Essays on the Dynamics of Hedonic Experience

by

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ABSTRACT

Consumers want to enjoy hedonic experiences— positive experiences that are non-repetitive and extend over a substantial period of time. Enhancing consumers' enjoyment of a consumption experience significantly impacts their overall happiness, positive word-of-mouth, and purchase intention (e.g., Bagchi and Block 2011; Ditto et al. 2006; Holbrook et al. 1984; Killingsworth and Gilbert 2010; Van Boven, Campbell, and Gilovich 2010; Wang, Novemsky, and Dhar 2009; Westbrook 1987; Van Boven and Gilovich 2003). In an exploration of the dynamics of how consumers approach, construe, and interact with hedonic experiences, this dissertation theorizes about and examines various factors that affect consumers' enjoyment. In essay 1, I argue that although the opportunity to switch candidate activities helps consumers to identify the most desirable one, it can backfire and diminish consumers' hedonic value of a consumption experience, through undermining their commitment to a particular activity. In essay 2, I zoom in and focus on the process of consuming an experience, exploring how anticipating the imminent end of an experience influences enjoyment. Specifically, I show that the imminent end boosts consumers' enjoyment when they have high control over an experience and decreases enjoyment when they have low control. Evidence from multiple experiments supports the theorizing and pinpoints the psychological mechanism underlying these effects.

Note: This dissertation has been written by Muyu Wei. Any reference to "we" anticipates joint submission to the target journal.

PREFACE

This thesis is an original work by Muyu Wei. The research project, of which this thesis is a part, received research ethics approval from the University of Alberta Research Ethics Board, Project Name “Purchase Decision Study 2 (Pro00036648),” April 01, 2013, and Project Name “Sequential Consumption Experience (Pro00056573),” April 13, 2015. My advisor Professor Gerald Häubl supervised the design of experiments and the collection of data.

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INTRODUCTION

Consumers enjoy hedonic experiences every day, from consuming a snack to having a family vacation. Given that consumers want to enjoy the hedonic experience they are about to consume or are actively consuming, what can they do to enhance their enjoyment? How should consumers approach, select, interact with, and construe different experiences to maximize their overall enjoyment of consumption experiences? What can marketers do to optimize consumption experiences? In this dissertation, I investigate a series of factors that impact consumer enjoyment in the process of experiential consumption.

Understanding consumers' hedonic enjoyment is essential to our understanding of human behavior. It directly signals how much of an experience a consumer would consume or re-consume in the future (Galak, Redden, and Kruger 2009; Bagchi and Block 2011; Shiv and Nowlis 2004; Holbrook et al. 1984). Furthermore, the extent to which consumers enjoy a hedonic experience carries significant consequences for influencing consumer satisfaction, the likelihood of future (re)purchase, word-of-mouth, and consumer loyalty (Chaudhuri and Holbrook 2001; Ditto et al. 2006; Helion and Gilovich 2014; Klaaren, Hodges, and Wilson 1994; Ofir and Simonson 2007; Rosenzweig and Gilovich 2012; Van Boven, Campbell, and Gilovich 2010; Wang, Novemsky, and Dhar 2009; Westbrook 1987). Finally, the enjoyment of experiences aggregates and manifests as a contribution to our understanding of human beings' happiness (Bhattacharjee and Mogilner 2014; Carter and Gilovich 2010; Killingsworth and Gilbert 2010; Van Boven and Gilovich 2003).

In this dissertation, I theorize and investigate factors that tap into the dynamics of hedonic experiences and impact consumers' enjoyment of them. Through two essays introduced in this dissertation, I show that consumers' enjoyment of a consumption experience can be influenced

by how they approach candidate activities when searching for the ideal one (essay 1), and how they interact with an experience while expecting that its end is imminent (essay 2). In both essays, I focus on hedonic experiences that are non-repetitive and extend over a substantial period of time (e.g., movies, vacation, songs, etc.). An experience can comprise one or multiple activities, of which consumers consume at least a portion of. The scope of investigation slightly differed in the two essays. In essay 1, the consumption experience refers to both the process of navigating among candidate activities and the consumption of the preferred one. In essay 2, I zoom in the scope and focus only on the consumption of one or multiple activities that constitute a consumption experience.

In essay 1, I examine how consumers navigate among candidate alternatives can backfire and diminish their hedonic value of a consumption experience. Intuitively, having the opportunity to freely switch among candidate activities is appealing in that it allows exploration of different activities without being required to select one to the exclusion of all others, which should enable consumers to identify the most desirable activity. I propose that in addition to these beneficial aspects, this opportunity can backfire. By encouraging excessive exploration, the opportunity to switch among candidate activities undermines consumers' commitment to any one of them, ultimately diminishing the hedonic value (i.e., consumers' satisfaction and enjoyment) of a consumption experience. In six experiments (and two replication experiments addressed in the discussion section), I demonstrate this "switching trap" and the psychological dynamics that drive this negative effect. Specifically, in the first two experiments, I show that, compared to search based only on descriptive information (of candidate activities), the opportunity to consume a portion of and switch among the activities undermines consumers' commitment to a particular activity, ultimately diminishing their overall hedonic value of a consumption experience, irrespective of whether consumers initiate the exploration of an activity or have an explicit time

budget of the consumption experience in mind (experiments 1a and 1b). Further, I demonstrate that this negative effect can be reversed when the candidate activities consist of small independent moments, each of which is pleasurable in its own right (experiment 2), and when the descriptive information of candidate activities is low diagnostic of their contents (experiment 3). Finally, I pinpoint the pivotal role played by commitment in driving the negative effect of the opportunity to switch. I show that the adverse effect of the opportunity to switch attenuates when participants are forced to complete the preferred activity (experiment 4) and when they are nudged to indicate their commitment to one activity (experiment 5).

In essay 2, I investigate how anticipating that an experience is about to end affects consumers' enjoyment of it in the present moment. There is some evidence that consumers enjoy a consumption episode more knowing that it is the last one (O'Brien and Ellsworth 2012; Tsai and Zhao 2015). This essay extends these insights into the domain of experiences that are non-repetitive, showing that the imminent end can either enhance or diminish consumers' enjoyment of an experience. I propose a key factor that drives the imminent-end effect: the extent to which consumers can control a consumption experience. Control is influenced by the nature of the experience and situational factors (Averill 1973; Inesi et al. 2011; Langer 1975; Whitson and Galinsky 2008). I hypothesize that when consumers have low control over an experience, anticipating that its end is approaching gives rise to intrusive thoughts about the end, which interferes with consumers' engagement in the experience and thus reduces their enjoyment. By contrast, when consumers have high control, the imminent end motivates them to make better use of the opportunity, ultimately enhancing their enjoyment of it (Kurtz 2008; Sehnert et al. 2014).

I present five experiments that were designed to test the theorizing. Experiment 1 shows the hypothesized interaction, such that the imminent end decreases consumers' enjoyment of an experience when they have low control of it, and increases their enjoyment of the experience

when they have high control. Experiments 2, 3, and 4 demonstrate that when there is little control over an experience, the imminent end diminishes consumers' enjoyment of it by promoting intrusive thoughts about the end, thereby preventing consumers from fully engaging in the experience. Specifically, the negative effect of the imminent end vanishes when the experience is construed as a series of discrete episodes (experiment 2), and it does not depend on the valence of the end (experiment 4). Finally, experiment 5 examines the motivation of making good use of the opportunity as the key driver of the positive effect of the imminent end on consumer enjoyment when they have high control.

This dissertation makes a number of contributions to consumer psychology. First, it advances our understanding of how various factors interact with the dynamics of hedonic experiences and further impact consumers' enjoyment. Essay 1 shows that how consumers approach different candidate activities is one of these influential factors, and allowing consumers to switch among candidate activities in making their choice can potentially diminish their hedonic value under certain circumstances. Essay 2 demonstrates that expecting an experience is about to end also influences hedonic enjoyment, depending on whether consumers have control over an experience.

Second, this dissertation sheds light on an essential construct, control, and discusses its role in interacting with the dynamics of hedonic experience. Prior research has addressed control and its influence on consumers' subjective well-being, such as reducing anxiety and increasing endurance of pain (Glass and Singer 1972; Klein, Fencil-Morse, and Seligman 1976; Monat, Averill, and Lazarus 1972; Thompson 1999). Building upon the previous work that identifies control as an innate need of human beings (Averill 1973; Brehm 1966; DeCharms 1972; Landau, Kay, and Whitson 2015; Whitson and Galinsky 2008), this dissertation further examines the pivotal role of control in understanding how consumers approach, construe, and interact with

hedonic experiences. In essay 1, control is one of the motivations that drive consumers' preference for the opportunity to switch. Being able to switch among candidate alternatives allows consumers to recognize and stop consuming an activity that is less enjoyable. Essay 1 contributes to this body of knowledge by showing that this preference for options can backfire and reduce consumers' hedonic value of the consumption experience that is eventually selected. In essay 2, the extent to which consumers have control over an experience directly drives how the anticipation of the imminent end of an experience influences consumers' enjoyment. Shedding light on the temporal dynamics of hedonic experiences, essay 2 demonstrates that when consumers have low control over an experience, the imminent end reduces their enjoyment of it, whereas high control over an experience enables them to utilize the remaining time to enhance their enjoyment when the end is imminent.

Finally, this dissertation has implications for both consumers and managers. In both essays, through multiple experiments that examine moderators and boundary conditions of the hypothesized effect, I identify effective methods that allow consumers to better manage and thus enhance their enjoyment of consumption experiences. Moreover, firms aiming to optimize consumer experience and protect their welfare can also benefit from this dissertation, in which I introduce various interventions that allow consumers to side-step away from aversive experiences or to enhance their enjoyment of the preferred one.

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Essay 1

Switching Traps:

How the Opportunity to Switch among Activities Can Reduce the Hedonic Value of Consumption Experiences

As consumers, we often explore activities before we commit to consuming them in their entirety. We might start playing different online games before choosing our preferred one, read excerpts from different books before committing reading one of them in its entirety, or start watching the first episode of different TV series before deciding to binge-watch one of them. The malleable and subjective nature of hedonic activities often makes it difficult to assess them based entirely on descriptive information. Being able to experience a portion of a candidate activity while having the opportunity to switch to another one is typically more informative than a mere description of the activities, and it should thus better enable consumers to identify what is the most desirable thing to engage in. Consequently, consumers should value having the opportunity to switch while searching for an activity that they might engage in.

To empirically validate this point, we conducted a study with 211 consumers from an online research participation panel. Participants were instructed to imagine that they were presented with a list of 10 movies that they had never heard of before, and that their task was to select one of these and watch it. Participants were then asked whether they would prefer to (1) select a movie based only on a detailed description of each alternative or (2) in addition have the opportunity to switch among the movies before making their final selection. The vast majority of participants (86.3%; binomial test: $p < .001$) indicated that they preferred to have the opportunity to switch. Thus, the intuition that the opportunity to switch among activities before making a final selection is desirable appears to be widely held among consumers.

Counter to this intuition, the present research introduces a theoretical framework that suggests that the opportunity to switch among activities can backfire and in fact reduce consumers' enjoyment of a consumption experience. Instances of detrimental effects of freely switching among activities are common in consumers' everyday lives. We fail to enjoy a TV night at home when browsing numerous different episodes on Netflix without ever completing

any of them; we ruin the experience of in-flight entertainment by watch portions of several movies but not watching any of them in full by the end of the flight; we experience frustration when reading excerpts from multiple books yet failing to read any one of them in its entirety; and we undermine our enjoyment of a hiking day by exploring different trails without completing any of them. We refer to the adverse effect of having the opportunity to switch on the hedonic value of a consumption experience as the "switching trap." Here, hedonic value refers to the intangible, intrinsic, and emotional utility consumers obtain from a consumption experience (Babin, Darden, and Griffin 1994; Bellenger, Steinberg, and Stanton 1976; Hirschman and Holbrook 1982), which manifests itself in a consumer's enjoyment of, and satisfaction with, the experience.

This research advances our understanding of search behavior in connection with hedonic activities. For many consumption experiences that are hedonic in nature (i.e., that people in engage in for pleasure), they are free to choose a number of candidate activities to engage in (e.g., a day spent at a theme part, a one-week resort vacation, or an evening at home consuming on-demand television programs). Consumers engage in various forms of exploration of the set of available alternatives before committing to, and eventually consuming, one of these (Bettman, Luce, and Payne 1998; Shiv and Nowlis 2004). One such form of exploratory behavior is for consumers to freely switch among different activities. The present work shows that the opportunity to switch tends to trap consumers in a mental state that promotes a focus on learning about unknown alternatives instead of being committed to a known one. Thus, we hypothesize that the opportunity to switch among candidate activities diminishes the hedonic value of a consumption experience via reduced commitment to any one of the activities.

Building on prior work that has examined how decision commitment influences decision satisfaction (e.g., Gilbert and Ebert 2000; Gu, Botti, and Faro 2013), this research extends these insights into the domain of consumption *experiences*. The present research also contributes to the

body of literature that has examined hedonic activities that extend over a period of time (Ariely and Carmon 2000; Ariely and Zauberman 2003; Fredrickson and Kahneman 1993; Galak and Meyvis 2011; Novemsky and Ratner 2003; Ratner and Herbst 2005; Sackett et al. 2010; Van Boven and Gilovich 2003). It does so by shedding light on how the opportunity to *switch* among candidate activities prior to committing to consuming (any of) them affects the overall hedonic value of a consumption experience.

Next, we develop a theoretical framework that characterizes the switching-trap phenomenon and the psychological dynamics that govern its impact on consumers' hedonic experience. After that, we present evidence from six experiments that were designed to test this theorizing.

THEORETICAL FRAMEWORK

Consumers often engage in some form of search before they make a purchase or consumption decision (Bettman, Luce, and Payne 1998; Diehl 2005; Häubl, Dellaert, and Donkers 2010; Moorthy, Ratchford, and Talukdar 1997). This type of pre-decision search behavior is thought to be governed by the tradeoff between the anticipated informational benefits of continuing to explore the available alternatives and the costs (e.g., in terms of effort) associated with doing so (Häubl et al., 2010; Meyer 1982; Ratchford and Srinivasan 1993). Advances in information technology have enabled consumers to acquire more comprehensive and more vivid information about products during search (Huang, Lurie, and Sabyasachi 2009; Lynch and Ariely 2000; Weathers, Sharma, and Wood 2007).

When engaging in a search for activities, consumers can assess the attractiveness of an alternative they encounter based on descriptive information. In addition, they may have the

opportunity to learn more about an activity by experiencing a portion of it prior to committing to fully engaging in it. For instance, when deciding on which of several music albums to listen to, consumers can read descriptions of the included songs, and they might also be able to listen to (portions of) some of them. Intuitively, the opportunity to switch among candidate activities should enhance the hedonic value of a consumption experience as it allows consumers to better assess the hedonic quality of each of the candidate alternatives, especially when the available descriptive information about these activities is only minimally diagnostic. That is, being able to experience and switch among candidate activities before selecting one's preferred alternative provides an informational benefit. In addition, facing a set of unfamiliar activities, the opportunity to switch also allows consumers to recognize and stop consuming a hedonic activity that is less enjoyable. Moreover, the mere awareness of the freedom to switch should allow consumers to experience a sense of control (Brehm 1966; Garg & Lerner, 2012), which might also contribute to their hedonic enjoyment of an experience.

Because the opportunity to switch enables consumers to better assess how enjoyable different activities might be (compared to doing so mere based on descriptive information), we propose that it affects how consumers approach the set of available hedonic activities. Specifically, we hypothesize that it promotes a mental state that is characterized by a greater focus on exploring activities that one is not yet familiar with. This should encourage consumers to take advantage of the opportunity to switch. Moreover, since experiential exploration is engaging and absorbing (Hoch 2002), the act of switching might be self-reinforcing and further promote exploration.

When making decisions in unfamiliar contexts, consumers can allocate their limited cognitive resources either to the exploration of unknown alternatives or to committing to and/or consuming known ones. In consumer search for hedonic activities, consumers face the tradeoff

between exploration and committed consumption. When multiple candidate activities (that they are unfamiliar with) are available, consumers must strike a balance in allocating their time and cognitive resources either to committing to and fully engaging in one particular activity, or to exploring additional activities in hopes of finding a more enjoyable one.

We propose that the momentary focus on exploration, which is promoted by the opportunity to switch, reduces a consumer's commitment to any one of the candidate activities. When searching for activities, the overall consumption experience can be conceptualized as entailing two phases – (1) a pre-commitment phase in which the consumer seeks to identify a suitable activity to engage in and (2) a post-commitment phase in which s/he focuses on engaging in that particular activity. While the opportunity to switch allows a consumer to better assess available activities, it prioritizes the exploration of (and switching among) multiple alternatives over fully engaging in any one of them. Therefore, we argue that the opportunity to switch leads a consumer to defer the decision to commit to the currently consumed activity, and to be inclined to switching to other available activities instead. Moreover, the opportunity to switch among candidate activities allows one to consume portions of activities while exploring which one to ultimately consume. As a consequence, the opportunity to switch blurs the boundary between the pre-commitment phase and the post-commitment phase of an overall consumption experience, in turn undermining a consumer's commitment to any of the available activities.

An important behavioral consequence of a reduced commitment to a particular activity is that it renders the consumer less likely to actually *complete* it. For many types of hedonic activities, completion is critical to consumers' enjoyment (e.g., seeing the end of a movie). In turn, the failure to consume such an activity in its entirety diminishes a consumer's enjoyment. Consumption experiences that involve large number of candidate activities inherently entail a combination of exploring what to consume and actually consuming the preferred alternative. For

instance, consumers might sample portions of multiple movies on Netflix as part of a movie night at home, or they might drive through several different regions of Ireland as they determine where to spend most of their vacation. Although exploration serves an important role in hedonic consumption, the overall hedonic value of consumption experiences is driven primarily by the enjoyment of those activities that consumers actually *commit to* (Alba and Williams 2013; Hirschman and Holbrook 1982). Therefore, through a reduction in commitment to any one of the available activities, the opportunity to switch can diminish the overall hedonic value of a consumption experience.

Based on this theorizing, we propose that offering consumers the opportunity to switch among candidate activities can create a trap. Specifically, the opportunity to switch undermines consumers' commitment to any one of the activities. In turn, this can reduce the overall hedonic value of the consumption experience that may comprise multiple explored and/or consumed activities.

In what follows, we present evidence from six experiments that were designed to test this theorizing. Experiment 1a demonstrates the negative effect of the opportunity to switch among candidate activities on the overall hedonic value of a consumption experience, and it sheds light on the psychological dynamics that govern it. Experiment 1b conceptually replicates the negative effect of the opportunity to switch and shows that this effect is robust to variations in the particular format used for enabling consumers to interact with candidate activities. Experiment 2 establishes a key boundary condition by showing that the adverse effect of the opportunity to switch reverses when the available activities entail numerous small parts that are all enjoyable in their own right. Experiment 3 demonstrates the informational benefits of being able to switch, and the resulting positive effect on hedonic value, in the absence of diagnostic descriptive information about the candidate activities. Experiment 4 further corroborates the pivotal role of

commitment to a particular activity as the key driver of how the opportunity to switch influences the overall hedonic value of a consumption experience. Finally, the results of experiment 5 show that nudging consumers to partition a consumption experience into a pre-commitment and a post-commitment phase eliminates the detrimental effect of the opportunity to switch on hedonic value.

EXPERIMENT 1A: DEMONSTRATION OF THE SWITCHING TRAP

The objective of experiment 1a was to provide a first demonstration of the hypothesized adverse effect of the opportunity to switch among candidate activities on the overall hedonic value of a consumption experience. In addition, this experiment was designed to yield initial evidence of the mechanism underlying this effect, testing our prediction that the opportunity to switch reduces hedonic value by undermining consumers' commitment to any one of the activities.

Method

Participants and Design. A total of 81 individuals from a research participation pool at a major North American university participated in this experiment (M_{Age} = 21.36, SD_{Age} = 1.70; 56.8% females). They were randomly assigned to one of two conditions in a single-factor (opportunity to switch: no vs. yes) between-subjects design.

Procedure. Participants were presented with a set of 10 animation videos (each roughly 7 minutes in length, and pretested to be unfamiliar), and their task was to select and watch the video they thought they would enjoy the most. They were informed that they could stop this video-watching experience whenever they liked – by clicking a button labeled "I'm Done with

the Video-Watching Part of the Study," which advanced them to the next study they were to complete. Participants inspected brief descriptions of the available videos one at a time, and they were able to navigate between videos by clicking prominently displayed left and right arrows. (See the appendix for a sample screenshot.)

