44 chose to buy the art print. Although we preregistered to exclude participants who chose to buy the print, the pattern of significance did not change when they were included in the analysis. Thus, we analyzed the data from all participants.

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4.1.2 | Procedure

Upon entering the survey, participants were informed that they would view an original art print by Patricia van Lubeck titled "Fargesia Victualia" several times, each lasting 15 s, and rate their enjoyment after each trial. They were then told that after viewing and rating the print several times, they would indicate whether they would buy the art print for its retail price of $34.99.

Then, all participants viewed the art print eight times and rated their enjoyment after each viewing (0 = *Not at all*, 100 = *Very much*). Participants then answered four financial constraint questions (Paley et al., 2019): (a) "To what extent do you feel financially constrained?" (1 = *Not at all financially constrained*, 7 = *Very financially constrained*); (b) "To what extent do you feel like you can spend as much as you like?" (1 = *Not at all*, 7 = *Very much*); (c) "Compared to the financial situation of your peers, your financial situation is…" (1 = *Much better*, 7 = *Much worse*); and (d) "To what extent do you feel satisfied with your financial situation?" (1 = *Not at all satisfied*, 7 = *Very satisfied*). We asked financial constraints questions only after participants repeatedly viewed and rated the art print, and not vice versa, so as not to cue participants to consider opportunity costs when they may not have otherwise.

Participants then indicated whether they would buy Fargesia Victualia for $34.99 and responded to the perceived scarcity of the art print (the art print is rare; the art print is unique; the art print is scarce; 1 = *Strongly disagree*, 7 = *Strongly agree*) among other measures reported in the web Supporting Information: appendix.

4.2 | Results and discussion

The four questions measuring participants' financial constraints were recoded such that higher numbers indicated greater perceived financial constraints. These questions were reliable and averaged to form a single financial constraint measure (Cronbach's $\alpha = 0.81$). The mean score was 4.88 (SD = 1.30). Two participants had average scores below 2.5 SD of the mean. The pattern of significance did not change after excluding the two participants, as preregistered. Hence, we included all participants in the analysis.

4.2.1 | Enjoyment ratings

To test our primary prediction that financially constrained consumers would experience accelerated satiation from an unchosen art print, we ran a regression on the eight enjoyment ratings, as preregistered. The model included the financial constraints measure and the cumulative number of times the art print was viewed as a continuous factor. A repeated measure with a first-order autoregressive error structure was also used since participants gave multiple responses over time. The model (which used the estimation method REML) did not show a main effect for the financial constraints measure ($B = -2.04$, SE = 1.61, t (271) = −1.27, $p = 0.21$) or repeated exposures ($F < 1$, n.s.). Importantly, there was a significant two-way interaction between these factors ($B = -0.37$, SE = 1.61, t (1585) = −2.67, $p = 0.008$). Figure 2 shows the nature of the relationship; as financial constraints increased, participants experienced accelerated satiation, as predicted.

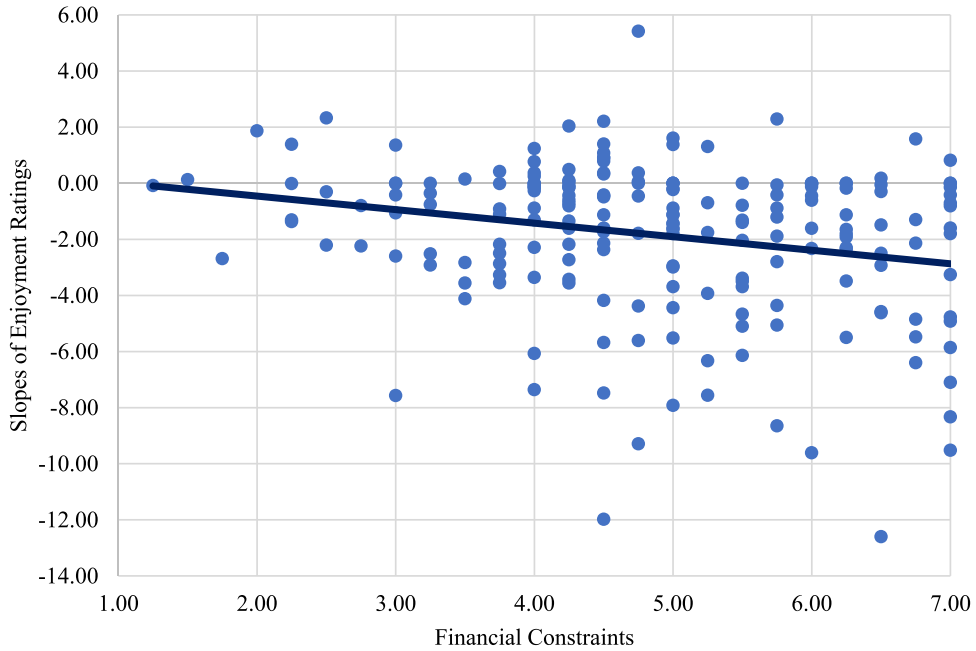


FIGURE 2 Individual slopes of enjoyment ratings and financial constraints in study 1. To create the vertical axis, we calculated the slope of enjoyment as a function of time for each participant. Negative (positive) values indicate that participants show satiation (sensitization). Hence, the trendline shows the relationship between participants' financial constraints and the slopes of their enjoyment ratings.

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Perceived scarcity (Cronbach's $\alpha = 0.89$) was correlated with financial constraints (r [202] = −0.2); financially constrained participants perceived the art print to be less scarce. Financial constraints continued to predict the rate of satiation, however, when we adjusted for perceived scarcity, suggesting that our results cannot be explained by differences in perceived scarcity.

Because people who are financially constrained are more likely to spontaneously consider their opportunity costs (Shah et al., 2018; Spiller, 2011), we expected that financial constraints would accelerate the rate of satiation from an unchosen art print. Results from study 1 supported the predicted relationship. Hence, financial constraints decreased the overall enjoyment from a sampled option that participants chose to not buy today. The effect arose when participants responded to the financial constraints questions only after rating their enjoyment repeatedly, indicating that they considered opportunity costs on their own while sampling.

Study 1 was designed to explore a naturally occurring relationship between consumers' financial constraints and accelerated satiation from an unchosen option. Studies 2 and 3 built on these findings by manipulating opportunity cost consideration and examining its causal effect on the rate of satiation.

5 | STUDY 2

Building on study 1, study 2 manipulated opportunity cost consideration to examine whether it accelerated satiation from an unchosen sampled option.

5.1 | Method

5.1.1 | Participants

One hundred twenty US residents (56 females; $M_{age} = 41.04$, SD = 13.03) from the Amazon Mechanical Turk online panel completed this study in exchange for a small payment. The sample size (120) was determined before data collection began. After excluding five participants that fit our exclusion criteria, we were left with 115 participants for the analysis. Including these five participants in the analysis does not change the significance of our results.

5.1.2 | Procedure

Participants were randomly assigned to one of two conditions (opportunity costs: explicit vs. implicit). Before repeated exposures, participants were informed that they would view an original art print by Patricia van Lubeck titled "Fargesia Victualia" several times, each lasting 15 s, and rate their enjoyment after each trial. They were then told that after viewing and rating the print several times, they would indicate whether they would buy the art print for its retail price of $20. Specifically, participants in the implicit opportunity costs condition were told that they could then "choose whether to buy it or not," whereas those in the explicit opportunity costs condition were told that they could then "choose whether to buy it or not buy it and *instead save $20 for other purchases*." The two frames are formally equivalent.

