CHOOSING WHERE TO EAT VERSUS WHAT TO EAT:
THE EFFECTS OF CHOICE ORDER AND CONSTRUAL LEVEL

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ABSTRACT

This research examines the underlying psychological mechanisms on the effects of choice order (in the sequence of assortment-option vs. option-assortment) in a restaurant setting. Previous literature shows that the representation of an event in abstract (vs. concrete) terms and perceived temporal distance have important consequences for cognition and motivation. However, less is studied about the factors that influence construal level and temporal focus.

One Pilot Study and three experiments identified that choice order is a contextual factor influencing construal level. Our results show that consumers adopt an abstract vs. concrete mindset, depending on the sequence of choices (assortment-option sequence vs. option-assortment sequence). In addition, this research shows that an assortment-option sequence is associated with a more distal temporal perspective, whereas an option-assortment sequence is associated with a more proximal temporal perspective. Our findings demonstrate that the match (vs. mismatch) between choice order and construal level enhances consumer attitudes and anticipated satisfaction. Furthermore, we identified choice order as a key moderator to the desire for a large choice set. The findings show that individuals who choose assortment first have increased preferences for a large choice set. When choosing an option first, the preference for large assortments diminishes. We also demonstrate that when consumers experience the matching effect, consumers show heightened levels of anticipated satisfaction with the chosen choice set regardless of their actual choice of the choice set.

These results add to the construal level theory, choice literature, and assortment literature, and provide practical implications for marketers.
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Chapter 1

Introduction

Imagine a consumer who needs to find a restaurant for dinner in two weeks. Would this consumer be more satisfied when s/he reviews a list of restaurant first and then considers what to order, or when s/he has a specific menu item in mind first and then starts to look for restaurants? Similarly, imagine a consumer who needs to decide where to eat for dinner tonight. Would this consumer's satisfaction be influenced by the order of the choice sequence?

Consumers make decisions in a sequence of related decisions (Ariely & Levav, 2000; Bettman, 1979; Bettman & Park, 1980; Levav, Reinholtz, & Lin, 2012; Novemsky & Dhar, 2005; Payne, 1976; Sood, Rottenstreich, & Brenner, 2004; Ülkümen, Chakravarti, & Morwitz, 2010; Xu & Wyer, 2007). In the hospitality context, consumers make a series of decisions while ordering food at a restaurant (Laran, 2010; Lu, Xie, & Xu, 2013). For example, choosing a restaurant first leads to a subsequent choice for a menu item. Sometimes, however, the decision order is reversed. For instance, consumers often want a specific dish (e.g., sushi, pizza), and they choose a restaurant that offers that dish. Does the order of choosing a restaurant first or a menu item first affect how consumers think about the outcome they select? We posit that the effects of choice order associated with temporal perspectives of the choice influence consumers’ attitudes and anticipated satisfaction about the choice task. To illustrate this, when consumers crave a specific dish, they want this dish soon.

This research investigates a two-stage decision-making process: 1) choosing a restaurant and 2) selecting a menu item in a restaurant setting. This two-stage decision-making process involves choosing an assortment (e.g., a restaurant from a group of restaurants) first, then
choosing an item from a given assortment (e.g., a chosen restaurant) (Chernev, 2006, 2011). Chernev (2006) assumed that the two choices are hierarchical, as consumers usually select an item from the chosen assortment subsequent to the choice for the assortment. This research argues that this order is frequently reversed in a restaurant setting. Further, we posit that the choice order influences consumers' construal level (abstract vs. concrete) and, thus, their perceptions of time (Liberman & Trope, 1998; Trope & Liberman, 2000). Research in construal level theory (CLT) demonstrates the relationship between individuals' construal level and their temporal perspective (Liberman, Sagristano, & Trope, 2002; Liberman & Trope, 1998; Spassova & Lee, 2013; Trope & Liberman, 2000; Xu & Wyer, 2007; Zhao & Xie, 2011). Individuals tend to have an abstract mindset when they focus on the distant future. In contrast, they tend to have a concrete mindset when they focus on the proximal future.

This research posits that consumers' responses to sequential choices depend on the match between choice order and temporal construal of the choice task. Specifically, the match not only affects their preferences for choice set size, but also has consequences for their attitude toward the chosen assortment and the chosen option, and for their satisfaction levels. Accordingly, this research investigates the effect of the choice order (assortment-option vs. option-assortment sequence) on their attitudes and anticipated satisfaction. The key proposition is that consumers in an assortment-option (option-assortment) sequence experience the matching effect when choosing for a distant (proximal) future, which leads them to have enhanced attitude and anticipated satisfaction with their chosen option. In addition, we propose that consumer preferences for large assortments do not hold when consumers make choices in the option-assortment sequence. The theoretical basis of this research is in the choice, construal level (psychological distance), and assortment literature, and the propositions are tested in a series of studies.
Chapter 2

Literature Review

Sequential choice

Previous research on sequential choices has typically viewed the decision-making process as a multi-stage process comprised of two stages (Bettman & Park, 1980; Ge, Häubl, & Elrod, 2012; Payne, 1976). However, there are two issues that the existing research on this topic has not paid attention to. First, there is no general consensus about what the two stages are. The current research adopts a definition of two stages from the assortment literature and applies it to a restaurant setting. Second, only scant attention has been paid to the effect of the choice order. The present research argues that the order could be reversed and, therefore, could influence consumers’ responses to the chosen option and their preferences for large choice set sizes.

Two stages of the decision-making process

Although there is no consensus on the specifics of the decision-making stages, prior research indicates that consumers go through a series of steps to make a decision. Ge et al. (2012) postulate that the first step in the decision-making process is the screening stage, in which decision makers eliminate alternatives from their consideration sets (e.g., which to consider), and the final stage is where they make a choice among multiple alternatives (e.g., which to buy). Xu and Wyer (2007) argue that consumers' first step in a purchase decision is to decide whether or not they want to make a purchase (e.g., whether or not to buy), and their second step is to choose one preferred alternative (e.g., which one to buy). In the assortment literature, making a choice
from an assortment includes two phases: choosing among assortments (e.g., which retailer to visit out of multiple retailer establishments; where to go) and choosing from an assortment (e.g., which product to buy). This conceptual framework suggests that making choices is a hierarchical decision process (Broniarczyk, 2008; Chernev, 2006; Goodman & Malkoc, 2012; Kahn & Lehmann, 1991; Sood et al., 2004), in that an assortment selection leads to a subsequent option selection. Translating this conceptualization into a restaurant setting, we posit that the first stage is when consumers decide on a restaurant, and the second stage is when they select a menu item.