In both conditions, some standard descriptive information – title, director, a brief synopsis of the storyline, and a representative still image – was available for each of the 10 videos. To start watching a video, participants had click a play button located in the center of the image in that video's description. The video then started in a player that took the place of the image. In the no-switching condition, participants were instructed to examine descriptions of videos until they were ready to select the one they wanted to watch, and to indicate their choice by clicking the play button. They were informed that, once they started watching one of the videos, they would not be able to switch to another video. By contrast, in the opportunity-to-switch condition, participants were instructed that all videos would remain available for the duration of the task, and that they were free to start watching as many of them as they liked. They could switch among videos by using the navigation arrows and clicking the play button of another video (which then started playing from its beginning).

Measures. The key dependent variable – the hedonic value of the video-watching experience – was measured immediately after completion of the experience via two items. Participants reported their overall enjoyment of, and satisfaction with, the entire video-watching experience on 11-point scales (0 = not at all, 10 = very much; Cronbach's alpha = .97). Commitment was measured by the single-item scale "Once I had started watching one of the available videos, I felt that I needed to watch it to the end" (0 = strongly disagree, 10 = strongly agree).

Participants' inclination to explore was measured by an 11-point bipolar scale asking them to indicate the relative importance of focusing on the selected video versus discovering additional ones (0 = focus on the selected video, 10 = discover additional videos). We also tracked each participant's exploration behavior in connection with the set of videos by recording the duration of his/her overall video-watching experience and how much of that time was spent exploring the alternatives (i.e., until s/he started watching the selected video[1]).

Results

Hedonic Value. Having the opportunity to switch significantly reduced the overall hedonic value of the video-watching experience ($M_{\text{NoSwitching}}$ = 8.14, $SD_{\text{NoSwitching}}$ = 2.03 vs. $M_{\text{Switching}}$ = 6.93, $SD_{\text{Switching}}$ = 2.50; $t(79) = 2.38$, $p = .020$, Cohen's $d = .51$).

Mediation Analysis. The opportunity to switch had a negative effect on participants' commitment to any one of the videos ($M_{\text{NoSwitching}}$ = 8.39 $SD_{\text{NoSwitching}}$ = 2.25 vs. $M_{\text{Switching}}$ = 6.26, $SD_{\text{Switching}}$ = 3.29; $t(79) = -3.39$, $p = .001$, Cohen's $d = -.76$). To test our theorizing about the mechanism that underlies the adverse effect of the opportunity to switch among candidate activities on the overall hedonic value of a consumption experience, we conducted a mediation analysis using a bootstrap approach with 5,000 samples. This analysis provides support for the hypothesized indirect pathway. The opportunity to switch undermined commitment to any one of the videos ($\beta = -2.14$, $SE = .63$, $p = .001$), which led to reduced hedonic value of the video-watching experience ($\beta = .27$, $SE = .09$, $p = .002$). The 95% bias-corrected confidence interval for

[1] In the opportunity-to-switch condition, we treat the video that was consumed last as the selected video. An alternative approach would be to treat the video that participants watched the longest as their selected video. This yields the same substantive findings as our approach – in all experiments. In most instances, the video watched last is the one watched for the longest period of time. Details are available on request.

this indirect effect excludes zero (95% CI = [-1.26, -.16]), indicating that a reduction in commitment significantly mediates the negative effect of the opportunity to switch on hedonic value.

Supplementary Results. Having the opportunity to switch caused participants to be more exploration-focused, as indicated by their attaching greater importance to discovering additional videos versus focusing on the selected one ($M_{\text{NoSwitching}}$ = 1.58, $SD_{\text{NoSwitching}}$ = 2.35 vs. $M_{\text{Switching}}$ = 3.26, $SD_{\text{Switching}}$ = 3.06; $t(79) = 2.74$, $p = .008$, Cohen's d = - .62).

Consistent with the results for commitment, participants who had the opportunity to switch were significantly less likely to complete one of the videos. While 71.1% of participants watched their selected video in its entirety in the no-switching condition, only 46.5% did so in the opportunity-to-switch condition ($\chi^2 = 4.99$, $p = .026$). Participants who had the opportunity to switch also watched a smaller portion of that video than did those who had no opportunity to switch ($M_{\text{NoSwitching}}$ = .79, $SD_{\text{NoSwitching}}$ = .37 vs. $M_{\text{Switching}}$ = .61, $SD_{\text{Switching}}$ = .43; $t(79) = 1.97$, $p = .052$, Cohen's d = .45).

There was no difference between conditions in the total amount of time[2] (in seconds) that participants spent on the video-watching experience ($M_{\text{NoSwitching}}$ = 372.42, $SD_{\text{NoSwitching}}$ = 56.02 vs. $M_{\text{Switching}}$ = 380.04, $SD_{\text{Switching}}$ = 64.59; $t(79) = -.47$, $p = .64$). However, participants who had the opportunity to switch spent more time exploring available videos ($M_{\text{NoSwitching}}$ = 144.24, $SD_{\text{NoSwitching}}$ = 189.35 vs. $M_{\text{Switching}}$ = 65.04, $SD_{\text{Switching}}$ = 160.96; $t(79) = -2.01$, $p = .047$, Cohen's d = .45).

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[2] Since durations are inherently far from normally distributed (they have a lower bound of zero and no upper bound), we log-transformed all time-related variables for statistical analysis. However, we report the non-transformed mean values for ease of interpretation. Analysis of the non-transformed data yields findings that are qualitatively the same.

Discussion

The findings of experiment 1a provide a first demonstration of the switching trap. In particular, the opportunity to switch among candidate activities diminishes the overall hedonic value of a consumption experience. This adverse effect of the opportunity to switch operates via a reduction in consumers' commitment to any one of the activities.

Participants in the two conditions of experiment 1a spent roughly the same amount of time on the overall consumption experience. This suggests a potential alternative explanation of the findings. Participants may have had an implicit time budget for completing the task, and those in the opportunity-to-switch condition might have used up some of that budget exploring and switching among videos, thus reducing the amount of time they were willing to devote to watching their preferred video. In turn, this could have lowered their commitment to that video. To address this possibility, we ran an extended version of experiment 1a where, in addition to the opportunity to switch, we also manipulated the participants' implicit time budget. The alternative account implies that increasing the time budget should attenuate the negative effect of the opportunity to switch on commitment (and thus also on hedonic value). However, the absence of an interaction between time budget and opportunity to switch (with sufficient statistical power) would allow us to rule out the possibility that the effects shown in experiment 1a were driven by participants' implicit time budget.

A total of 454 members of a North American consumer panel (M_{Age} = 35.85, SD_{Age} = 10.51; 42.5% females) were randomly assigned to the conditions of a 2 (opportunity to switch: no vs. yes) × 2 (time budget: low vs. high) between-subjects design. Time budget was manipulated via the advance information given to prospective participants about the expected duration of the task, and via the amount they were to be paid for their participation. In the low time-budget

conditions, participants were informed that the task would take about 10 minutes, and that their payment would be $1.20. By contrast, participants in the high time-budget conditions were informed that the task would take about 20 minutes, and that their payment would be $2.40. In fact, the task was identical in the two sets of time-budget conditions.

The results provide no support for an explanation of the adverse effects of the opportunity to switch based on participants' implicit time budget. ANOVAs with overall hedonic value and commitment as dependent variables reveal significant negative (main) effects of the opportunity to switch (hedonic value: $F(1, 450) = 8.51$, $p = .004$, $\eta^2 = .02$; commitment: $F(1, 450) = 52.05$, $p < .001$, $\eta^2 = .10$), replicating the findings of experiment 1a, but *no* interaction effects with time budget (hedonic value: $F(1, 450) = .52$, $p = .472$; commitment: $F(1, 450) = .82$, $p = .37$). There was also no main effect of time budget on either of these dependent variables (both p values > .3). Moreover, the results of the mediation analysis for experiment 1a were replicated. The opportunity to switch undermined commitment ($\beta = -1.09$, $SE = .15$, $p < .001$), which in turn diminished the overall hedonic value of the video-watching experience ($\beta = .31$, $SE = .03$, $p < .001$; 95% CI = [-.48, -.23]). Participants in the high time-budget condition indeed spent more time on the task ($M_{Low} = 417.08$, $SD_{Low} = 253.60$ vs. $M_{High} = 485.38$, $SD_{High} = 237.06$; $F(1, 450) = 12.57$, $p < .001$, $\eta^2 = .027$). The evidence from this additional experiment suggests that the detrimental effect of the opportunity to switch on hedonic value is robust and, in particular, that it is not sensitive to consumers' expectations about the duration of consumption experiences.

EXPERIMENT 1B: CONCEPTUAL REPLICATION WITH DIFFERENT ACTIVITY-INITIATION MODE

The particular architecture for enabling consumers to search for candidate activities may vary. In the experimental paradigm used in experiment 1a (and in experiments 2-5), browsing

descriptions of videos and initiating the consumption of a video were distinct actions. That is, participants had to actively initiate a video to watch it. This is in line with what is currently found on many websites that provide video content (e.g., YouTube, Netflix). However, a reasonable alternative architecture is one where the consumption of a video is automatically initiated when its description is accessed (e.g., Buzzfeed, Facebook). To assess the robustness of the findings of experiment 1a to the particular way in which videos are initiated, we ran a variant of it in which the opportunity-to-switch condition used an automatic-initiation mode (as opposed to an active-initiation mode) such that a video started playing automatically when a participant accessed its description. In all other respects, this experiment was identical to experiment 1a. It was completed by a distinct sample of 90 individuals from the same research participation pool (M_{Age} = 19.79, SD_{Age} = 1.57; 62.2% females).

Results

Hedonic Value. The findings closely replicated those of experiment 1a. The opportunity to switch again diminished the hedonic value of the overall video-watching experience ($M_{NoSwitching}$ = 7.74, $SD_{NoSwitching}$ = 2.07 vs. $M_{Switching}$ = 6.74, $SD_{Switching}$ = 2.25; $t(88) = 2.17$, p = .033, Cohen's d = .47).

Mediation Analysis. The opportunity to switch reduced commitment to any one of the videos ($M_{NoSwitching}$ = 7.35, $SD_{NoSwitching}$ = 2.73 vs. $M_{Switching}$ = 5.18, $SD_{Switching}$ = 3.49; $t(88) = 3.32$, p = .001, Cohen's d = .59). The results of a mediation analysis are also consistent with those of experiment 1a. The opportunity to switch undermined commitment (β = -2.05, SE = .66, p = .002), in turn causing a reduction in hedonic value (β = .32, SE = .06, $p < .001$). The 95% bias-corrected confidence interval for this indirect effect excludes zero (95% CI = [-1.38, -.25]), indicating a significant mediation effect.

Supplementary Results. The opportunity to switch promoted a focus on the exploration of additional alternatives ($M_{\text{NoSwitching}} = 2.41$, $SD_{\text{NoSwitching}} = 2.51$ vs. $M_{\text{Switching}} = 4.51$, $SD_{\text{Switching}} = 3.65$; $t(88) = 3.24$, $p = .002$, Cohen's $d = .68$). Also, in line with results for commitment, participants who had the opportunity to switch were significantly less likely to complete one of the videos (no-switching condition: 60.8% vs. opportunity-to-switch condition: 23.1%; $\chi^2 = 12.73$, $p < .001$). Moreover, participants who had the opportunity to switch watched a smaller portion of the selected video than did those who had no opportunity to switch ($M_{\text{NoSwtiching}} = .78$, $SD_{\text{NoSwitching}} = .32$ vs. $M_{\text{Switching}} = .51$, $SD_{\text{Switching}} = .41$; $t(88) = 3.39$, $p = .001$, Cohen's $d = .75$). There was no difference between conditions in the total amount of time (in seconds) that participants spent on the video-watching experience ($M_{\text{NoSwitching}} = 354.81$, $SD_{\text{NoSwitching}} = 147.40$ vs. $M_{\text{Switching}} = 356.55$, $SD_{\text{Switching}} = 250.85$; $t(88) = 1.12$, $p = .27$). However, participants who had the opportunity to switch spent more time exploring available videos ($M_{\text{NoSwitching}} = 68.35$, $SD_{\text{NoSwitching}} = 42.06$ vs. $M_{\text{Switching}} = 159.74$, $SD_{\text{Switching}} = 238.93$; $t(88) = 3.37$, $p = .001$, Cohen's $d = .57$).

Discussion

The results of experiment 1b suggest that the detrimental effect of the opportunity to switch among candidate activities on the hedonic value of a consumption experience is robust in that it does not hinge on the particular format for enabling consumers to interact with candidate activities.

In everyday life, opportunities to switch among activities often arise in settings where the overall duration of a consumption experience is predetermined – such as when exploring options for in-flight entertainment or different hiking trails, with the end of the flight or the end of the day limiting the time window that is available. To examine the robustness of our findings to how the

end of an experience is determined, we ran a variant of experiment 1b with the only modification being that the overall duration of the video-watching experience was fixed at 10 minutes. A total of 185 members of a North American consumer panel (M_{Age} = 32.65, SD_{Age} = 11.01; 40.0 % females) participated in exchange for a nominal payment. Conceptually replicating the results of experiment 1b, the opportunity to switch reduced the hedonic value of the video-watching experience ($M_{NoSwitching}$ = 7.58, $SD_{NoSwitching}$ = 2.49 vs. $M_{Switching}$ = 6.63, $SD_{Switching}$ = 2.94; $t(183)$ = 2.39, p = .018, Cohen's d = 0.35). This provides further evidence of the generalizability of the switching-trap effect across different settings.

EXPERIMENT 2: ACTIVITY DIVISIBILITY

The findings of experiments 1a and 1b show that offering consumers the opportunity to switch among candidate activities can reduce the hedonic value of a consumption experience. In our theorizing about the psychological mechanism that underlies this switching-trap effect, (lack of) commitment to any one of the activities plays a pivotal role. In particular, the adverse effect of the opportunity to switch hinges on the fact that, for many types of activities, disproportionate hedonic value arises specifically from committed completion (i.e., the consumption of a hedonic activity in its entirety and/or up to its natural end), and that failure to complete any one of the available activities is detrimental for the hedonic value of a consumption experience. This property, which we refer to as *indivisibility*, is inherent in many activities. Low-divisibility activities – such as watching a movie – are cohesive in nature, and they follow a progressive course that culminates in a well-defined conclusion. By contrast, activities that are of high divisibility – such as listening to a stand-up comedy show – consist of small independent parts, each of which is pleasurable in its own right. Highly divisible activities may be very enjoyable

from moment to moment, even if they are not consumed in their entirety. Thus, we conceptualize the divisibility of activities in terms of the extent to which they allow consumers to obtain hedonic value from partial consumption. We hypothesize that the divisibility of available activities moderates the adverse effect of the opportunity to switch on the overall hedonic value of a consumption experience. In particular, the opportunity to switch among candidate activities should reduce hedonic value only when these activities are of low divisibility, and this effect should be attenuated (and perhaps even reversed) when the candidate activities are of high divisibility. The objective of experiment 2 is to test this prediction.

Method

Participants, Design, and Procedure. A total of 241 members of a North American consumer panel (M_{Age} = 36.68, SD_{Age} = 11.34; 55.2% females) participated in this experiment in exchange for a nominal payment. Participants were randomly assigned to the conditions of a 2 (opportunity to switch: no vs. yes) × 2 (activity divisibility: low vs. high) between-subjects design. The procedure, including the manipulation of the opportunity to switch, was the same as that employed in experiment 1a.

Stimuli and Pretest. Divisibility was manipulated via the set of ten available animation videos. In the low-divisibility condition, the set was the same as that used in experiments 1a and 1b – all of these videos had cohesive storylines with enjoyable and/or surprising endings. By contrast, in the high-divisibility condition, all ten videos consisted of a number of brief and mostly independent segments, each of which was enjoyable in its own right.

The two sets of videos were pretested to verify that they did indeed differ in divisibility, while being comparable on other dimensions that might affect hedonic value. Each of 171 participants (recruited from the same panel) watched one of the 20 videos, which was assigned to

them at random. First, participants indicated how interesting, enjoyable, boring, and impressive the video was that they had watched (11-point scales, 0 = not at all, 10 = very much). Low- and high-divisibility videos were rated as being equally interesting (M_{LowDiv} = 8.16, SD_{LowDiv} = 2.03 vs. $M_{HighDiv}$ = 7.79, $SD_{HighDiv}$ = 2.61; $t(169)$ = -1.03, p = .31), enjoyable (M_{LowDiv} = 8.27, SD_{LowDiv} = 1.96 vs. $M_{HighDiv}$ = 8.45, $SD_{HighDiv}$ = 2.10; $t(169)$ = .59, p = .56), boring (M_{LowDiv} = 1.80, SD_{LowDiv} = 2.15 vs. $M_{HighDiv}$ = 1.51, $SD_{HighDiv}$ = 2.25; $t(169)$ = -.85, p = .40), and impressive (M_{LowDiv} = 7.42, SD_{LowDiv} = 1.99 vs. $M_{HighDiv}$ = 7.68, $SD_{HighDiv}$ = 2.08; $t(169)$ = .86, p = .39). Participants were then asked to indicate the extent to which they would have enjoyed the video they watched if they had not seen its end (11-point scale, 0 = not at all, 10 = very much). On average, the indivisible videos were rated as being significantly less enjoyable without their end than the divisible videos (M_{LowDiv} = 5.47, SD_{LowDiv} = 2.65 vs. $M_{HighDiv}$ = 6.33, $SD_{HighDiv}$ = 2.77; $t(169)$ = 2.07, p = .04, Cohen's d = .32). This confirms that that the manipulation of activity divisibility was effective.

Measures. The same measures as in experiment 1a were obtained. The scale reliability of the items used to measure the hedonic value of the video-watching experience was high (Cronbach's alpha = .93).

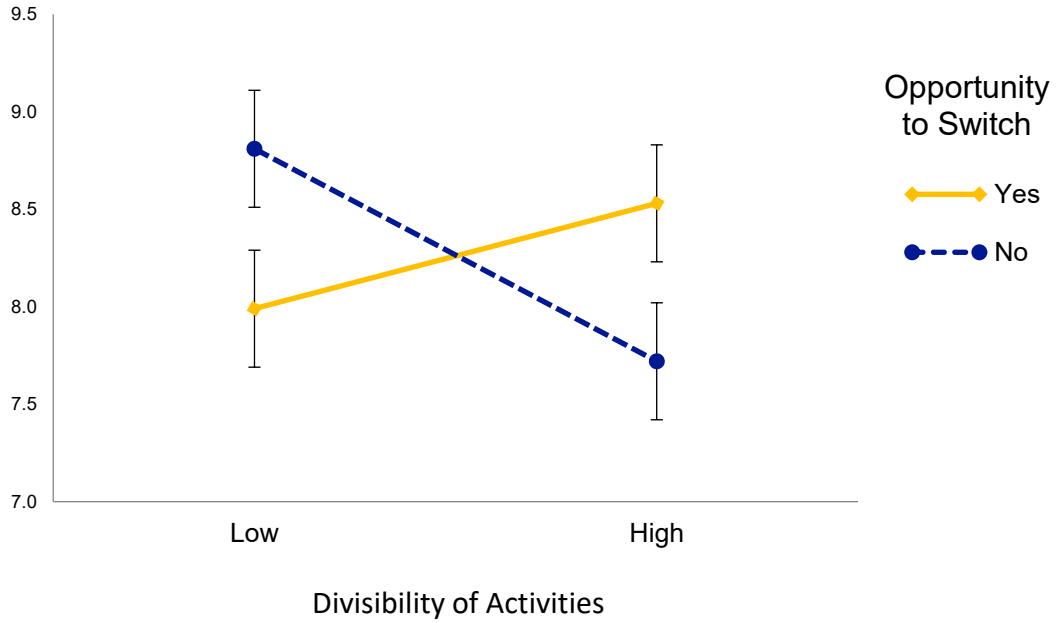
Results

Hedonic Value. An ANOVA with the hedonic value of the video-watching experience as the dependent variable revealed a significant interaction effect between the opportunity to switch and activity divisibility ($F(1, 236)$ = 8.64, p = .004, η^2 = .04; see figure 1). An analysis of planned contrasts showed that the opportunity to switch reduced hedonic value when the videos were of low divisibility ($M_{NoSwitching}$ = 8.81, $SD_{NoSwitching}$ = 1.56 vs. $M_{Switching}$ = 7.99, $SD_{Switching}$ = 1.94; $t(236)$ = 2.20, p = .029, Cohen's d = .47), but it actually enhanced hedonic value for videos

of high divisibility ($M_{NoSwitching}$ = 7.72, $SD_{NoSwitching}$ = 2.72 vs. $M_{Switching}$ = 8.53, $SD_{Switching}$ = 1.87; $t(236) = -2.13$, $p = .034$, Cohen's $d = -.35$).