Then, all participants viewed the art print eight times and rated their enjoyment after each viewing (0 = *Not at all*, 100 = *Very much*). In both conditions, the decision to buy the art print was worded as "I will buy a copy of Fargesia Victualia for $20." The two conditions differed with respect to how the decision to not buy the art print was worded. In the explicit opportunity costs condition, the statement was "I will not buy a copy of Fargesia Victualia and instead save $20 for other purchases." In the implicit opportunity cost condition, the statement was "I will not buy a copy of Fargesia Victualia." Participants who chose to purchase the art print received the link for an online retailer that sold the art print for $20.

5.2 | Results

5.2.1 | Manipulation check

A logistic regression showed no significant effect of our manipulation on the percentage of participants choosing to buy the art print ($M_{explicit} = 9\%$, SD = 0.29, $M_{implicit} = 15\%$, SD = 0.36; Wald χ^2 [1] = 0.79, $p = 0.37$). As intended, most participants chose to not buy the $20 art print.

5.2.2 | Enjoyment ratings

To test our primary prediction that the reminder that participants can save $20 for other purchases will accelerate satiation, we ran a regression on the eight enjoyment ratings taken after the manipulation. The model included opportunity cost salience as an effect-coded factor (set to 1 for explicit and −1 for implicit) and the cumulative number of times the art print was viewed as a continuous factor. A repeated measure with a first-order autoregressive error structure was also used since participants gave multiple responses over time. The model (which used the estimation method REML) showed a significant main effect of repeated exposures (F [1, 903] = 90.04, $p < 0.0001$); enjoyment declined with repeated exposures. The model did not show a main effect for opportunity cost salience ($F < 1$, n.s.). Importantly, there was a significant two-way interaction between these factors (F [1, 903] = 16.37, $p < 0.0001$). As Figure 3 shows, participants in the explicit opportunity cost condition became satiated quicker than those in the implicit opportunity cost condition.

Unpacking this effect, we calculated the slope of enjoyment as a function of time for each participant. Negative (positive) values indicate that participants show satiation (sensitization). We then tested our primary prediction by submitting these slopes to a one-way ANOVA (opportunity costs: explicit vs. implicit). The ANOVA revealed a steeper slope when opportunity costs were explicit versus

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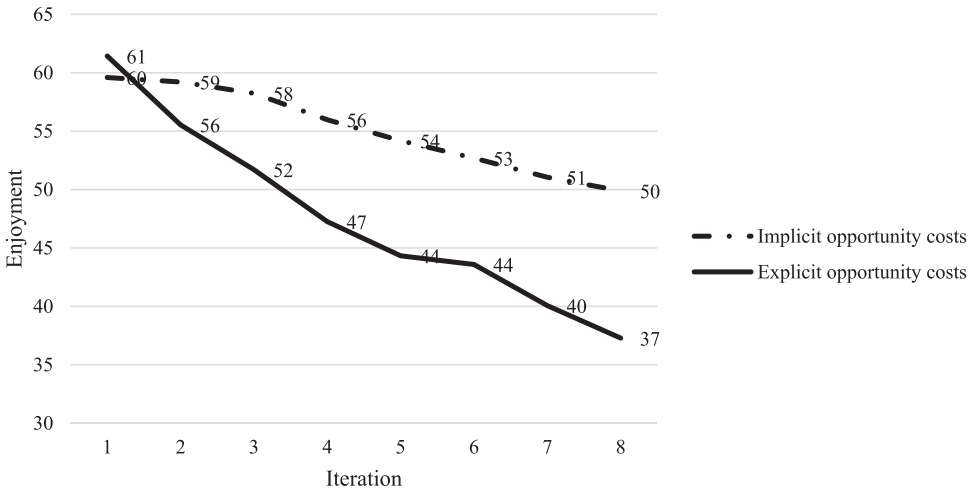


FIGURE 3 Mean enjoyment ratings by opportunity cost salience condition in study 2.

implicit ($M_{explicit} = -3.26$, SD = 2.83, $M_{implicit} = -1.51$, SD = 2.73; F [1, 125] = 11.26, $p = 0.001$, $n_p^2 = 0.09$). Hence, enjoyment from the unchosen sampled art print decreased faster when participants were reminded that they could save $20 for other purchases.

5.3 | Discussion

A reminder that participants could keep their $20 for other purchases accelerated satiation from an art print that most participants chose to not buy. Although the two frames in our manipulations are normatively equivalent, behaviorally, they led to different rates of satiation. Hence, overall enjoyment from a sampled option that people chose to not buy today was lower when people considered their opportunity costs.

There was no effect of our manipulation on the first enjoyment rating (i.e., no intercept effect), as would be expected if participants treated a sampling task as an ongoing choice rather than a one-time choice. Moreover, the slope effect also indicated that the effect was not an outcome of a one-time choice as in Greenberg and Spiller (2016), which would predict an effect of opportunity cost consideration on the enjoyment rating taken immediately after participants became certain of their decision to not buy, but not in subsequent enjoyment ratings. Hence, this pattern of results strongly supported that the effect of opportunity cost consideration manifested on ongoing choice rather than one-time choice.

It is interesting to observe that the slopes of enjoyment between the two groups began to diverge after the second exposure. If the effect of opportunity cost consideration began to manifest after people's decision to not buy began to emerge, as we suggest, then this result implies that participants' decision to not buy the sampled art print began to emerge early in the sampling process. This might be due to a relatively unattractive focal option. Indeed, the first average enjoyment rating was only 60.5/100 and the overall purchase rate of %12 was very low. A relatively unattractive print likely made it easier to observe the effect as most participants chose not to buy it and did so early on, thereby leaving enough exposures for the effect of opportunity cost consideration to manifest. This can explain the rather strong effect that we observed ($n_p^2 = 0.09$). In study 3, we examined whether the effect would still arise when the sampled art print was relatively more attractive. We also asked participants when their decision to buy or not buy the art print began to emerge to test whether the effect began to manifest after their indicated number of exposures.

6 | STUDY 3

Study 3 tested whether the effect we observed in study 2 would replicate in an incentive compatible design. Moreover, we looked at whether the effect arose after participants' decision to buy or not buy the sampled art print began to emerge.

We introduced a few changes from study 2 to make the sampled option more attractive. First, we used a new art print that we believed participants would find more attractive. Second, we reduced the price of the art print from $20 in study 2 to $10.99. Third, we told participants that the art print was on sale, discounted from $12.99 to $10.99.

6.1 | Method

6.1.1 | Participants

One hundred thirty-one US residents from MTurk (82 females; $M_{age} = 38.6$, SD = 12.49) completed this study. The target sample size (120) was determined before data collection began. We recruited 130 participants expecting exclusions based on the criteria we had set. One additional respondent completed the study without collecting payment. Because no participant met our exclusion criteria, we had a total of 131 participants for the analysis.

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6.1.2 | Procedure

Participants were randomly assigned to one of two conditions (opportunity costs: explicit vs. implicit). At the beginning of the study, all participants were told that two randomly chosen MTurkers participating in the study would receive a $10 bonus payment. Participants were then informed that they would view an original art print titled "Farewell to Anger" that had a special sale price of $10.99, on sale from $12.99. They were told that we would give them a chance to buy this art print at the end of the study for $10 (an additional 0.99 cents savings) and that their choice would be enforced if they were to win the $10 bonus payment. Like in study 2, we varied how the choice between buying and not buying the art print was presented to manipulate opportunity cost salience. Participants in the explicit opportunity cost condition saw the following two options:

1. Buy Farewell to Anger for $10 (normally sells for $10.99, on sale from $12.99).
2. Not buy Farewell to Anger [Keep the $10 for other purchases].

Participants in the implicit opportunity costs condition did not see the reminder in brackets. All participants were informed that they would view the art print several times, each lasting 15 s, and would rate their enjoyment after each viewing.

