



# How looking forward over the short period to-go affects consumer enjoyment: Role of temporal scarcity in access-based services

Shinhyoung Lee<sup>a,\*</sup>, Kiwan Park<sup>b</sup>

<sup>a</sup> Business School, Sookmyung Women's University, 100, Cheongpa-ro 47-gil, Yongsan-gu, Seoul, 04310, South Korea

<sup>b</sup> Business School, Seoul National University, 1, Gwanak-ro, Gwanak-gu, Seoul, 08826, South Korea

## ARTICLE INFO

### Keywords:

Access-based services  
Savoring  
Framing  
Temporal scarcity  
Consumer enjoyment  
Product benefits

## ABSTRACT

Access-based services (ABS) have shown tremendous growth recently. We examine the relationship between service period framing and consumers' anticipated ABS enjoyment. Four scenario-based experiments revealed that focus frame of the service period affected anticipated enjoyment of upcoming ABS experiences and this effect is mediated by perceived temporal scarcity. We also examine the moderating role of perceived product benefits, indicating that this mediated focus-frame effect is amplified among consumers tending to pursue hedonic benefits from the borrowed goods. Lastly, we confirm the anticipated enjoyment's mediating role on the relationship between focus frame and consumers' positive behaviors and attitudes toward ABS.

## 1. Introduction

The paradigm of services marketing has changed from "owning and possessing" to "accessing and using" services (Lovelock and Gummesson, 2004). Therefore, we must cultivate knowledge on how to maximize the enjoyment from *consumption experiences*. Nevertheless, consumer behavior studies have mainly demonstrated *the joy of possessions* (Belk, 1988; Richins, 1994a, 1994b); few have focused on *the joy of temporal access*. Furthermore, the hedonic treadmill theory refers to the pleasure of possessing something quickly fades because people tend to adapt to changes in life circumstances (Brickman and Campbell, 1971; Diener et al., 2009; Wilson and Gilbert, 2008). Access-based services (ABS), which provide consumers with temporary, limited access to goods without ownership (Bardhi and Eckhardt, 2012; Schaefer et al., 2016a), are distinguished from material possession through their temporal and experiential characteristics (Bardhi and Eckhardt, 2012; Chen, 2008; Durgee and Colarelli O'Connor, 1995). We contend that these characteristics of ABS can slow down hedonic adaptation, thereby fostering consumers' motivation to savor limited consumption experiences.

Access is defined as a transient, dematerialized (experiential), and non-ownership mode of consumption (Bardhi and Eckhardt, 2012; Chen, 2008; Durgee and Colarelli O'Connor, 1995). Therefore, the temporality of ABS may encourage consumers to savor forthcoming ABS experiences, just as temporal scarcity or limited availability enhances

people's readiness to savor (Kurtz, 2008; Sevilla and Redden, 2014). Moreover, the experientiality of ABS implies that the access focuses on "using" rather than "owning" material goods. This is in line with previous findings that showed experiential purchases contribute to enhancing consumer well-being more than material purchases (Carter and Gilovich, 2010; Van Boven and Gilovich, 2003).

However, consumers must be reminded that positive experiences are finite in temporal perspectives, which is the case with ABS. Although consumers believe that consumption enjoyment decreases over time (i.e., hedonic adaptation), they often fail to remember that because of the low salience of duration (Wang et al., 2009). Based on these works on savoring and hedonic adaptation, we propose that using a focus frame, or highlighting the remaining vs. consumed service period, as a marketing intervention can increase the salience of the temporal (i.e., a limited-time) aspect of ABS, which may have otherwise remained inconspicuous. The cue may in turn motivate consumers to enjoy future consumption experiences (Kurtz, 2008; Sevilla and Redden, 2014). To measure savoring ability, we define anticipated enjoyment as one's forecast of their consumption enjoyment of their upcoming experiences of using ABS (Chun et al., 2017; Wang et al., 2009).

We propose that the framing of the focal service period affects consumers' anticipated enjoyment of upcoming experiences. Specifically, we explore the following research questions: (1) Does the focus on the remaining vs. consumed service period affect consumers' anticipated enjoyment of experiencing ABS? (2) Does perceived temporal scarcity

\* Corresponding author.

E-mail addresses: [sh.lee@sm.ac.kr](mailto:sh.lee@sm.ac.kr) (S. Lee), [kiwanp@snu.ac.kr](mailto:kiwanp@snu.ac.kr) (K. Park).

<https://doi.org/10.1016/j.jretconser.2021.102521>

Received 29 July 2020; Received in revised form 22 February 2021; Accepted 24 February 2021

Available online 16 April 2021

0969-6989/© 2021 Elsevier Ltd. All rights reserved.

mediate the relationship between focus frame and anticipated enjoyment? (3) Does the focus-frame effect emerge only when the remaining period is comparably short (vs. long) relative to the entire period? (4) Do consumers' perceived product benefits (hedonic vs. utilitarian) moderate the focus-frame effect? (5) Does the focus frame influence consumer responses (i.e., extension intention, reuse intention, attitude toward the service) via anticipated enjoyment?

This research will contribute to ABS literature by investigating if and how focusing on the remaining (vs. consumed) service period heightens consumers' anticipated enjoyment of the upcoming experiences. Interpreting ABS in relation to literature on savoring and hedonic adaptation (Kurtz, 2008; Sevilla and Redden, 2014; Wang et al., 2009), we focus on the frame of the service period to make the temporality of ABS more apparent, thereby enhancing consumers' readiness to savor ABS. From a managerial perspective, our findings provide nuanced tactics for designing the optimal time and method of communication (inspired by Koo and Fishbach, 2010, 2012; Wiebenga and Fennis, 2014) to improve both motivational (i.e., anticipated enjoyment, desire to use) as well as behavioral (i.e., extension intention, reuse intention, attitude toward the service) reactions to ABS.

## 2. Theoretical framework and hypotheses development

### 2.1. Access-based services

ABS, which allow consumers to acquire consumption time, have become increasingly popular in the past decade (Bardhi and Eckhardt, 2012; Durgee and Colarelli O'Connor, 1995; Lovelock and Gummesson, 2004; Schaefer et al., 2016a); however, it is not a novel concept. Earlier, Durgee and Colarelli O'Connor (1995) delineated the concept of rental as "a transaction in which one party offers an item to another party for a fixed period of time in exchange for money and in which there is no change of ownership" (p. 90). About 20 years later, Schaefer et al. (2016a) defined ABS as "market-mediated transactions that provide customers with temporally limited access to goods in return for an access fee, while the legal ownership remains with the service provider" (p. 3). Rental's original definition shares "temporality" as an essential feature with ABS.

ABS have entered a new phase due to changes in consumer lifestyles and technological advancements (Bardhi and Eckhardt, 2012; Schaefer et al., 2016b). ABS help consumers avoid ownership burdens such as the risks and responsibilities that accompany owning a good (Moeller and

Wittkowski, 2010; Schaefer et al., 2016a). Because of ownership burdens, consumers who value trends (e.g., demand for new and up-to-date products) and convenience (e.g., demand for time- and energy-saving products) are more likely to prefer non-ownership modes of consumption (Moeller and Wittkowski, 2010).

Despite these advantages, burdens of access (e.g., complexity barrier and contamination barrier) continue to deter consumers from using ABS (Hazée et al., 2017). Therefore, researchers have attempted to uncover what motivates or demotivates consumers from engaging with ABS, and develop ways to attenuate consumers' perceived barriers to adopting these services. A recent study found that enhancing psychological ownership of ABS might satisfy consumers' desire for possession and consequently replace material objects (Fritze et al., 2020). We provide a summary of our selected review of the literature on ABS in Table 1. Most research has compared ABS with ownership-based consumption and identified some antecedents that affect emotional, cognitive, and behavioral responses toward ABS. These previous works tend to illuminate the superiority or inferiority of ABS relative to ownership, purely from a utility-based perspective.

### 2.2. Scarcity and savoring motivation

Literature regarding savoring and consumer well-being that inspired this research provides empirical evidence of the effects of scarcity on consumer enjoyment. First, Bryant and Veroff (2007) conceptualized savoring as a set of cognitive or behavioral strategies in which people engage "to attend to, appreciate, and enhance the positive experiences in their lives" (p. 2). That is, savoring is a regulatory mechanism that refers to individuals' capacities to regulate the emotional impact of positive events (Bryant and Veroff, 2007; Jose et al., 2012). Studies linking savoring to scarcity have demonstrated that temporal scarcity can motivate people to enjoy their limited experiences more.