While the majority of research in the assortment literature focuses on one of the two stages of the choice task (Chernev, 2005; Goodman & Malkoc, 2012; Hoch, Bradlow, & Wansink, 1999), Chernev (2006) demonstrated that choice among assortments is a function of the salience of the subsequent option task. That is, when consumers consider both decisions jointly, smaller assortments are preferred due to choice simplicity. However, he only considered situations in which consumers choose an assortment first. Therefore, the present research focuses on the order of the decision sequence, and explores how consumers' primary goals (e.g., to eat at a favorite restaurant vs. to have a desired menu item) influence their preferences for assortment size and satisfaction with the decision.

**Ordering choices in a decision sequence**

Most previous research has mainly focused on the effect of *option* order (Dellaert & Häubl, 2012; Diehl, 2005; Diehl & Zauberman, 2005; Häubl, Dellaert, & Donkers, 2010). For example, ordering options by expected attractiveness is found to be effective in improving search outcomes (Dellaert & Häubl, 2012; Häubl & Trifts, 2000). Diehl and Zauberman (2005) found that declining ordering (from best to worst) leads to a more positive overall evaluation than improving ordering. Yet, until recently, only a limited number of studies have paid attention to
ordering choices. Previous studies show that an initial decision in a sequential choice task activates a certain mindset. For example, Levav et al. (2012) argue that increasing choice set size leads to a maximizing mindset, whereas a decreasing choice set size initiates a satisfying mindset. Xu and Wyer (2007) report that deciding on a preferred alternative before considering whether or not to buy a product (i.e., "which-to-buy" mindset) increases the likelihood of making a purchase. Ülkümen et al. (2010) suggest that choosing from a broader (vs. narrower) grouping of items leads consumers to consider a subsequent task in a broader category.

The present research compares the assortment-first decision-making process, in which the consumer's primary goal is to select a restaurant, and the option-first decision-making process, in which the consumer chooses a menu item first. More specifically, we propose that the temporal construal of a future event or behavior is influenced by the choice consumers make first—deciding either an assortment from which to choose an option (e.g., where to have a dinner with colleagues) or a certain option (e.g., pizza night or chicken wing night with colleagues). Further, research in the CLT (Liberman & Trope, 1998; Trope & Liberman, 2000) shows that people tend to construe events in the distant future more abstractly, whereas events in the proximal future are perceived more concretely. Accordingly, we believe that individuals who make a series of choices in an assortment-option sequence would perceive the choice task more abstractly, whereas individuals who make a series of choices in an option-assortment sequence would perceive the choice task more concretely. The next section reviews the relevant literature to provide a theoretical framework for our predictions and formally present the hypotheses.
Construal level theory and psychological distance

CLT (Liberman & Trope, 1998, 2003; Trope & Liberman, 2010) provides a robust theoretical platform from which to advance an understanding of psychological distance. Psychological distance is egocentric (Fujita, Trope, & Liberman, 2015; Trope & Liberman, 2010). The reality that people experience here and now is the only thing that they directly experience. We cannot experience other places, the past, or the future. Although distant events cannot be experienced directly, we can remember the past, make predictions about the future, and imagine what other people might think. Such mental representations are formed based on reality, and they influence our emotions, choices, and behaviors. Thus, CLT proposes that people construct mental abstractions of indirect experiences based on the here and now from their own perspectives. That is, more distant objects or events are represented more abstractly, as people are further removed from where they are now.

Furthermore, CLT proposes that psychological distance influences how people construe events or objects. In other words, CLT explains the psychological process that enables individuals to mentally travel from the here and now (Liberman & Trope, 1998; Trope & Liberman, 2010; Trope, Liberman, & Wakslak, 2007). Specifically, a distant psychological representation leads individuals to think more abstractly, whereas a close psychological representation leads them to think more concretely. Characteristics of abstract representation include high-level terms, a focus on why and desirability, superordinate goals, primary features, more abstraction, and decontextualization. Conversely, concrete representations involve low-level terms, a focus on how and feasibility, subordinate goals, secondary features, less abstraction, and contextualization. According to Trope and Liberman (2010), as an object or activity is described in more abstract
representation, it retains more central features and omits more incidental features of the object or activity. For example, eating can be construed as "getting nutrition" or "chewing and swallowing" (Vallacher & Wegner, 1989). By moving from concrete to abstract representation (from "chewing and swallowing" to "getting nutrition"), we omit information about how to eat and retain information about why we eat. Table 2-1 describes the examples of how construal level has been operationalized in the previous CLT literature.

Table 2-1. Examples of more abstract (higher-level) versus concrete (lower-level) characteristics adopted from Soderberg et al. (2014)

<table>
<thead>
<tr>
<th>Higher-level</th>
<th>Lower-level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desirability concerns</td>
<td>Feasibility concerns</td>
</tr>
<tr>
<td>Broad categories</td>
<td>Exemplars or narrow categories</td>
</tr>
<tr>
<td>Gestalts</td>
<td>Details</td>
</tr>
<tr>
<td>Words</td>
<td>Pictures</td>
</tr>
<tr>
<td>Primary features</td>
<td>Secondary features</td>
</tr>
<tr>
<td>Broad traits</td>
<td>Specific behaviors</td>
</tr>
<tr>
<td>Dispositional information</td>
<td>Situational information</td>
</tr>
<tr>
<td>Aggregate information</td>
<td>Individualized information</td>
</tr>
<tr>
<td>Overarching goals, values, or ideologies</td>
<td>Situation-specific demands</td>
</tr>
</tbody>
</table>