Then, all participants viewed and rated their enjoyment of the art print eight times (0 = *Not at all*, 100 = *Very much*). The purchase decision between the two options was presented to them in the same format as above. Right before participants made their choice, they were reminded that their decision would be enforced if they turned out to be one of the two winners. After indicating their choice, all participants reported about how many viewings it took them to make their purchase decision (1 = *about 1–2 viewings*, 2 = *about 3–4 viewings*, 3 = *about 5–6 viewings*, 4 = *about 7–8 viewings*). This question served two goals. First, we could observe whether the slopes of enjoyment between the two groups began to noticeably diverge after their decision began to emerge. Second, we could test whether our manipulation differentially affected the speed with which our participants made their decision. Finally, two randomly chosen MTurkers participating in this study were awarded a $10 bonus payment, as incentivized at the beginning of the study.

6.2 | Results

6.2.1 | Manipulation checks

A logistic regression revealed no significant effect of our manipulation on the purchase rate of the art print ($M_{explicit}$ = 14%, SD = 0.35; $M_{implicit}$ = 26%, SD = 0.44; Wald χ^2 (1) = 2.84, p = 0.09). As intended, most participants chose to not purchase the art print. Yet, the baseline purchase rate of the focal option was higher than in study 2 (12% in study 2 vs. 20% here), as intended. Moreover, the first enjoyment rating was around 80/100 on average, much higher than the 60.5/100 in the first study. Hence, the sampled option was relatively more attractive than in study 2.

6.2.2 | Enjoyment ratings

To test our primary prediction that the reminder that participants can save $10 for other purchases would accelerate satiation, we ran a regression on the eight enjoyment ratings taken after the manipulation. The model included opportunity cost salience as an effect-coded factor (set to 1 for explicit and −1 for implicit) and the cumulative number of times the art print was viewed as a continuous factor. A repeated measure with a first-order autoregressive error structure was also used since participants gave multiple responses over time. The model (which used the estimation method REML) showed a significant main effect of repeated exposures (F [1, 1042] = 44.11, p < 0.0001); enjoyment declined with repeated exposures. The model did not show a main effect for opportunity cost salience (F < 1, n.s.). Importantly, there was a significant two-way interaction between these factors (F [1, 1042] = 4.53, p = 0.034). As Figure 4 shows, participants in the explicit opportunity cost condition became satiated faster than those in the implicit opportunity cost condition. Unpacking this effect, we calculated the slope of enjoyment as a function of time for each participant. Negative (positive) values indicate that participants show satiation (sensitization). We then submitted these slopes to a one-way ANOVA (opportunity costs: explicit vs. implicit). The ANOVA revealed a steeper slope when opportunity costs were explicit versus implicit ($M_{explicit}$ = −2.41, SD = 4.15, $M_{implicit}$ = −1.16, SD = 2.92; F [1, 129] = 4.02, p = 0.047, n_p^2 = 0.03). Hence, enjoyment from the (unchosen) sampled art print decreased significantly faster when participants were simply reminded that they could keep $10 for other purchases, replicating our key effect in an incentive compatible design.

6.2.3 | Number of exposures before decision

It took participants about the same number of exposures for their decision to emerge between keeping their $10 bonus if they were to win it versus using it to buy the art print ($M_{explicit}$ = 1.68, SD = 0.83, $M_{implicit}$ = 1.77, SD = 0.87; F [1, 129] = 0.41, p = 0.52).[1]

[1]One may wonder whether there was a significant slope effect on enjoyment ratings taken after the self-reported number of exposures it took for participants' choice to emerge. The average number of exposures it took participants to make a choice corresponded to less than three viewings. So, we only included enjoyment ratings taken after the second viewing in the analysis. The same mixed-effects modeling as in the main analysis revealed a significant interaction (F [1, 763] = 4.41, p = 0.036). The main effect of iterations was significant (F [1, 763] = 34.64, p < 0.0001). The main effect of opportunity cost consideration was not significant (F < 1). Hence, the slope effect was still significant when we only considered the enjoyment ratings taken after the self-reported number of exposures it took for participants' choice to emerge.

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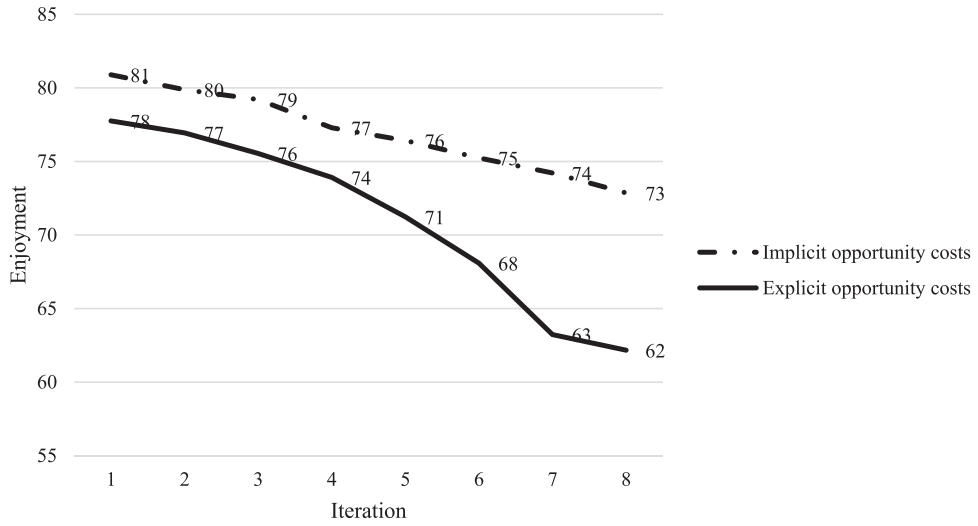


FIGURE 4 Mean enjoyment ratings by opportunity cost salience condition in study 3.

6.3 | Discussion

Replicating the results of study 2 in an incentive-compatible design, a reminder that participants could keep their $10 for other purchases accelerated satiation from an art print that most participants chose to not buy today. Hence, overall enjoyment from an art print that people chose to not buy today was lower when participants considered their opportunity costs.

It took about the same number of exposures for participants' decision to buy versus not buy the art print to emerge. The averages corresponded to about 3–4 exposures on the respective scale. This result has two implications. First, our manipulation did not affect when participants' choice began to emerge. Second, as expected, the two enjoyment slopes began to noticeably diverge after the fourth repetition, which corresponded with when participants indicated their decision began to emerge. Notably, the divergence in enjoyment continued to grow until the last enjoyment rating and thus was not a one-time incident arising only on the enjoyment rating taken after the fourth exposure when participants' choice began to emerge. This pattern further supports that participants treated sampling as an ongoing choice rather than a one-time choice, meaning that opportunity cost consideration accentuated the impact of ongoing choice on enjoyment over time.

It is interesting to note that while the slopes began to noticeably diverge after four exposures in study 3, they began to diverge after the second exposure in study 2. This can help explain the relatively stronger effect of opportunity cost consideration in study 2 ($n_p^2 = 0.09$ in study 2 vs. $n_p^2 = 0.03$ in study 3). When the sampled option was relatively attractive, as in study 3, it took longer for participants' decision to not buy to emerge. This meant that there were fewer exposures left for ongoing choice to affect enjoyment ratings in study 3, which likely weakened the effect of opportunity cost consideration. This pattern of results is consistent with the notion that the relative attractiveness of the focal option can influence the effect of opportunity cost consideration on satiation. We more systematically investigated the role of relative attractiveness of alternative uses in the next studies.