For instance, when the last remaining resources or items in a series are emphasized, consumers tend to enjoy and evaluate them positively (O'Brien and Ellsworth, 2012). How people think about their time affects their goals and decisions in relation to happiness and well-being (Mogilner et al., 2018). Activating a temporal mindset leads consumers to focus on their usage experiences and augment personal connection with the product (Mogilner and Aaker, 2009). Most interestingly, when people think about the imminent ending of a positive event, they tend to perceive temporal scarcity and savor the time they have left (Kurtz, 2008). The salience of limited temporal resources

**Table 1**  
Selected literature on responses toward ABS and their determinants.

Agenda	References	Independent variables	Dependent variables	Context (stimuli)
Comparison of two consumption modes	Durgee and Colarelli O'Connor (1995)	Consumption modes (renting vs. owning)	Consumer feelings about renting behavior (e.g., involvement, cognitive dissonance, and materialism)	Traditional rental transaction (e.g., cars, furniture, skis, and videos)
	Chen (2008)	Consumption modes (possession vs. access)	Consumer desire and value of artworks/art consumption experiences	Art consumption (e.g., art collection vs. exhibit visits)
Basic features of ABS	Moeller and Wittkowski (2010)	Six determinants (e.g., importance of possession, convenience orientation, and trend orientation)	Consumer preference for non-ownership	Peer-to-peer sharing network
	Bardhi and Eckhardt (2012)	Six dimensions (e.g., temporality, anonymity, and market mediation)	The nature and diversity of access-based consumption	Car sharing (e.g., Zipcar)
Pros and cons of ABS	Schaefer et al. (2016a)	Three ownership risk perceptions (e.g., financial, performance, and social)	ABS usage (e.g., actual usage data), ownership reduction	Car sharing
	Schaefer et al. (2016b)	Previous misbehavior in ABS (yes vs. no)	Perceived social norms, subsequent misbehavior in ABS	Car sharing
Strategies to overcome the barriers to adopting ABS	Hazée et al. (2017)	Customer-perceived barriers to ABS, customer barrier-attenuating practices	Adoption and use of ABS	Various examples of ABS (e.g., cars, bikes, tools, and toys)
	Fritze et al. (2020)	Antecedents of psychological ownership for ABS (e.g., intimacy, identity, and communal identification)	Psychological ownership, substitutive value, ABS usage, material ownership reduction	Car sharing and music streaming

motivates people to spend their time more carefully and exert efforts to relish ordinary events (Bhattacharjee and Mogilner, 2013). Likewise, limited availability can also slow down the satiation caused by repeated consumption and reduce the decline in enjoyment (Sevilla and Redden, 2014).

Overall, the studies suggest that scarcity improves consumers' savoring motivation and well-being. Additionally, we propose that temporally and experientially scarce situations posited and verified in savoring literature are similar to the actual consumer practice of using ABS. Because ABS are distinguished from material possession in terms of temporality and experientiality (Bardhi and Eckhardt, 2012; Chen, 2008; Durgee and Colarelli O'Connor, 1995), we contend that the definition and real practice of ABS are closely related to scarcity salience investigated in literature on savoring. We connect these two distinct research contexts and predict that when consumers become aware of the imminent termination of ABS, they perceive greater temporal scarcity and are thus motivated to enjoy their upcoming consumption experiences.

### 2.3. ABS as temporal and experiential mode of consumption

Previous research proposes *temporality* as one of the six dimensions that make up the nature of access-based consumption (temporality, anonymity, market mediation, consumer involvement, type of accessed object, and political consumerism; Bardhi and Eckhardt, 2012). ABS entail more temporal and limited use of products and services than ownership-based consumption (Chen, 2008), although the duration of access or item usage varies (Bardhi and Eckhardt, 2012). Therefore, the findings of savoring research, which state that limited temporality affects consumers' motivation to enjoy consumption experiences, can be applied to ABS practice. Moreover, ABS facilitate consumers to focus on *experiences* (e.g., drinking a cup of coffee) rather than on physical products (e.g., a coffee machine) (Durgee and Colarelli O'Connor, 1995). Consequently, ABS accentuate experiential (vs. material) aspects during consumption. The literature has found that consumers feel greater satisfaction and happiness when they make experiential (vs. material) purchases (Carter and Gilovich, 2010; Van Boven and Gilovich, 2003) and even adapt to experiences more slowly and consciously than to material possessions (Nicolao et al., 2009).

Based on these characteristics, we limit the scope of our research to certain types of ABS. The types of ABS can vary from long-term rental of multiannual contracts (such as apartments) to short-term access on daily or hourly basis (such as bike- or car-sharing). Rather than covering all durations, our studies focus on services that recur monthly. The temporal nature of ABS is more apparent when contract renewal decisions are made periodically. Hence, for such recurring services, we not only incorporate the contexts used in savoring literature (Kurtz, 2008) but also include the renewal conditions of rentals, leases, and subscription-based services.

### 2.4. Focus frame of ABS and consumer enjoyment

Connecting the characteristics of ABS with literature on savoring, we propose consumers' anticipated enjoyment as a dependent variable in the non-ownership mode of consumption. We regard anticipated enjoyment as a cognitive awareness of the pleasure from an upcoming experience (Chun et al., 2017). Since ABS have expiration dates, we hypothesize that consumers will make significant cognitive efforts to enjoy upcoming experiences until the termination date.

However, because temporality embedded in ABS is not always salient to customers, hedonic adaptation may occur as the consumption duration progresses, particularly when the period is long, regardless of whether one owns or accesses the product. The theory of hedonic adaptation illustrates that people easily adapt to changes in circumstances and revert to hedonic neutrality (Brickman and Campbell, 1971; Diener et al., 2009; Wilson and Gilbert, 2008). A decline in enjoyment

over time is a pervasive feature of human psychology (Frederick and Loewenstein, 1999; Wang et al., 2009). Thus, we introduce the notion of focus frame as one that reminds ABS users of the finiteness of the service period.

Inspired by goal-framing literature (Koo and Fishbach, 2010, 2012; Wiebenga and Fennis, 2014), this research presents consumers' service usage state either as the relative position from the future (remaining) or the past (consumed) consumption period. Since the salience of prospective duration prompts people to access their knowledge about hedonic adaptation (Wang et al., 2009), we believe that focus frame can affect consumers' cognitive understanding of the service period, and their motivation to enjoy future consumption. We hypothesize:

**H1:** Focusing on the remaining (vs. consumed) service period makes consumers anticipate a high level of enjoyment of upcoming experiences.

### 2.5. Temporal scarcity as an underlying mechanism

We propose that the relationship between focus frame and anticipated enjoyment may be mediated by perceived temporal scarcity. Temporal scarcity or limited availability improves a consumer's readiness to savor the given circumstances (Kurtz, 2008; O'Brien and Ellsworth, 2012; Sevilla and Redden, 2014). Furthermore, awareness of an ending can also encourage people to savor the last moments (O'Brien and Ellsworth, 2012; Quoidbach et al., 2010). Therefore, we hypothesize:

**H2:** Perceived temporal scarcity mediates the relationship between focus frame and anticipated enjoyment.

However, the way in which the temporal frames of ABS are designed and communicated has a significant impact on anticipated enjoyment. During the initial stage in which consumers are farther from the service expiration date, drawing attention to the long remaining period does not motivate consumers to enjoy future consumption experiences. However, as the expiration date approaches, drawing attention to the short remaining period can easily motivate consumers to savor their limited chance of experiencing the service. We propose the length of the remaining service period as a boundary condition for the proposed focus-frame effect. More precisely, we contend that when people realize the short remaining service period, they perceive more temporal scarcity and consequently, anticipate greater enjoyment from the service use. Our specific hypothesis is as follows:

**H3:** The focus-frame effect on anticipated enjoyment via perceived temporal scarcity works only when the remaining period is comparably short (vs. long) relative to the total period.

### 2.6. Product benefits and temporal scarcity

Experientiality is a core essence of ABS (Bardhi and Eckhardt, 2012; Chen, 2008; Durgee and Colarelli O'Connor, 1995). Experiential purchases, although a distinct construct, are closely related to hedonic consumption (Van Boven and Gilovich, 2003). Numerous studies articulate the distinction between hedonic and utilitarian consumption that entails different product benefits (Chitturi et al., 2008; Dhar and Wertenbroch, 2000; Voss et al., 2003). The former is relatively more enjoyable, affective, experiential, and intrinsically motivated and augments customer delight; the latter is more functional, cognitive, practical, and extrinsically motivated and guarantees customer satisfaction (Alba and Williams, 2013; Chitturi et al., 2008).

People tend to show greater elaboration of an object's potential benefits when confronting its forfeiture (vs. acquisition) (Strahilevitz and Loewenstein, 1998). In addition, the theory of loss aversion (Kahneman et al., 1990; Kahneman and Tversky, 1979) suggests that a choice framed as forfeiture can cause asymmetric valuations of hedonic and utilitarian attributes. Because hedonic features are more sensory, easier to imagine, and tend to concern what might have been, "the relative attractiveness of an item that is superior on the hedonic dimension

should thus be enhanced” in a situation of forfeiture, rather than acquisition (Dhar and Wertenbroch, 2000, p. 62).

We extend this idea to the context of ABS, assuming the termination of ABS as the forfeiture situation. We suggest that perceived product benefits moderate the effect of focus frame on anticipated enjoyment via perceived temporal scarcity. Consumers who pursue hedonic (vs. utilitarian) benefits from the service perceive the remaining temporal distance as shorter and scarcer, as they vividly imagine the favorable experiences that may be attained from the hedonic item. If savoring of ABS is enhanced by the salience of temporality, it follows that this effect will be more salient for those who pursue more hedonic (vs. utilitarian) benefits from ABS. In contrast, because utilitarian features are less sensory and the potential loss of features is more difficult to articulate, we expect consumers who infer utilitarian benefits to show comparably lower temporal scarcity, regardless of the temporal frame. We hypothesize:

**H4:** The focus-frame effect on anticipated enjoyment via perceived temporal scarcity is more pronounced for consumers who pursue hedonic (vs. utilitarian) benefits from ABS.