In addition, Trope and Liberman (2010) argue that there are two criteria that distinguish higher-level construal and lower-level construal: centrality and subordination. On the basis of these criteria, this research posits that choosing a restaurant represents a high-level choice and choosing a menu item represents a low-level choice. First, choosing a restaurant holds more centrality than choosing a menu item. Choosing Restaurant A (see Figure 2-1) eliminates the possibility of choosing Menu item 7 because Restaurant A does not offer Menu item 7. Similarly,
a dining experience would change more dramatically when a consumer chooses one restaurant over another than when the consumer orders one menu item over another at the same restaurant. Thus, changing a high-level feature (e.g., a restaurant) is more influential on a dining experience than changing a low-level feature (e.g., a menu item). That is, a choice of restaurant holds greater centrality than a choice of menu item. Second, menu items are subordinate to a restaurant, as details about menu items are included in the details about a restaurant. Choice of restaurant encloses choices for service quality, food quality (recipe, cook), atmosphere, authenticity, and location. For example, if a consumer craves Menu item 7, it is very unlikely that s/he would visit Restaurant B if it is located in a different city or if it has a terrible reputation for service quality. Vice versa, if Restaurant C is known for providing excellent service and atmosphere, and it serves high-quality food, consumers would want to choose to eat at that restaurant regardless of which menu item they will order. Thus, the details regarding the choice of restaurant make it a high-level choice.
Bidirectional relationships

Yan (2014) argues that the body of literature on construal level can be categorized into two areas: the effect of psychological distance on construal level (Fujita, Henderson, Eng, Trope, & Liberman, 2006; Liberman et al., 2002; Todorov, Goren, & Trope, 2007) and the effect of construal level on psychological distance (Liberman & Förster, 2009; Liberman, Trope, McCrea, & Sherman, 2007; Wakslak & Trope, 2009). The conceptualization in the previous section explains how construal level influences psychological distance. However, research has found that
psychological distance also influences construal level, which demonstrates a reciprocal effect of distance on construal level and of construal level on distance. This association can be explained by its automatic activation (Trope & Liberman, 2010; Yan, 2014). The association between psychological distance and construal level is learned from past experiences and repeatedly used, and it even becomes unconscious. In addition, due to its bidirectional relationship, psychological distance and construal level often have common effects.

Accordingly, in psychology, one psychological distance is used to measure another distance. For example, maintaining a comfortable distance (spatial distance) from another person indicates that the person is not socially close (social distance) (Fujita, Henderson, et al., 2006). This interrelation can be applied to other psychological distances, including temporal distance and hypotheticality, and is also found with multiple distances. For example, the use of polite language creates the feeling that the communication is spatially and temporally more distant (Stephan, Liberman, & Trope, 2010).

Dimensions of psychological distance

The influence of construal level on psychological distance, such that being in an abstract (vs. concrete) mindset induces people to feel psychological distance (vs. closeness), has been documented in various psychological dimensions. In an earlier study, the link between construal level and psychological distance was examined in terms of temporal distance (Liberman & Trope, 1998). In one study, participants were asked to think of performing activities either “tomorrow” or “next year,” and indicate the extent to which they prefer to describe actions in terms of low-level or high-level construal using the Behavioral Identification Form (BIF) (Vallacher & Wegner, 1989). Participants showed a greater preference for the high-level (vs. low-level) descriptions when they were told to imagine engaging in the activities in the more distant (vs.
near) future. Moreover, the consequences of construal level have been demonstrated in terms of temporal distance both in the future (Liberman, Trope, McCrea, et al., 2007) and in the past (Kyung, Menon, & Trope, 2010).

Such effects have been extended to spatial distance (Fujita, Henderson, et al., 2006), social distance (Liviatan, Trope, & Liberman, 2008), and hypotheticality or probability (Liberman & Förster, 2009; Wakslak, Trope, Liberman, & Alony, 2006). For instance, Liviatan et al. (2008) asked New York University students to identify a fellow student who is either similar or dissimilar to themselves based on the same information about the fellow student’s actions and situation. They were then asked to describe, in terms of the level of abstraction, the activities taken from the BIF (Vallacher & Wegner, 1989). Consistent with the notion that greater levels of interpersonal similarity influence individuals to form lower level construals of others’ actions, participants represented the target student’s actions in high-level terms.

It is important to note that these previously studied dimensions are only some instances of the psychological relationships with construal level (Spassova & Lee, 2013; Trope & Liberman, 2010), and there might be more dimensions that have not been yet studied. Moreover, the effects of the interrelation of psychological distances have important implications and have not been fully investigated. In the present study, we posit that choice order interacts with construal level and further influences consumers’ attitudes and satisfaction with the choice task.

**Implications of construal level and psychological distance**

Existing social psychology research demonstrates the various implications of the interaction between construal level and psychological distance on consequences for perception, prediction, judgement and decision-making, evaluation, and behavior (Trope & Liberman, 2010; Trope et al., 2007). The effects of psychological distance on both construal level and the
downstream consequences have been replicated across time, researchers, and settings, and its reliability has been demonstrated in two meta-analyses conducted by Soderberg (2015).

CLT literature in consumer research demonstrates the impact of these mechanisms on prediction, judgement, evaluation, behavior, and decision making (Dhar & Kim, 2007; Fiedler, 2007; Liberman, Trope, & Wakslak, 2007). For instance, Dhar and Kim (2007) suggest that CLT provides additional understanding of consumer evaluations by way of consideration-set formation, receptivity, choices influenced by context, comparability of options, and post-choice happiness and regret. In addition, Fujita et al. (2015) describe the implications of CLT for judgement and decision-making research in the correspondence bias, planning fallacy, base-rate neglect, the endowment effect, the identifiable victim effect, self-control, and negotiation.

In particular, some empirical research has demonstrated the implications of the psychological mechanism for preference and choice (Liberman & Trope, 1998), persuasion (Spassova & Lee, 2013; Zhao & Xie, 2011), memory (Kim, Park, & Wyer Jr, 2009), and affective outcomes (Williams, Stein, & Galguera, 2014). For example, Williams et al. (2014) focused on affective processes of psychological distance rather than cognitive outcomes, and demonstrated that abstract (vs. concrete) thinking increases the positivity of an individual’s thoughts. In one study, participants were asked to imagine being offered a concert ticket to see either a socially close or socially distant musical act. Participants indicated a greater likeliness to attend a concert when the musical act was considered socially close (vs. socially distant).