FIGURE 1.1

HEDONIC VALUE OF THE VIDEO-WATCHING EXPERIENCE (EXPERIMENT 2)



Commitment. Regardless of divisibility, participants who had no opportunity to switch among videos indicated greater commitment to one of the videos than participants who had such opportunity ($M_{NoSwitching}$ = 8.47, $SD_{NoSwitching}$ = 2.18 vs. $M_{Switching}$ = 7.06, $SD_{Switching}$ = 3.22; $F(1, 236) = 15.91$, $p < .001$, $\eta^2 = .07$). (Neither the main effect of divisibility nor the interaction were significant, both p values > .35).

Supplementary Results. The exploration-tendency measure indicated that participants who had the opportunity to switch among candidate videos were more focused on exploring the set of available videos than those who did not have this opportunity ($M_{NoSwitching}$ = 1.71, $SD_{NoSwitching}$ = 2.11 vs. $M_{Switching}$ = 2.53, $SD_{Switching}$ = 3.04; $F(1, 236) = 5.89$, $p = .016$, $\eta^2 = .03$), irrespective of video divisibility (no main effect and no interaction, both p values > .2). Participants who had the

opportunity to switch were less likely to complete their selected videos (no-switching: 68.5% vs. opportunity-to-switch: 47.4%; $\chi^2 = 11.01$, $p = .001$). In addition, participants who did not have the opportunity to switch watched a greater portion of their selected videos than those who did ($M_{\text{NoSwitching}} = .84$, $SD_{\text{NoSwitching}} = .30$ vs. $M_{\text{Switching}} = .66$, $SD_{\text{Switching}} = .43$; $t(238) = -3.78$, $p < .001$, Cohen's $d = .49$), irrespective of whether the videos were of low or high divisibility (no main effect and no interaction, both p values > .1).

Participants in the high-divisibility conditions spent more time (in seconds) on the overall video-watching experience than those in the low-divisibility conditions ($M_{\text{LowDiv}} = 460.31$, $SD_{\text{LowDiv}} = 377.93$ vs. $M_{\text{HighDiv}} = 373.68$, $SD_{\text{HighDiv}} = 243.09$; $F(1, 236) = 4.86$, $p = .028$, $\eta^2 = .02$), but neither the main effect of opportunity to switch nor its interaction with divisibility were significant (all p values > .5). The amount of time participants spent exploring available videos did not differ across conditions (all three p values > .1).

Discussion

The findings of experiment 2 identify a theoretically important boundary on the detrimental consequences of the opportunity to switch among candidate activities for hedonic value. In particular, they show that some degree of indivisibility of the activities is critical for this adverse effect to manifest. Indeed, the evidence from experiment 2 demonstrates that the opportunity to switch can actually *enhance* the overall hedonic value of a consumption experience when the candidate activities are highly divisible.

EXPERIMENT 3:
DIAGNOSTICITY OF ACTIVITY DESCRIPTIONS

How much descriptive information about different hedonic activities is available to us before we engage in them can vary. The informational benefits of exploration in the form of partial consumption of multiple activities should be greater when it is difficult to assess the desirability of each activity prior to initiating it. Thus, the absence of diagnostic descriptive information about the candidate activities should render the opportunity to switch more helpful to consumers in deciding which activity to engage in. Based on this, we hypothesized that the effect of the opportunity to switch among candidate activities on hedonic value is moderated by the diagnosticity of the descriptive information about these activities. When the activity descriptions are at least somewhat diagnostic, we expect to observe the adverse impact of the opportunity to switch on hedonic value. However, when the diagnosticity of the activity descriptions is low, the opportunity to switch should actually increase the overall hedonic value of a consumption experience because, under these circumstances, the informational benefits of exploration tend to outweigh the detrimental consequences of reduced commitment. Experiment 3 was designed to test these predictions.

Method

Participants, Design, and Procedure. A total of 259 members of a North American consumer panel participated in this experiment in exchange for a nominal payment. Five participants were excluded from the data analysis because (in violation of the instructions) they used a smartphone instead of a computer, which made it impossible for them to properly complete the task. The results are based on a usable sample of 254 individuals (M_{Age} = 38.85, SD_{Age} = 11.32; 54.3% females). Participants were randomly assigned to the conditions of a 2 (opportunity to switch: no vs. yes) × 2 (diagnosticity of descriptive information: high vs. low)

between-subjects design. The procedure was based on the paradigm used in experiments 1a and 2. Participants were presented with the same set of ten videos as in experiment 1a, and they were instructed to select and watch the video they thought they would enjoy the most.

Manipulations. The opportunity to switch among videos was manipulated as in the previous experiments. In the high-diagnosticity conditions, which resemble our basic paradigm, participants were presented with standard descriptions of the videos (i.e., title, director, a brief synopsis of the storyline, and a representative still image). In the low-diagnosticity conditions, the only descriptive information that was available were the titles of the videos, which were only minimally useful in assessing how enjoyable the content might be.

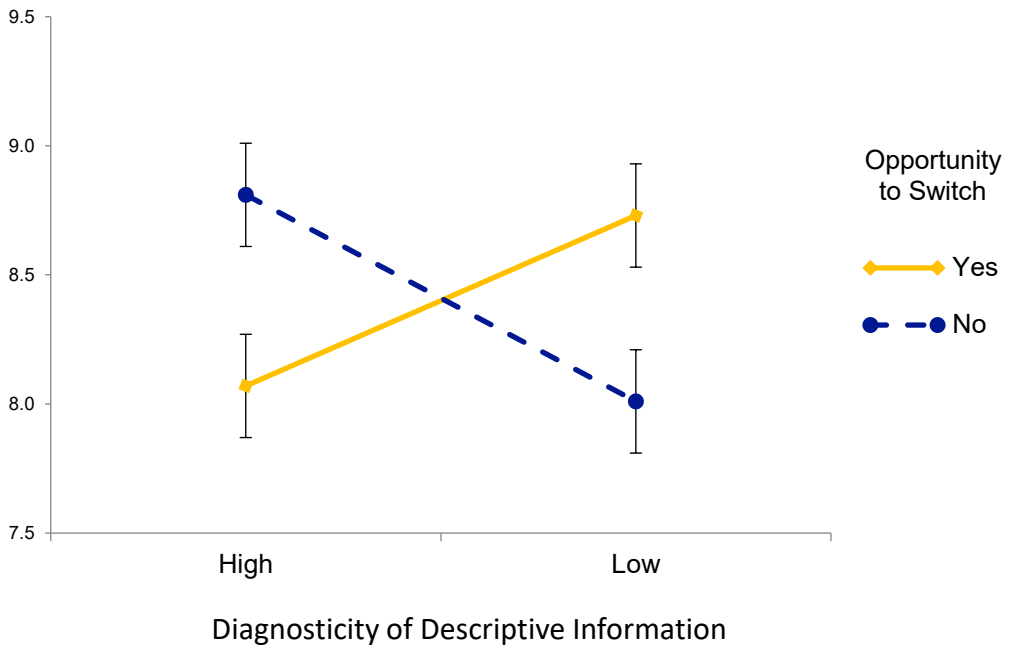
Measures. The same measures as in the previous experiments were obtained. The scale reliability of the items used to measure the overall hedonic value of the video-watching experience was high (Cronbach's alpha = .96).

Results

Hedonic Value. An ANOVA with the hedonic value of the video-watching experience as the dependent variable revealed a significant interaction between opportunity to switch and description diagnosticity ($F(1, 239) = 9.17$, $p = .003$, $\eta^2 = .04$; see figure 2). In the high-diagnosticity conditions, consistent with the results of the earlier experiments, the opportunity to switch had a negative impact on hedonic value ($M_{\text{NoSwitching}} = 8.81$, $SD_{\text{NoSwitching}} = 1.38$ vs. $M_{\text{Switching}} = 8.07$, $SD_{\text{Switching}} = 2.22$; $t(239) = 2.11$, $p = .036$, Cohen's $d = .40$). However, when the descriptive information was only minimally diagnostic, the opportunity to switch enhanced the overall hedonic value of the video-watching experience ($M_{\text{NoSwitching}} = 8.01$, $SD_{\text{NoSwitching}} = 2.09$ vs. $M_{\text{Switching}} = 8.73$, $SD_{\text{Switching}} = 1.66$; $t(239) = -2.17$, $p = .031$, Cohen's $d = -.38$).

FIGURE 1.2

HEDONIC VALUE OF THE VIDEO-WATCHING EXPERIENCE (EXPERIMENT 3)



Commitment. The opportunity to switch undermined participants' commitment to any particular video ($M_{NoSwitching}$ = 8.51, $SD_{NoSwitching}$ = 2.42 vs. $M_{Switching}$ = 6.11, $SD_{Switching}$ = 3.70; $F(1, 239) = 36.70$, $p < .001$, $\eta^2 = .13$), irrespective of the description diagnosticity (no main effect and no interaction, both p values > .3).

Supplementary Results. The exploration-tendency measure indicated that participants who had the opportunity to switch were more focused on exploring the set of candidate videos than those who did not have this opportunity ($M_{NoSwitching}$ = 1.74, $SD_{NoSwitching}$ = 2.29 vs. $M_{Switching}$ = 2.37, $SD_{Switching}$ = 2.82; $F(1, 239) = 3.95$, $p = .048$, $\eta^2 = .02$), regardless of the diagnosticity of the descriptive information (no main effect and no interaction, both p values > .2).

Both the opportunity to switch and the lack of diagnostic information rendered participants less likely to complete any one of the videos (no-switching: 83.2% vs. opportunity-

to-switch: 64.0%; $\chi^2 = 11.16$, $p = .001$; high-diagnosticity: 81.0% vs. low-diagnosticity: 67.7%, $\chi^2 = 5.60$, $p = .018$). However, these two factors did not interact (b = .03, p = .87). In line with this result, those who had the opportunity to switch watched a smaller portion of the selected video than did those who did not have this opportunity ($M_{NoSwitching} = .91$, $SD_{NoSwitching} = .23$ vs. $M_{Switching} = .74$, $SD_{Switching} = .39$; $F(1, 239) = 17.66$, $p < .001$, $\eta^2 = .07$), irrespective of description diagnosticity (no main effect and no interaction, both p values > .1).

The amount of time participants chose to spend on the entire video-watching experience did not differ between conditions ($F(1, 239) = .01$, $p = .92$). An ANOVA with the amount of time spent exploring the candidate videos as the dependent variable revealed a significant interaction effect ($F(1, 239) = 12.33$, $p = .001$, $\eta^2 = .05$) such that participants who had the opportunity to switch spent more time exploring candidate videos when the descriptive information was highly diagnostic ($M_{NoSwitching} = 78.08$, $SD_{NoSwitching} = 93.19$ vs. $M_{Switching} = 113.31$, $SD_{Switching} = 237.34$; $t(239) = 2.17$, $p = .031$, Cohen's $d = 0.29$), and this difference was greater when the descriptive information was of low diagnosticity ($M_{NoSwitching} = 29.68$, $SD_{NoSwitching} = 19.80$ vs. $M_{Switching} = 162.22$, $SD_{Switching} = 264.75$; $t(239) = -2.81$, $p = .005$, Cohen's $d = -0.71$).

Discussion

In addition to replicating the negative effect of the opportunity to switch among candidate activities on the hedonic value of consumption experiences, the results of experiment 3 identify an important boundary condition under which this effect reverses. In the absence of diagnostic descriptive information about the candidate activities, the opportunity to switch allows consumers to explore some of these activities through partial consumption to compensate for the lack of descriptive information and help them better assess the desirablity of the activities. Thus, in such low-diagnosticity settings, the informational benefits of experiential exploration outweigh the

detrimental effect via a reduced commitment to any one of the activities to enhance the overall hedonic value of a consumption experience.

EXPERIMENT 4: ENFORCEMENT OF ACTIVITY COMPLETION

The objective of experiment 4 was to further examine the pivotal role of consumers' commitment to any of the candidate activities in the psychological mechanism that governs the hedonic consequences of the opportunity to switch among activities. To complement the mediation-based evidence from experiments 1a and 1b, we manipulated commitment to one of the candidate activities by including experimental conditions in which participants were *required* to complete one of the candidate activities instead of, as in our standard paradigm, leaving it up to them whether they did so. Based on our theorizing, enforcing completion of one of the activities should enhance commitment and consequently attenuate the negative effect of the opportunity to switch on hedonic value.

Method

Participants, Design, and Procedure. A total of 234 members of a North American consumer panel (M_{Age} = 33.64, SD_{Age} = 9.98; 52.6% females) participated in this experiment in exchange for a nominal payment. Participants were randomly assigned to the conditions of a 2 (opportunity to switch: no vs. yes) × 2 (completion: spontaneous vs. enforced) between-subjects design. The procedure was based on the paradigm used in experiments 1a and 2. Participants were presented with the same set of 10 videos as in experiment 1a.

Manipulations. The opportunity to switch was manipulated in the same way as in the previous experiments. In the spontaneous-completion conditions, which resemble our standard paradigm, participants were free to stop the video-watching experience whenever they liked. By contrast, in the enforced-completion conditions, participants were instructed that they had to watch one of the videos in its entirety before they were allowed to proceed to the next part of the study. Consistent with these instructions, the button for ending the video-watching experience only appeared on the screen once a participant had completed one of the videos.

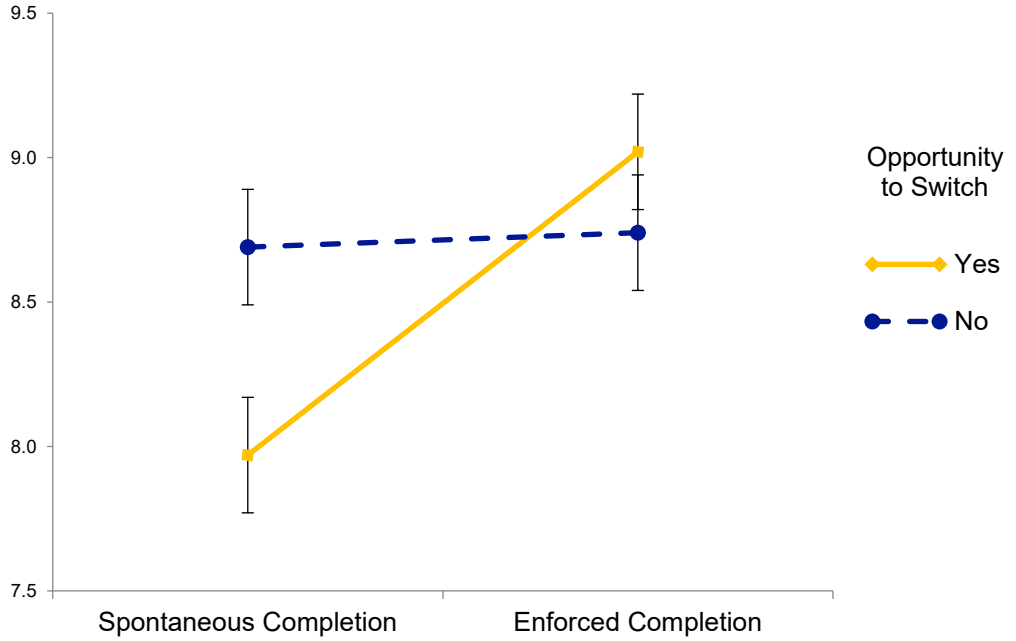
Measures. The same measures as in the previous experiments were obtained. The scale reliability of the items used to measure the overall hedonic value of the video-watching experience was high (Cronbach's alpha = .95). Moreover, to examine potential alternative explanations (see below for details), we measured decision difficulty and maximizing tendency. The former was captured by a three-item scale, with participants rating how difficult it was to decide which video to watch (0 = not at all, 10 = very difficult), how easy it was to compare available videos (0 = not at all, 10 = very easy, reverse coded), and how difficult it was to identify one's preferred video (0 = not at all, 10 = very difficult, Cronbach's alpha = .82). Participants' acute maximizing tendency was measured based on a scale developed by Levav, Reinholtz, and Lin (2012): "To what extent do you think the video you selected was the best one among the 10 that were available?" (0 = not at all, 10 = very much); "I made my decision as soon as I found a video that was good enough" (0 = strongly disagree, 10 = strongly agree, reverse coded); "Even if I found a video that I was relatively satisfied with, I still browsed other available videos before deciding" (0 = strongly disagree, 10 = strongly agree, Cronbach's alpha = .58).

Results

Hedonic Value. An ANOVA with the hedonic value of the video-watching experience as the dependent variable revealed a significant interaction between the opportunity to switch and completion enforcement ($F(1, 230) = 4.77$, $p = .030$, $\eta^2 = .03$; see figure 3). In the spontaneous-completion conditions, the opportunity to switch reduced the overall hedonic value of the video-watching experience ($M_{NoSwitching} = 8.69$, $SD_{NoSwitching} = 1.63$ vs. $M_{Switching} = 7.97$, $SD_{Switching} = 2.07$; $t(230) = 2.23$, $p = .026$, Cohen's $d = .39$). However, when participants were required to complete one of the videos, no such effect was observed ($M_{NoSwitching} = 8.74$, $SD_{NoSwitching} = 1.83$ vs. $M_{Switching} = 9.02$, $SD_{Switching} = 1.34$; $t(230) = -.86$, $p = .39$). Thus, the detrimental effect of the opportunity to switch among candidate activities on overall hedonic value vanished when completion of one of these activities was enforced. This pattern of results pinpoints the reduction of commitment to one of the available activities as a pivotal component of the mechanism through which the opportunity to switch reduces hedonic value.

FIGURE 1.3

HEDONIC VALUE OF THE VIDEO-WATCHING EXPERIENCE (EXPERIMENT 4)



Commitment. In line with the results of the previous experiments, the opportunity to switch ($M_{NoSwitching}$ = 8.80, $SD_{NoSwitching}$ = 2.14 vs. $M_{Switching}$ = 6.56, $SD_{Switching}$ = 3.81; $F(1, 230)$ = 31.11, $p < .001$, $\eta^2 = .12$) undermined participants' commitment to any one of the videos. Moreover, enforced completion ($M_{Spontaneous}$ = 7.28, $SD_{Spontaneous}$ = 3.46 vs. $M_{Enforced}$ = 8.15, $SD_{Enforced}$ = 2.98; $F(1, 230) = 4.16$, $p = .043$, $\eta^2 = .02$) enhanced participants' commitment. The interaction between the two factors was not significant ($F(1, 230) = .20$, $p = .89$). Thus, requiring participants to watch one of the available videos in full was effective in inducing a mental state of greater commitment.

Supplementary Results. The exploration-tendency measure indicated that participants who had the opportunity to switch were more focused on exploring the set of candidate videos than those who did not have this opportunity ($M_{NoSwitching}$ = 1.59, $SD_{NoSwitching}$ = 2.39 vs. $M_{Switching}$ = 2.49, $SD_{Switching}$ = 3.38; $F(1, 230) = 5.49$, $p = .020$, $\eta^2 = .02$), regardless of whether completion

was enforced (no main effect and no interaction, both p values > .2).

In the spontaneous-completion conditions, the opportunity to switch rendered participants less likely to complete any one of videos (no-switching: 78.0% vs. opportunity-to-switch: 56.9%; $\chi^2 = 5.92$, $p = .015$), and it also caused them to watch a smaller portion of their selected videos ($M_{\text{NoSwitching}} = .87$, $SD_{\text{NoSwitching}} = .29$ vs. $M_{\text{Switching}} = .63$, $SD_{\text{Switching}} = .45$; $t(230) = 4.75$, $p < .001$, Cohen's $d = .63$). The amount of time participants spent on the entire video-watching experience did not differ between conditions ($F(1, 230) = 1.23$, $p = .27$), nor did the time spent exploring the candidate videos ($F(1, 230) = .18$, $p = .67$).

Potential Alternative Explanations. The evidence from this experiment allows us to address two potential alternative explanations of the adverse effect of the opportunity to switch on hedonic value. First, experiential activities are inherently subjective and ambiguous, and therefore difficult to evaluate or compare (Carter and Gilovich 2010; Hoch and Ha 1986). Thus, the opportunity to switch may increase the difficulty of selecting one's preferred activity, which could in turn contaminate the hedonic value of a consumption experience. This account would predict that the opportunity to switch should have a detrimental impact on hedonic value irrespective of whether participants are required to watch one of the videos in its entirety. However, the results of experiment 4 show that the opportunity to switch diminishes hedonic value only for spontaneous completion, and *not* for enforced completion. In addition, the opportunity to switch did not influence decision difficulty – neither as a main effect ($F(1, 230) = .03$, $p = .86$) nor interactively with enforced completion ($F(1,230) = 1.24$, $p = .27$). Thus, we can rule out an increase in decision difficulty as a result of having the opportunity to switch as a potential alternative explanation of the latter's detrimental effect on hedonic value.