## 2.7. Anticipated enjoyment and behavioral responses

Since Ajzen and Fishbein (1977) suggested that consumer attitude determines behavioral intentions and that these intentions predict actual behaviors, the correlation and/or causal link between attitude and behavioral intentions has been repeatedly evaluated in numerous studies (Bagozzi and Yi, 1989; Hartmann and Apaolaza-Ibañez, 2012; Jonas et al., 1997; Jung et al., 2014). Therefore, we evaluate both behavioral and attitudinal consumer responses, similar to the work of Kim and Han (2020) that presented consumer responses using multiple variables. Specifically, we postulate that anticipated enjoyment, a cognitive awareness of the pleasure from the upcoming service, can be a predictor of consumer responses involving immediate extension intention, reuse intention in the (distant) future, and attitude toward the service. We believe that understanding both intentions to reuse ABS in the near and distant future and the attitude toward the service (as a proxy for customer-based brand equity measure: Keller, 1993) are important for predicting short- and long-term relationships between the ABS firm and its customers. We further ground this prediction on well-established studies that have shown that post-purchase satisfaction and positive feelings associated with service experiences promote consumer's favorable attitude toward the brand and intention to use the service again (Gountas and Gountas, 2007; Hellier et al., 2003; Oliver, 1980; Yi and La, 2004). In line with these findings, we theorize that anticipated enjoyment will facilitate a consumer's decision to extend and reuse recurring ABS (Gountas and Gountas, 2007; Hellier et al., 2003; Oliver, 1980). Moreover, consumers with greater enjoyment and satisfaction are prone to developing favorable attitude toward the brand, leading to the maintenance of long-term relationships (Hellier

et al., 2003; Yi and La, 2004). We hypothesize:

**H5:** Anticipated enjoyment mediates the relationship between focus frame and consumer responses toward ABS (extension intention, reuse intention, attitude toward the service).

## 3. Overview of studies

We examine the proposed theoretical model (Fig. 1) in four studies. Using an entertainment streaming service as a stimulus, Study 1 investigates whether focusing on the remaining (vs. consumed) service period makes consumers anticipate greater enjoyment of experiencing an access-based service (H1). Extending the context to a coffee machine rental service, Study 2 explores whether consumers' perceived temporal scarcity mediates the focus-frame effect on anticipated enjoyment (H2) and further tests whether this effect emerges only when the remaining period is comparably short (vs. long) relative to the total service period (H3). Study 3 extends the research model by proposing that consumers' perceived product benefits (hedonic vs. utilitarian) moderate the relationship between service period framing and anticipated enjoyment via temporal scarcity (H4). Finally, Study 4 aims to investigate whether the proposed effect extends to downstream behavioral measures that reflect consumer responses toward ABS (H5).

## 4. Study 1

### 4.1. Method

#### 4.1.1. Research design and sample

Study 1 was a single-factor (focus frame: consumed vs. remaining) between-participants experiment. The experimental context involved an entertainment streaming service (e.g., similar to Netflix). Sixty-five undergraduate students at a major Korean university (29 women;  $M_{age} = 22.72$ ,  $SD = 1.77$ , 19–28 years) participated in this study in exchange for a small gift. Of the total sample, 44 participants (67.7%) said that they had experience with certain types of entertainment streaming services.

#### 4.1.2. Procedure

Participants were presented with a hypothetical scenario in which they had been using an entertainment streaming service for a one-month trial period. This service was presented as a subscription-based streaming service that provided a variety of movies and television programs. Participants were considered to have been satisfied with the streaming service but were informed that they could cancel the subscription at any time without any penalty, as in real-world practice. Before the free trial ended, they received an email from the customer service center notifying them of the approaching service expiration date.

After reading this background information, participants were randomly assigned to one of the two conditions that manipulated focus

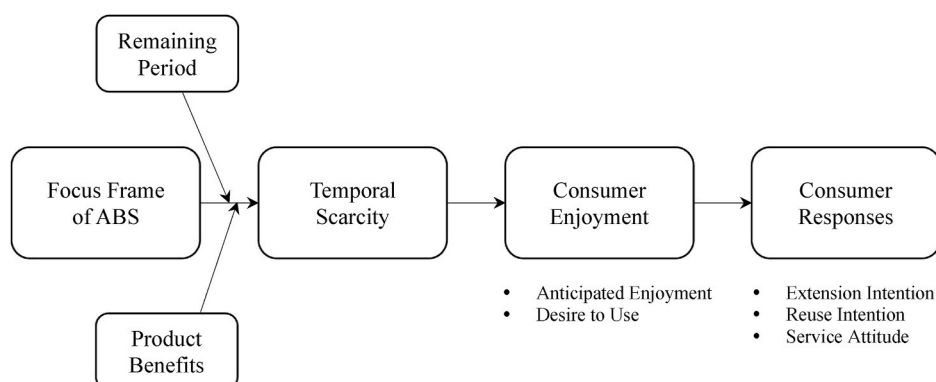


Fig. 1. Theoretical model.



frame. Participants in the consumed-frame condition were reminded of how many days they had enjoyed the program, while participants in the remaining-frame condition were reminded of how many days were left until the trial ended. We further strengthened the manipulation by presenting calendars that highlighted either the bygone or the remaining period (Appendix A). The scenarios were carefully designed to be identical in all aspects except for the manipulation of the focus frame.

#### 4.1.3. Measures

All the measures and reliabilities are presented in Table 2. Participants rated their anticipated enjoyment using three items (Vohs et al., 2013) and their general enjoyment of the video content using two items (Kim and Labroo, 2011). Participants then responded to a manipulation check item. Next, the realism of the scenario was measured using two items and the actual frequency of video-watching was checked ("How frequently do you watch video content per week?"; open-ended). Finally, participants provided demographic information on gender and age.

#### 4.2. Results

Participants in the remaining-frame condition focused significantly more on what remained to be consumed than those in the consumed-

frame condition, indicating that the manipulation was effective ( $M_{\text{consumed}} = 4.44$  vs.  $M_{\text{remaining}} = 8.48$ ),  $F(1, 63) = 54.42$ ,  $p < .001$ ,  $\eta_p^2 = 0.46$ . Participants' general enjoyment of video content, the actual frequency of video-watching (z-score), and the realism of the scenario did not differ across the two conditions,  $F$ 's  $< 1.0$ ,  $p$ 's  $> .1$ . Participants perceived the experimental situations as realistic ( $M = 7.44$ ,  $SD = 1.52$ ). A one-way analysis of variance (ANOVA) indicated that the effect of focus frame on anticipated enjoyment was statistically significant. Participants showed greater anticipated enjoyment when they focused on the remaining period than when they focused on the consumed period ( $M_{\text{consumed}} = 6.20$  vs.  $M_{\text{remaining}} = 6.92$ ),  $F(1, 63) = 4.63$ ,  $p < .05$ ,  $\eta_p^2 = 0.07$ .

#### 4.3. Discussion

Study 1 confirms that emphasizing the remaining (vs. consumed) service period leads consumers to expect a greater level of enjoyment (H1). This result is supported even after we control for individuals' video-watching tendency as a single covariate that combines participants' general content enjoyment and video-watching frequency.

**Table 2**  
All measurement items.

Items	Cronbach's $\alpha$ coefficient			
	Study 1	Study 2	Study 3	Study 4
<i>Anticipated enjoyment (1 = strongly disagree, 9 = strongly agree)</i>	.81	.88	.89	.76
(1) I would really enjoy [the video streaming service/tasting the coffee].				
(2) I would savor [every time I watch video content on this platform/every sip].				
(3) [Watching video content on this platform/Tasting the coffee] would give me a lot of pleasure.				
<i>Perceived temporal scarcity (1 = strongly disagree, 9 = strongly agree)</i>	–	.87	.66	–
(1) I feel that I have a lot of time to consume the coffee machine. (R)				
(2) I feel that I have only a limited chance of using the coffee machine.				
<i>Perceived consumption progress (1 = strongly disagree, 9 = strongly agree)</i>	–	.78	–	–
(1) I feel that I have fully used the coffee machine so far.				
(2) I have actively consumed the coffee machine during the service period.				
<i>Perceived product benefits (1 = completely utilitarian, 5 = equally utilitarian and hedonic, 9 = completely hedonic)</i>	–	–	N/A	–
• How utilitarian (functional) or hedonic (enjoyable) do you think the coffee machine is?				
<i>Desired to use (1 = less often, 5 = as usual, 9 = more often)</i>	–	–	N/A	–
• How often will you use the coffee machine before returning it?				
<i>Extension intention (1 = very unlikely/unwilling, 9 = very likely/willing)</i>	–	–	–	.78
(1) How likely would you be to extend the service period after the trial ends?				
(2) How willing would you be to extend the service period after the trial ends?				
<i>Reuse intention (1 = very unlikely/unwilling, 9 = very likely/willing)</i>	–	–	–	.76
(1) How likely would you be to reuse (repurchase) this service sometime in the future?				
(2) How willing would you be to reuse (repurchase) this service sometime in the future?				
<i>Service attitude (a bipolar 1–9 scale)</i>	–	–	–	.89
Please rate your attitude toward the entertainment streaming service.				
(1) unfavorable–favorable				
(2) dislike–like				
(3) bad–good				
(4) undesirable–desirable				
(5) unattractive–attractive				
<i>Price perception (1 = not at all expensive, 9 = very expensive)</i>	–	N/A	N/A	N/A
• How expensive do you think the [rental/streaming] service is?				
<i>Chronic time perspective (1 = past, 9 = future)</i>	–	.73	.76	.82
(1) It gives me pleasure to think about my ____.				
(2) I think about the things that [have happened/will happen] to me in the ____.				
<i>General enjoyment (1 = strongly disagree, 9 = strongly agree)</i>	.87	.94	.93	.77
(1) I enjoy [watching video content/drinking coffee].				
(2) In general, I like [watching video content/drinking coffee].				
<i>Manipulation check of the focus frame (1 = the consumed service period, 9 = the remaining service period)</i>	N/A	N/A	N/A	N/A
• When I read this scenario, I paid more attention to ____.				
<i>Manipulation check of the length of the remaining period (1 = short, 9 = long)</i>	–	N/A	–	–
• When I read this scenario, I felt the remaining service period was relatively ____.				
<i>Realism of the scenario (1 = strongly disagree, 9 = strongly agree)</i>	.82	.66	.73	.72
(1) The situation described was realistic.				
(2) I had no difficulty imagining myself in the situation.				