Hospitality and tourism researchers recently have started to pay attention to the concept of CLT and psychological distance (Jin & He, 2013; J. Kim, Kim, Kim, & Magnini, 2016; Massara & Severino, 2013; Miao & Mattila, 2013). For example, Miao and Mattila (2013) demonstrated the effect of psychological distance from other consumers on a host of consumer responses, such as emotional responses, emotion-regulation strategies, and encounter satisfaction. Massara and Severino (2013) found that psychological distance influences construal level in a
way that changes the experience of a heritage site. Also, Kim et al. (2016) demonstrated that psychological distance influences preferred promotional messages in the tourism industry. They found that individuals who plan a vacation in the distant-future/to a far-destination prefer abstract promotional messages, while those who plan in the near-future/to a near-destination prefer concrete ones.

**Ordering effect and CLT**

In this research, it is proposed that consumers' construal level and temporal perspective are associated with the order of sequential choice. Sequential choices are typically made in a certain order with varying periods of time lapsing between those choices. An apartment unit may be chosen following the decision to live in a particular area. Consumers think about which cellphone brand to buy after they decide to buy a cellphone. Existing literature on assortment also suggests that a choice for an assortment is the first subgoal and the choice for an option is the second subgoal (Chernev, 2011). However, people sometimes make choices in a reversed order. The special price of an apartment unit might be a driving factor for considering a neighborhood. Consumers want a specific brand of cellphone, and that preference may count more than their need for a cellphone. In the present investigation, situations in which the order of decisions is reversed are taken into consideration. Thus, it is posited that the nature of choice varies in terms of the order of multiple choices in a sequence. We expect that making the superordinate choice first is associated with abstract mental construal, whereas making the subordinate choice first is associated with more concrete mental construal.

Restaurants are often used in consumer research as an example of sequential choices (Laran, 2010; Lu et al., 2013; Novemsky & Dhar, 2005; Xu & Wyer, 2007). Specific to the context, the product category (e.g., dining out) is typically represented in a hierarchical manner,
as restaurant options denote a broader category (i.e., superordinate choice) whereas menu options indicate a narrower category (i.e., subordinate choice), as shown in Figure 2-1. Existing research assumes that consumer choices are often made in a specified order, for example, entering, ordering, eating, and paying (Xu & Wyer, 2007). Also, the assortment literature indicates that a choice of an assortment (e.g., choice of a restaurant) is the first subgoal and the choice of option (e.g., deciding which menu item to eat) is the second subgoal. The present research focuses on situations in which the order of decisions is reversed. The present study is different from Xu and Wyer's, as 1) their study only focused on consumers' pre-identified preferences for an option, and did not consider the order of the decision, and 2) their study examined the effect of the "which-to-buy" mindset in pre-decision situations (e.g., purchase intention) rather than post-decision situations (e.g., anticipated satisfaction). In particular, as depicted in Figure 2-1, this study contrasts the situation in which a consumer decides to have a menu item first, then selects a restaurant from the choices of Restaurants A and B, and the situation in which the consumers want to go to Restaurant A, then choose a menu item. We also predict that the choice order will induce different outcomes, as it alters consumers' psychological distance from their decision-making process.

In the present research, we propose that consumer construal level is influenced by the sequence of decision-making tasks. This conceptualization is based on prior research indicating that a previously made judgment is used to guide subsequent judgments (Carlston, 1980). Similarly, Levav (2012) demonstrates that a strategy used for the first choice carries over to subsequent choices. This is consistent with studies that demonstrate the impact of consumer mindset in a sequential decision-making process (Ma & Roese, 2014; Ülkümen et al., 2010; Xu & Wyer, 2007). In particular, the current research argues that individuals tend to construe the choice task more abstractly or concretely, depending on which choice is made first. As mentioned in the previous section (see Figure 2-1), when consumers make a series of choices for a dining
experience, choice of restaurant is a higher-level choice which focuses on more abstract features of the dining experience, whereas menu item selection is a lower-level choice which focuses on more concrete features of the same choice task. Individuals who choose a restaurant first, then choose a menu item from that restaurant, will be involved in top-down information processing, as the series of the choices proceed in the order of descending ordinates. As a result, they will construe the choice task for a dining experience at a more abstract level. In contrast, when individuals first choose their favorite menu item, which is a subordinate choice in the given product category, their focus on the choice of menu items will lead them to adopt bottom-up information processing (from subordinate features to superordinate features). Consequently, they will construe the same choice task at a more concrete level. In other words, the salient construal level (either abstract or concrete) will be activated for the subsequent choice in a choice task. Formally stated, we hypothesize the following:

**Hypothesis 1:** Individuals in an assortment-option sequence will construe a choice task at a more abstract level than those in an option-assortment sequence.

**A match between choice order and temporal focus**

Considering the reciprocal nature of the relationship between construal level and psychological distance, it follows that the order of sequential choice would be also associated with different temporal perspectives. CLT suggests that the more distant future is represented in a more abstract way (Liberman et al., 2002). Thus, when the choosers experience the consequence of the choice task in the future event, individuals with restaurant-menu item order would experience match when the goal is to be achieved in the more distant future, as the choice task is perceived to be more abstract, whereas those with menu item-restaurant order would experience
match when the goal is to be achieved in the more proximal future, as the choice task is considered to be more concrete. For example, consumers would feel more comfortable choosing a restaurant first when they plan to make a reservation for an event happening in a week. Similarly, when consumers make decisions for lunch on the same day, they would perceive the choice task as easier when they choose a menu item before choosing a restaurant. More formally, we hypothesize that:

**Hypothesis 2:** Individuals in an assortment-option sequence will construe future events to be more distant. In contrast, individuals in an option-assortment sequence will construe future events to be more proximal.