Another potential alternative explanation is that the opportunity to switch could promote a maximizing mindset, which might in turn reduce hedonic enjoyment. Since consumers may

anticipate that switching will enable them to better assess how desirable different candidate activities are, it could motivate them to identify the very best alternative. Consumers in a maximizing mindset aim for the best, instead of settling for a good-enough alternative (i.e., satisficing mindset). Consequently, a maximizing mindset might reduce the hedonic value of a consumption experience by giving rise to feelings of regret and dissatisfaction when the activity that is ultimately selected does not meet one's expectations (Iyengar, Wells, and Schwartz 2006; Ma and Roese 2014). The results of this experiment reveal that the opportunity to switch actually did promote a maximizing tendency ($F(1, 230) = 11.33$, $p = .001$, $\eta^2 = .05$). Critically, however, the maximizing tendency failed to predict the hedonic value of the video-watching experience in a mediation model (bootstrap analysis; N = 5,000 samples; confidence: $\beta = .02$, $SE = .06$, 95% CI = [-.09, .14]), ruling out a shift towards a maximizing mindset as a potential explanation of the effect of the opportunity to switch among candidate activities on hedonic value.

Discussion

The findings of experiment 4 corroborate those of the earlier experiments in that they offer further evidence of the adverse consequences of the opportunity to switch among candidate activities on the hedonic value of consumption experiences. Moreover, they provide a direct test of our theorizing about the pivotal role of consumers' commitment to a particular activity. The results show that the detrimental impact of the opportunity to switch on hedonic value hinges on consumers being free to end an activity when they so desire (which is the norm for most hedonic activities), and that this effect vanishes in the presence of a heavy-handed restriction that requires individuals to consume one of the candidate activities in its entirety. Thus, if completion of an activity is externally enforced, consumers tend not to get trapped in a state where they fail to commit to any one of the candidate activities. Finally, the results of this experiment rule out two

potential alternative explanations – based on decision difficulty and maximizing tendency – of the negative effect of the opportunity to switch on hedonic value.

EXPERIMENT 5:
NUDGING COMMITMENT

According to our theorizing, the opportunity to switch among candidate activities undermines consumers' commitment to any of the alternatives. In experiment 4, we used a rather heavy-handed intervention that forced participants to ultimately commit to one of the available activities and consume it in its entirety. However, our conceptualization of a switching trap entails a psychological dynamic whereby the opportunity to switch undermines the consumer's readiness to commit to one of the candidate activities as s/he is tempted to switch among them. In essence, the boundary between (1) the search among the candidate activities and (2) the actual consumption of a selected activity becomes blurred, and the decision to commit to an activity is deferred – potentially indefinitely. Therefore, a subtle nudge that merely reminds individuals that they ought to, at some point, stop switching and commit to one of the available activities should also mitigate the detrimental effect of the opportunity to switch on hedonic value. Experiment 5 was designed to test this prediction. The nudge that we implemented was to softly partition the overall experience into a pre-commitment and a post-commitment phase by providing participants with the opportunity to indicate, whenever they felt ready to do so, which of the candidate activities they wished to consume. Critically, in this experiment, it was not mandatory for participants to ever commit to one of the candidate activities, nor were they required to consume an activity in its entirety (unlike in experiment 4).

Method

Participants and Design. A total of 200 members of a North American consumer panel (M_{Age} = 38.12, SD_{Age} = 10.72; 55.0% females) participated in this experiment in exchange for a nominal payment. Participants were randomly assigned to one of three conditions – a no-switching condition, an opportunity-to-switch condition (as in the previous experiments), or a new "commitment-nudge" condition.

Procedure and Manipulations. The overall procedure and the basic manipulation of the opportunity to switch were the same as in the previous experiments. In the commitment-nudge condition, participants were free to switch among videos whenever and as often as they wanted (as in the opportunity-to-switch condition), but they were also informed that they had the option to eventually click a button labeled "Select this Video" and that if/once they did so they would no longer be able to switch to another video. Once a participant clicked this button, the current video continued to play, but the option to switch to another video was removed. Participants in all conditions were free to exit the video-watching experience whenever they liked.

Measures. The same measures as in the previous experiments were obtained. The scale reliability of the items used to measure the hedonic value of the video-watching experience was .95.

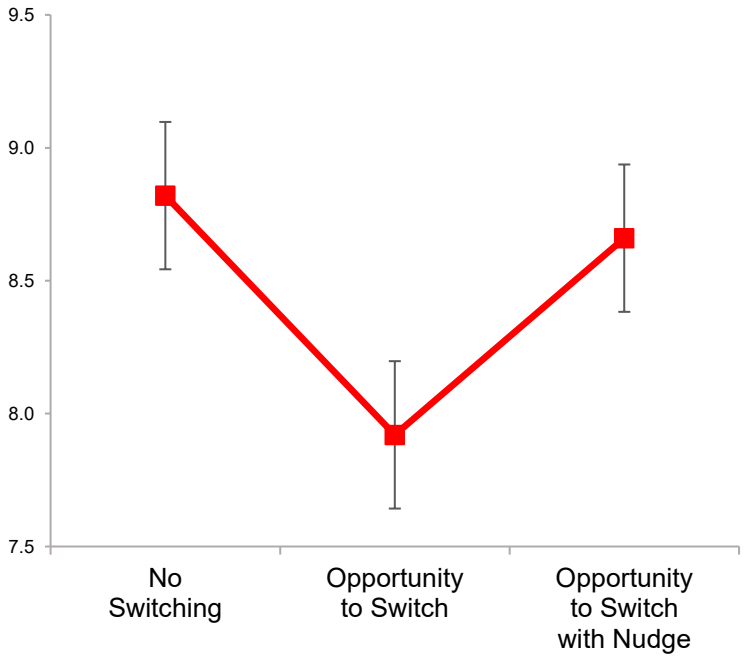
Results

Hedonic Value. An ANOVA indicated a significant overall effect of our manipulations on the overall hedonic value of the video-watching experience ($F(2, 197) = 4.68$, $p = .011$, $\eta^2 = .07$; see figure 4). In line with the results of the previous experiments, the (standard) opportunity to switch reduced hedonic value ($M_{NoSwitching}$ = 8.82, $SD_{NoSwitching}$ = 1.41 vs. $M_{Switching}$ = 7.92, $SD_{Switching}$ = 2.53; $t(197) = 2.71$, $p = .007$, Cohen's $d = .44$). More importantly, merely nudging participants to indicate their commitment to a particular video significantly enhanced the hedonic

value of the video-watching experience relative to the opportunity-to-switch condition (M_{Nudge} = 8.86, SD_{Nudge} = 1.68; $t(197) = -2.19$, $p = .029$, Cohen's $d = .44$). Indeed, participants in the commitment-nudge condition enjoyed the overall experience as much as those in the no-switching condition ($t(197) = .50$, $p = .62$). Thus, prompting participants who had the opportunity to switch among videos to eventually indicate their selection when they felt ready to do so, thereby partitioning the video-watching experience into a pre-commitment and a post-commitment phase, allowed them to reap the benefits of switching while sidestepping the detrimental hedonic consequences of getting trapped in a state of over-exploration and lack of commitment.

FIGURE 1.4

HEDONIC VALUE OF THE VIDEO-WATCHING EXPERIENCE (EXPERIMENT 5)



Commitment. As in the previous experiments, the opportunity to switch undermined participants' commitment to any one of the videos ($M_{NoSwitching}$ = 8.70, $SD_{NoSwitching}$ = 2.17 vs. $M_{Switching}$ = 6.57, $SD_{Switching}$ = 3.97; $t(197) = 3.97$, $p < .001$, Cohen's $d = .67$). Critically, in the

commitment-nudge condition, perceived commitment was greater than in the standard opportunity-to-switch condition (M_{Nudge} = 7.72, SD_{Nudge} = 2.95; $t(197) = -2.11$, $p = .036$, Cohen's $d = .33$), and no different from that in the no-switching condition ($t(197) = 1.87$, $p = .064$).

Supplementary Results. An ANOVA revealed a significant difference in participants' tendency to explore across conditions ($F(2, 197) = 4.36$, $p = .014$, $\eta^2 = .04$). In line with the results of the earlier experiments, participants who had the opportunity to switch were more focused on exploring the set of videos than those who did not have this opportunity ($M_{NoSwitching}$ = 1.45, $SD_{NoSwitching}$ = 2.05 vs. $M_{Switching}$ = 2.78, $SD_{Switching}$ = 3.14; $t(197) = -2.92$, $p = .004$, Cohen's $d = -.50$). Nudging participants to indicate their commitment to one of the videos while having the opportunity to switch resulted in a directional but non-significant reduction in their focus on exploration (M_{Nudge} = 1.93, SD_{Nudge} = 2.56; $t(197) = 1.87$, $p = .06$, Cohen's $d = -.30$).

Participants who had the opportunity to switch were less likely to complete their selected videos (no-switching: 91.4% vs. opportunity-to-switch: 71.4%; $\chi^2 = 5.79$, $p = .016$). Nudging participants to indicate their commitment enhanced the likelihood of completing the selected video (85.1%, $\chi^2 = 3.58$, $p = .059$). Moreover, as in the previous experiments, the opportunity to switch reduced the percentage of selected videos watched ($M_{NoSwitching}$ = .89, $SD_{NoSwitching}$ = .25 vs. $M_{Switching}$ = .73, $SD_{Switching}$ = .39; $t(197) = 2.66$, $p = .008$, Cohen's $d = .49$), and nudging participants to indicate their commitment led them to watch a greater portion of selected videos than the standard opportunity-to-switch condition (M_{Nudge} = .85, SD_{Nudge} = .32; $t(197) = -1.98$, $p = .049$, Cohen's $d = .34$) and this portion was no different from that in the no-switching condition ($t(197) = .67$, $p = .50$). The amount of time participants spent on the overall video-watching experience did not differ between conditions ($F(2, 197) = 2.72$, $p = .068$), nor did the time spent exploring the candidate videos ($F(2, 197) = 1.54$, $p = .218$).

Discussion

The findings of experiment 5 shed additional light on the psychological dynamics that govern the switching-trap effect. They provide further evidence that the opportunity to switch among activities lures consumers into a mental state characterized by a failure to commit to any of the available alternatives, but they also show that a subtle nudge serving as a reminder to eventually commit to an alternative can help consumers sidestep the switching trap and its detrimental hedonic consequences. Such a nudge, in effect, encourages consumers to mentally partition an activity into a pre-commitment and a post-commitment phase, enabling them to take advantage of the opportunity to switch in identifying activities that are enjoyable to them without losing sight of the importance of ultimately moving beyond the exploration of various candidate activities and committing to the consumption of one of these.

GENERAL DISCUSSION

This research examines the hedonic consequences of the opportunity to switch in consumer search for activities. Although the freedom to switch among candidate activities allows consumers to better assess these activities, the theorizing and empirical evidence presented in this article shows that such freedom can backfire and reduce the hedonic value of a consumption experience. In particular, our findings demonstrate a "switching trap" whereby the opportunity to switch among candidate activities promotes a momentary focus on exploration, which undermines consumers' commitment to any one of the activities, ultimately diminishing the overall hedonic value of a consumption experience (experiments 1a and 1b). However, these dynamics enhance hedonic value when the candidate activities are highly divisible and when the available descriptive information about the activities is of low diagnosticity (see experiments 2

and 3). We have pinpointed the pivotal role of consumers' commitment to a particular activity in connection with the switching-trap phenomenon both through mediation analyses (experiments 1a and 1b) and by demonstrating theory-inspired boundary conditions (experiments 4 and 5).

The theoretical framework and body of empirical evidence presented here advance our understanding of the role of the opportunity to switch in the context of consumer search for activities, including its hedonic consequences and the associated psychological dynamics. This research contributes to the literature in several ways.

Prior research has examined the link between committing to a decision and decision satisfaction. For instance, people are more satisfied with a decision when it is unchangeable (Gilbert and Ebert 2000) or when they are prompted to attain closure that prevents them from revisiting forgone alternatives (Gu, Botti, and Faro 2013). The current work extends these insights into the domain of consumption *experiences*, and it shows that having the opportunity to switch among candidate activities undermines consumers' commitment to any of these activities, which can have a detrimental impact on hedonic value.

This article identifies the presence (vs. absence) of the opportunity to switch as an important factor that contributes to hedonic value in consumer search for enjoyable activities. Prior research has examined the hedonic consequences of various factors when consumers are exploring available alternatives. For instance, consumers are less satisfied with a decision when they experience difficulty in comparing available alternatives (Griffin and Broniarczyk 2010), when they are motivated to identify the best alternative (Iyengar, Wells, and Schwartz 2006; Ma and Roese 2014), and when expectations about identifying an attractive alternative are elevated by increased assortment size or sequential presentation (Diehl and Poynor 2010; Mogilner, Shiv, and Iyengar 2013). The current work shows that the opportunity to switch among candidate activities (before committing to one of them) is another key factor that, under certain

circumstances, diminishes the overall hedonic value of experiential consumption. Although the opportunity to switch allows consumers to better assess available alternatives, it reduces the commitment to any one of them and ultimately diminishing the overall hedonic value of a consumption experience.

Moreover, this work examines the construct of freedom of choice from a novel perspective. In the literature on choice overload (e.g., Iyengar and Lepper 2000), the focus is in the impact of consumers' freedom of search, operationalized as the number alternatives consumers inspect or that are available to them, on decision outcomes and decision satisfaction (Botti and Hsee 2010; Diehl and Zauberman 2005). The present work approaches the freedom to search from the perspective of depth, whereby consumers have the opportunity to freely switch among activities, which allows them to acquire in-depth (i.e., experiential) information about them, as an alternative to searching a larger number of alternatives in a shallow manner (i.e., based on descriptive information). Our findings show that, controlling for the number of available alternatives, greater depth of search can backfire, ultimately reducing the enjoyment of a hedonic activity.

Because the opportunity to switch among activities tends to lure consumers into acquiring in-depth, experiential information about multiple candidate activities, it might cause information overload (e.g., MacInnis and Price 1987; Malhotra 1982). It is conceivable that having too much information could have a detrimental impact on the hedonic value of a consumption experience. However, the evidence presented here does not support such an account in that it shows that the additional information acquired as a result of having the opportunity to switch does not necessarily diminish hedonic value. In particular, experiments 4 and 5 demonstrate that the detrimental hedonic impact of the opportunity to switch among candidate activities vanishes if consumers (are encouraged to) ultimately complete one of these activities.

Related to the notion of information overload, it is possible that the opportunity to switch among activities may lead consumers to experience greater regret (Bell 1982; Zeelenberg 1999) by making the (eventually) foregone candidate alternatives more salient. However, an inherent aspect of having the opportunity to switch is that the consumer is never required to actually forego any of the alternatives. Moreover, some of the current empirical evidence suggests that regret is unlikely to play a significant role in the psychological dynamics that underlie the switching-trap phenomenon – the opportunity to switch did not increase (retrospective) decision difficulty in experiment 4.

One limitation of the body of empirical evidence presented in this article is that it is based on one particular class of activities – consuming entertaining videos. Given that the scope of our theorizing is such that it pertains to consumption experiences that are hedonic in nature (i.e., that people engage in for pleasure), the stimuli used in the current set of experiments are natural and appropriate. Nonetheless, more research is needed to further investigate the generality of the findings of this work, and to examine additional enabling and boundary conditions for the effect of the opportunity to switch among activities on the overall hedonic value of consumption experiences.

The insights from this work have important practical implications for both firms and consumers. First, the opportunity to switch among candidate activities is a significant threat to enjoyment, particularly in domains of low low-divisibility activities, where disproportionate hedonic value arises specifically from committed completion of an activity (as is typically the case when watching a movie or reading a book). Thus, consumers should be aware of the risk of getting trapped in a state of exploration when provided with the opportunity to switch among activities, which might ultimately reduce their consumption enjoyment. Similarly, firms who seek to optimize customer experience and welfare ought to take this switching-trap effect into account

when deciding whether and how to allow consumers to switch. Switching among candidate activities should only be encouraged, or even permitted, in connection with activities that are highly divisible (consisting of small independent parts, each of which is pleasurable in its own right), or in settings where it is not possible to provide diagnostic descriptive information about the alternatives. Moreover, our findings identify a type of intervention that can help consumers sidestep the switching trap. Specifically, combining the opportunity to switch among candidate activities with a nudge that encourages consumers to partition an overall consumption experience into a pre-commitment and a post-commitment phase renders them more likely to commit to one of the activities, in turn enhancing overall enjoyment.

CONCLUSION

Opportunities for consumers to switch among candidate activities are ubiquitous. The present research shows that while the opportunity to switch may be beneficial to consumers by better enabling them to identify desirable activities, it can also backfire by trapping them in a mental state that undermines their commitment to specific activities, ultimately reducing the hedonic value they derive from consuming these activities.

APPENDIX:

EXPERIMENTAL PARADIGM (SAMPLE SCREENSHOT)

Click the **green navigation (Forward and Back) buttons** to move between the **10 videos**.
Click the **play button** in the center of the image to **start watching** this video.

Johnny Express (2006)

Director: Gary Rydstrom

Storyline: It's 2150, and there are all sorts of Aliens living throughout space. Johnny is a space delivery man who travels to different planets to deliver packages. Johnny is lazy and his only desire is to sleep in his autopilot spaceship. However, it never goes as planned, Johnny also visits strange and bizarre planets...

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Essay 2

The Imminent-End Effect:
How the Approaching End of an Experience Affects Enjoyment

Consumers usually have finite time to consume a hedonic experience. As consumers, we experience vacations while having the return dates booked; we enjoy a nice dinner with friends knowing that the dinner ends in a couple of hours; and we watch movies or TV episodes that have a fixed duration. The end is an essential component of many experiences, yet how anticipating the end of an experience influences consumers' enjoyment of it is not fully understood. There is some evidence that, while consuming repeated consumption episodes (e.g., eating multiple pieces of chocolate in a row), consumers enjoy an episode more knowing that it is the last one (O'Brien and Ellsworth 2012; Tsai and Zhao 2015). By contrast, common intuition suggests that the imminent end can have detrimental effect on consumers' enjoyment. For example, we often dread the end of a vacation and feel sad on the last day.

To empirically validate this intuition, we conducted a field study with 235 tourists at a popular tourism spot—Lake Louise in Canada's spectacular Banff National Park. We approached tourists on vacation and asked them to answer two questions (without letting their travel companions hear their answers). First, participants shared the duration of the vacation and how many days remained, through which we know their approximate distance from the end. More importantly, they indicated their enjoyment of the vacation at the moment on an 11-point scale (0 = not at all, 10 = the best holiday experience ever). The order of these two questions was counter-balanced to control for any possible ordering effects. This field study lasted three days, during which the weather was the same. Results indicate an inverted-U shape between the standardized distance to the end and participants' enjoyment of their vacation (b_{end}^2 = -3.38, SE = 1.40; p = .025; b_{end} = 3.62, SE = 1.42; p = .011). Participants' enjoyment of their vacation increased from the start and peaked at the midpoint. Notably, their enjoyment diminished when their vacation was about to end. The results of this field study provide initial evidence that, for

certain experiences, the imminent end can have a detrimental effect on consumers' hedonic enjoyment of them.

In this paper, we investigate how anticipating that a positive experience is about to end influences consumers' enjoyment of that experience. In particular, we focus on hedonic experiences that extend over a substantial period of time, with contents that are non-repetitive (e.g., movies, songs, vacations, etc.). Contributing to the understanding of temporal dynamics of how consumers interact with hedonic experience, we propose that, a key factor governing this "imminent-end effect" is the extent to which consumers can control a consumption experience. The level of control is influenced by the nature of the experience and situational factors (Averill 1973; Langer 1975; Inesi et al. 2011; Whitson and Galinsky 2008). We hypothesize that when consumers have low control over an experience, anticipating that its end is approaching gives rise to intrusive thoughts about the end, which interferes with consumers' engagement of the experiences at the moment and thus reduces their enjoyment. By contrast, when consumers have high control, the imminent end motivates them to make better use of the opportunity, ultimately enhancing their enjoyment of it (Kurtz 2008).

This research advances our understanding of how time-progression information influences consumers' hedonic enjoyment of consumption experiences. Previous research examined hedonic experiences that extend over a period of time (Ariely and Zauberman 2003; Fredrickson and Kahneman 1993; Galak and Meyvis 2011; Novemsky and Ratner 2003; O'Brien and Roney 2017; Sackett et al. 2010; Van Boven and Gilovich 2003), and numerous studies identified various factors in association with time progression that can impact consumer enjoyment (Kurtz 2008; Meyvis and Nelson 2011; Nelson and Meyvis 2008; O'Brien and Ellsworth 2012; Sackett et al. 2010; Tsai and Zhao 2015; Zhao and Tsai 2011). Going beyond

prior work, we show the dynamics of how the imminent end boosts or diminishes consumers' enjoyment, depending on whether consumers have high or low control over an experience.

In what follows, we develop a theoretical framework that characterizes the psychological dynamics of the imminent-end effect and its impact on consumers' hedonic enjoyment. After that, we present evidence from five experiments that were designed to test the theorizing.