## 5. Study 2

### 5.1. Method

#### 5.1.1. Research design and sample

Study 2 used a 2 (focus frame: consumed vs. remaining)  $\times$  2 (remaining period: long vs. short) between-participants design in the context of renting a coffee machine. We recruited 140 US-based respondents via Amazon's MTurk platform. To ensure that participants paid enough attention to the survey, we included the Instructional Manipulation Check (IMC; Oppenheimer et al., 2009). Nine respondents were eliminated because they failed the IMC, thus leaving the study with 131 participants (75 women;  $M_{\text{age}} = 36.56$ ,  $SD = 12.00$ , 19–71 years).

#### 5.1.2. Procedure

Participants read a hypothetical scenario regarding an access-based service wherein they were granted six-month access to a coffee machine. In the scenario, the rental company offered an espresso machine at US\$22.99 per month; the offer included a complete package of high-quality coffee beans, maintenance service, and customer care. We set a price that was relatively inexpensive based on entry-level models displayed in the Amazon rental store to attain a certain level of customer satisfaction and eliminate psychological barriers caused by the price. Participants were asked to imagine that while using the machine, they received an email from the customer service center that reminded them of the service expiration date.

After reading this information, participants were randomly assigned to one of the four conditions. The focus frame and the length of the remaining period were manipulated via the description in the email. We visualized the focus frame by presenting calendars that emphasized either the past or future period with mug-shaped stamps (Appendix B). To operationalize the length of the remaining period, the rental program notified participants that they had enjoyed either two of the six months (i.e., long remaining period) or four of the six months (i.e., short remaining period). Participants in the consumed-frame condition read, "You have enjoyed your espresso machine over the past [2 months or 4 months]." Those in the remaining-frame condition read, "You have [2 months or 4 months] left to further enjoy your espresso machine." Participants then completed a series of measures disguised as a customer satisfaction survey.

#### 5.1.3. Measures

All the measurement items and reliabilities are listed in Table 2. Participants rated their anticipated enjoyment using three items as in Study 1. We created a two-item scale to measure perceived temporal scarcity. To test the alternative process (Section 8 for details), we measured perceived consumption progress adapted from Koo and Fishbach (2012). Since materialism and price consciousness affect consumers' attitudes about ABS and their willingness to use them (Lindblom et al., 2018), participants' price perception about the service was also measured to account for the influence of price on anticipated enjoyment. Two potential confounders were evaluated: chronic time perspective selected from Zimbardo and Boyd (1999) and general enjoyment of coffee as in Study 1. Participants then completed two manipulation checks to answer whether they focused on either the consumed or the remaining period, and how long they felt the remaining service period was. The realism of the scenario was also measured as in Study 1. Lastly, participants provided demographic information on gender and age.

## 5.2. Results

### 5.2.1. Manipulation checks

The results of a 2 (focus frame)  $\times$  2 (remaining period) ANOVA on the manipulation checks of the focus frame showed a significant main effect of the focus frame ( $M_{\text{consumed}} = 5.45$  vs.  $M_{\text{remaining}} = 7.14$ ),  $F(1,$

127) = 20.17,  $p < .001$ ,  $\eta_p^2 = 0.14$ . Neither the main effect of the remaining period,  $F(1, 127) = 0.07$ ,  $p > .8$ , nor the interaction effect,  $F(1, 127) = 0.03$ ,  $p > .9$ , was significant. Additionally, the results of a 2 (focus frame)  $\times$  2 (remaining period) ANOVA on the manipulation checks of the length of the remaining period revealed a significant main effect of the perceived remaining period ( $M_{\text{long}} = 5.55$  vs.  $M_{\text{short}} = 4.08$ ),  $F(1, 127) = 29.26$ ,  $p < .001$ ,  $\eta_p^2 = 0.19$ . Neither the main effect of the focus frame,  $F(1, 127) = 0.01$ ,  $p > .9$ , nor the interaction effect,  $F(1, 127) = 0.21$ ,  $p > .6$ , was significant. The realism check showed that participants perceived the experimental stimuli as realistic ( $M = 6.56$ ,  $SD = 1.85$ ).

### 5.2.2. Anticipated enjoyment

The same 2 (focus frame)  $\times$  2 (remaining period) ANOVA on anticipated enjoyment revealed a significant main effect of the focus frame,  $F(1, 127) = 6.81$ ,  $p < .01$ ,  $\eta_p^2 = 0.05$ , and a significant interaction,  $F(1, 127) = 5.91$ ,  $p < .05$ ,  $\eta_p^2 = 0.04$ . The main effect of the remaining period was not significant,  $F(1, 127) = 1.64$ ,  $p > .2$ ,  $\eta_p^2 = 0.01$ . The planned contrasts indicated that when the remaining period was short, focusing on the remaining (vs. consumed) period increased the level of anticipated enjoyment ( $M_{\text{consumed}} = 6.26$  vs.  $M_{\text{remaining}} = 7.53$ ;  $t(127) = 3.55$ ,  $p < .001$ ). However, in the long-period condition, no difference was found in anticipated enjoyment as a function of the focus frame ( $M_{\text{consumed}} = 6.55$  vs.  $M_{\text{remaining}} = 6.59$ ;  $t(127) = 0.13$ ,  $p > .9$ ) (the top panel of Fig. 2).

### 5.2.3. Perceived temporal scarcity

The same 2  $\times$  2 ANOVA was conducted to analyze perceived temporal scarcity. The results indicated a significant main effect of the focus frame,  $F(1, 127) = 7.66$ ,  $p < .01$ ,  $\eta_p^2 = 0.06$ , a significant main effect of the remaining period,  $F(1, 127) = 42.47$ ,  $p < .001$ ,  $\eta_p^2 = 0.25$ , and a

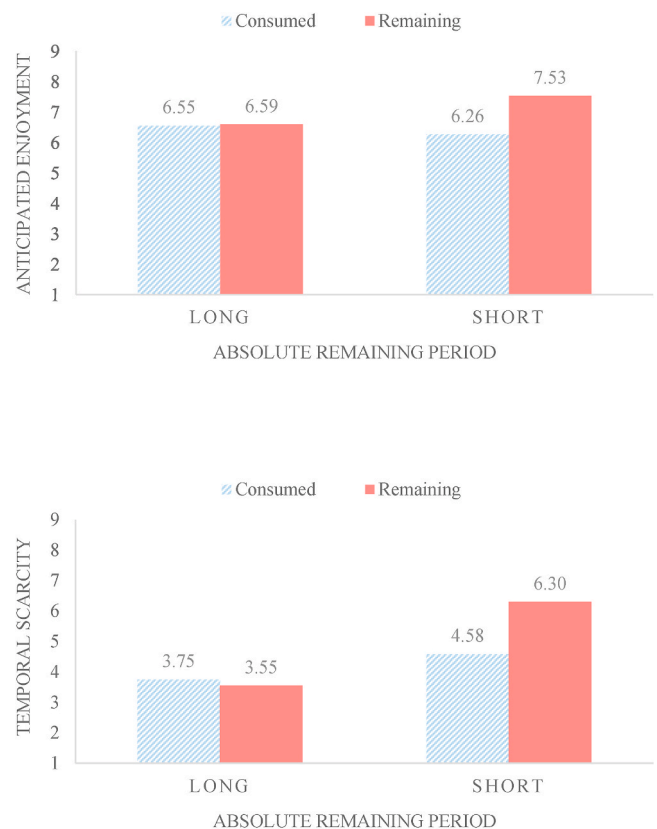


Fig. 2. Anticipated enjoyment and perceived temporal scarcity as a function of focus frame and absolute remaining period (Study 2).

significant interaction effect,  $F(1, 127) = 12.29, p < .001, \eta_p^2 = 0.09$ . The planned contrasts indicated that when the remaining period was short, focusing on the remaining (vs. consumed) period led to a higher level of temporal scarcity ( $M_{\text{consumed}} = 4.58$  vs.  $M_{\text{remaining}} = 6.30$ ;  $t(127) = 4.42, p < .001$ ). When the remaining period was long, however, the focus frame did not influence perceived temporal scarcity ( $M_{\text{consumed}} = 3.75$  vs.  $M_{\text{remaining}} = 3.55$ ;  $t(127) = -0.52, p > .6$ ) (the bottom panel of Fig. 2).

#### 5.2.4. Moderated mediation

To test whether the indirect effect of focus frame on anticipated enjoyment through perceived temporal scarcity was moderated by the remaining period, we conducted a bootstrapping analysis with 5000 samples (PROCESS Model 8; Hayes, 2017), using the focus frame as the independent variable (X: dummy-coded as 0 = consumed, 1 = remaining), anticipated enjoyment as the dependent variable (Y), perceived temporal scarcity as the mediator (M), and the remaining period as the moderator (W: dummy-coded as 0 = long, 1 = short) (Fig. 3).