**Matching effect between choice order and temporal focus**

**Effects of construal fits**

Extant research in the CLT literature has demonstrated the matching effect between psychological distance and various individual factors. For example, independent self-view is associated with abstract representation of future events, and individuals thus perceive future events as more distant. On the other hand, dependent self-view is associated with concrete representation of future events, and individuals thus consider those events as more proximal (Spassova & Lee, 2013). Further, it has been determined that the fit between temporal perception and self-view enhances advertisement effectiveness and product appeal. Lee, Keller, and Sternthan (2013) found that promotion-focused individuals tend to construe information more abstractly, whereas prevention-focused individuals tend to construe information more concretely. They demonstrated that the fit between an individual's regulatory focus and construal level has
positive impacts on attitudes, performance, and engagement. Wan and Rucker (2013) argue that high-confidence people are likely to focus on abstract construals, whereas low-confidence people are likely to focus on concrete construals. They also found that the fit between individuals’ confidence level and how information is construed influences information processing.

**Matching effect on attitudes and anticipated satisfaction**

Adding to the existing literature, we propose that a contextual factor – namely, choice order – interacts with construal level and influences consumer behaviors. In particular, the present study argues that the match between choice order and construal level enhances consumer attitudes toward, and satisfaction with their choice. Support for the matching effect from the construal literature would be obtained if those with an assortment-item order exhibit more favorable reactions when they are exposed to the choice task represented in the more distant future, and opposite outcomes occur for those with an item-assortment order. Accordingly, we hypothesize that:

**Hypothesis 3**: Choice order and temporal focus jointly influence individuals’ attitudes and anticipated satisfaction. Choice order moderates the impact of temporal focus of the choice task on individuals’ attitudes and anticipated satisfaction.

**Hypothesis 3a**: Individuals with assortment-option sequence will exhibit more favorable attitudes and anticipated satisfactions when the choice task is for a distant future rather than a proximal future.

**Hypothesis 3b**: Individuals with option-assortment will exhibit more favorable attitudes and anticipated satisfaction when the choice task is for a proximal future rather than a distant future.
In addition, we rely on the assortment literature to argue that the match that consumers experience guides their preferences for set size.

**Matching effect on preference for choice-set size**

Another important objective of this research is to explore the implications of the relationship between the choice order and perceived temporal distance for preference of assortment size. Classic economic theory suggests that when a product assortment (choice set is used interchangeably in this research) is defined as the number of available alternatives in a product category, larger assortments lead to more positive consequences because they better match consumers' preferences (Chernev, 2003a), satisfy consumers' variety-seeking motives (Ratner, Kahn, & Kahneman, 1999), and provide greater flexibility for consumers (Kahn & Lehmann, 1991). However, more recent studies have demonstrated that this is not always the case. Researchers have identified several boundary factors that mitigate the negative consequences of a large assortment. For instance, consumers with an identified preference were more satisfied with their choice when they chose from large assortments than when they chose from smaller assortments (Chernev, 2003a). Consumers did not experience the negative consequences of a large assortment when the options were categorized (Mogilner, Rudnick, & Iyengar, 2008). Also, when options were categorized by attribute (vs. benefit) consumers were happy even when they were choosing from an extensive choice set (Lamberton & Diehl, 2013).

Researchers agree that choosing from a larger assortment is more difficult than choosing from a smaller assortment (Berger & Heath, 2007; Botti & McGill, 2011; Iyengar & Lepper, 2000; Sela, Berger, & Liu, 2009). Choice difficulty even increases as options become harder to trade off and less differentiable (Botti & McGill, 2011). Also, difficult choices lead choosers to
seek justifications (Shafir, Simonson, & Tversky, 1993; Simonson & Nowlis, 2000). Thus, it is reasonable to believe that as long as they have good reasons to justify their choice, choosers would not experience difficulty when choosing from larger assortments and might prefer larger assortments. This study argues that individuals' construal level in a choice task shapes their preferences for choice set size. More specifically, the research posits that the abstract mindset of consumers prompts them to focus on the desirability of the choice task and use it as a justification, whereas the concrete mindset of consumers makes the feasibility of the choice task salient (see Figure 2-2). Prior research on construal level demonstrates that desirability is associated with an abstract and high-level mental construal, whereas feasibility is linked to a concrete and low-level mental construal (Liberman & Trope, 1998; Trope & Liberman, 2010). Specifically, having feasibility as a reason to justify their choice, consumers desire to have as many options as possible to seek variety and/or to match their preferences, and ultimately to make the best choice (Chernev, 2006). As a result, they would prefer to choose from large choice sets. For example, consumers with the abstract mindset would want to choose a restaurant which offers an extensive selection of menu items because they would like to ensure that they will find a choice that will satisfy them at the chosen restaurant. This tendency will be stronger if they want to book a restaurant for an event that will happen in a month because they would prefer an open choice for the future. In contrast, when they focus on feasibility, consumers want to simplify the decision-making process as much as possible and to complete the choice task (Chernev, 2006). Thus, they would prefer to choose from a small set rather than from a large choice set. For example, consumers with the concrete mindset would need to consider a few restaurants that offer only what they want. With the identified menu item of the choice, their main concern is to find a restaurant that is located in a particular neighborhood and is open. Moreover, if they need to find a restaurant soon, the availability of the restaurant at that moment becomes the priority and they simply want to narrow their search.
Compared to utilitarian consumption, hedonic consumption is harder to justify (Kivetz & Simonson, 2002; Sela et al., 2009) because hedonic consumption, such as a pleasant dining experience, are involved with experiential enjoyment, which is hard to quantify and often associated with guilt. The research examines whether the match (vs. mismatch) between the choice order and temporal focus serves as a justification for consumers to focus on either desirability or feasibility of the choice task and shapes their preferences for choice set size. Taken together, we hypothesize that:

**Hypothesis 4:** Choice order moderates the impact of temporal focus of the choice task on preferences for the large choice-set.

**Hypothesis 4a:** When choosing for a distant future, individuals choosing an assortment first will have stronger preferences for the large choice-set than those choosing an option first.

**Hypothesis 4b:** When choosing for a proximal future, individuals choosing an option first will have weaker preferences for the large choice-set than those choosing an assortment first.