THEORETICAL FRAMEWORK

The Imminent End of Experiences

Consumers are highly sensitive to temporal information, which can impact their enjoyment of hedonic experiences (Sackett et al. 2010; Zhao and Tsai 2011; O'Brien and Ellsworth 2012; O'Brien and Roney 2017; Meyvis and Nelson 2011). As a key component of the temporal information, the end of an experience plays a pivotal role in influencing consumers' enjoyment. Presumably, the imminent end of an experience signals that consumers have limited time to enjoy this current experience. Intuitively, the scarcity should increase the desirability of the experiences and may further increase consumers' valuation of them (e.g., Cialdini 1993; Fromkin 1970; Inman, Peter, and Raghubir 1997). However, little is known about how scarcity interacts with the dynamics of an experience that consumers are currently consuming, in particular, how scarcity, resulting from the imminent end, influences their enjoyment.

On one hand, we argue that the scarcity can prod consumers to pay more attention to the imminent end of the experience, which manifests as intrusive thoughts that interfere with their consumption of the experience. This is because when the future is limited with an expected end, consumers focus more on the limited time span compared to the situation when the future is

expansive with an end that is not accurately anticipated (Carstensen, Isaacowitz, and Charles 1999). Moreover, constraint on time as a resource would redirect consumers' attention to this constraint, and even influence them to ignore the availability of ample time in the future (Folkes, Martin, and Gupta 1993; Shah, Mullainathan, and Shafir 2012). Ultimately, consumers frequently attend to the end and associated time-progression information, which prevents them from fully engaging in the experience currently being consumed.

The engagement is characterized as the extent to which one can attend to and is immersed in the experience (Diehl, Zauberman, and Barasch 2016; Csikszentmihalyi 1990; Killingsworth and Gilbert 2010; Sehnert et al. 2014). For many experiences, especially those that are hedonically pleasurable, greater engagement can enhance consumers' enjoyment (e.g., Csikszentmihalyi 1990; Killingsworth and Gilbert 2010). Engagement allows consumers to attend to specific details of an experience (LeBel and Dube 2001; Sehnert et al. 2014), giving rise to opportunities for consumers to better appreciate the experience. Further, engagement makes consumers to become immersed in an experience and leads to positive affect (Csikszentmihalyi 1990). When consumers constantly attend to the end as well as associated time-progression information, inevitably, they cannot allocate all of their cognitive resources to, or become fully immersed in, the experience that is being consumed. Therefore, through prompting intrusive thoughts about the end of an experience, which prevents consumers from fully engaging in that experience, the imminent end diminishes enjoyment of it.

On the other hand, we argue that the scarcity, resulting from the imminent end, can motivate consumers to make good use of the opportunity and savor the remaining experience(s). The scarcity of time as a resource increases consumers' appreciation of it, rendering them more proactive in pursuing emotionally-relevant goals and making the remaining time meaningful

(Fung and Carstensen 2006; Carstensen 2006). Consequently, consumers tend to be more motivated to process, elaborate, and interact with the preferred alternative, ultimately enhancing their hedonic enjoyment (Bozzolo and Brock 1992; Sehnert et al. 2014). In line with this argument, prior research reports that reminding students that their graduation date is imminent motivated them to participate in more meaningful activities, thus enhancing their happiness before graduation (Kurtz 2008). Therefore, through motivating consumers to make good use of the remaining time, the imminent end can enhance their enjoyment of an experience.

To summarize, building upon the previous research, we argue that anticipating that the end of an experience is imminent can have opposing effects on enjoyment: It can decrease or increase consumers' enjoyment of an experience, respectively, through promoting intrusive thoughts about the end or motivating consumers to make good use of the opportunity. This current work investigates when and how one of the processes dominates and drives hedonic enjoyment. We propose that a key factor governing the dynamics of the imminent end and influencing one pathway to outweigh another is the extent to which consumers have control over an experience.

Control

Control refers to the extent to which experiences are dependent on or affected by the consumer's behavior (DeCharms 1972; Rotter 1966; Skinner 1996). In particular, control can manifest as whether consumers are being able to choose what they want to consume and how to consume and/or interact with the selected alternatives (Inesi et al. 2011; Kay et al. 2009; Glass and Singer 1972), and as merely acquiring more information about candidate alternatives (Landau, Kay, and Whitson 2015).

Control is an innate need for human beings (Averill 1973; Brehm 1966; DeCharms 1972). It plays a pivotal role in consumers' subjective well-being, such as reducing anxiety and increasing endurance of pain (Glass and Singer 1972; Klein, Fencil-Morse, and Seligman 1976; Thompson 1999; Monat, Averill, and Lazarus 1972). Therefore, when consumers experience a sense of low control, they are motivated to reinstate control through various ways (Landau, Kay, and Whitson 2015; Kay et al. 2009; Friesen et al. 2014). For example, the experience of low control leads consumers to form structured interpretations of random patterns (Whitson and Galinsky 2008), to prefer products that require high effort and engagement (Cutright and Samper 2014), and to become more motivated to acquire products of high utilitarian value (Chen, Lee, and Yap 2017). Although the methods vary, when consumers have low control, they are motivated to allocate greater effort and cognitive resources to influence the environment or simply acquire more information about it, through which they can experience greater control (Landau, Kay, and Whitson 2015).

This motivation of compensatory control is essential to understanding the negative effect of the imminent end on consumers' enjoyment of hedonic experiences. When consumers have low control of an experience, they are motivated to re-establish control. However, the low control leaves consumers with limited opportunities to interact or choose how to consume the experience. Consumers can only attend to more information about the experience to reinstate the sense of control (Whitson and Galinsky 2008; Landau, Kay, and Whitson 2015). In other words, when the end of an experience is imminent and thus salient, inevitably, consumers relocate a greater amount of cognitive resources to the time-progression information and are motivated to learn their approximate distance from the end. In turn, this attention redirected to the imminent

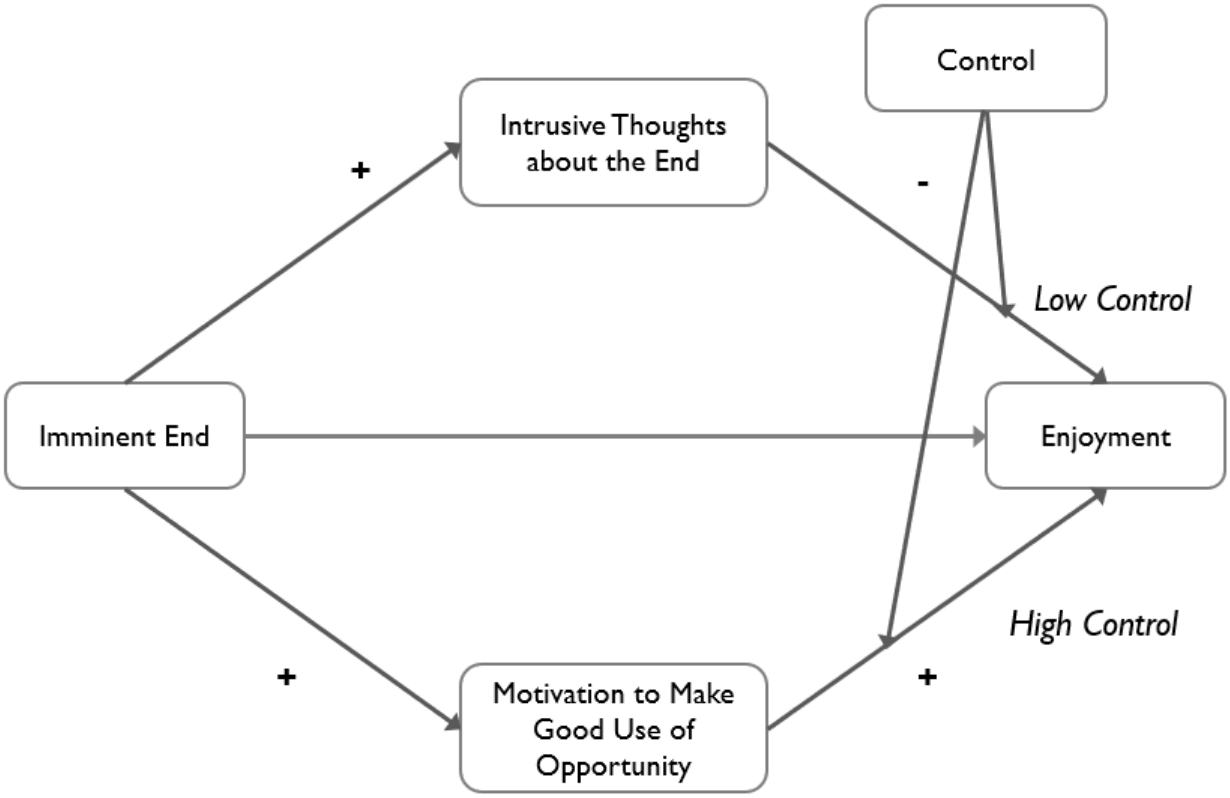
end promotes intrusive thoughts about the end, ultimately decreasing consumers' engagement with the present experience and their enjoyment of it.

To the contrary, having high control of an experience allows consumers to interact with an experience and to determine how they can consume it. The imminent end gives rise to the motivation to make good use of the remaining time, which can be accomplished when consumers have high control. Consumers can thus mobilize resources to savor the last moment and/or choose the most enjoyable episode to consume last, which boosts their enjoyment of the experience.

Based on this theorizing, we propose that anticipating that an experience is about to end can influence consumers' enjoyment of it (see figure 1). In particular, when consumers have low control of an experience, the imminent end prompts intrusive thoughts about the end, which prevent consumers from fully engaging in and ultimately enjoying the experience. When consumers have high control of an experience, the imminent end boosts consumers' enjoyment of an experience by motivating them to make good use of the opportunity.

FIGURE 2.1

THEORETICAL FRAMEWORK



In what follows, we present five experiments designed to test our theorizing of the imminent-end effect. Experiment 1 demonstrates that anticipating the imminent end decreases consumers' enjoyment of an experience when they have low control, yet it increases consumers' enjoyment when they have high control. Experiments 2, 3, and 4 examine the psychological dynamics that govern the negative effect of the imminent end. Specifically, experiment 2 establishes a boundary condition by showing that the negative effect of the imminent end diminishes when an experience is construed as a series of discrete episodes. Experiment 3 shows that the negative effect of the imminent end on consumers' enjoyment of an experience is primarily driven by the fact that consumers constantly attend to the end of an experience, which

promotes intrusive thoughts that interfere with engagement of the experience. Experiment 4 further corroborates the pivotal role of intrusive thoughts about the end in driving the negative effect on enjoyment and distinguishes this process from the negativity of the end. Finally, experiment 5 conceptually replicates the positive effect of the imminent end on influencing consumers' enjoyment and identifies the motivation to make good use of the opportunity as the key driver of this positive effect.

In all the experiments we focus on consumers' moment-to-moment online evaluation of their enjoyment, because it best captures how *anticipating* an experience is about to end transforms the enjoyment of it. In addition, this experience sampling of consumers' moment-to-moment online evaluation is less vulnerable to recall biases and errors (Kahneman et al. 2004; Fredrickson and Kahneman 1993), compared to the retrospective overall evaluation of an experience. Also, this method helps to control for the impact of consumers' perceived overall pattern of an experience on their enjoyment (Ariely and Zauberman 2003; Ariely and Carmon 2000). In order to better understand the dynamics of the imminent-end effect, including the difference between experienced utility and remembered utility under the impact of the imminent end, we also included a bonus measure that asks participants about their overall enjoyment of the experience (retrospectively) at the end of each experiment.

EXPERIMENT 1

Experiment 1 aims to provide an initial demonstration of the hypothesized dynamics of the imminent-end effect. In particular, anticipating the imminent end of a consumption

experience reduces its enjoyment when consumers have low control over the experience, yet increases its enjoyment when consumers have high control.

Method

Participants and Design. A total of 226 members of a North American consumer panel completed this experiment (M_{Age} = 34.65, SD_{Age} = 10.61; 53.3% female). They were randomly assigned to conditions of a 2 (imminent end: no vs. yes) × 2 (control: low vs. high) between-subjects design.

Procedure, Stimuli, and Pretest. Participants expected to enjoy a positive experience without knowing its actual duration. The experience lasted exactly 2 minutes 30 seconds. We employed progress bars of different lengths to manipulate whether the end was imminent. Across all the conditions, participants were presented with a red progress bar with "start" labeled on the left end and "end" labelled on the right end. Upon the start of the experience, the width of the red area of the progress bar gradually decreased in proportion to the amount of time passed, and the white area gradually expanded towards the right end. In the imminent-end condition, the white area moved to the end of the progress bar when the experience ended. In the no-imminent-end condition, the length of the progress bar was doubled, such that the white area only moved to the midpoint of it when the experience actually ended (see Appendix A for the exact computer interface).

We manipulated control by introducing different types of experiences. In the low-control condition, participants watched a funny animation video composed of multiple humorous moments from *Tom and Jerry*. In the high-control condition, they played the classic game *Tetris*.

These two experiences were pretested to verify that they are comparable on dimensions that might affect enjoyment. A total of 66 participants (M_{Age} = 35.26, SD_{Age} = 12.71; 37.9% females) recruited from the same panel randomly consumed one of the experiences for 2.5 mins, then indicated how interesting, enjoyable, engaging, and boring the experience was (11-point scales; 0 = not at all, 10 = very much). The video and game were rated as being equally interesting (M_{Video} = 6.70, SD_{Video} = 2.51 vs. M_{Game} = 7.00, SD_{Game} = 2.86; $t(64) = -.46$, $p = .65$), enjoyable (M_{Video} = 7.12, SD_{Video} = 2.45 vs. M_{Game} = 7.55, SD_{Game} = 2.80; $t(64) = -.66$, $p = .51$), engaging (M_{Video} = 6.88, SD_{Video} = 2.69 vs. M_{Game} = 7.12, SD_{Game} = 2.41; $t(64) = -.39$, $p = .70$), and boring (M_{Video} = 2.67, SD_{Video} = 3.03 vs. M_{Game} = 3.15, SD_{Game} = 2.98; $t(64) = -.66$, $p = .51$).

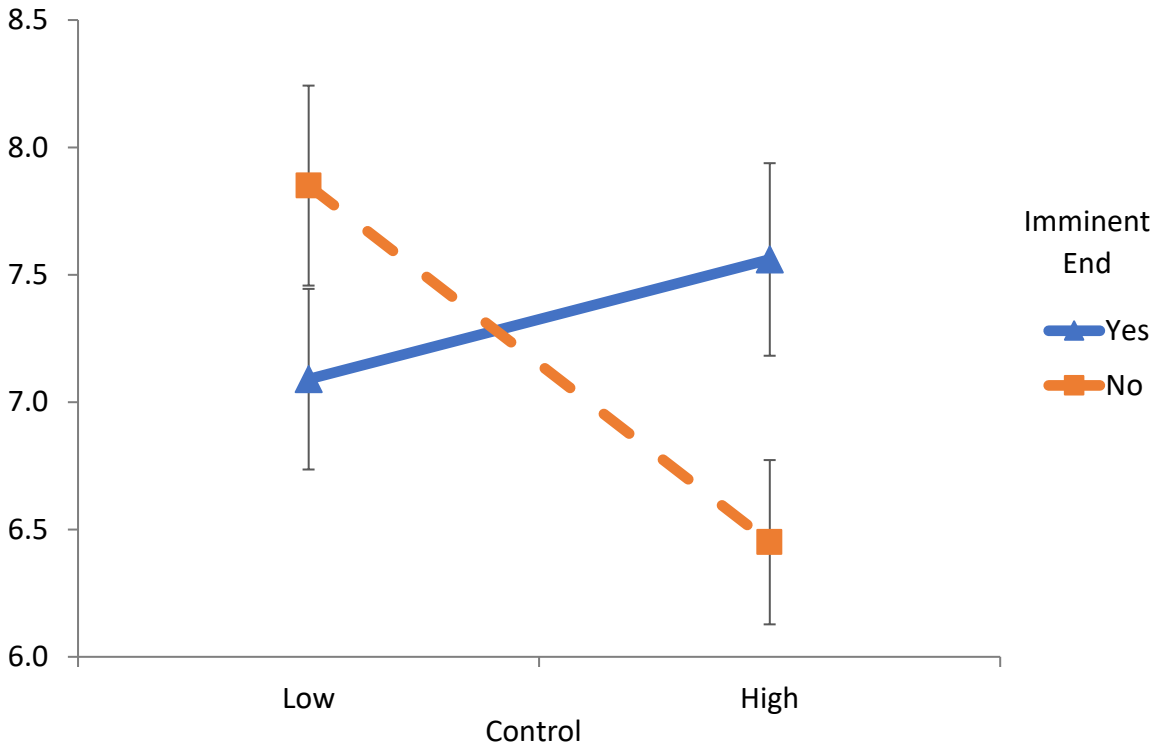
Measures. We sampled participants' enjoyment of the experience five times during the experiment by asking them to indicate how much they are enjoying the experience right now (0 = not at all, 10 = very much). This question showed up below the progress bar every 30 seconds and stayed on the screen for 10 seconds. The focal dependent variable was the last measure, which appeared on the screen 20 seconds before the end of the experience. After the end of the experience, participants indicated their enjoyment of the overall video-watching/game-playing experience (retrospectively) on an 11-point scale (0 = not at all, 10 = very much). As the manipulation check, we asked participants to indicate the extent to which they had control over the experience on an 11-point scale (0 = not at all, 10 = very much). Finally, in order to examine a potential alternative explanation (see below for details), after the video-watching experience, we asked participants to indicate their expected duration of the video-watching/game-playing experience at the beginning of the study.

Results

Enjoyment of the Experience. An ANOVA with the enjoyment of the experience (right before the end of it) as the dependent variable revealed a significant interaction effect between the imminent end and control ($F(1, 222) = 13.28$, $p < .001$, $\eta^2 = .06$; see figure 2). An analysis of planned contrasts showed that the imminent end reduced enjoyment when participants had low control over the experience ($M_{End} = 7.03$, $SD_{End} = 2.39$ vs. $M_{NoEnd} = 7.96$, $SD_{NoEnd} = 1.78$; $t(222) = -2.27$, $p = .025$; Cohen's $d = -.44$), but it enhanced their enjoyment when participants had high control ($M_{End} = 7.53$, $SD_{End} = 1.89$ vs. $M_{NoEnd} = 6.38$, $SD_{NoEnd} = 2.25$; $t(222) = 2.89$, $p = .004$; Cohen's $d = .55$).

FIGURE 2.2

ENJOYMENT OF THE EXPERIENCE (EXPERIMENT 1)

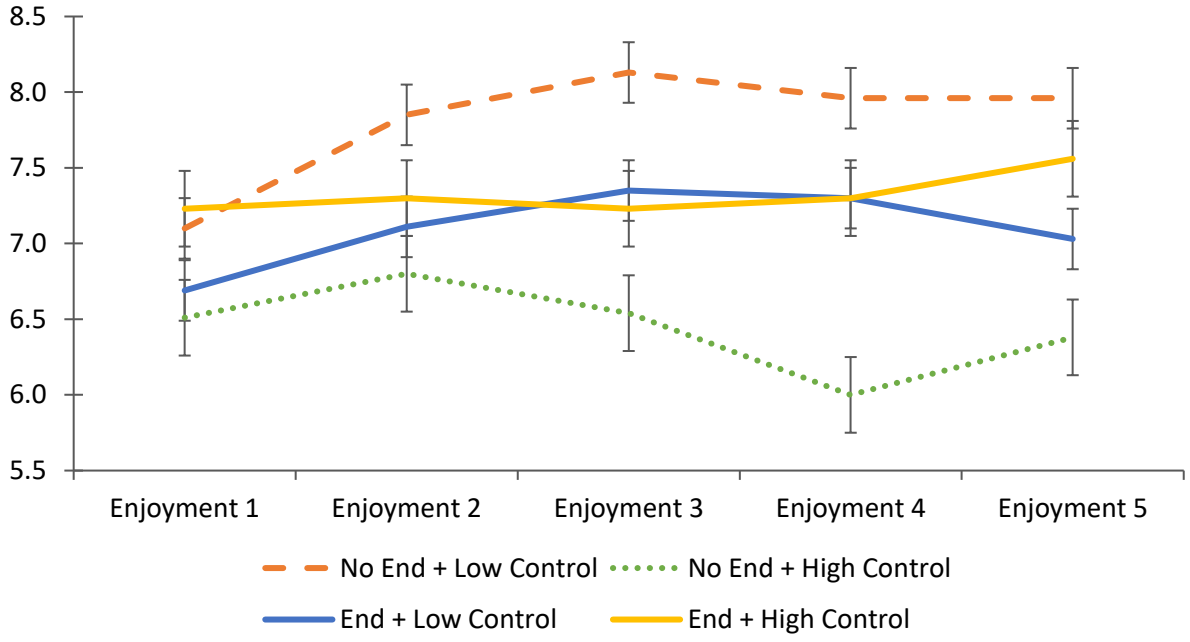


Supplementary Results of Enjoyment. This interactive effect between the imminent end and control extended to the retrospective evaluation of the overall experience ($F(1, 222) = 11.32$, $p = .001$, $\eta^2 = .06$). In line with the moment-to-moment online measure right before the end of the experience, the imminent end also reduced the overall enjoyment of the experience when participants had low control ($M_{End} = 7.54$, $SD_{End} = 2.35$ vs. $M_{NoEnd} = 8.36$, $SD_{NoEnd} = 1.54$; $t(222) = -2.23$, $p = .027$; Cohen's $d = -.41$), yet it boosted their overall enjoyment of the experience when they had high control ($M_{End} = 8.29$, $SD_{End} = 1.47$ vs. $M_{NoEnd} = 7.38$, $SD_{NoEnd} = 1.99$; $t(222) = 2.53$, $p = .012$; Cohen's $d = .52$).