Providing support for the moderated-mediation hypothesis (H3), the focus frame  $\times$  remaining period interaction significantly predicted perceived temporal scarcity ( $\beta = 1.93, t(127) = 3.51, p < .001$ ). In turn, perceived temporal scarcity had a significant positive effect on consumers' anticipated enjoyment ( $\beta = 0.21, t(128) = 2.60, p < .01$ ). When the effect of the mediator was controlled for, the interaction effect became non-significant ( $\beta = 0.82, t(125) = 1.60, p > .1$ ). The perceived temporal scarcity completely accounted for the variance in anticipated enjoyment, explained by the interaction effect of focus frame and remaining period. The indirect effect via perceived temporal scarcity was significant (index of moderated mediation: effect = 0.40,  $SE = 0.22$ , 95% CI = [0.03, 0.89]). The conditional indirect effect was significant when the remaining period was short (effect = 0.36,  $SE = 0.19$ , 95% CI = [0.03, 0.77]), but not significant when the remaining period was long (effect = -0.04,  $SE = 0.10$ , 95% CI = [-0.25, 0.18]).

#### 5.3. Discussion

Study 2 confirms that the indirect effect of focus frame on anticipated enjoyment differs as a function of the length of the remaining period. Specifically, the focus-frame effect on anticipated enjoyment is mediated by perceived temporal scarcity (H2). This effect occurs only when the remaining service period occupies a smaller portion of the total service period (H3). All the results remain significant after controlling for price perception, chronic time perspective, and general enjoyment of

coffee in all the analyses above.

## 6. Study 3

### 6.1. Method

#### 6.1.1. Research design and sample

Study 3 used a single-factor (focus frame: consumed vs. remaining) between-participants design in the same context as in Study 2. A total of 160 US-based respondents were recruited through Amazon's MTurk platform. The final sample consisted of 147 participants (78 women;  $M_{\text{age}} = 37.96, SD = 12.19, 19\text{--}70$  years) after 13 respondents failed the IMC (Oppenheimer et al., 2009).

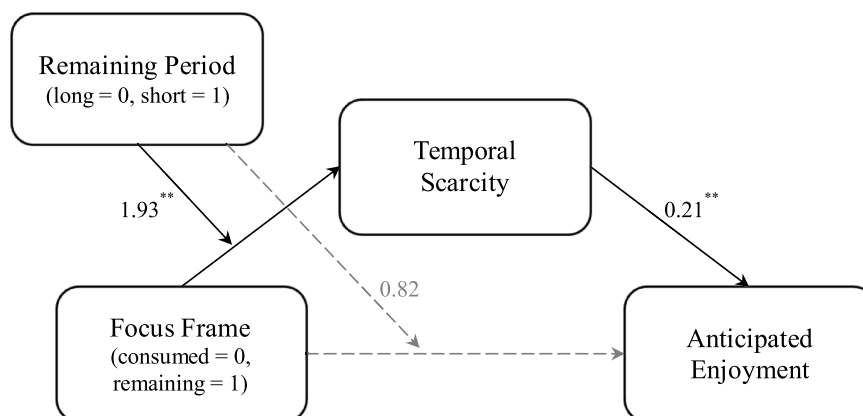
#### 6.1.2. Procedure and measures

Participants were randomly assigned to one of the two conditions. Based on the results of Study 2, we focused on the condition in which the remaining period was short relative to the entire service period. The hypothetical scenario used the same context and stimuli as in Study 2. All the items and reliabilities are presented in Table 2. The major variables were identically measured as in Study 2. Participants reported their anticipated enjoyment and perceived temporal scarcity. We further included an item for perceived product benefits (Werthenbroch et al., 2001). Participants then indicated their desire to actively use the product. The three covariates, individuals' price perception, chronic time perspective, and general enjoyment of coffee, were also studied. Participants then responded to a manipulation check item and the realism of the scenario.

### 6.2. Results

#### 6.2.1. Replication of the focus-frame effect

Participants in the remaining-frame condition focused more on the upcoming experiences than those in the consumed-frame condition, demonstrating that the manipulation worked as intended ( $M_{\text{consumed}} = 5.57$  vs.  $M_{\text{remaining}} = 6.53$ ),  $F(1, 145) = 8.29, p < .01, \eta_p^2 = 0.05$ . In addition, participants perceived the experimental stimuli as realistic ( $M = 7.14, SD = 1.39$ ). A one-way ANOVA replicated the findings from Studies 1 and 2. Participants in the remaining (vs. consumed) period condition indicated greater anticipated enjoyment before the service expiration date ( $M_{\text{consumed}} = 6.90$  vs.  $M_{\text{remaining}} = 7.88$ ),  $F(1, 145) = 19.60, p < .001, \eta_p^2 = 0.12$ . A mediation analysis was conducted using PROCESS Model 4 (Hayes, 2017; 5000 resamples). The results revealed



Note. \* $p < .05$ , \*\* $p < .01$ . Numbers represent unstandardized regression coefficients.

Fig. 3. Moderated mediation analysis: The role of absolute remaining period (Study 2).

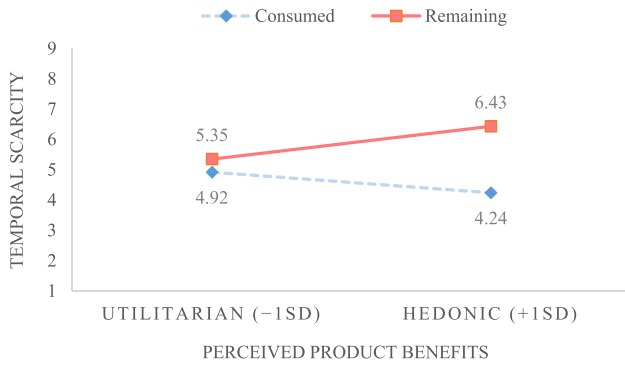


Fig. 4. Perceived temporal scarcity as a function of focus frame and perceived product benefits (Study 3).

a significant indirect effect of focus frame on anticipated enjoyment via perceived temporal scarcity (effect = 0.24,  $SE = 0.10$ , 95% CI = [0.07, 0.46]).

#### 6.2.2. Effects on temporal scarcity moderated by perceived product benefits

With perceived product benefits as a continuous variable, a spotlight analysis was conducted using PROCESS Model 1 (Hayes, 2017; 5000 resamples). Consistent with our proposition, this indicated a significant interaction between focus frame and perceived product benefits on perceived temporal scarcity ( $\beta = 0.51$ ,  $t(143) = 3.11$ ,  $p < .01$ ). Participants who pursued hedonic properties from the service (+1SD) perceived more temporal scarcity when the focus was on the remaining (vs. consumed) period ( $\beta = 2.19$ ,  $t(143) = 5.54$ ,  $p < .001$ ). Participants who focused on utilitarian properties from the service (-1SD) showed no differences in their perceived temporal scarcity, according to the focus frame ( $\beta = 0.44$ ,  $t(143) = 1.10$ ,  $p > .2$ ) (Fig. 4).

#### 6.2.3. Moderated mediation

We used PROCESS Model 7 (Hayes, 2017; 5000 resamples) to test the moderating effect of perceived product benefits. The analysis used focus frame manipulation as the independent variable (X: dummy-coded as 0 = consumed, 1 = remaining), anticipated enjoyment as the dependent variable (Y), perceived temporal scarcity as the mediator (M), and perceived product benefits as the first-stage moderator (W: continuous variable) (Fig. 5).

Providing support for the moderated mediation (H4), the focus

frame  $\times$  perceived product benefits interaction significantly affected perceived temporal scarcity ( $\beta = 0.51$ ,  $t(143) = 3.11$ ,  $p < .01$ ). Upon controlling the focus frame, perceived temporal scarcity had a significant positive effect on consumers' anticipated enjoyment ( $\beta = 0.18$ ,  $t(144) = 2.92$ ,  $p < .01$ ). Next, bootstrap estimates confirmed that the focus-frame effect on anticipated enjoyment mediated by perceived temporal scarcity depended on individuals' perception of the product benefits (index of moderated mediation: effect = 0.09,  $SE = 0.05$ , 95% CI = [0.02, 0.20]). Specifically, the conditional indirect effect was significant when consumers pursued hedonic properties from the service (effect = 0.40,  $SE = 0.16$ , 95% CI = [0.13, 0.76]), whereas the conditional indirect effect was not significant when consumers inferred utilitarian properties from the service (effect = 0.08,  $SE = 0.08$ , 95% CI = [-0.06, 0.25]).

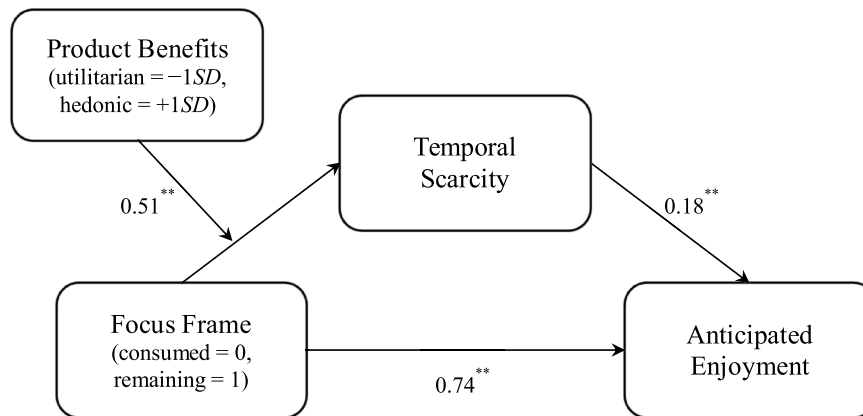
#### 6.2.4. Desire to use

Drawing on existing literature (Kurtz, 2008; Sevilla and Redden, 2014), we examined consumers' desire to use the product and service as another dependent variable in this model. We presumed that this measure would objectively reflect consumers' effort to savor and capitalize on the remaining time. First, a one-way ANOVA was conducted, the results of which showed that the effect of focus frame on desire to proactively use the product was statistically significant. Participants in the remaining (vs. consumed) period condition showed a higher desire to use the coffee machine before the service expiration date ( $M_{\text{consumed}} = 6.30$  vs.  $M_{\text{remaining}} = 7.00$ ),  $F(1, 145) = 5.56$ ,  $p < .05$ ,  $\eta_p^2 = 0.04$ .