7 | STUDY 4

The three studies so far showed that opportunity cost consideration could accelerate satiation. In the next two studies, we tested the effect of the relative attractiveness of the best alternative use of a resource on the rate of satiation. In study 4, we exploited the natural variance in the attractiveness of the best alternative use of a resource by varying the retailer of a gift card that would be used to buy the sampled option.

Specifically, we had our participants imagine having a $20 gift card from either Amazon or art.com, depending on the condition, and decide whether they would buy an art print using their gift cards. We expected participants in both conditions to consider the alternative uses of their gift cards. Participants in the art.com condition should spontaneously consider the opportunity cost of using their gift card to buy the sampled art print because it offers a relatively narrow assortment. The implication is that typical uses of an art.com gift card should be readily accessible in memory (e.g., posters, paintings), increasing the likelihood that they will be considered as alternative uses (Spiller, 2011). Participants in the Amazon.com condition should also spontaneously consider the alternative uses of an Amazon gift card. This is because given the vast array of products Amazon offers, participants will be likely to recall very attractive alternative uses of an Amazon gift card when sampling an art print.

In sum, we hypothesized that participants would spontaneously consider alternative uses of an Amazon and art.com gift cards when sampling an art print. Critically, however, alternative uses that are spontaneously considered would be more attractive when the retailer of the gift card was Amazon versus art.com. This is because given the vastly greater number of product categories Amazon versus art.com offers, any one alternative use that is considered will likely be more attractive in the Amazon versus art.com condition. Hence, we predicted that the greater attractiveness of the alternative uses that are brought to mind by an Amazon versus art.com gift card would accelerate satiation from an unchosen sampled art print.

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7.1 | Method

7.1.1 | Participants

Two hundred sixty-four US residents from MTurk (130 females; M_{age} = 40.6, SD = 12.32) completed this study. The data were collected in two waves that we address with the $p_{augmented}$ statistic in the summary section of this study (e.g., Chugani et al., 2015 for a similar analysis). Four additional respondents completed the study without collecting payment (two participants in each wave). One participant with duplicate MTurk ID was excluded. Including this participant does not change the significance of the results.

7.1.2 | Procedure

Participants were randomly assigned to one of two conditions (gift card retailer: Amazon or art.com). They were asked to imagine that they had a $20 gift card from Amazon.com or art.com, depending on the condition, that they were looking to redeem. While shopping on Amazon [art.com], they encountered an art print titled "Farewell to Anger" by Leonid Afremov. They were told that it was currently selling for $20 and that they could use their Amazon [art.com] gift card to purchase it. All participants were then informed that they would view the art print several times, each lasting 15 s, and rate their enjoyment after each viewing.

Then, all participants viewed the art print and rated their enjoyment of it 12 times (*0 = Not at all*, *100 = Very much*). We had decided, in advance, to use 12 iterations rather than eight as in the first two studies. While our interest was on whether participants considered versus neglected their opportunity costs in the first two studies, we focused on the impact of the best alternative use participants considered during sampling. The latter is logically a weaker effect because it is conditional on all participants considering their opportunity costs in the first place. The implication is that participants' decision to buy or not buy might begin to emerge later than it did in the first two studies. Because we expected an effect after participants' decision began to emerge, having 12 versus eight exposures increased the likelihood of observing an effect of attractiveness on the rate of enjoyment.

Participants then rated how repetitive the viewing experience was (1 = *Not at all*, 7 = *Very much*). Then, they were asked to imagine three things they could buy using their gift card other than the art print they viewed, and indicated on the next page the one that was the best use of their gift card. Participants then rated whether buying the best alternative use they indicated was a better or worse use of their $20 Amazon or art.com gift card, depending on the condition, compared to buying "Farewell to Anger" (1 = *Buying [the best alternative use] is a much worse use*, 4 = *About the same*, 7 = *Buying [the best alternative use] is a much better use*; the phrases in brackets were replaced by the best alternative use each participant indicated). Finally, participants rated perceived quality and scarcity of the art print to test whether our gift card manipulation affected perceived quality and scarcity.

7.2 | Results

7.2.1 | Enjoyment ratings

To test our primary prediction that the reminder that participants can save $10 for other purchases would accelerate satiation, we ran a regression on the 12 enjoyment ratings taken after the manipulation. The model included gift card retailer as an effect-coded factor (set to 1 for Amazon and −1 for art.com) and the cumulative number of times the art print was viewed as a continuous factor. A repeated measure with a first-order autoregressive error structure was also used since participants gave multiple responses over time. The model (which used the estimation method REML) showed a significant main effect of repeated exposures (F [1, 2890] = 193.63, p < 0.0001); enjoyment declined with repeated exposures. The model did not show a main effect for gift card retailer (F < 1, n.s.). Importantly, there was a significant two-way interaction between these factors (F [1, 2890] = 4.96, p = 0.026). As Figure 5 shows, participants in the Amazon.com condition experienced quicker satiation than those in the art.com condition. Unpacking our critical two-way interaction, we calculated the slope of enjoyment as a function of time for each participant. Negative (positive) values indicate that participants show hedonic decline (sensitization). We then tested our primary prediction that Amazon versus art.com gift card would lead to faster hedonic decline by submitting these slopes to a one-way ANOVA (gift card retailer: amazon vs. art.com). The ANOVA revealed that the slope was significantly steeper in the Amazon versus art.com condition (M_{amazon} = −2.33, SD = 2.99, $M_{art.com}$ = −1.50, SD = 2.38; F (1, 261) = 6.30, p = 0.01, n_p^2 = 0.02). Hence, satiation from an art print was quicker when the retailer of the gift card that would be used to buy it was Amazon versus art.com.

7.2.2 | Attractiveness

A one-way ANOVA revealed that the best alternative use participants listed was significantly more attractive than the focal art print in the Amazon versus art.com condition ($M_{Amazon.com}$ = 5.71, SD = 1.43, $M_{art.com}$ = 4.88, SD = 1.55; F [1, 261] = 20.04, p < 0.0001; n_p^2 = 0.07), as expected.

7.2.3 | Perceived quality and scarcity

A one-way ANOVA revealed no significant effects on perceived quality ($M_{Amazon.com}$ = 5.81, SD = 1.18, $M_{art.com}$ = 5.86, SD = 1.08; F [1, 261] = 0.13, p = 0.72) or scarcity ($M_{Amazon.com}$ = 4.07, SD = 1.64, $M_{art.com}$ = 4.04, SD = 1.68; F [1, 261] = 0.13, p = 0.72).

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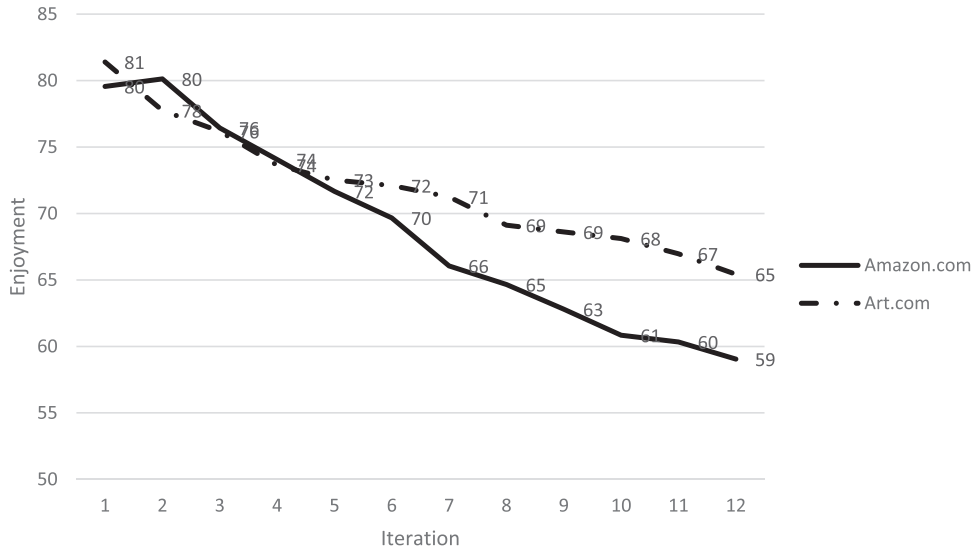


FIGURE 5 Mean enjoyment ratings by gift card retailer in study 4.