Furthermore, the research examines consumers’ satisfaction with their chosen choice set to confirm the robustness of the matching effect. If consumers choose a choice set size in situations where the temporal frame of the choice matches (vs. mismatches) their first choice, we expect that their anticipated satisfaction is increased.
Overall, Figure 2-3 shows the conceptual model and research hypotheses. This research presents one Pilot Study and three experiments to examine theses hypotheses. First, the Pilot Study examined the relationship between choice order and construal level. Study 1 tested the relationship between choice order and temporal focus, and demonstrates the robustness of the choice order manipulation. In Study 2 the positive consequences of a match between choice order and temporal perspectives of the choice task were investigated. Study 3 provided the evidence that choice order influences the preferences for choice set size and satisfaction with the chosen choice sets.
Figure 2-3. Conceptual model and hypotheses
Chapter 3

Methodology

We tested our hypotheses across the Pilot Study and three experiments by methodologically examining the underlying psychological mechanisms on the effects of choice order in a restaurant setting. In the Pilot Study we provided evidence that choice order and individuals’ construal levels are associated. Study 1 examined the relationship between choice order and temporal construal. In Study 2 we investigated the matching effect between choice order and temporal focus on attitudes and anticipated satisfaction. Finally, in Study 3, we tested the consequences of the matching effect on individuals’ preferences for choice set sizes.

Pilot Study: Choice order and construal level

The purpose of the Pilot to examine whether individuals in an assortment-option sequence construe the choice task in more abstract terms than their counterparts in an option-assortment sequence. Choice order was manipulated by having participants make choices in the order of a condition assigned to them. Participants' tendencies to construe information at a high versus low level were measured using the 25-item BIF (Vallacher & Wegner, 1989).

Participants and procedures

A total of 60 participants (30 males and 30 females, mostly between the ages of 26 and 34) were recruited from Amazon Mechanical Turk (MTurk). We posted a link to the questionnaire on the MTurk page. Upon clicking the link, participants were randomly assigned to
one of two choice order conditions. After completing the questionnaire, participants were instructed to return to the MTurk page to enter their unique code.

MTurk is known for providing quick, easy, and inexpensive access to online research (Goodman, Cryder, & Cheema, 2013). Rand (2012) demonstrated that MTurk participants provide accurate self-reported demographic responses by comparing the consistency of a range of demographic variables reported by the same subjects across two different studies. Researchers from various fields of study have shown that the results of experiments on behavioral economics and decision-making (Paolacci, Chandler, & Ipeirotis, 2010) have been successfully replicated with MTurk samples (Horton, Rand, & Zeckhauser, 2011). Therefore, we used MTurk to collect data throughout the experiments employed in this research.

Hair, Black, Babin, and Anderson (2010) suggest that experimental studies should have a minimum of 30 participants in each cell. Because there are two cells in the study, we recruited 60 participants who were evenly distributed to the two conditions. To manipulate the choice sequence, participants were asked to make two choices, one for a restaurant and another for a menu item. All participants were then asked to complete the 25-item BIF questionnaire (Vallacher & Wegner, 1989).

**Choice order manipulation**

Participants were asked to imagine that they were going to dine out. They were told that they would be making several choices regarding their dining experience. Participants were first presented with a list of six restaurants and then given a list of eight menu items (see Appendix A). The list of menu items was adopted from Goodman and Malkoc (2012).

Participants in the assortment-option (restaurant-menu item) condition began by choosing their preferred restaurant from the list of six restaurants. They were then directed to review a list
of eight menu items offered by their chosen restaurant. After clicking on their restaurant choice, they were asked to write down the name of the restaurant in order to boost their involvement in the process.

The task order was reversed in the option-assortment (menu item-restaurant) condition. Accordingly, participants were shown the list of eight menu items, then asked to choose one item. Then, they chose a restaurant which offered their chosen menu item.

**Dependent variable**

The BIF questionnaire (Vallacher & Wegner, 1989) is composed of 25 dichotomized items in which respondents were asked to select the alternative that best reflects how they think about certain actions (see Appendix A). For example, they were asked to consider the activity, “reading,” and to indicate whether they think of it as a high-level construal (e.g., gaining knowledge) action or as a low-level construal (e.g., following lines of print) action. Their responses to each of the 25 items were coded 1 (high-level construal) or 0 (low-level construal) and then summed to form a BIF index. The highest possible score for a participant’s BIF index is 25 and the lowest is 0. Higher scores indicate a tendency to construe behaviors at a more abstract level.

The BIF has been widely used as a reliable indicator of individuals’ construal level (e.g., Alter, Oppenheimer, & Zemla, 2010; Critcher & Ferguson, 2011; Fujita, 2008; Fujita, Trope, Liberman, & Levin-Sagi, 2006; Hansen, Kutzner, & Wänke, 2013; Krüger, Fiedler, Koch, & Alves, 2013; Lee, Deng, Unnava, & Fujita, 2014; Lermer, Streicher, Sachs, Raue, & Frey, 2015; Maeng & Tanner, 2013; Trope, Liberman, & Wakslak, 2007; Tsai & McGill, 2011; van Der Weiden, Aarts, & Ruys, 2010; Wan & Rucker, 2013; Yoon & Kim, 2016). For example, Spassova and Lee (2013) demonstrated the relationship between self-view and construal level by
having participants respond on the BIF questionnaire. They reported that participants with an independent self-view had higher BIF scores than those with a more interdependent self-view. Similarly, Lee et al. (2010) showed the effect of regulatory focus on the BIF questionnaire.

Results and discussion

We hypothesized that the assortment-option (restaurant-menu item) order is associated with a higher level of construal than the option-assortment (menu item-restaurant) order. To compare the mean differences between the two conditions, a one-way ANOVA was conducted. The ANOVA results on the BIF scores revealed a main effect of choice order (F=5.301, p=0.025). Participants assigned to the assortment-option (restaurant-menu item) sequence (M=18.20, SD=5.04) had higher BIF scores than their counterparts in the option-assortment (menu item-restaurant) condition (M =14.80, SD =6.28). These results indicate that participants in the assortment-option (restaurant-menu item) sequence construed the choice task in more abstract or high-level terms, providing support for Hypothesis 1.