A mediation analysis was performed using PROCESS Model 4 (Hayes, 2017; 5000 resamples). The results revealed a significant indirect effect of focus frame on the desire to use the coffee machine mediated by perceived temporal scarcity (effect = 0.26,  $SE = 0.15$ , 95% CI = [0.03, 0.59]). The direct pathway was not significant (effect = 0.37,  $SE = 0.32$ , 95% CI = [-0.26, 0.99]), indicating that this was fully mediated. Finally, we used PROCESS Model 7 (Hayes, 2017; 5000 resamples) to provide support for a moderated mediation. The results confirmed that the indirect effect of focus frame on the desire to use the coffee machine mediated by perceived temporal scarcity depended on individuals' perception of the product benefits (index of moderated mediation: effect = 0.10,  $SE = 0.06$ , 95% CI = [0.00, 0.24]).

#### 6.3. Discussion

Study 3 expounds on the findings of Study 2 by identifying how



Note. \* $p < .05$ , \*\* $p < .01$ . Numbers represent unstandardized regression coefficients.

Fig. 5. Moderated mediation analysis: The role of perceived product benefits (Study 3).



consumers' perceived product benefits influence the proposed effect. The results support our proposition that the focus-frame effect that is mediated by perceived temporal scarcity is also moderated by perceived product benefits (H4). Specifically, consumers who pursue hedonic (vs. utilitarian) benefits from the service perceive more temporal scarcity and thus expect more enjoyment during the remaining service period. Furthermore, the relative focus on the remaining (vs. consumed) service period leads consumers to use the product and service more actively. All the results remain statistically significant after controlling for potential confounding factors.

## 7. Study 4

### 7.1. Method

#### 7.1.1. Research design and sample

Study 4 used a single-factor (focus frame: consumed vs. remaining) between-participants design using the same context as in Study 1 (i.e., an entertainment streaming service). A total of 165 US-based respondents were recruited from Amazon's MTurk platform. Thirty respondents failed to comply with the IMC instructions (Oppenheimer et al., 2009), resulting in a final sample size of 135 participants (47 women;  $M_{\text{age}} = 36.70$ ,  $SD = 9.38$ , 22–68 years).

#### 7.1.2. Procedure and measures

Participants were randomly assigned to one of the two conditions. We applied the same hypothetical scenario used in Study 1 but translated from Korean into English (Appendix A). After reading the scenario in which participants had been using a one-month trial of an entertainment streaming service, they rated their behavior and attitude toward the ABS using several measures. All the specific items and reliabilities are shown in Table 2. Specifically, items taken from Kim and Han's (2020) study were used to examine consumer responses: two items for extension intention, two items for reuse intention, and five items for attitude toward the service. Besides these, other major variables were identically measured as in previous studies. Participants indicated their anticipated enjoyment and further checked the three covariates, individuals' price perception, chronic time perspective, and general enjoyment of an entertainment streaming service. Participants responded to a manipulation check for the focus frame and the realism of the scenario.

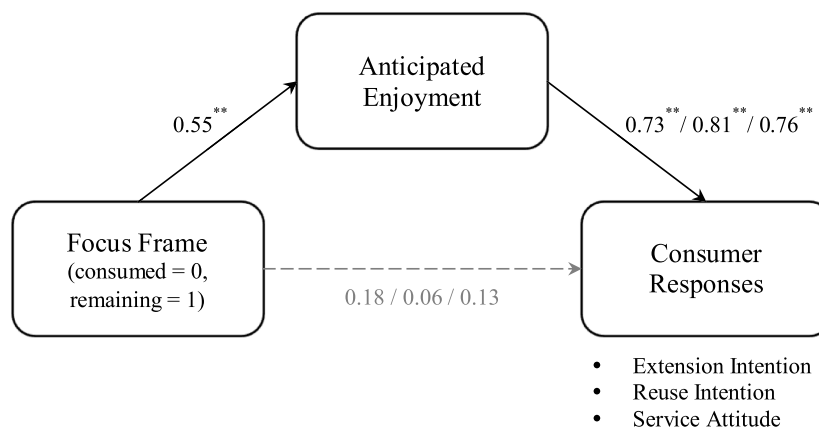
## 7.2. Results

Participants in the remaining-frame condition paid more attention to the upcoming service experiences than those in the consumed-frame condition, confirming that the manipulation was successful ( $M_{\text{consumed}} = 5.49$  vs.  $M_{\text{remaining}} = 8.30$ ),  $F(1, 133) = 56.16$ ,  $p < .001$ ,  $\eta_p^2 = 0.30$ . Additionally, participants considered the experimental stimuli as realistic ( $M = 7.59$ ,  $SD = 1.06$ ). A one-way ANOVA indicated that the focus-frame effect on consumer responses was statistically significant. Participants in the remaining-frame condition showed greater extension intention ( $M_{\text{consumed}} = 7.13$  vs.  $M_{\text{remaining}} = 7.71$ ),  $F(1, 133) = 10.69$ ,  $p < .01$ ,  $\eta_p^2 = 0.07$ , greater reuse intention ( $M_{\text{consumed}} = 7.13$  vs.  $M_{\text{remaining}} = 7.64$ ),  $F(1, 133) = 7.64$ ,  $p < .01$ ,  $\eta_p^2 = 0.05$ , and a more favorable attitude toward the service ( $M_{\text{consumed}} = 7.23$  vs.  $M_{\text{remaining}} = 7.78$ ),  $F(1, 133) = 10.19$ ,  $p < .01$ ,  $\eta_p^2 = 0.07$ , than those in the consumed-frame condition.

We employed PROCESS Model 4 (Hayes, 2017; 5000 resamples) to examine the mediating effect of anticipated enjoyment. The analysis assigned the focus frame manipulation as the independent variable (X: dummy-coded as 0 = consumed, 1 = remaining), consumer responses as the dependent variable (Y), and anticipated enjoyment as the mediator (M) (Fig. 6). The results indicated a significant indirect effect of focus frame on consumer responses mediated by anticipated enjoyment (extension intention: effect = 0.40,  $SE = 0.13$ , 95% CI = [0.15, 0.68]; reuse intention: effect = 0.44,  $SE = 0.16$ , 95% CI = [0.15, 0.77]; service attitude: effect = 0.42,  $SE = 0.14$ , 95% CI = [0.16, 0.70]). The direct path between focus frame and consumer responses was not significant in all three dependent measures, indicating that these were all mediated by anticipated enjoyment.

## 7.3. Discussion

The findings of Study 4 contribute to the practical application of managing ABS by adding multiple behavioral measures. The results confirm our hypothesis that focusing on the remaining period enhances consumers' anticipated enjoyment, which in turn fosters their subsequent responses, such as extension intention, reuse intention, and service attitude (H5). The results remain constant despite controlling for potential confounding factors.



Note. \* $p < .05$ , \*\* $p < .01$ . Numbers represent unstandardized regression coefficients.

Fig. 6. Focus-frame effect on consumer responses via anticipated enjoyment (Study 4).

## 8. General discussion

Since ABS are only temporarily available, we find that focusing on temporality influences consumer's anticipated enjoyment of the services. Study 1 reveals that emphasizing what remains to be consumed (as opposed to what has been consumed to date) enhances consumers' anticipated enjoyment of their service experiences. Study 2 confirms the role of perceived temporal scarcity as a mediator, and that the absolute length of the remaining period is a boundary condition. The focus-frame effect on anticipated enjoyment increases when the remaining period is comparably short (vs. long) relative to the entire period because consumers perceive a higher level of temporal scarcity. The findings of Study 3 indicate that when consumers gain hedonic (vs. utilitarian) benefits from ABS and focus on the remaining (vs. consumed) service period, they perceive more temporal scarcity and thus, expect more enjoyment from upcoming service experiences. The same pattern of results is found in the desire to use the product, a variable that reflects the behavioral aspect of anticipated enjoyment. Study 4 further corroborates the influence of focus frame on multiple behavioral measures. The focus-frame effect emerges in consumers' behaviors and attitudes toward ABS (extension intention, reuse intention, service attitude) as mediated by anticipated enjoyment.

### 8.1. Theoretical contributions

By connecting service period frame with consumer enjoyment, this research produces several theoretical contributions. First, it contributes to research on ABS and connects the field of service marketing to hedonic adaptation and savoring. As ABS have recently been in the limelight (Lovelock and Gummesson, 2004), maximizing enjoyment in service experience offers insightful implications for theorists, practitioners, and consumers. Even though consumers tend to easily revert to hedonic neutrality (Brickman and Campbell, 1971; Diener et al., 2009; Wilson and Gilbert, 2008), the joy of possession has been one of the main streams of consumer behavior research (Belk, 1988; Richins, 1994a, 1994b), whereas the joy of access has not been empirically demonstrated. We address this research gap and provide a theoretical foundation regarding the service period framing as a method for enhancing consumers' readiness to savor ABS.