7.3 | Discussion

Exploiting the naturally occurring differences in the attractiveness of the best alternative use of a resource, we showed that participants experienced accelerated satiation from an unchosen art print when the retailer of the gift card they would use to buy it was Amazon versus art.com. Supporting our hypothesis, an Amazon versus art.com gift card spontaneously brought to mind relatively more attractive outside options than the focal option. Finally, the effect did not arise because the retailer of the gift card affected perceptions of quality or scarcity.

As mentioned before, we added a second wave of data post hoc to increase power due to variance in the initial sample (N1 = 130 and N2 = 134). To account for any unanticipated α-level issues caused by the second wave, we computed the statistic $p_{augmented}$, a conservative adjustment of p values when there are different waves of sampling (Sagarin et al., 2014), for the interaction between gift card retailer and repeated enjoyment ratings. The $p_{augmented}$ range for this test was 0.051–0.053 with 10,000 slices, which suggests a very reliable effect given the quite stringent nature of this test.

8 | STUDY 5

Study 4 exploited the natural variance in the attractiveness of alternative uses to test the role of attractiveness of the alternative use considered. In study 5, we manipulated the relative attractiveness of an alternative use. To this end, we asked participants to list the best alternative use of an Amazon gift card immediately before sampling, which made the best alternative use highly accessible during sampling. The reason why we asked them to list the best alternative use was because the normative value of a medium of exchange results from the best consumption that it provides (Buchanan, 2008; Eatwell et al., 1987).

The challenge was then to manipulate the perceived attractiveness of the best alternative use that participants had listed. To achieve this, we exploited the contrast effect in evaluation of hedonic outcomes (Loewenstein & Elster, 1992). A contrast effect arises, for example, when decreasing the price of the most affordable option in a set of options leads to the perception that other prices in the set are more expensive (Janiszewski & Lichtenstein, 1999). The contrast effect is especially strong when the standard of comparison for the target option is extreme (e.g., decreasing the price of the *most* affordable option; Mussweiler, 2003). In our case, the target option was the best alternative use of a $10 Amazon gift card. To make the standard of comparison as extreme as possible, we had some participants list, before sampling, the worst in addition to its best alternative use (Mussweiler, 2003). Due to a contrast effect, the best alternative use should appear even more attractive when listed along with the worst alternative use. Accordingly, we predicted that participants in the best + worst alternative use condition would experience accelerated satiation from an unchosen art print than those in the best alternative use condition.

8.1 | Method

8.1.1 | Participants

One hundred thirty-one US residents (56 females; M_{age} = 41.04, SD = 13.03) from the Amazon Mechanical Turk online panel completed this study. The target sample size (130) was determined before data collection began. One additional respondent completed

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the study without collecting payment. After excluding one participant that fit our exclusion criteria, we were left with 130 participants for the analysis. Including this participant in the analysis does not change the significance of the results.

8.1.2 | Procedure

Participants were asked to imagine that they had received a $10 Amazon gift card and that while shopping on Amazon, they came across a special sale on art print titled "Farewell to Anger," which currently sells for $9.99, on sale from $13.99. Like in study 3, we used a discounted price of $9.99 to increase the relative attractiveness of the focal option. This was because if the focal option were too unattractive, then the effect on satiation of an increase in the attractiveness of the best alternative use owing to our manipulation would be minimal and likely undetectable.

Participants were informed that they would view and rate their enjoyment of the art print several times, each viewing lasting 15 s. They were also told that after repeatedly viewing the art print, they would indicate their decision whether to use their $10 Amazon gift card to purchase the art print. Participants were then randomly assigned to one of two conditions (listing: best use or best + worst uses). While participants in the best use condition were asked to list the product category that provided the best alternative use of their $10 Amazon gift card, those in the best and worst uses condition were asked to first list the best alternative use immediately followed by the worst alternative use on the same page.

Then, all participants viewed the art print for 12 times and rated how much they enjoyed viewing the art print (*0 = Not at all*, *100 = Very much*). We used 12 exposures to the art print because the reasons we explained in study 4 applied to study 5 as well. After the last trial, participants indicated their likelihood of purchasing the art print on a 11-point scale (*0 = No chance*, *10 = Certain*).

8.2 | Results

8.2.1 | Manipulation check

There was no significant effect of our manipulation on the purchase likelihood of the art print ($M_{best+worse}$ = 4.87, SD = 3.55, M_{best} = 4.97, SD = 3.75; F [1, 128] = 0.03, p = 0.87). The implication is that the effect is unlikely to be driven by the differences in the percentage of participants choosing to not buy the sampled option today in the two conditions.

8.2.2 | Enjoyment ratings

To test our primary prediction that the reminder that participants can save $10 for other purchases would accelerate satiation, we ran a regression on the 12 enjoyment ratings taken after the manipulation. The model included the listing manipulation as an effect-coded factor (set to 1 for best use only and −1 for best + worst uses) and the cumulative number of times the art print was viewed as a continuous factor. A repeated measure with a first-order autoregressive error structure was also used since participants gave multiple responses over time. The model (which used the estimation method REML) showed a significant main effect of repeated exposures (F [1, 1495] = 51.36, p < 0.0001); enjoyment declined with repeated exposures. The model did not show a main effect for the listing manipulation (F < 1, n.s.). Importantly, there was a significant two-way interaction between these factors (F [1, 1495] = 7.26, p = 0.007). As Figure 6 shows, participants in the best + worst uses condition became satiated significantly more quickly than those in the best use condition.

Unpacking this effect, we calculated the slope of enjoyment as a function of time for each individual. Negative (positive) values indicate that participants show satiation (sensitization). We then

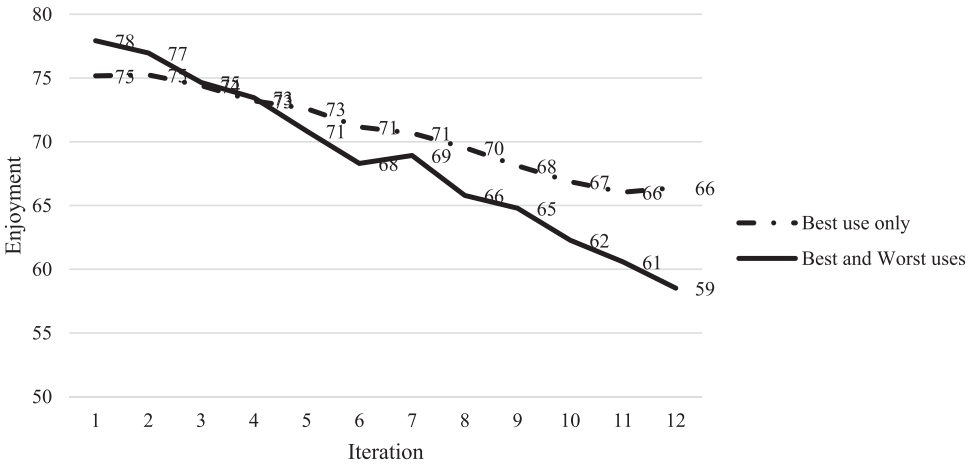


FIGURE 6 Mean enjoyment ratings by listing condition in study 5.