In this experiment, we measured participants' enjoyment throughout the experience five times, and the fifth measure of which served as the key dependent variable. We plotted all the enjoyment sampled throughout the experience (see figure 3) and examined the hypothesized imminent-end effect through the pattern of enjoyment throughout the experience. In particular, when participants had low control over the video-watching experience, their initial enjoyment was not influenced by the manipulation of imminent end ($M_{End} = 6.59$, $SD_{End} = 1.98$ vs. $M_{NoEnd} = 7.10$, $SD_{NoEnd} = 1.68$; $t(222) = -1.38$, $p = .17$). Moreover, the imminent end marginally diminished enjoyment along with the progression of the experience for the following three measures (all p-values were in the range of [.05, .10]), and it significantly reduced participants' enjoyment of the video-watching experience for the last measure (reported above). In contrast, when participants had high control over the experience, their initial enjoyment of the game-playing experience was the same ($p > .05$ for the first three measures), irrespective of whether the end was imminent; and participants in the imminent-end condition enjoyed the experience more since they passed the mid-point of the game-playing experience (the fourth measure: $M_{End} = 7.30$, $SD_{End} = 1.97$ vs. $M_{NoEnd} = 6.00$, $SD_{NoEnd} = 2.59$; $t(222) = 3.00$; $p = .003$).

FIGURE 2.3

ENJOYMENT SAMPLED THROUGHOUT THE EXPERIENCE (EXPERIMENT 1)



Control of the Experience. Participants in the high-control condition indicated having greater control over the experience than did those in the low-control condition ($M_{\text{LowControl}} = 4.28$, $SD_{\text{LowControl}} = 3.13$ vs. $M_{\text{HighControl}} = 6.47$, $SD_{\text{HighControl}} = 2.54$; $F(1, 222) = 33.72$, $p < .001$, $\eta^2 = .13$). No main effect of the imminent end ($F(1, 222) = .01$, $p = .92$) nor its interaction with the manipulation of control ($F(1, 222) = 1.91$, $p = .17$) influenced this measure. This confirmed that the manipulation of control was effective.

Potential Alternative Explanation. The evidence from this experiment allows us to address a potential alternative explanation. Since we manipulated the imminent end by introducing progress bars of different lengths, one potential alternative explanation is that participants expected the experience to be longer in the no-imminent-end condition than did

participants in the imminent-end condition. Thus, the expected duration may interact with the control and influence their enjoyment of both experiences. However, the manipulation of both the imminent end and the control did not influence the expected duration of the video-watching/ game-playing experience (all *p*-values > .35). Thus, we can rule out the expected duration of experience as a potential alternative explanation of how the imminent end influences consumers' enjoyment of experiences.

Discussion

The findings of experiment 1 provide an initial demonstration of how the imminent end influences consumers' enjoyment. In particular, when consumers have low control over the experience, anticipating that an experience is about to end diminishes their enjoyment of it, whereas when consumers have high control over an experience, the awareness of the imminent end boosts their enjoyment.

EXPERIMENT 2

According to our theorizing, when consumers have low control over an experience, the imminent end diminishes enjoyment through promoting intrusive thoughts about the end. Many experiences consumers have can be construed continuously as a whole or as a series of multiple discrete episodes. For example, a vacation can be perceived as one unit, or as a composition of multiple days or trips. Such experience construal influences how consumers perceive an experience while expecting its imminent end. When an experience is construed continuously, the approach of the imminent end reminds consumers that they are consuming the end stage of a

hedonic experience (e.g., the ending of a movie), yet it is difficult for them to accurately gauge the remaining time or distance to the end. In turn, it renders consumers to attend to the end more frequently, and manifests more intrusive thoughts about the end. On the other hand, when an experience is construed as a series of discrete segments that are countable, it allows consumers to estimate the approximate distance to the end (e.g., the final episode of a TV series), which should prevent consumers from constantly attending to the end information and thus reduce intrusive thoughts about it. In other words, to construe an experience as a series of discrete episodes should diminish the negative effect of the imminent end on consumers' hedonic enjoyment of the experience, when consumers have low control over it. Experiment 2 was designed to test this prediction.

Method

Participants and Design. A total of 307 members of a North American consumer panel completed this experiment (M_{Age} = 34.86, SD_{Age} = 10.76; 49.2% females). They were randomly assigned to conditions of a 2 (awareness of the imminent end: no vs. yes) × 2 (experience construal: continuous vs. discrete) × control between-subjects design.

Procedure, Stimuli, and Manipulations. Across all the conditions, participants were introduced to an experience of low control—watching a video that comprises funny moments of *Tom & Jerry*. The manipulation of the imminent end was the same as in experiment 1. We manipulated the experience construal by telling participants to expect 5 (imminent end) or 10 (no imminent end) short videos for the video-watching experience and partitioned the progress bar into 5 or 10 segments with numbered videos labeled (see Appendix B). We partitioned the same

video (that was employed in the continuous condition) into five short videos, each one was 30 seconds long. Immediately after each short video, participants saw a reminder showing that this was the end of the current video and that they would be automatically redirected to the next short video. In the control condition, participants saw the same video without any time-progression information.

Measures. The dependent variable was the same as in experiment 1. That is, the enjoyment of the video-watching experience sampled throughout the video, with the last measure as the focal dependent variable. We also measured participants' enjoyment of the overall video-watching experience at the end of the study (0 = not at all, 10 = very much). Moreover, in this experiment, we measured the extent to which participants generated intrusive thoughts about the end. In particular, participants indicated how frequently they checked the progress bar, thought about the subsequent task, and thought about the fact that the video-watching experience was about to end on 11-point scales (0 = not at all, 10 = very much; Cronbach's alpha = .66).

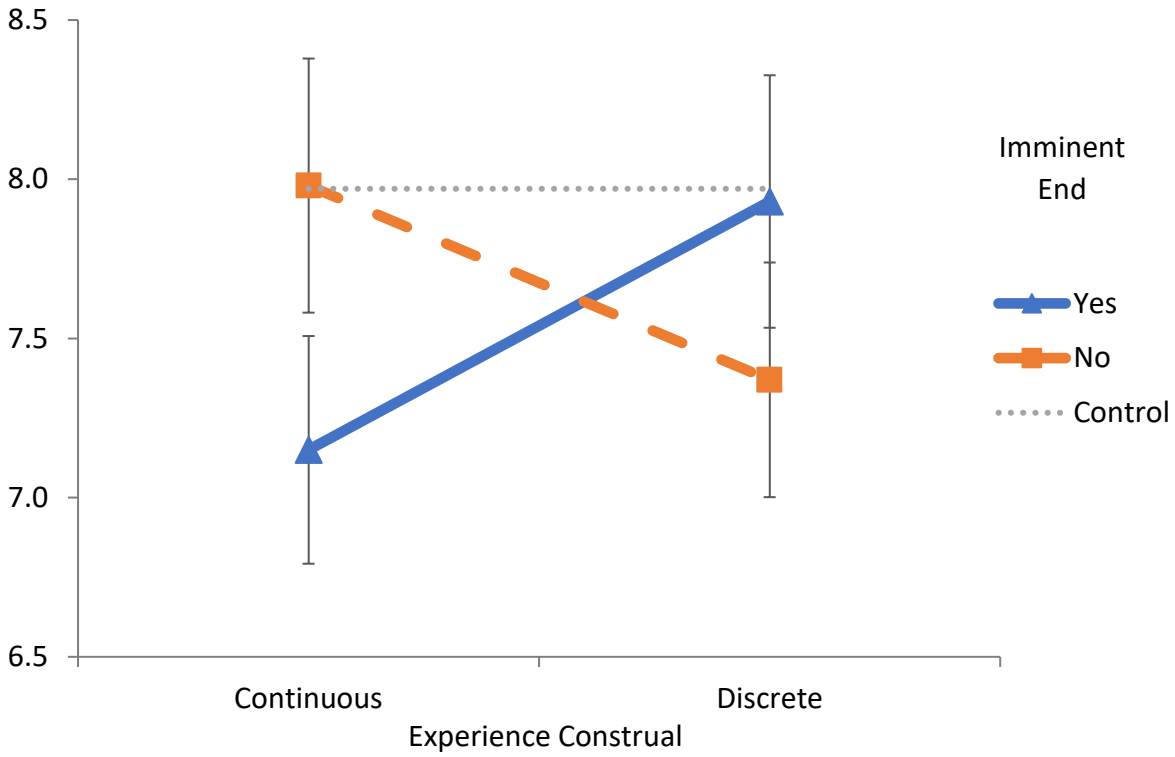
Results

Enjoyment of the Experience. An ANOVA with enjoyment of the video-watching experience (right before the video ends) as the dependent variable suggested a significant interaction between the imminent end and the experience construal ($F(1, 227) = 6.09$, $p = .014$, $\eta^2 = .03$; see figure 4). Specifically, in line with results of experiment 1, the imminent end diminished participants' enjoyment of the video-watching experience when it was construed continuously as a whole ($M_{End} = 7.15$, $SD_{End} = 2.64$ vs. $M_{NoEnd} = 7.98$, $SD_{NoEnd} = 1.79$; $t(302) = -.22$, $p = .027$; Cohen's $d = -.37$). However, the imminent end did not influence enjoyment when the experience was construed as discrete segments ($M_{End} = 7.93$, $SD_{End} = 1.64$ vs. $M_{NoEnd} = 7.37$,

SD_{NoEnd} = 2.20; $t(302)$ = 1.38, p = .17). Compared to the control condition in which no time progression information was provided, only participants in the imminent-end condition who perceived the video-watching experience continuously as a whole reported lower enjoyment of the experience ($M_{Control}$ = 7.97, $SD_{Control}$ = 1.95, $t(302)$ = -2.35, p = .02, Cohen's d = - .35), whereas participants in the rest of conditions enjoyed the video-watching experience at a similar level with those in the control condition (all p-values > .10).

FIGURE 2.4

ENJOYMENT OF THE VIDEO-WATCHING EXPERIENCE (EXPERIMENT 2)



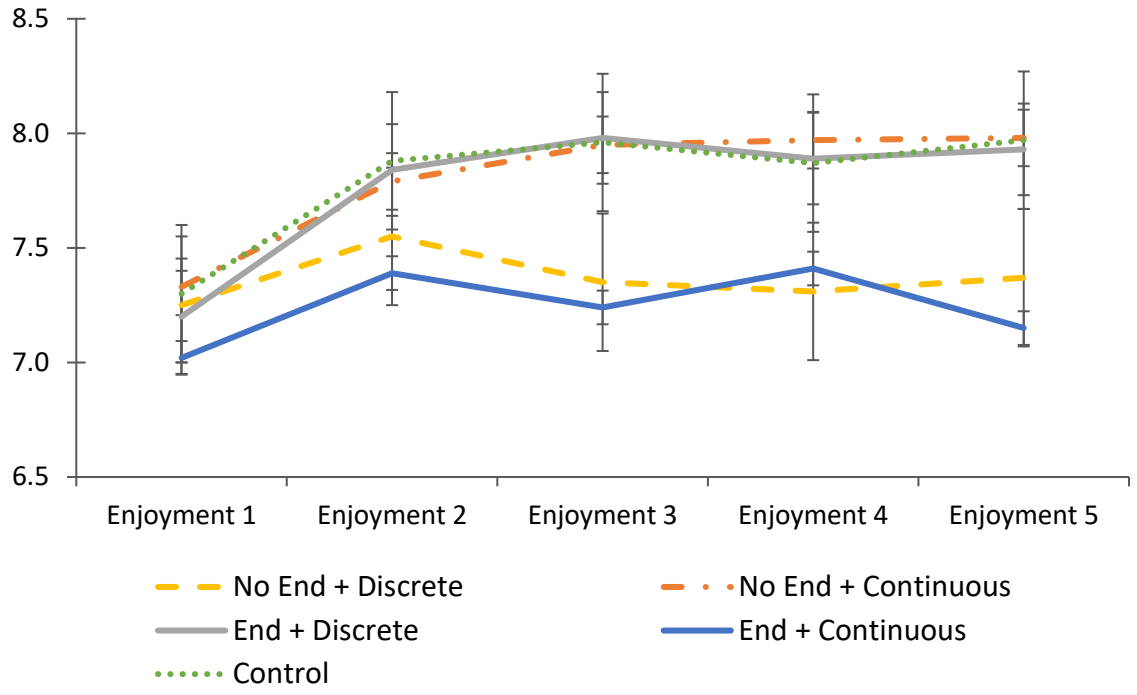
Supplementary Results of Enjoyment. We found similar results with participants' (retrospective) enjoyment of the overall video-watching experience. An ANOVA with it as the dependent variable revealed a significant interaction between the imminent end and experience

construal ($F(1, 227) = 4.37$, $p = .038$, $\eta^2 = .02$). Suggested by the planned contrast analyses, the imminent end (directionally) reduced their enjoyment of the overall video-watching experience when the experience was construed continuously as a whole ($M_{End} = 7.50$, $SD_{End} = 2.60$ vs. $M_{NoEnd} = 8.17$, $SD_{NoEnd} = 1.73$; $t(302) = -1.82$, $p = .069$; Cohen's $d = -.30$); and this negative effect vanished when the same experience was construed as discrete episodes ($M_{End} = 8.21$, $SD_{End} = 1.58$ vs. $M_{NoEnd} = 7.73$, $SD_{NoEnd} = 2.26$; $t(302) = 1.23$, $p = .22$). Compared to the control condition in which participants had no time-progression information ($M_{Control} = 8.26$, $SD_{Control} = 1.89$), the imminent end only diminished enjoyment when the video-watching experience was construed as a continuous unit ($t(302) = -2.21$, $p = .028$; Cohen's $d = -.33$). Participants in the other conditions enjoyed the overall video-watching experience at a similar level as those in the control condition (all p-values > .20).

Moreover, the results of enjoyment measured throughout the video-watching experience were consistent with our theorizing (see figure 5). The manipulation of imminent end and experience construal had no interactive influence on the first two enjoyment measures (all p-values > .20), and they had significant interaction effect on the third ($F(1, 227) = 6.05$, $p = .015$, $\eta^2 = .03$) and fourth measures ($F(1, 227) = 4.42$, $p = .037$, $\eta^2 = .02$). Suggested by planned contrast analyses, when the experience was construed continuously as a whole, the imminent end did not diminish their enjoyment until the last measure ($p > .05$ for the first four enjoyment measures); however, when the experience was construed as discrete segments, the imminent end did not influence their enjoyment throughout the entire video-watching experience (all p-values > .10).

FIGURE 2.5

ENJOYMENT SAMPLED THROUGHOUT THE VIDEO-WATCHING EXPERIENCE (EXPERIMENT 2)



Mediation Analyses. The imminent end and the experience construal had a significant influence on the extent to which participants generated intrusive thoughts about the end ($F(1, 227) = .52$, $p = .019$, $\eta^2 = .02$). In particular, when the experience was construed continuously, the imminent end increased the intrusive thoughts about the end ($M_{End} = 5.14$, $SD_{End} = 2.50$ vs. $M_{NoEnd} = 4.25$, $SD_{NoEnd} = 2.46$; $t(302) = -2.22$, $p = .027$, Cohen's $d = .36$). This influence was attenuated when the experience was construed discretely ($M_{End} = 4.67$, $SD_{End} = 2.47$ vs. $M_{NoEnd} = 5.33$, $SD_{NoEnd} = 2.41$; $t(302) = -1.41$, $p = .16$). Moreover, suggested by bootstrap analysis (N = 5,000), the imminent end interacted with the experience construal in influencing the extent to which participants generated intrusive thoughts about the end ($\beta = 1.39$, $SE = .65$, $p = .034$), which decreased enjoyment of the video-watching experience ($\beta = -.13$, $SE = .06$, $p = .023$). The

95% bias-corrected confidence interval for this indirect effect excludes zero (95% CI = [-1.26, -.16]), indicating that an increase of intrusive thoughts significantly mediated the adverse effect of imminent end on consumers' enjoyment when they had low control over the experience.

Discussion

The findings of experiment 2 corroborate those of experiment 1 in that they offer further evidence of the adverse effect of the imminent end when consumers have low control. Moreover, experiment 2 identifies the psychological process of this negative effect through demonstrating the moderating role played by experience construal and mediation analyses. In particular, when consumers have low control over a consumption experience, the imminent end only diminishes their enjoyment when the experience is construed continuously as a whole, and it does not influence their enjoyment when the same experience is construed as a series of discrete segments. Moreover, through mediation analysis, we underscore the intrusive thoughts manifested by the imminent end as the key driver of its adverse effect on consumer enjoyment.

EXPERIMENT 3

Results of experiment 2 suggest that, when consumers have low control over a consumption experience, anticipating that the experience is about to end diminishes enjoyment through promoting intrusive thoughts about the end. Experiment 3 aims to conceptually replicate this adverse effect of the imminent end and examine the psychological process through behavioral measures.

Method

Procedure, Stimuli, and Measures. All participants were instructed to enjoy a video-watching task in which they viewed a time-lapse video of landscapes. They were randomly assigned to one of two conditions in a single-factor (imminent end: no vs. yes) between-subjects design. The manipulation of the imminent end was the same as in experiment 1. That is, participants in the no-imminent-end condition viewed a progress bar that advanced only to the midpoint; and this was half in length to reach the far-right end in the imminent-end condition. In a difference from the previous experiment, participants saw only the border of the progress bar, with the "beginning" and "end" labeled, yet they could not see any time-progression information (i.e., the red area of the progress bar was not displayed; see Appendix C). In the beginning of the video-watching experience, the progress bar showed the time-progression information for five seconds then became invisible. Participants were instructed to click a button labeled "Show Me How Much Time Left" to make the time-progression information visible. Once a participant clicked this button, the time-progression information at that moment would be visible for 3 seconds, then it disappeared again. We tracked how many times participants clicked this button during this video-watching experience. The dependent variable was the same as in the previous experiments.

Participants and Design. A total of 239 members of a North American consumer panel completed this experiment. We excluded 16 participants who failed the tutorial about how to check the time-progression information, leaving 223 valid responses ($M_{\text{Age}} = 34.66$, $SD_{\text{Age}} = 10.57$; 52.9% females). The sample size per cell was larger than that in the previous experiments, because the manipulation of the imminent end was likely to be weaker. Only participants who checked time-progression information (especially when the video was about to end) received the

manipulation. In other words, some participants' enjoyment of the video should not be influenced if they chose never to check how much time was left. Therefore, we aimed for a relatively large sample size to detect the hypothesized effect.