Second, inspired by literature on savoring, our research proposes temporal scarcity as a process variable that intensifies the pleasure of consumption in the context of ABS. The salience of temporal resources, which has received attention in the fields of savoring and consumer enjoyment (Bhattacharjee and Mogilner, 2013; Kurtz, 2008; Mogilner and Aaker, 2009; O'Brien and Ellsworth, 2012), is a key factor that encourages consumers to savor the limited time left to experience the service. Service period framing is based on knowledge about temporality and we have proved its impact on consumer enjoyment in ABS. Upon verifying the mediating role of temporal scarcity, we ruled out one important alternative explanation for our findings in Study 2. Inspired by the goal-gradient hypothesis (Koo and Fishbach, 2010, 2012), we suggested perceived consumption progress as a potential mediator. This construct proposes that consumers who focus on what remains to be consumed (vs. what they have consumed) perceive their consumption progress as relatively low, which increases their motivation to savor their upcoming service experiences. However, we found no support for this alternative explanation (effect = 0.29,  $SE = 0.24$ , 95% CI =  $[-0.12, 0.81]$ ), instead we verified the indirect effect of temporal scarcity.

Third, our results offer consumers guidance on how to maximize their consumption enjoyment when using ABS. Researchers studying ABS have attempted to identify what motivates or demotivates consumers from engaging with ABS and have considered how consumers' psychological barriers prevent them from adopting ABS (Fritze et al., 2020; Moeller and Wittkowski, 2010; Schaefer et al., 2016a). Their studies have regarded ABS as merely substitutes for material possessions and failed to discover how to boost consumer enjoyment. Meanwhile,

our research does not simply focus on overcoming the inferiority of ABS compared to material possessions; rather, it finds that the temporal and experiential nature of ABS has inherent superiority in maximizing one's consumption enjoyment. When consumers are guided to focus on the service's limited temporality and hedonic benefits, they can slowly and mindfully adapt to consuming borrowed goods and savor their temporality.

### 8.2. Practical implications

Companies can influence consumers' motivational (i.e., anticipated enjoyment, desire to use) and behavioral (i.e., extension intention, reuse intention, attitude toward the service) responses when designing and managing ABS. Introducing a marketing intervention which enhances consumer enjoyment and subsequent behaviors and attitudes by finding the appropriate time and method for communicating with customers may be advantageous for these companies.

First, companies offering ABS should prompt consumers to focus on the remaining period of the experience. This can push consumers to savor the forthcoming consumption and thus enhance their immediate service extension intention, reuse intention in the future, and attitude toward the service. Although a temporal cue may improve one's capacity to savor and enjoy future consumption, consumers cannot easily access this information (Wang et al., 2009). Therefore, the focus-frame intervention can be a catalyst for not only accepting marketers' offers for further access but also establishing a favorable relationship between the ABS firm and its customers. Marketers may promote customers' intent to renew the contract by reminding them of the remaining time of access before the service expires.

Second, since the absolute length of the remaining period influences the focus-frame effect, companies should consider this when informing consumers about the salience of the service period. Specifically, ABS firms should determine the optimal timing to remind consumers since the focus-frame effect on anticipated enjoyment occurs only when the remaining service period occupies a relatively small portion of the entire service period. Furthermore, even when subscription-based access is automatically renewed, the focus-frame strategy can be effective when customers show a low usage rate of service and thus, a high possibility of churn. For instance, if customers have automatically extended the service but have a low usage rate, marketers can notify them of the short remaining period of usage until the next renewal, thereby promoting behavioral intention as well as savoring motivation.

Third, companies should consider perceived product benefits as an important variable since it moderates the effect of focus frame on anticipated enjoyment via temporal scarcity. The boundary is often unclear when it comes to determining whether consumption is hedonic or utilitarian (Alba and Williams, 2013; Dhar and Wertenbroch, 2000). The focus-frame effect on consumer joy can be reinforced or diluted depending on how ABS are categorized in the hedonic–utilitarian dichotomy. The cue for the remaining service period contributes to amplifying anticipated enjoyment, especially when consumers primarily pursue hedonic (vs. utilitarian) properties from ABS. Hence, companies that offer ABS should encourage consumers to pursue hedonic enjoyment rather than functional utility, enabling them to build up and savor positive consumption experiences.

### 8.3. Limitations and future research directions

First, we tested our hypotheses using two different stimuli across four experiments; however, the findings were derived only from scenario-based experiments. Hence, future studies can enhance the external validity by testing the focus-frame effect using field data. Second, our research limited the scope of ABS to recurring services that require monthly claims, ranging from at least one month (Studies 1 and 4) to a maximum of six months (Studies 2 and 3). It is necessary to verify whether the effect of service period framing on anticipated enjoyment

and subsequent behavioral responses is valid for ABS that permit access for a shorter (e.g., services offered on an hourly basis like Zipcar) or a longer period (e.g., multiannual contracts for residential accommodation). While emphasizing the short remaining period is still expected to enhance anticipated enjoyment and further consumer responses, future studies can empirically investigate whether the types of ABS according to the duration of access moderate this effect. Finally, although our research identified the role of consumers' perceived product benefits, we measured this as a construct. A follow-up study to examine the

moderating effect of perceived product benefits contextually boosted by manipulation would further support this finding.

### Acknowledgements

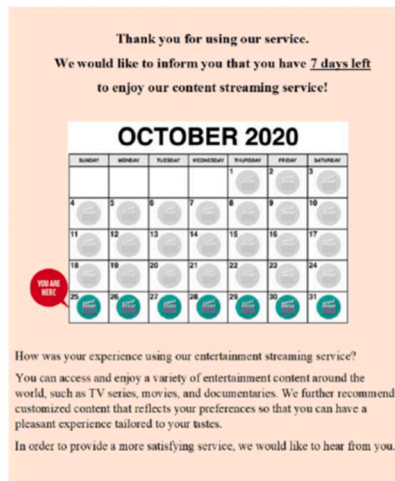
This research was supported by Sookmyung Women's University Research Grants (1-2003- 2013). This research was supported by a grant from the Institute of Management Research, College of Business Administration, Seoul National University.

## Appendix A. Stimuli for Studies 1\* and 4

I usually enjoy watching movies and TV programs. As the time spent at home has increased recently, I thought it would be nice to join a subscription-based content streaming service. I found one streaming service that provides a TV series I've been interested in. The service was provided monthly from the date of application, and it was available for free for the first month. After the free trial ends, I can subscribe to this service for a monthly fee of minimum \$8.99, and of course, I could cancel my membership at any time without any penalty. Thus, I signed up for this service and have used it with satisfaction.

### 1. Focus on the remaining service period

*Having a week left until the end of trial.* I received an email from the customer service center.



### 2. Focus on the consumed service period

*Having enjoyed the service over the last three weeks.* I received an email from the customer service center.



\*Study 1 provided the identical scenario in Korean because the participants were Korean university students.

## Appendix B. Stimuli for Studies 2 and 3

Since you are a "coffee lover," you thought it was worth having an espresso machine to enjoy great coffee at home. Thus, you decided to rent a coffee machine for a trial because it was hard to select a proper espresso machine out of the hundreds of models available and with the wide range of prices. Eventually, you enrolled in a rental program with 6-month contract period. The rental company offered an espresso machine at \$22.99 per month plus VAT, and this came complete with high-quality coffee beans, maintenance services, and customer care.

While making good use of the espresso machine, you got an e-mail today from the rental company that says:

### 1. Focus on the remaining service period



### 2. Focus on the consumed service period





## References

- Ajzen, Icek, Martin, Fishbein, 1977. Attitude-behavior relations: a theoretical analysis and review of empirical research. *Psychol. Bull.* 84 (5), 888–918.
- Alba, Joseph W., Williams, Elanor F., 2013. Pleasure principles: a review of research on hedonic consumption. *J. Consum. Psychol.* 23 (1), 2–18.
- Bagozzi, Richard P., Yi, Youjae, 1989. The degree of intention formation as a moderator of the attitude-behavior relationship. *Soc. Psychol. Q.* 52 (4), 266–279.
- Bardhi, Fleura, Eckhardt, Giana M., 2012. Access-based consumption: the case of car sharing. *J. Consum. Res.* 39 (4), 881–898.
- Belk, Russell W., 1988. Possessions and the extended self. *J. Consum. Res.* 15 (2), 139–168.
- Bhattacharjee, Amit, Mogilner, Cassie, 2013. Happiness from ordinary and extraordinary experiences. *J. Consum. Res.* 41 (1), 1–17.
- Brickman, Philip, Campbell, Donald T., 1971. Hedonic relativism and planning the good society. In: Appley, M.H. (Ed.), *Adaptation Level Theory: A Symposium*. Academic Press, New York, pp. 287–302.
- Bryant, Fred B., Veroff, Joseph, 2007. *Savoring: A New Model of Positive Experience*. Lawrence Erlbaum Associates Publishers, Mahwah, NJ.
- Carter, Travis J., Gilovich, Thomas, 2010. The relative relativity of material and experiential purchases. *J. Pers. Soc. Psychol.* 98 (1), 146–159.
- Chen, Yu, 2008. Possession and access: consumer desires and value perceptions regarding contemporary art collection and exhibit visits. *J. Consum. Res.* 35 (6), 925–940.
- Chitturi, Ravindra, Raghunathan, Rajagopal, Mahajan, Vijay, 2008. Delight by design: the role of hedonic versus utilitarian benefits. *J. Market.* 72 (3), 48–63.
- Chun, HaeEun Helen, Diehl, Kristin, MacInnis, Deborah J., 2017. Savoring an upcoming experience affects ongoing and remembered consumption enjoyment. *J. Market.* 81 (3), 96–110.
- Dhar, Ravi, Wertenbroch, Klaus, 2000. Consumer choice between hedonic and utilitarian goods. *J. Market. Res.* 37 (1), 60–71.
- Diener, Ed, Lucas, Richard E., Scollon, Christie Napa, 2009. Beyond the hedonic treadmill: revising the adaptation theory of well-being. In: *The Science of Well-Being*. Springer, pp. 103–118.
- Durgee, Jeffrey F., Colarelli O'Connor, Gina, 1995. An exploration into renting as consumption behavior. *Psychol. Market.* 12 (2), 89–104.
- Frederick, Shane, George, Loewenstein, 1999. In: Kahneman, Daniel (Ed.), “Hedonic Adaptation,” in *Well-Being: the Foundations of Hedonic Psychology*, Diener, and Norbert Schwarz. Russell Sage, New York, pp. 302–329.
- Fritze, Martin P., Marchand, André, Eisingerich, Andreas B., Benkenstein, Martin, 2020. Access-based services as substitutes for material possessions: the role of psychological ownership. *J. Serv. Res.* 23 (3), 368–385.
- Gountas, John, Gountas, Sandra, 2007. Personality orientations, emotional states, customer satisfaction, and intention to repurchase. *J. Bus. Res.* 60 (1), 72–75.
- Hartmann, Patrick, Apaolaza-Ibáñez, Vanessa, 2012. Consumer attitude and purchase intention toward green energy brands: the roles of psychological benefits and environmental concern. *J. Bus. Res.* 65 (9), 1254–1263.
- Hayes, Andrew F., 2017. *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. Guilford Publications.
- Hazée, Simon, Delcourt, Cécile, Van Vaerenbergh, Yves, 2017. Burdens of access: understanding customer barriers and barrier-attenuating practices in access-based services. *J. Serv. Res.* 20 (4), 441–456.
- Hellier, Phillip K., Geursen, Gus M., Carr, Rodney A., Rickard, John A., 2003. Customer repurchase intention: a general structural equation model. *Eur. J. Market.* 37 (11/12), 1762–1800.
- Jonas, Klaus, Diehl, Michael, Brömer, Philip, 1997. Effects of attitudinal ambivalence on information processing and attitude-intention consistency. *J. Exp. Soc. Psychol.* 33 (2), 190–210.
- Jose, Paul E., Lim, Bee T., Bryant, Fred B., 2012. Does savoring increase happiness? A daily diary study. *J. Posit. Psychol.* 7 (3), 176–187.
- Jung, Na Young, Kim, Soohyun, Kim, Soyoung, 2014. Influence of consumer attitude toward online brand community on revisit intention and brand trust. *J. Retailing Consum. Serv.* 21 (4), 581–589.
- Kahneman, Daniel, Knetsch, Jack L., Thaler, Richard H., 1990. Experimental tests of the endowment effect and the coase theorem. *J. Polit. Econ.* 98 (6), 1325–1348.
- Kahneman, Daniel, Tversky, Amos, 1979. Prospect theory: an analysis of decision under risk. *Econometrica* 47 (2), 263–292.
- Keller, Kevin Lane, 1993. Conceptualizing, measuring, and managing customer-based brand equity. *J. Market.* 57 (1), 1–22.
- Kim, C. Heeryung, Han, Eunjo, 2020. Premiums paid for what you believe in: the interactive roles of price promotion and cause involvement on consumer response. *J. Retailing* 96 (2), 235–250.
- Kim, Sara, Labroo, Aparna A., 2011. From inherent value to incentive value: when and why pointless effort enhances consumer preference. *J. Consum. Res.* 38 (4), 712–742.
- Koo, Minjung, Fishbach, Ayelet, 2010. Climbing the goal ladder: how upcoming actions increase level of aspiration. *J. Pers. Soc. Psychol.* 99 (1), 1–13.
- Koo, Minjung, Fishbach, Ayelet, 2012. The small-area hypothesis: effects of progress monitoring on goal adherence. *J. Consum. Res.* 39 (3), 493–509.
- Kurtz, Jaime L., 2008. Looking to the future to appreciate the present: the benefits of perceived temporal scarcity. *Psychol. Sci.* 19 (12), 1238–1241.
- Lindblom, Arto, Lindblom, Taru, Wechtler, Heidi, 2018. Collaborative consumption as C2C trading: analyzing the effects of materialism and price consciousness. *J. Retailing Consum. Serv.* 44, 244–252.
- Lovelock, Christopher, Gummesson, Evert, 2004. Whither services marketing? In search of a new paradigm and fresh perspectives. *J. Serv. Res.* 7 (1), 20–41.
- Moeller, Sabine, Wittkowski, Kristina, 2010. The burdens of ownership: reasons for preferring renting. *Manag. Serv. Qual.: Int. J.* 20 (2), 176–191.
- Mogilner, Cassie, Aaker, Jennifer, 2009. “The time vs. Money effect”: shifting product attitudes and decisions through personal connection. *J. Consum. Res.* 36 (2), 277–291.
- Mogilner, Cassie, Hershfield, Hal E., Aaker, Jennifer, 2018. “Rethinking time: implications for well-being. *Consumer Psychology Review* 1 (1), 41–53.
- Nicolao, Leonardo, Irwin, Julie R., Goodman, Joseph K., 2009. Happiness for sale: do experiential purchases make consumers happier than material purchases? *J. Consum. Res.* 36 (2), 188–198.
- O'Brien, Ed, Ellsworth, Phoebe C., 2012. Saving the last for best: a positivity bias for end experiences. *Psychol. Sci.* 23 (2), 163–165.
- Oliver, Richard L., 1980. A cognitive model of the antecedents and consequences of satisfaction decisions. *J. Market. Res.* 17 (4), 460–469.
- Oppenheimer, Daniel M., Meyvis, Tom, Davidenko, Nicolas, 2009. Instructional manipulation checks: detecting satisficing to increase statistical power. *J. Exp. Soc. Psychol.* 45 (4), 867–872.
- Quoidbach, Jordi, Dunn, Elizabeth W., Petrides, K.V., Mikolajczak, Moïra, 2010. Money giveth, money taketh away: the dual effect of wealth on happiness. *Psychol. Sci.* 21 (6), 759–763.
- Richins, Marsha L., 1994a. Special possessions and the expression of material values. *J. Consum. Res.* 21 (3), 522–533.
- Richins, Marsha L., 1994b. Valuing things: the public and private meanings of possessions. *J. Consum. Res.* 21 (3), 504–521.
- Schaefers, Tobias, Lawson, Stephanie J., Kukar-Kinney, Monika, 2016a. How the burdens of ownership promote consumer use of access-based services. *Market. Lett.* 27 (3), 569–577.
- Schaefers, Tobias, Wittkowski, Kristina, Benoit, Sabine, Ferraro, Rosellina, 2016b. Contagious effects of customer misbehavior in access-based services. *J. Serv. Res.* 19 (1), 3–21.
- Sevilla, Julio, Redden, Joseph P., 2014. Limited availability reduces the rate of satiation. *J. Market. Res.* 51 (2), 205–217.
- Strahilevitz, Michal A., George, Loewenstein, 1998. The effect of ownership history on the valuation of objects. *J. Consum. Res.* 25 (3), 276–289.
- Van Boven, Leaf, Gilovich, Thomas, 2003. To do or to have? That is the question. *J. Pers. Soc. Psychol.* 85 (6), 1193–1202.
- Vohs, Kathleen D., Wang, Yajin, Gino, Francesca, Norton, Michael I., 2013. Rituals enhance consumption. *Psychol. Sci.* 24 (9), 1714–1721.
- Voss, Kevin E., Spangenberg, Eric R., Grohmann, Bianca, 2003. Measuring the hedonic and utilitarian dimensions of consumer attitude. *J. Market. Res.* 40 (3), 310–320.
- Wang, Jing, Nathan, Novemsky, Dhar, Ravi, 2009. Anticipating adaptation to products. *J. Consum. Res.* 36 (2), 149–159.
- Wertenbroch, Klaus, Soman, Dilip, Nunes, Joseph, 2001. Debt aversion as self-control: consumer self-management of liquidity constraints. Working Papers—INSEAD R & D, Fontainebleau, France.
- Wiebenga, Jacob H., Fennis, Bob M., 2014. The road traveled, the road ahead, or simply on the road? When progress framing affects motivation in goal pursuit. *J. Consum. Psychol.* 24 (1), 49–62.
- Wilson, Timothy D., Gilbert, Daniel T., 2008. Explaining away: a model of affective adaptation. *Perspect. Psychol. Sci.* 3 (5), 370–386.
- Yi, Youjae, La, Suna, 2004. What influences the relationship between customer satisfaction and repurchase intention? Investigating the effects of adjusted expectations and customer loyalty. *Psychol. Market.* 21 (5), 351–373.
- Zimbardo, Philip G., Boyd, John N., 1999. Putting time in perspective: a valid, reliable individual-differences metric. *J. Pers. Soc. Psychol.* 77 (6), 1271–1288.