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submitted these slopes to a one-way ANOVA (listing: best use vs. best + worst uses). The ANOVA revealed that the slope was steeper when participants listed the worst in addition to the best alternative use compared to when they listed only the best alternative use ($M_{best+worse} = -1.77$, SD = 2.39, $M_{best} = -0.93$, SD = 2.18; $F[1, 128] = 4.29$, $p = 0.04$, $n_p^2 = 0.03$).

8.3 | Discussion

Participants who listed the worst in addition to the best alternative use of a $10 Amazon gift card experienced accelerated satiation from a sampled art print. The effect arose presumably because considering the worst alternative use made the best alternative use appear more attractive by comparison (i.e., a contrast effect); the resulting increase in the relative attractiveness of the best alternative use accelerated satiation from the sampled option that was not chosen today.

9 | GENERAL DISCUSSION

Results from five studies confirmed our proposed theory. The first three studies provided evidence that opportunity cost consideration versus neglect accelerated satiation from an unchosen art print. The last two studies showed the role of the relative attractiveness of the best alternative use participants considered during sampling. Building upon the finding that financial constraints increase opportunity cost consideration (Dias et al., 2022; Spiller, 2011), study 1 showed that participants who were financially constrained experienced accelerated satiation from an unchosen sampled item. Studies 2 and 3 manipulated opportunity cost consideration to show its causal effect on the rate of satiation. Study 3 was an incentive-compatible study because participants were told in advance that their choice between the art print and $9.99 in cash could be reinforced. Study 4 exploited the natural variation in the attractiveness of the best alternative use of a resource to show that participants experienced quicker satiation from an unchosen sampled art print when the retailer of the gift card they would use to buy it was Amazon versus art.com. Supporting our theory, an Amazon versus art.com gift card brought to mind more attractive alternative uses while sampling the art print. Building on study 4, study 5 manipulated relative attractiveness of the best alternative use and replicated the results from study 4.

The slope effects (i.e., enjoyment over time) that we observed in our studies supported that opportunity cost consideration accentuated the effect of *ongoing choice* rather than one-time choice (Greenberg & Spiller, 2016). Our results suggest that by decreasing the overall enjoyment derived from a sampling experience, opportunity cost consideration can reduce the future purchase likelihood of a sampled option.

9.1 | Theoretical implications

Our findings contribute to existing theory in multiple ways. We identify opportunity cost consideration as a novel cause of differential rates of satiation (Galak et al., 2011; Redden et al., 2017). We also show, for the first time, that financially constrained individuals can experience accelerated satiation, which adds to recent research showing that financial constraints can decrease purchase happiness (Dias et al., 2022). We extend the effect of opportunity cost consideration from one-time choice to ongoing choice and from evaluation (i.e., intercept effect) to enjoyment over time (i.e., slope effect). This contributes to existing research by showing that opportunity cost consideration increases not only how much one-time choice feels like a choice (Greenberg & Spiller, 2016), but also how much *ongoing choosing* feels like a choice. Because ongoing choosing and one-time choice involve distinct processes insofar as they pertain to satiation (Redden et al., 2017), showing that the effect of opportunity cost consideration on one-time choice extends to the conceptually distinct construct of ongoing choice is novel.

Moreover, the fact that there was no intercept effect of opportunity cost consideration indicates that product sampling is a peculiar domain in which people expect to evaluate the sampled option over repeated exposures or time. Consistent with this, the slopes in the opportunity cost consideration versus neglect conditions in study 3 continued to diverge after participants made their choice between buying and not buying, rather than arising only once on the enjoyment rating taken immediately after participants made their choice.

While Greenberg and Spiller (2016) examined the effect of opportunity cost consideration on evaluation, Redden et al. (2017) studied how choice versus ongoing choice differentially affects enjoyment over time. In our studies, all participants engaged in ongoing choosing, but only some considered their opportunity costs. Hence, our results also extend Redden et al.'s (2017) finding by showing that differential rates of satiation can arise during ongoing choosing depending on whether people consider their opportunity costs.

We identify quicker satiation as a novel psychological cost of the otherwise normative behavior of opportunity cost consideration. Previous research showed that opportunity cost consideration led to decreased happiness, satisfaction, and product happiness (i.e., intercept effects; Berman & Small, 2012; Dias et al., 2022; Soster et al., 2014). Our research suggests that opportunity cost consideration can likewise decrease the overall enjoyment (i.e., slope effect) consumers derive from their experiences.

9.2 | Limitations and future directions

We showed the effect of opportunity cost consideration on satiation from different art prints. Because our examination was limited to

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visual stimuli, however, it remains to be examined whether the effect will generalize to other sensory stimuli (e.g., auditory stimuli).

Most sampling experiences do not result in an immediate purchase in everyday consumption settings (Samplemax, 2018). For this reason, we focused on sampling experiences that did not result in a purchase today but nevertheless could influence future purchase likelihood. This choice meant that we did not directly test a prediction that follows from our theory; opportunity cost consideration should slow satiation from a sampled option that is chosen. That said, our results were consistent with the implications of this prediction. The effect of opportunity cost consideration on satiation was weaker when more people chose the sampled option (study 3). Also, our finding that a more attractive sampled option relative to the best alternative use slowed satiation is also consistent with this prediction. However, we believe it will be interesting for future research to directly test this prediction of our theory.

Prior research showed that both past and anticipated variety slowed down current satiation (Galak et al., 2009; Sevilla et al., 2016). Like opportunity costs, variety involves outside options. Hence, the variety effect on satiation contrasts with our finding that outside options perceived as opportunity costs accelerated satiation from an unchosen option. The question then becomes, when are outside options perceived as variety versus opportunity costs? In studies that showed that reminders of outside options promoted perceived variety, participants did not face a choice; they simply experienced the stimulus (Galak et al., 2009; Sevilla et al., 2016). In contrast, in studies where reminders of outside options promoted their consideration as opportunity costs, participants faced a choice between buying and not buying the focal option (Frederick et al., 2009; Spiller, 2011). An option is forgone only if another one is chosen at its expense. Thus, one critical variable that promotes the perception of outside options as variety versus opportunity costs could be whether one faces a choice. Findings from research on too-much-choice effects support this notion (e.g., Scheibehenne et al., 2009). A key insight from this line of research is that choosing from an extensive versus limited choice set can lead to reduced satisfaction with the option one chooses. One reason is that the higher the number of alternatives offered in a choice context, the more alternatives are perceived as foregone. The implication is that because participants in our studies faced a choice between buying versus not buying the sampled option, like in the too-much-choice literature, they perceived outside options as forgone options. Although past research supports this hypothesis and our results show that participants perceived outside uses as opportunity costs, we did not systemically investigate the separate effects of merely experiencing a stimulus versus experiencing a stimulus to make a choice on the rate of satiation. We believe it will be interesting for future research to examine when outside options are perceived as opportunity costs versus variety to differentially affect the rate of satiation.

Finally, prior research showed that satiation can be constructed even in ostensibly physiological domains (Redden, 2015). This implies that the effect of opportunity cost consideration that we observed with a more nonphysiological experience may also arise in more physiological experiences such as food consumption. Our findings suggest that reminding people, especially those on a diet, that deciding which food to consume now is a choice that involves forgone alternatives (e.g., consuming a granola bar that has 99 calories now means not consuming a 99-calorie cheddar cheese) could affect the rate of current satiation to influence food intake. We believe it will be interesting to further examine the effect of opportunity cost consideration on food enjoyment and intake given that reminding consumers of their opportunity costs can be a relatively easy intervention to implement.