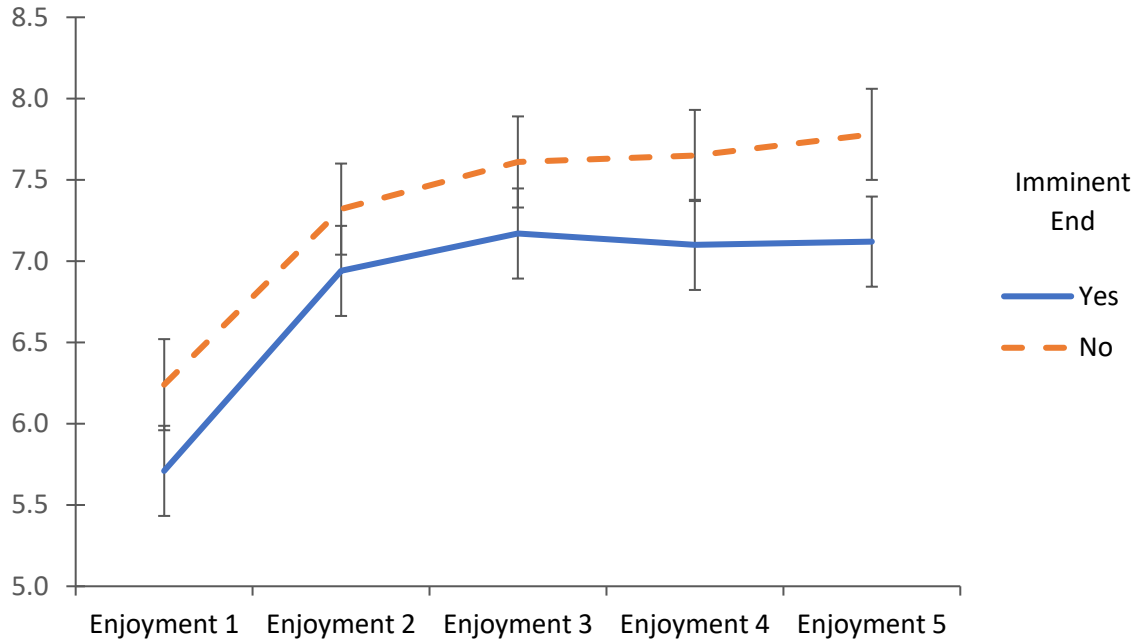
Results

Enjoyment of the Video-Watching Experience. Consistent with results of the previous experiments, expecting that an experience was about to end diminished the enjoyment of it (M_{End} = 7.12, SD_{End} = 2.41 vs. M_{NoEnd} = 7.78, SD_{NoEnd} = 2.12; $t(221) = -2.17$, $p = .031$; Cohen's d = - .29). Moreover, after excluding participants who never checked how much time was left, this effect became stronger (M_{End} = 6.93, SD_{End} = 2.48 vs. M_{NoEnd} = 7.79, SD_{NoEnd} = 2.04; $t(189) = -2.54$, $p = .012$; Cohen's d = - .38).

Supplementary Results of Enjoyment. Participants in the imminent-end condition enjoyed the overall video-watching experience less than did those in the no-imminent-end condition (M_{End} = 7.83, SD_{End} = 2.06 vs. M_{NoEnd} = 8.47, SD_{NoEnd} = 1.79; $t(221) = -2.47$, $p = .014$; Cohen's d = - .33). In addition, we found consistent results with participants' enjoyment sampled throughout the video-watching experience (see figure 6). In the beginning of the video-watching experience, participants in both conditions enjoyed the same experience equally (all p-values > .10 for the first three measures). The detrimental effect of the imminent end started revealing at the fourth measure (M_{End} = 7.10, SD_{End} = 2.35 vs. M_{NoEnd} = 7.65, SD_{NoEnd} = 2.21; $t(221) = -1.85$, $p = .065$), and this negative effect was stronger for the last measure (reported above).

FIGURE 2.6

ENJOYMENT SAMPLED THROUGHOUT THE VIDEO-WATCHING EXPERIENCE (EXPERIMENT 3)



Frequency of Checking the Time-Progression Information. Participants who expected the video-watching experience to end soon checked the time-progression information more frequently than did those in the no-imminent-end condition (M_{End} = 5.31, SD_{End} = 7.57 vs. M_{NoEnd} = 3.61, SD_{NoEnd} = 2.84; $t(221) = 2.14$, $p = .033$; Cohen's $d = .30$). Moreover, bootstrap mediation analyses (5,000 samples) suggested that the imminent end motivated participants to check the progress bar more frequently ($\beta = 1.70$, $SE = .65$, $p = .033$), which diminished their enjoyment of the video-watching experience ($\beta = -.12$, $SE = .03$, $p < .001$). The 95% bias-corrected confidence interval for this indirect effect excludes zero (95% CI = [-.37, -.04]), indicating that an increase of attending to time-progression information (and the end of the experience) significantly mediated the adverse effect of imminent end on consumers' enjoyment, when they have low control over the experience.

Discussion

The results of experiment 3 conceptually replicate the detrimental effect of the imminent end on consumers' enjoyment and provide evidence of the psychological process via behavioral measures. When having low control over an experience, the imminent end prompted consumers to attend to the time-progression information more frequently, triggering intrusive thoughts that diminish enjoyment of the experience.

EXPERIMENT 4

According to our theorizing, when consumers have low control over an experience, the imminent end promotes intrusive thoughts about the end, which diminish consumers' enjoyment of the experience. In this research, we focus on how the imminent end influences consumers' enjoyment of a *positive* experience. In contrast to a positive experience, the end of it, signaling the termination of this positive experience, tends to generate negative affect. Therefore, the scope of the research naturally gives rise to a potential alternative explanation. That is, the imminent end brings negative affect that contaminates the hedonic enjoyment of an experience, ultimately diminishing consumers' enjoyment of it. In this experiment, we address this potential alternative account by manipulating the valence of the end. If this potential alternative explanation were true, making the end of an experience positive should vanish the negative effect of the imminent end. However, based on our theorizing, regardless of the valence of the end, anticipating its imminent end should equally prompt intrusive thoughts that prevent consumers from engaging in

the experience, ultimately hurting consumers by reducing the enjoyment of consuming that experience.

Method

Participants, Design, and Procedure. A total of 225 members of a North American consumer panel participated in this experiment (M_{Age} = 37.81, SD_{Age} = 11.72; 51.1% females). They were randomly assigned to conditions of a 2 (imminent end: no vs. yes) × 2 (valence of the end: negative vs. positive) × 4 (videos) between-subjects design. The procedure, including the manipulation of the imminent end, was the same as in the previous experiments. Participants were introduced with a low-control experience: They expected to watch an enjoyable video and to rate their enjoyment of it.

Manipulation and Measures. The manipulation of the imminent end was the same as in the previous experiments. In addition, we manipulated the valence of the end by introducing a subsequent task. Participants learned that, immediately after the video-watching experience, they would be expected to complete a picture-coding task, in which they needed to code 10 pictures. In the negative-end condition, participants expected to count the number of cockroaches in each picture, whereas in the positive-end condition, participants expected to count the number of puppies in each picture. As the manipulation check, in the beginning of the study, we showed a 30-second sample video for the focal video-watching task and four sample pictures for the subsequent picture-coding task, and asked participants to indicate their expected enjoyment of these two tasks on separate 11-point scales (0 = not at all, 10 = very enjoyable).

In order to test the generalizability of the theorizing and conceptually replicate the negative effect of the imminent end, we introduced four different videos. These four videos included two that were used in the previous experiments (highlights of *Tom and Jerry* and a time-lapse video of landscapes) and two new videos (a collection of TV commercials and a section from *The Big Bang Theory*). All of them were enjoyable despite the different contents.

Finally, the dependent variable was the same as in the previous experiments. We sampled participants' enjoyment of the video-watching experience and focused on the last measure. Moreover, we measured how frequently participants had intrusive thoughts by employing the same measures we used in experiment 2. Immediately after the video-watching experience, participants indicated how frequently they thought about the end of the video, thought about the upcoming task, and checked the progress bar, on separate 11-point scales (0 = not at all, 10 = very much; Cronbach's alpha = .76).

Results

Enjoyment of the Video-Watching Experience. An ANOVA with the enjoyment of the video-watching experience as the dependent variable found no significant three-way interaction ($F(3, 209) = .10$, $p = .394$). Importantly, in line with our theorizing, no significant interaction between the imminent end and the valence of the end was found ($F(1, 209) = .01$, $p = .917$). Regardless of the valence of the end and the type of videos participants watched, the imminent end reduced their enjoyment of the video-watching experience ($M_{End} = 6.37$, $SD_{End} = 2.57$ vs. $M_{NoEnd} = 7.34$, $SD_{NoEnd} = 2.20$; $F(1, 209) = 8.86$, $p = .003$, $\eta^2 = .04$). The results suggested that the account of intrusive thoughts about the end, rather than the negativity (of the end) that

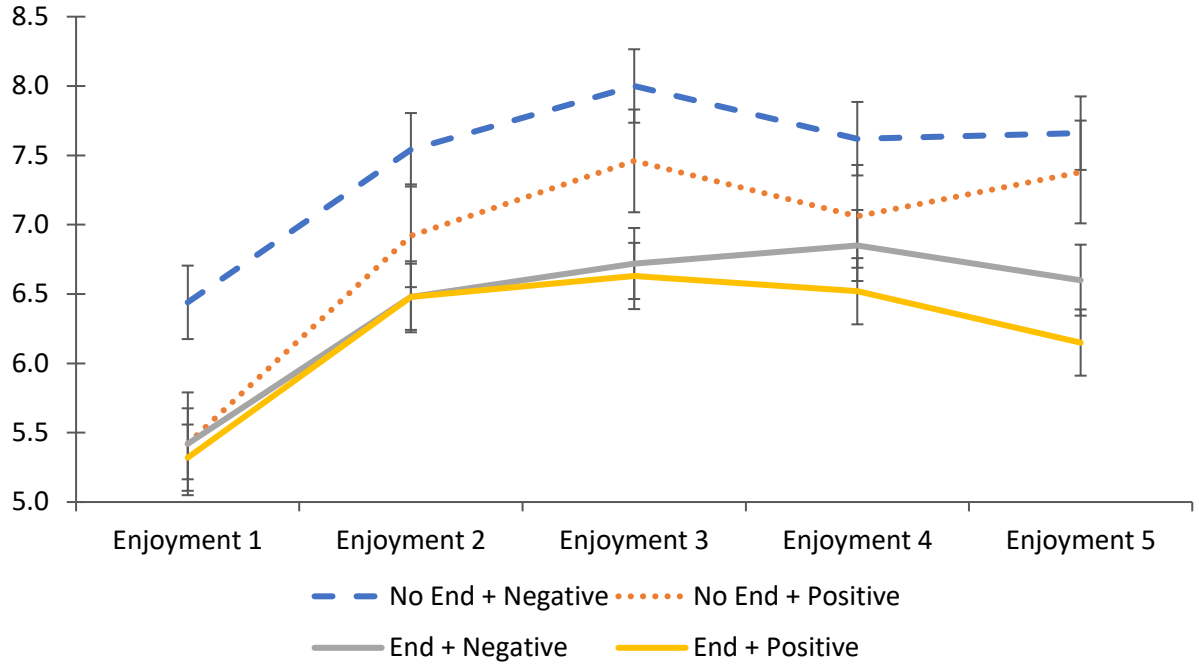
contaminates the hedonic enjoyment, explained the adverse effect of the imminent end when consumers have low control.

Supplementary Results of Enjoyment. We found similar results with participants' enjoyment of the overall video-watching experience. No significant three-way interaction ($F(3, 209) = .85$, $p = .470$) nor two-way interaction between the imminent end and the valence of the end ($F(1, 209) = 1.17$, $p = .321$) were found. In addition, the imminent end diminished participants' enjoyment of the overall video-watching experience, irrespective of the valence of the end or the type of videos they watched ($M_{End} = 7.05$, $SD_{End} = 2.80$ vs. $M_{NoEnd} = 7.86$, $SD_{NoEnd} = 1.96$; $F(1, 209) = 5.24$, $p = .023$, $\eta^2 = .02$).

In addition, no significant interaction was found on participants' enjoyment sampled throughout the video-watching experience (all p-values > .20; see figure 7). The manipulation of imminent end did not influence the first enjoyment measure ($F(1, 209) = 2.28$, $p = .13$), yet it diminished participants' enjoyment after the video started playing 40 seconds (all p-values < .05; see figure 6).

FIGURE 2.7

ENJOYMENT SAMPLED THROUGHOUT THE VIDEO-WATCHING EXPERIENCE (EXPERIMENT 4)



Manipulation Check. Participants who expected to count cockroaches perceived the picture-coding task to be less enjoyable than the video-watching task (M_{Video} = 6.95, SD_{Video} = 2.66 vs. $M_{Cockroach}$ = 1.84, $SD_{Cockroach}$ = 2.41; $t(109) = 16.33$, $p < .001$, Cohen's $d = 2.01$). Meanwhile, participants who expected to count puppies perceived the picture-coding task to be more enjoyable than the video-watching task (M_{Video} = 7.44, SD_{Video} = 2.41 vs. M_{Puppy} = 7.97, SD_{Puppy} = 2.41; $t(109) = -2.00$, $p = .048$, Cohen's $d = -.22$). The results of these measures suggested that the manipulation of the valence of the end was effective.

Intrusive Thoughts about the End. We found no significant three-way interaction of all the factors ($F(3, 209) = .38$, $p = .770$) nor two-way interaction ($F(1, 209) = .28$, $p = .596$) between the imminent end and the valence of the end on how frequently participants had

intrusive thoughts of the end. Consistent with our theorizing, regardless of the valence of the end or the type of videos viewed, the imminent end prompted participants to generate more intrusive thoughts (M_{End} = 4.90, SD_{End} = 2.56 vs. M_{NoEnd} = 4.26, SD_{NoEnd} = 2.59; $F(1, 209) = 4.45$, $p = .036$, $\eta^2 = .02$). Finally, a bootstrap mediation analysis (N = 5, 000) revealed that the imminent end promoted more intrusive thoughts about the end ($\beta = .64$, $SE = .35$, $p = .064$), which led to reduced enjoyment of the video-watching experience ($\beta = -.20$, $SE = .07$, $p = .002$). The 95% bias-corrected confidence interval for this indirect effect excludes zero (95% CI = [-.38, -.01]), suggesting that intrusive thoughts significantly mediated the negative effect of the imminent end, regardless of the valence of the end.

Discussion

The results of this experiment conceptually replicate the negative effect of the imminent end across various types of experiences that consumers have low control over. Moreover, this experiment further corroborates the pivotal role of intrusive thoughts of the end as the key driver of how the imminent end diminishes consumers' enjoyment, showing that the negative affect associated with the end cannot explain this adverse effect.

EXPERIMENT 5

The objective of experiment 5 was to more closely examine the psychological process that underlies the positive effect of the imminent end when consumers have high control over an experience. According to our theorizing, the imminent end gives rise to greater motivation to make good use of the opportunity, and this motivation can be achieved when consumers have

high control. In this experiment, we examine this positive effect using a new manipulation of control in the domain of food consumption. In particular, by allowing consumers to have the freedom of choosing what they want to consume, we investigate how the imminent end can enhance their enjoyment of the food-consumption experience.

Method

Participants and Design. A total of 165 individuals from a research participant pool at a major North American university participated in this experiment (M_{Age} = 20.04, SD_{Age} = 2.66; 57.2% females). Participants were randomly assigned to the conditions of a 2 (imminent end: no vs. yes) × 2 (control of the experience: low vs. high) between-subjects design.

Procedure and Manipulations. Participants were presented with a set of 15 snacks and expected to sample some of them. All 15 snacks (in their original packages) were presented in a row with a random order. We prepared a one-bite portion for each of the snacks on a white paper plate, presenting it in front of the full package. In the snack-sampling experience, the lab administrator served one plate at a time, leaving 30 seconds for participants to sample the provided portion.

The imminent end was manipulated by the number of snacks they expected to sample. Participants expected to sample 5 snacks in the imminent-end condition and 10 snacks in the no-imminent-end condition. The control of the experience was manipulated by whether participants could choose what they want to sample. In the high-control condition, participants viewed all 15 snacks on the screen of a computer in front of them, and they indicated the snack they wanted to sample next by clicking on its corresponding image. Immediately after participants clicked on the image, the lab administrator served the corresponding plate with the snack. Participants

sampled the selected snack before choosing the next one they wanted to sample. In the low-control condition, participants did not make any choices. Instead, the computer randomly picked the snack they would sample next, and the lab administrator served the corresponding plate with that snack.

Measures. Immediately after sampling each snack, participants indicated their enjoyment of this snack-sampling experience at the moment on an 11-point scale (0 = not at all, 10 = very much). The focal dependent variable is participants' enjoyment rated after sampling the fifth snack. Moreover, to identify the psychological dynamics that drive the positive effect of the imminent end, we recorded which snack participants selected in the high-control condition.

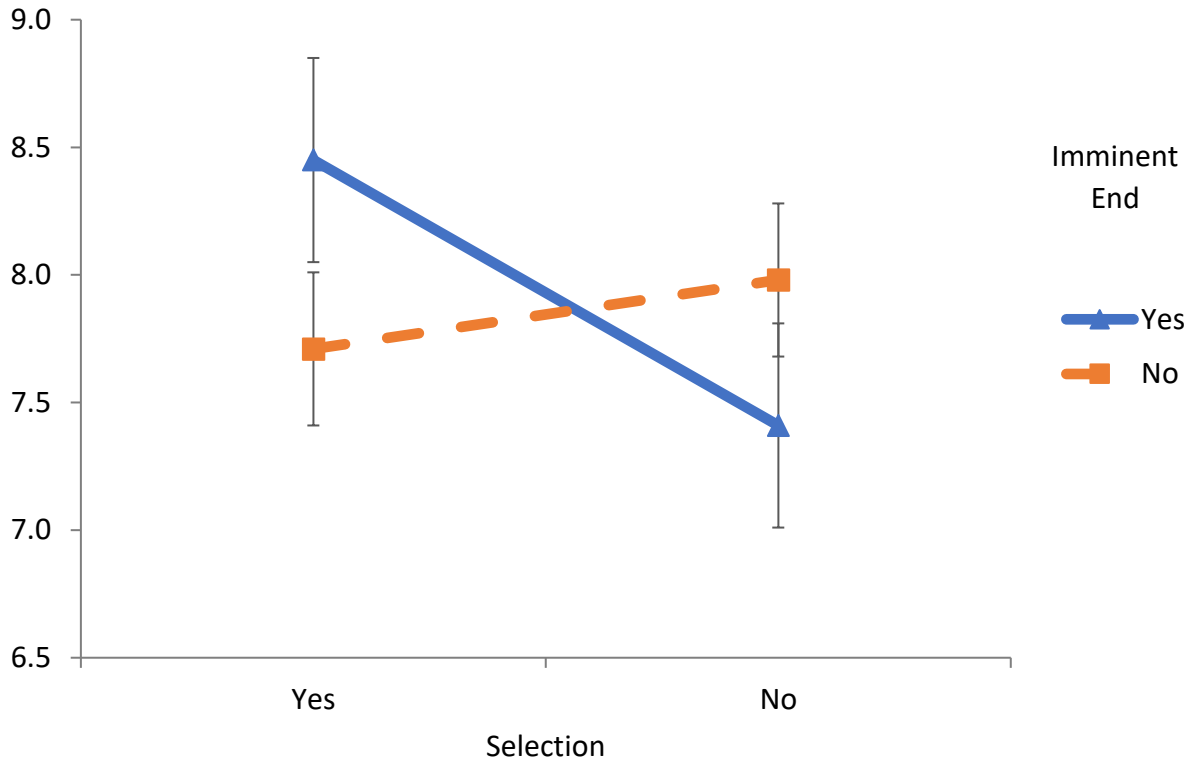
Results

Enjoyment of the Snack-Sampling Experience. An ANOVA with enjoyment of the snack-sampling experience at the moment as the dependent variable revealed a significant interaction between the imminent end and control ($F(1, 161) = 4.59$, $p = .034$, $\eta^2 = .03$; see figure 8). Participants who could control what to consume indicated greater enjoyment at the moment after sampling the fifth snack than did those who could not choose ($M_{Control} = 8.45$, $SD_{Control} = 1.70$ vs. $M_{NoControl} = 7.71$, $SD_{NoControl} = 2.50$; $F(1, 161) = 5.54$, $p = .020$, $\eta^2 = .03$). Moreover, suggested by planned contrast analyses, when participants could choose what to sample, the imminent end boosted their enjoyment of the snack-sampling experience ($M_{End} = 8.88$, $SD_{End} = 1.57$ vs. $M_{NoEnd} = 8.05$, $SD_{NoEnd} = 1.74$; $t(161) = 2.35$, $p = .021$, Cohen's $d = .50$). However, when participants had low control of the snack-sampling experience, the imminent end no longer influenced their enjoyment ($M_{End} = 7.41$, $SD_{End} = 2.59$ vs. $M_{NoEnd} = 7.98$, $SD_{NoEnd} = 2.42$; $t(161) = -1.20$, $p = .230$). Considering that the snack-sampling experience was naturally partitioned into relatively

discrete segments, each of which indicates the consumption of a single snack, the results of participants' enjoyment in the low-control condition were consistent with those in the discrete-condition of experiment 2.