The results from the Pilot Study demonstrate that choice order is associated with different construal levels. Hence, in the next experiment, we manipulated choice order and examined its impact on participants' temporal focus. We also extended the current findings by measuring the effects of choice order on unrelated future behaviors.
Study 1: Choice order and temporal focus

The objective of Study 1 was to provide evidence for the effect of choice sequence on people's temporal construal of future behaviors. Participants were first asked to list activities in which they plan to engage in the future, then they were asked to go through the choice task for the dining experience used in the pretest. Following these steps they were asked to report when they plan to engage in each of the activities. This method was used by Spassova and Lee (2013), who tested the association between self-view and temporal construal. The sequence (i.e., list-making choice manipulation) they used ensured that choice order manipulation does not influence the activities listed.

Participants and procedures

We sampled a total of 123 participants (62 males and 61 females, mostly between the ages of 26 and 34) using Amazon MTurk. We doubled the number of participants to secure a sufficient number for a survey involving a writing task and because web-based research has been found to have larger dropout rates than laboratory surveys (Birnbaum, 2004).

Participants were randomly assigned to one of two choice order conditions \( n_{assortment\ first} = 62, \ n_{option\ first} = 61 \). They were then asked to (a) list three future activities in which they plan to engage, and (b) answer the questions for choice order manipulation according to their assigned conditions. After the choice order manipulation, the three activities they listed were shown to them. Participants were asked to indicate when they plan to engage in those activities, i.e., in the next few days, weeks, or months (Appendix B).
Results

Participants listed a wide range of activities, from everyday life activities ("eating," "sleeping," "going to work") to once-in-a-life time activities ("graduation," "retirement," "house construction"). All reported time estimates were measured in days and log-transformed prior to analysis. Following Spassova and Lee’s (2013) approach to data analysis, a one-way ANOVA was conducted on the average time estimates across the three activities, and three one-way ANOVAs were conducted on the time estimates for each of the three activities. The one-way ANOVA examining the effect of choice sequence on the time estimates showed a significant effect for choice sequence ($F (1, 121) = 4.406, p < 0.05$). Participants who were assigned to the assortment (restaurant) first condition ($M = 0.78$) showed greater time estimates than those assigned to the option (menu item) first condition ($M = 0.57$). Furthermore, the results of the three separate ANOVAs on the time estimates for each of the three activities revealed that choice order has a significant effect on participants' time estimates for activity 2 ($M_{assortment\ first} = 0.82$ vs. $M_{option\ first} = 0.64$; $F (1, 121) = 2.97, p = 0.08$) and activity 3 ($M_{assortment\ first} = 0.81$ vs. $M_{option\ first} = 0.53$; $F (1, 121) = 5.51, p = 0.02$). However, choice order did not influence the estimated time of activity 1 ($M_{assortment\ first} = 0.70$ vs. $M_{option\ first} = 0.56$; $F (1, 121) = 2.24$). Although the mean difference was not statistically significant, the pattern was consistent with the expected results.

Discussion

The results from Study 1 show that the choice order priming manipulation influenced participants' perceived temporal distance to the enactment of unrelated future activities. As hypothesized, participants who first chose the restaurant, then the menu item, reported that they
would perform the activities later than who first chose the menu item, then the restaurant. Taken together, the results from the Pilot Study and Study 1 support the hypothesized relationships of construal level, choice order, and temporal focus.

In the next experiment, we examined the matching effect between choice order and temporal focus.
Study 2: Matching effect on attitudes and anticipated satisfaction

Two objectives guided the design of Study 2. The first objective was to test and further develop the matching effect between choice order and temporal construal. The second objective was to examine the impact of the matching effect on attitude and satisfaction. Choice order was manipulated by using the same procedures employed in the Pilot Study and Study 1. Temporal distance was manipulated by varying whether the choice is for a distant future (i.e., in two months) or a proximal future (i.e., in two days).

Participants and procedures

A total of 173 participants (70 males and 103 females, mostly between the ages of 26 and 34) were recruited from Amazon MTurk to be assigned to a 2 (choice order: restaurant first vs. menu item first) × 2 (temporal focus: distant future vs. proximal future) between-subject experimental design. In this experiment, there were two factors (choice order and temporal focus) and each factor had two levels, thus generating four cells. Because each cell requires at least 30 respondents (Hair et al., 2010), the experiment had to include a minimum of 120 participants to be sufficient for future analysis.

Participants were randomly assigned to one of the two choice order conditions and one of the two temporal construal conditions. Cell counts for each condition are shown in Table 3-1.
Table 3-1. The number of participants in each cell

<table>
<thead>
<tr>
<th></th>
<th>Distant Future</th>
<th>Proximal Future</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assortment (restaurant) first</td>
<td>45</td>
<td>39</td>
<td>84</td>
</tr>
<tr>
<td>Option (menu item) first</td>
<td>41</td>
<td>48</td>
<td>89</td>
</tr>
<tr>
<td>Total</td>
<td>86</td>
<td>87</td>
<td>173</td>
</tr>
</tbody>
</table>

Participants were first asked to imagine that they would be making a couple of choices for dinner in two days (vs. in two months), depending on their assigned conditions. Then, they proceeded to the choice order manipulation used in the Pilot Study and Study 1. Finally, they were asked to review and evaluate (Karmarkar & Tormala, 2010) their chosen menu item using a three-item, 9-point scale (1=negative, bad, unfavorable; 9=positive, good, favorable; Cronbach’s alpha = .93). Anticipated satisfaction was measured by having respondents indicate their level of agreement (1= strongly disagree; 9=strongly agree) with the following questions (Botti & McGill, 2011): "How much do you think you would like and enjoy the dish?"; "How satisfied do you think you would be with the dish?"; "How confident are you that you would like the dish?"; and "How good do you think you would feel about the dish?" (Cronbach’s alpha = .95).