9.3 | Managerial implications

Sampling inherently involves experiential aspects like tasting food or viewing an art print. It is thus surprising that prior research did not conceptualize sampling in terms of satiation, especially given that this conceptualization contributes to our understanding of the factors that affect overall enjoyment from sampled options. Because higher overall enjoyment of a sampled option should increase its future purchase likelihood, this conceptualization also has managerial implications. We identify opportunity cost consideration, and the attractiveness of alternative uses that consumers consider during sampling as factors that influence the rate of satiation from sampled options. More generally, the novel conceptualization of the inherently experiential process of sampling in terms of satiation introduces a host of factors that are known to affect the rate of satiation to the domain of sampling (Galak & Redden, 2018), with actionable managerial implications.

Consider a consumer who samples an option but chooses not to buy it at present. Our results show that this consumer would experience accelerated satiation from the sampled options if she considered versus neglected her opportunity costs during sampling. Our results also suggest that overall enjoyment from sampled experiences can be reduced for people who feel financially constrained or in situations when perceived financial constraints are generally greater (e.g., economic crisis). In both cases, the resulting reduction in overall enjoyment from the sampled option could lower its future purchase likelihood. In this sense, our findings add to growing research in the sampling literature on the longer-term rather than immediate impact of sampling (Chandukala et al., 2017).

Our finding that opportunity cost consideration versus neglect can accelerate satiation can be reframed such that opportunity cost neglect versus consideration can slow down satiation. The implication is that to increase the overall enjoyment consumers derive from the sampled option, companies or salespeople can try to dissociate its purchase from the expense incurred to acquire it, thereby discouraging consideration (or encouraging neglect) of opportunity costs. Alternatively, they can remind customers of their unattractive opportunity costs during sampling or increase the chances that an unattractive alternative use will be considered. For example, Gourville (1998) showed that representing a donation request in a

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day frame (US¢85 per day) versus a year frame (US$300 per year) leads to higher donations. Likewise, retailers such as Spotify can encourage a day ($.40 per day) versus month ($12.99 per month) frame to communicate their price to their non-paying listeners. Given that it is harder to think of attractive uses of $.40 versus $12.99, day versus month framing can lead to the consideration of less attractive alternative uses while sampling the streaming service, increasing their overall enjoyment.

Normatively, consumers should consider their opportunity costs in every decision. Yet, a psychological consequence of doing so can be quicker satiation and premature withdrawal from otherwise pleasurable experiences. Hence, while total neglect of opportunity costs can lead people to make choices that they would not (and perhaps should not) otherwise prefer, our results suggest that their consideration can deprive them of prolonged enjoyment.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in Research Box at https://researchbox.org/1521.

ORCID

Baler Bilgin https://orcid.org/0000-0003-3703-512X
Deniz Lefkeli http://orcid.org/0000-0003-4166-2214

REFERENCES

Alchian, A. A. (1968). Cost. *International Encyclopedia of The Social Sciences*, *3*, 404–415.

Areni, C. S., & Black, I. (2015). Consumers' responses to small portions: Signaling increases savoring and satiation. *Psychology & Marketing*, *32*(5), 532–543.

Ariely, D., & Norton, M. I. (2008). How actions create—Not just reveal preferences. *Trends in Cognitive Sciences*, *12*(1), 13–16.

Bem, D. J. (1967). Self-perception: An alternative interpretation of cognitive dissonance phenomena. *Psychological Review*, *74*(3), 183–200.

Berman, J. Z., & Small, D. A. (2012). Self-interest without selfishness: The hedonic benefit of imposed self-interest. *Psychological Science*, *23*(10), 1193–1199.

Bhargave, R. P., Montgomery, N. V., & Redden, J. P. (2018). Collective satiation: How coexperience accelerates a decline in hedonic judgments. *Journal of Personality and Social Psychology*, *114*(4), 529–546.

Brandshare (2017). *E-commerce fuels triple-digit growth of product sampling. PRWeb*. Retrieved March 1, 2023, from https://www.prweb.com/releases/2017/07/prweb14484252.htm

Brehm, J. W. (1956). Postdecision changes in the desirability of alternatives. *The Journal of Abnormal and Social Psychology*, *52*(3), 384–389.

Buchanan, J. M. (1978). Cost and choice: An inquiry in economic theory. University of Chicago Press.

Buchanan, J. M. (2008). Opportunity Cost. The New Palgrave Dictionary of Economics Online (Second ed.). London: Palgrave Macmillan UK.

Chandukala, S. R., Dotson, J. P., & Liu, Q. (2017). An assessment of when, where and under what conditions in-store sampling is most effective. *Journal of Retailing*, *93*(4), 493–506. https://doi.org/10.1016/j.jretai.2017.07.002

Chugani, S. K., Irwin, J. R., & Redden, J. P. (2015). Happily ever after: The effect of identity-consistency on product satiation. *Journal of Consumer Research*, *42*(4), ucv040.

Coombs, C. H., & Avrunin, G. S. (1977). Single-peaked functions and the theory of preference. *Psychological Review*, *84*(2), 216–230.

Crolic, C., & Janiszewski, C. (2016). Hedonic escalation: When food just tastes better and better. *Journal of Consumer Research*, *43*(3), 388–406.

Dias, R. S., Sharma, E., & Fitzsimons, G. J. (2022). Spending and happiness: The role of perceived financial constraints. *Journal of Consumer Research*, *49*(3), 373–388.

Eatwell, J., Milgate, M., & Newman, P. (1987). *The new palgrave: A dictionary of economics*. Macmillan Publishers.

Festinger, L. (1957). *A theory of cognitive dissonance* (Vol. 2). Stanford University Press.

Frederick, S., Novemsky, N., Wang, J., Dhar, R., & Nowlis, S. (2009). Opportunity cost neglect. *Journal of Consumer Research*, *36*(4), 553–561.

Galak, J., Kruger, J., & Loewenstein, G. (2011). Is variety the spice of life? It all depends on the rate of consumption. *Judgment and Decision Making*, *6*(3), 230–238.

Galak, J., Kruger, J., & Loewenstein, G. (2013). Slow down! Insensitivity to rate of consumption leads to avoidable satiation. *Journal of Consumer Research*, *39*(5), 993–1009.

Galak, J., & Redden, J. P. (2018). The properties and antecedents of hedonic decline. *Annual Review of Psychology*, *69*, 1–25.

Galak, J., Redden, J. P., & Kruger, J. (2009). Variety amnesia: Recalling past variety can accelerate recovery from satiation. *Journal of Consumer Research*, *36*(4), 575–584.

Galak, J., Redden, J. P., Yang, Y., & Kyung, E. J. (2014). How perceptions of temporal distance influence satiation. *Journal of Experimental Social Psychology*, *52*, 118–123.

Gourville, J. T. (1998). Pennies-a-day: The effect of temporal reframing on transaction evaluation. *Journal of Consumer Research*, *24*(4), 395–403.

Greenberg, A. E., & Spiller, S. A. (2016). Opportunity cost neglect attenuates the effect of choices on preferences. *Psychological Science*, *27*(1), 103–113.

Gupta, S. (1988). Impact of sales promotions on when, what, and how much to buy. *Journal of Marketing Research*, *25*(4), 342–355.

Haws, K. L., McFerran, B., & Redden, J. P. (2017). The satiating effect of pricing: The influence of price on enjoyment over time. *Journal of Consumer Psychology*, *27*(3), 341–346.

Heilman, C., Lakishyk, K., & Radas, S. (2011). An empirical investigation of in-store sampling promotions. *British Food Journal*, *113*, 1252–1266.

Hetherington, M. M., Foster, R., Newman, T., Anderson, A. S., & Norton, G. (2006). Understanding variety: Tasting different foods delays satiation. *Physiology & Behavior*, *87*(2), 263–271.