FIGURE 2.8

ENJOYMENT OF THE SNACK-SAMPLING EXPERIENCE (EXPERIMENT 5)

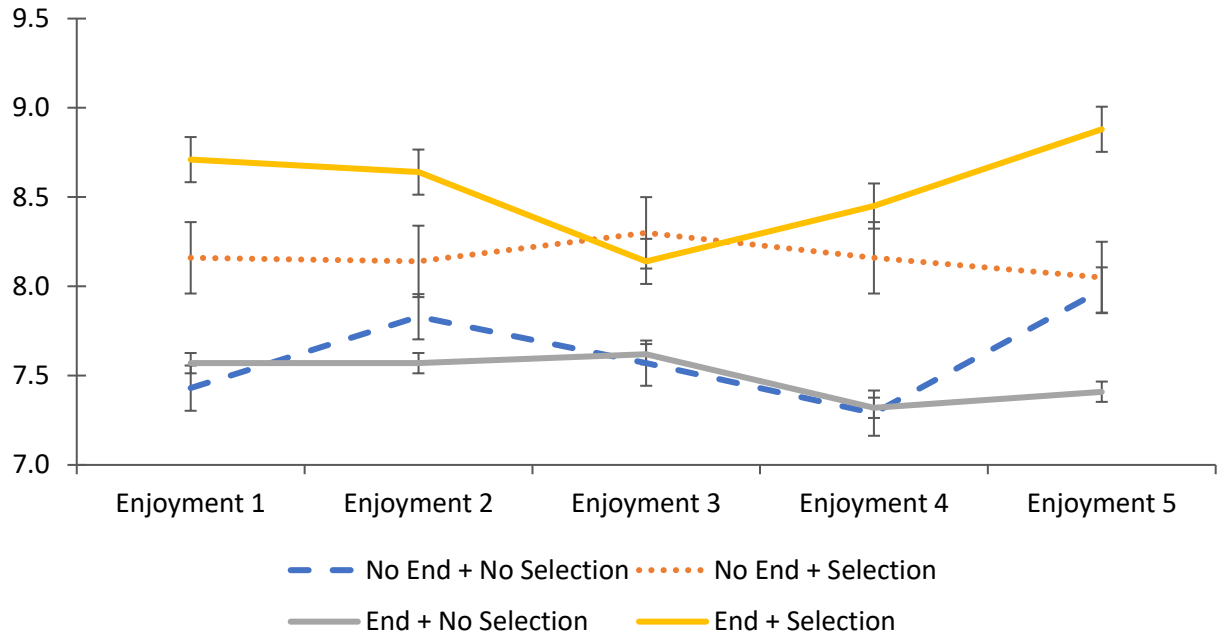


Supplementary Results of Enjoyment. The manipulation of the imminent end and control did not influence the overall enjoyment participants had on the snack-sampling experience (no interaction nor main effects, all *p*-values > .05). It should be noted that, differing from the previous experiments, participants in the no-imminent-end condition sampled 10 snacks and thus their overall snack-sampling experiences differed from those of participants in the imminent-end condition.

In addition, no significant interactive effect was found on participants' enjoyment sampled throughout the snack-sampling experience, except for the last measure (all p-values > .20, see figure 9). In line with the results of the last measure, participants who could control what to consume indicated greater enjoyment throughout this snack-sampling experience (all p-values < .05).

FIGURE 2.9

ENJOYMENT SAMPLED THROUGHOUT THE SNACK-SAMPLING EXPERIENCE (EXPERIMENT 5)



Motivation to Make Good Use of the Opportunity. The results of this experiment shed light on the psychological process of the imminent end when consumers have high control of the experience. Among the set of 15 snacks provided, one was the most popular option that was highly attractive for participants. In a posttest with 137 participants from the same participant pool (M_{Age} = 21.47, SD_{Age} = 2.16; 48.9% females), this snack was rated to be of the highest

attractiveness compared to the others (M_{End} = 8.31, SD_{End} = 3.11, all p-values < .05; see the ratings of all the snacks in Appendix D). Among participants who could choose what snack to sample, significantly more of them chose to consume this snack as the fifth (and final) snack when they expected to sample only 5 snacks (23.8%), compared to those who expected to sample 10 snacks (4.5%; $\chi^2(1) = 6.52$, $p = .011$). The results suggest that the imminent end motivates consumers to make good use of this opportunity when they have high control over the experience.

Discussion

The results of this experiment conceptually replicate the positive effect of the imminent end when consumers have high control of the experience. Employing a different way to increase consumers' control of the experience—that is, giving them the freedom to choose what to consume and how—we show that expecting the imminent end of a consumption experience boosts consumers' enjoyment of it. Moreover, findings of this experiment shed light on the psychological dynamics of the positive effect of the imminent end on consumers' enjoyment of the experience. The imminent end makes consumers realize the scarcity of the time resource, which further motivates them to make good use of the opportunity.

Since the imminent end motivates consumers to make good use of the opportunity while expecting the end of an experience is imminent, this motivation should no longer boost consumers' enjoyment when they are unable to identify the most enjoyable alternative. To further examine the critical role played by the motivation of making good use of the opportunity on driving the positive effect the imminent end, we ran an extended version of experiment 5 with different snacks introduced. We used a set of 15 foreign snacks that were unfamiliar to the

students from the same research participant pool. To verify the familiarity of the stimuli, participants indicated how many of the 15 snacks they had seen before at the end of the experiment. The results suggested that most of the snacks were unfamiliar to them (M = 2.60, SD = 3.39). A total of 126 participants were randomly assigned to conditions of a 2 (imminent end: no vs. yes) × 2 (control of the experience: low vs. high) between-subjects design. No interaction of these two manipulations nor main effects were found (all p-values > .50). Suggested by the planned contrast analysis under the high-control condition, when participants were unable to identify the most attractive alternative, the imminent end no longer enhanced their enjoyment of the snack-sampling experience (M_{End} = 7.97, SD_{End} = 2.03 vs. M_{NoEnd} = 7.55, SD_{NoEnd} = 2.91; $t(122) = .68$, $p = .50$). In addition, the choice results showed that, the lack of knowledge about candidate alternatives prevented participants from preferring a particular alternative for the final consumption ($\chi^2(13) = 18.05$, $p = .16$). This experiment further sheds light on the psychological process that is governing by the motivation of making good use of the opportunity on the positive effect of the imminent end, when consumers have control.

GENERAL DISCUSSION

Illuminating the hedonic dynamics along the progression of consumption experiences is essential to our understanding of human behavior (e.g., Alba and Williams 2013; Holbrook and Hirschman 1982). This research investigates how anticipating that an experience is about to end influences consumers' hedonic enjoyment. In particular, the imminent end of an experience diminishes consumers' enjoyment when they have low control over the experience, whereas the imminent end boosts consumers' enjoyment when they have high control (experiment 1). Moreover, we identify the intrusive thoughts of the end as the key driver of the negative effect of

the imminent end on the hedonic enjoyment through both mediation analyses (experiments 2, 3, and 4) and theory-inspired boundary conditions (experiments 2 and 4). Finally, we underscore the pivotal role played by the motivation to make good use of the opportunity in association with the positive effect of the imminent end (experiment 5).

The theoretical framework and the empirical evidence that supports it advance our understanding of the temporal dynamics of hedonic experience, especially when consumers anticipate that the end of an experience is imminent. This research contributes to the literature in several ways.

In the context of repeated consumption of experiences (e.g., eating multiple pieces of chocolate in a row), prior research has identified that knowing the currently consumed experience is the last one can boost consumers' enjoyment of it (O'Brien and Ellsworth 2012; Tsai and Zhao 2015). The current work extends these insights into the domain of experiences that are non-repetitive and extend a substantial period of time, showing that the imminent end can influence consumers' enjoyment in both directions. The imminent end can enhance consumers' hedonic enjoyment when they have high control over the experience, yet importantly, it can diminish consumers' enjoyment when they have low control.

In addition, previous work has shown the important role played by engagement in influencing consumers' enjoyment of experiences (Diehl, Zauberman, and Barasch 2016; Higgins 2006; Killingsworth and Gilbert 2010; Sehnert et al. 2014; Csikszentmihalyi 1990). Building upon these insights, this current work discussed an important factor that can demotivate consumers from fully engaging in an experience. That is, when consumers realize that an experience is about to end yet have little control over it, constant intrusive thoughts about the end could reduce their engagement and further diminish their enjoyment of the experience.

Finally, this present research advances our understanding of how scarcity influences consumers' valuation of an experience. Prior research suggests that scarcity tends to enhance consumers' valuation of products (e.g., Cialdini 1993; Fromkin 1970), as it redirect consumers' attention to the scarcity (Bozzolo and Brock 1992; Sehnert et al. 2014). This research shows that, scarcity, which is signaled by the imminent end, can also decrease consumers' hedonic enjoyment when they have low control over the experience. We further contribute to this literature by highlighting an alternative process by which experienced scarcity can boost enjoyment. That is, through motivating consumers to make good use of the opportunity and to fully savor the last bits, the scarcity can also enhance consumers' enjoyment of an experience.

One limitation of this research is that we approached the psychological process of the imminent-end effect in the high control condition via behavioral measures. Given that we theorize the motivation of making good use of the opportunity as the key driver of the positive effect of the imminent end, this behavioral measure is informative and consistent with prior research (Kurtz, 2008). Nevertheless, more experiments can be needed to further investigate this psychological process via measures of the state.

Consumers' evaluation of a consumption experience is multi-faceted. Consumers can obtain utility from anticipation, experience, and remember of an experience (Bentham, 1789, Morewedge, 2015). In this research, we found that consumers' moment-to-moment evaluation before the end of the experience was consistent with their retrospective evaluation of the overall experience. However, do consumers have intuitions of how the imminent end can influence their hedonic enjoyment? Future research could further investigate if consumers are capable of forecasting their hedonic enjoyment with respect to the imminent end, and if consumers can further manage their hedonic experience accordingly.

This research offers important practical implications for both firms and consumers. For firms that offer hedonic experiences with a clear timeline (e.g., cruise trips, travel plans, etc.), opportunities to exert high control over those experiences should be provided to consumers. In this paper, we identified two ways that allow consumers to practice control: employing highly interactive experiences and providing opportunities to choose what one wants to consume. Thus, consumers should be motivated to make good use of the opportunity and avoid the detrimental effect of the imminent end. Moreover, even in circumstances when consumers have little control over an experience, our findings identify an alternative intervention that can help them avoid the negative influence of the imminent end. That is, to construe an experience as a series of discrete segments rather than a continuous experience can help consumers attend to the experience, ultimately enhancing their enjoyment.

CONCLUSION

The end of an experience is a key component for the consumption experiences consumers enjoy in everyday life. The present research advances our understanding by showing how this knowledge can influence consumers' enjoyment of an experience. When consumers have little control over the experience, the imminent end promotes intrusive thoughts about the end and prevents consumers from fully engaging in the experience, ultimately reducing their enjoyment. However, when consumers have high control over the experience, the imminent end motivates them to make good use of the opportunity, which boosts their enjoyment of consuming the experience.

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APPENDIX A: COMPUTER INTERFACE PARTICIPANTS EXPERIENCED IN EXPERIMENT 1

Figure A-1 Computer Interface of the Imminent-End Condition When the Control is Low

Figure A-2 Computer Interface of the No-Imminent-End Condition When the Control is Low

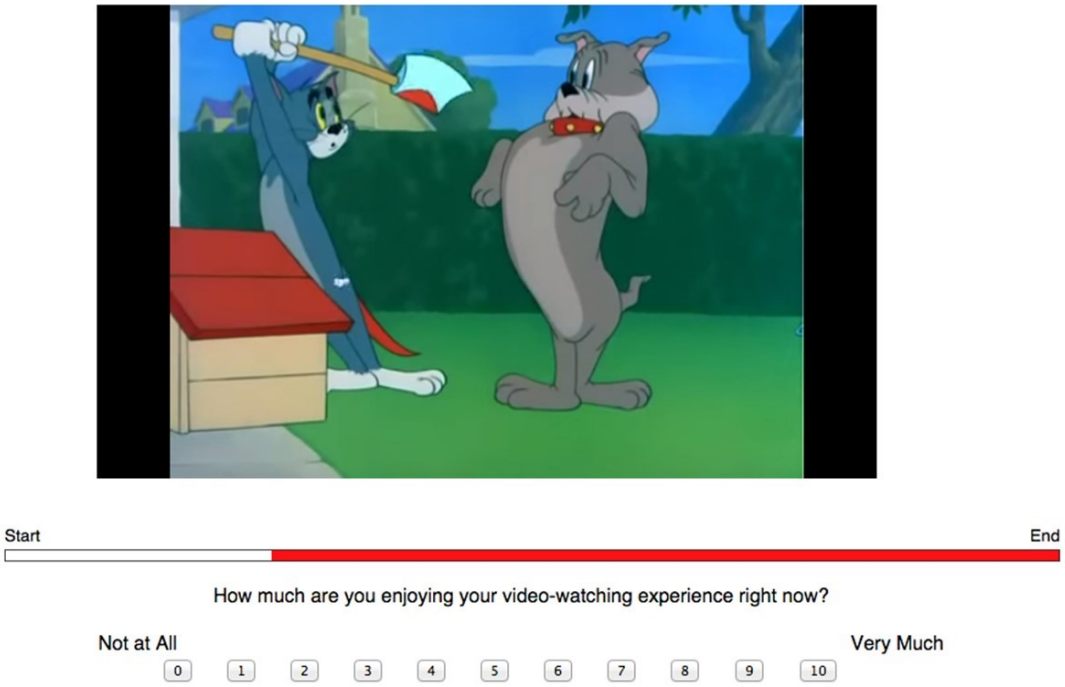


Figure A-3 Computer Interface of the Imminent-End Condition When the Control is High

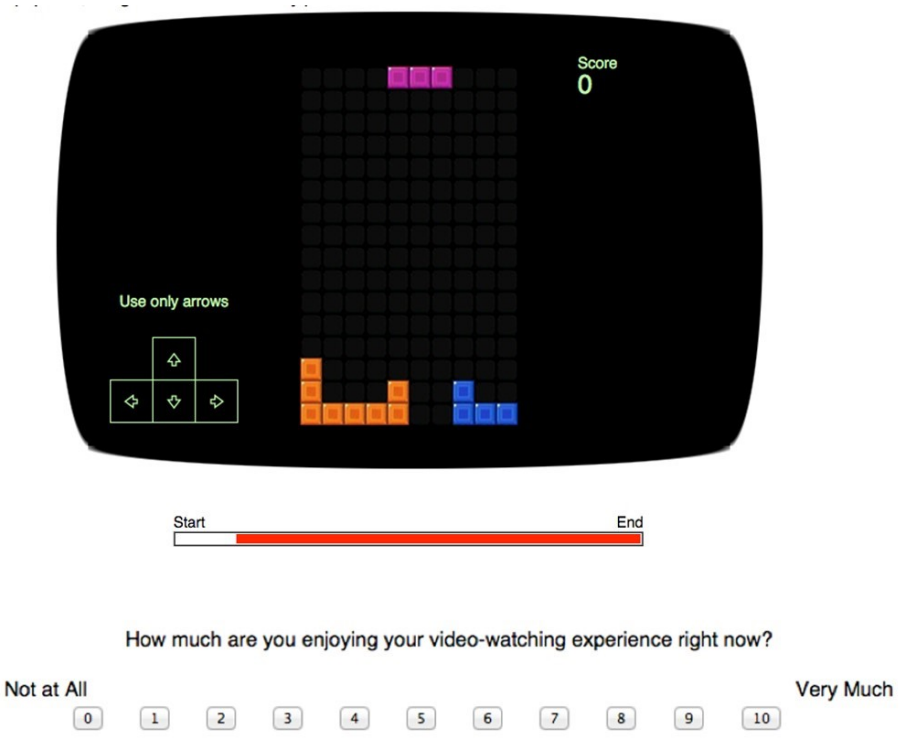
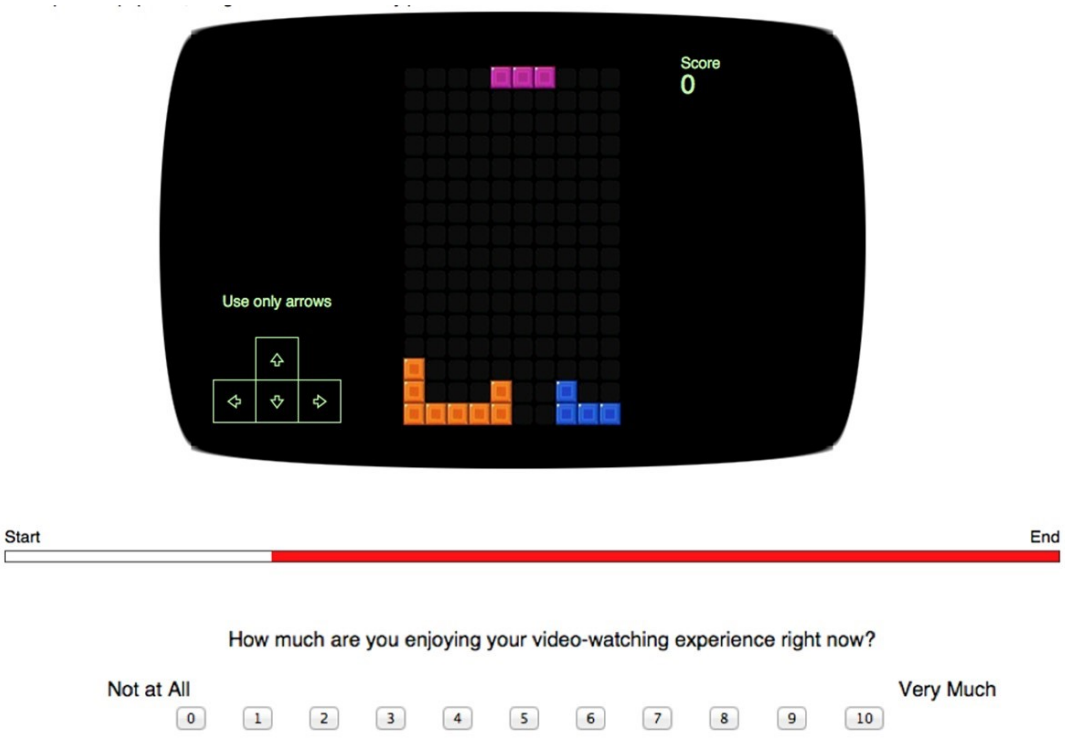


Figure A-4: Computer Interface of the No-Imminent-End Condition When the Control is High



APPENDIX B: COMPUTER INTERFACE PARTICIPANTS EXPERIENCED IN EXPERIMENT 2

Figure B-1 Computer Interface of the Imminent-End Condition with Discrete Construal

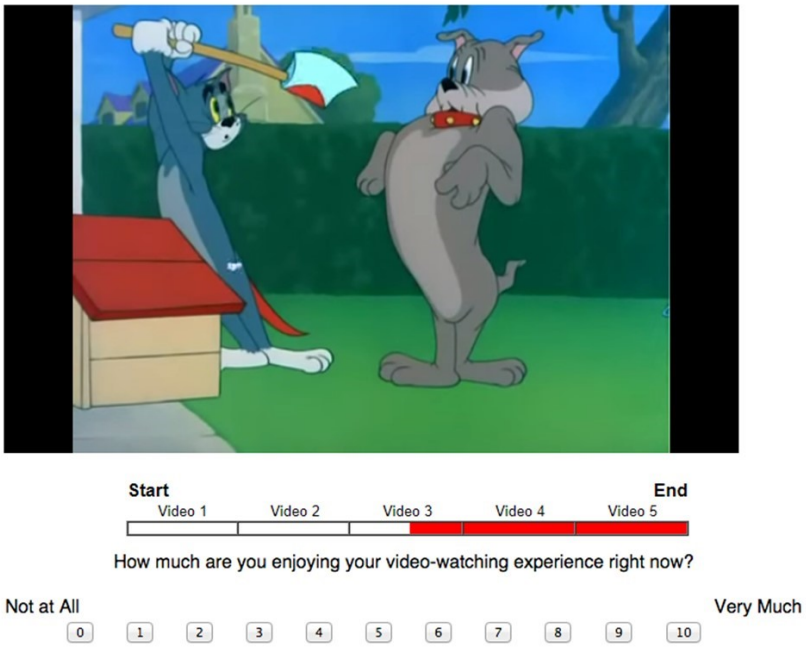


Figure B-2: Computer Interface of the No-Imminent-End Condition with Discrete Construal

APPENDIX C: COMPUTER INTERFACE PARTICIPANTS EXPERIENCED IN EXPERIMENT 3

APPENDIX D: PERCEIVED ATTRACTIVENESS OF ALL THE SNACKS IN EXPERIMENT 5

Snacks	Mean of Attractiveness (0 = not at all; 10 = very much)	SD
Lay's Chips	7.15	2.83
Pringles	6.60	3.09
Doritos	7.01	3.14
Skittles	7.08	3.00
Ferrero Rocher Chocolate	8.31	3.11
Harvest Snaps	5.82	2.91
Oreo	7.63	2.79
Chicago Mix Popcorns	6.07	3.21
Goldfish Crackers	6.36	3.22
Kasha Granola Bar	4.96	2.90
Rold Gold Pretzels	5.09	3.20
KitKat	6.66	2.99
Dried Cranberries	5.94	3.36
Vegetable Thins Cracker	4.69	3.40
Real Fruit Gummies	6.54	3.34