Hoch, S. J., & Deighton, J. (1989). Managing what consumers learn from experience. *Journal of Marketing*, *53*(2), 1–20.

Holbrook, M. B., & Hirschman, E. C. (1982). The experiential aspects of consumption: Consumer fantasies, feelings, and fun. *Journal of Consumer Research*, *9*(2), 132–140.

Janiszewski, C., & Lichtenstein, D. R. (1999). A range theory account of price perception. *Journal of Consumer Research*, *25*(4), 353–368.

Jones, S. K., Frisch, D., Yurak, T. J., & Kim, E. (1998). Choices and opportunities: Another effect of framing on decisions. *Journal of Behavioral Decision Making*, *11*(3), 211–226.

Kempf, D. S., & Smith, R. E. (1998). Consumer processing of product trial and the influence of prior advertising: A structural modeling approach. *Journal of Marketing Research*, *35*(3), 325–338.

Larson, J. S., Redden, J. P., & Elder, R. S. (2014). Satiation from sensory simulation: Evaluating foods decreases enjoyment of similar foods. *Journal of Consumer Psychology*, *24*(2), 188–194.

Lasaleta, J. D., & Redden, J. P. (2018). When promoting similarity slows satiation: The relationship of variety, categorization, similarity, and satiation. *Journal of Marketing Research*, *55*(3), 446–457.

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Legrenzi, P. (1993). Focussing in reasoning and decision making. *Cognition*, *49*(1–2), 37–66.

Loewenstein, G. & Elster, J., (Eds.). (1992). *Choice over time*. Russell Sage.

Magen, E., Dweck, C. S., & Gross, J. J. (2008). The hidden zero effect: Representing a single choice as an extended sequence reduces impulsive choice. *Psychological Science*, *19*(7), 648–649.

McGuinness, D., Gendall, P., & Mathew, S. (1992). The effect of product sampling on product trial, purchase and conversion. *International Journal of Advertising*, *11*(1), 83–92.

McSweeney, F. K., & Murphy, E. S. (2000). Criticisms of the satiety hypothesis as an explanation for within-session decreases in responding. *Journal of the Experimental Analysis of Behavior*, *74*(3), 347–361.

Mead, J. A., Hardesty, D. M., & Scott, M. L. (2019). Low detail future variety: Providing affective relief during repetitive music consumption. *Psychology & Marketing*, *36*(11), 975–988.

Meyvis, T., & Van Osselaer, S. M. J. (2018). Increasing the power of your study by increasing the effect size. *Journal of Consumer Research*, *44*(5), 1157–1173.

Mussweiler, T. (2003). Comparison processes in social judgment: Mechanisms and consequences. *Psychological Review*, *110*(3), 472–489.

Nelson, L. D., Meyvis, T., & Galak, J. (2009). Enhancing the television-viewing experience through commercial interruptions. *Journal of Consumer Research*, *36*(2), 160–172.

Nelson, N. M., & Redden, J. P. (2017). Remembering satiation: The role of working memory in satiation. *Journal of Consumer Research*, *44*(3), 633–650.

Northcraft, G. B., & Neale, M. A. (1986). Opportunity costs and the framing of resource allocation decisions. *Organizational Behavior and Human Decision Processes*, *37*(3), 348–356.

Paley, A., Tully, S. M., & Sharma, E. (2019). Too constrained to converse: The effect of financial constraints on word of mouth. *Journal of Consumer Research*, *45*(5), 889–905.

Park, C. H., Park, Y. H., & Schweidel, D. A. (2018). The effects of mobile promotions on customer purchase dynamics. *International Journal of Research in Marketing*, *35*(3), 453–470.

Poor, M., Duhachek, A., & Krishnan, S. (2012). The moderating role of emotional differentiation on satiation. *Journal of Consumer Psychology*, *22*(4), 507–519.

Ratner, R. K., Kahn, B. E., & Kahneman, D. (1999). Choosing less-preferred experiences for the sake of variety. *Journal of Consumer Research*, *26*(1), 1–15.

Redden, J. P. (2015). Desire over time: The multi-faceted nature of satiation. In W. Hofmann & L. F. Nordgren (Eds.), The Psychology of Desire (pp. 82–103). New York, NY: Guildford Press.

Redden, J. P. (2008). Reducing satiation: The role of categorization level. *Journal of Consumer Research*, *34*(5), 624–634.

Redden, J. P., & Galak, J. (2013). The subjective sense of feeling satiated. *Journal of Experimental Psychology: General*, *142*(1), 209–217.

Redden, J. P., & Haws, K. L. (2013). Healthy satiation: The role of decreasing desire in effective self-control. *Journal of Consumer Research*, *39*(5), 1100–1114.

Redden, J. P., Haws, K. L., & Chen, J. (2017). The ability to choose can increase satiation. *Journal of Personality and Social Psychology*, *112*(2), 186–200.

Rexha, D., Mizerski, K., & Mizerski, D. (2010). The effect of availability, point of purchase advertising, and sampling on children's first independent food purchases. *Journal of Promotion Management*, *16*(1–2), 148–166.

Rolls, B. J., Van Duijvenvoorde, P. M., & Rolls, E. T. (1984). Pleasantness changes and food intake in a varied four-course meal. *Appetite*, *5*(4), 337–348.

Sagarin, B. J., Ambler, J. K., & Lee, E. M. (2014). An ethical approach to peeking at data. *Perspectives on Psychological Science*, *9*(3), 293–304.

Samplemax (2018, November 14). What's the effectiveness of product sampling? SAMPLEMAX Inc. https://www.samplemaxinc.com/updates/whats-the-effectiveness-of-product-sampling

Scheibehenne, B., Greifeneder, R., & Todd, P. M. (2009). What moderates the too-much-choice effect? *Psychology & Marketing*, *26*(3), 229–253.

Sevilla, J., Zhang, J., & Kahn, B. E. (2016). Anticipation of future variety reduces satiation from current experiences. *Journal of Marketing Research*, *53*(6), 954–968.

Shah, A. K., Shafir, E., & Mullainathan, S. (2015). Scarcity frames value. *Psychological Science*, *26*(4), 402–412.

Shah, A. K., Zhao, J., Mullainathan, S., & Shafir, E. (2018). Money in the mental lives of the poor. Social Cognition, *36*, 4–19.

Sharot, T., Velasquez, C. M., & Dolan, R. J. (2010). Do decisions shape preference? Evidence from blind choice. *Psychological Science*, *21*(9), 1231–1235.

Shiv, B., & Nowlis, S. M. (2004). The effect of distractions while tasting a food sample: The interplay of informational and affective components in subsequent choice. *Journal of Consumer Research*, *31*(3), 599–608.

Soster, R. L., Gershoff, A. D., & Bearden, W. O. (2014). The bottom dollar effect: The influence of spending to zero on pain of payment and satisfaction. *Journal of Consumer Research*, *41*(3), 656–677.

Spiller, S. A. (2011). Opportunity cost consideration. *Journal of Consumer Research*, *38*(4), 595–610.

Stuppy, A., & Van Den Bergh, B. (2022). How sampling high-and low-quality products affects enjoyment. *Psychology & Marketing*, *39*(4), 726–740.

Tang, Y., Huang, Z., & Su, L. (2023). The influence of event-time (vs. clock-time) scheduling style on satiation. *Journal of Consumer Psychology*, *33*(1), 123–132.

Wu, C. Y., & He, G. B. (2012). The effects of time perspective and salience of possible monetary losses on intertemporal choice. *Social Behavior and Personality: An International Journal*, *40*(10), 1645–1653.

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