Results

Two 2 (choice order: restaurant first vs. menu item first) × 2 (temporal construal: distant future vs. proximal future) ANOVAs were conducted to examine the matching effect on both attitude toward menu item and anticipated satisfaction. ANOVA results are presented in
Table 3-2 and
Table 3-3, and visually represented in Figure 3-1 and Figure 3-2. The interaction effect on attitude toward the menu item was significant ($F(1, 169) = 14.24, p<0.01$). Similarly, there was a significant interaction between choice order and temporal construal on anticipated satisfaction with the menu item ($F(1, 169) = 15.21, p<0.01$). Furthermore, planned contrasts revealed that participants in the option (menu item) first condition reported higher levels of attitude ($M_{\text{proximal}} = 8.17, M_{\text{distant}} = 7.27, F = 10.43, p = 0.01$) and anticipated satisfaction ($M_{\text{proximal}} = 8.20, M_{\text{distant}} = 7.07, F = 16.07, p < 0.01$) when the temporal focus was proximal as opposed to distant, thus supporting Hypothesis 3(b). Conversely, participants in the assortment (restaurant) first condition exhibited more favorable attitudes when the temporal focus was distant ($M_{\text{proximal}} = 7.35, M_{\text{distant}} = 7.96, F = 4.51, p = 0.04$). However, participants anticipated satisfaction with their chosen menu item was not statistically different ($M_{\text{proximal}} = 8.20, M_{\text{distant}} = 7.07, F = 2.38, p = N.S.$). Therefore, Hypothesis 3(b) was partially supported.

In sum, participants who chose the menu item first exhibited more favorable attitudes and higher levels of satisfaction when the choice was for the proximal future (i.e., a dinner in two days) than when the choice was for the distant future (i.e., a dinner in two months). In contrast, participants who chose the restaurant first showed more favorable attitudes toward the chosen menu item when the choice was for the distant future rather than the proximal future. However, they showed statistically equal levels of anticipated satisfaction regardless of the temporal focus of the choice task.
Table 3-2. ANOVA results on attitude

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected model</td>
<td>26.225</td>
<td>3</td>
<td>8.742</td>
<td>5.031</td>
<td>0.002</td>
<td>0.82</td>
</tr>
<tr>
<td>Intercept</td>
<td>10161.353</td>
<td>1</td>
<td>10161.353</td>
<td>5848.211</td>
<td>&lt;0.001</td>
<td>0.972</td>
</tr>
<tr>
<td>Choice order</td>
<td>0.177</td>
<td>1</td>
<td>0.177</td>
<td>0.102</td>
<td>0.750</td>
<td>0.001</td>
</tr>
<tr>
<td>Temporal focus</td>
<td>0.921</td>
<td>1</td>
<td>0.921</td>
<td>0.530</td>
<td>0.468</td>
<td>0.003</td>
</tr>
<tr>
<td>Interaction</td>
<td>24.750</td>
<td>1</td>
<td>24.750</td>
<td>14.244</td>
<td>&lt;0.001</td>
<td>0.078</td>
</tr>
<tr>
<td>Error</td>
<td>169</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>173</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R squared = 0.082 (Adjusted R squared = 0.066)

Figure 3-1. The interaction effect of choice order and temporal focus on attitude
### Table 3-3. ANOVA results on anticipated satisfaction

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected model</td>
<td>32.802</td>
<td>3</td>
<td>10.934</td>
<td>6.155</td>
<td>0.001</td>
<td>0.098</td>
</tr>
<tr>
<td>Intercept</td>
<td>10084.705</td>
<td>1</td>
<td>10084.705</td>
<td>5676.953</td>
<td>&lt;0.001</td>
<td>0.971</td>
</tr>
<tr>
<td>Choice order</td>
<td>0.121</td>
<td>1</td>
<td>0.121</td>
<td>0.068</td>
<td>0.794</td>
<td>0.000</td>
</tr>
<tr>
<td>Temporal focus</td>
<td>5.067</td>
<td>1</td>
<td>5.067</td>
<td>2.852</td>
<td>0.093</td>
<td>0.017</td>
</tr>
<tr>
<td>Interaction</td>
<td>27.019</td>
<td>1</td>
<td>27.019</td>
<td>15.210</td>
<td>&lt;0.001</td>
<td>0.083</td>
</tr>
<tr>
<td>Error</td>
<td></td>
<td>169</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>173</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R squared = 0.098 (Adjusted R squared = 0.082)

---

**Figure 3-2.** The interaction effect of choice order and temporal focus on anticipated satisfaction
Discussion

The results from Study 2 offer additional support for the hypothesized relationship between choice order and temporal construal (Hypothesis 2) and provide initial evidence for a matching effect (i.e., assortment-first order matches distant temporal focus, whereas option-first order matches proximal temporal focus) on attitude and anticipated satisfaction. Individuals who chose the restaurant first clearly showed more favorable attitudes and higher levels of anticipated satisfaction when they were exposed to a distant future-framed choice task as opposed to a proximal future-framed choice task, thus providing clear support for the matching effect. However, the results related to the assortment-option (restaurant-menu item) sequence provided equivocal support for the matching effect. In Study 3, we extend the matching effect to consumers’ preferences for choice set sizes.
Study 3: Matching effect on choice-set size preference

The primary objective of Study 3 was to examine the robustness of the matching effect between choice order and temporal focus on consumers’ preferences for subsequent choice set sizes and their anticipated satisfaction with the chosen choice set. We hypothesized that consumers who are in a distant future condition will show an increased preference for a large choice set when choosing an assortment (vs. an option) first. In contrast, when the choice is for a proximal future, we expect that consumers will be less attracted to a large choice set when choosing an option (vs. an assortment) first. In addition, we hypothesized that anticipated satisfaction will be enhanced when the choice order matches (vs. mismatches) the temporal focus.

To test these predictions, participants viewed two lists of restaurants or two lists of menu items, then they were asked to choose one list for further search. Note that the choice set size can be either for assortments (i.e., the number of restaurants) or for options (i.e., the number of menu items), depending on the decision sequence. We kept the size of the choice sets constant: eight vs. sixteen restaurants and eight vs. sixteen menu items.

Participants and Procedures

A total of 133 participants were recruited from Amazon MTurk. They were assigned to the conditions of a 2 (choice order: assortment first vs. option first) × 2 (temporal distance: distant vs. proximal) between-subjects factorial design. Choice order and temporal distance were manipulated by having individuals read the following stories. In the assortment (restaurant)-first condition, participants read:

*You are traveling to City X this weekend (in two months). You want to try a local restaurant in the area. Having that in mind, you want to find a restaurant and*
make a reservation ahead of time. You find that there are two restaurants known for high-quality local ingredients.

After reading the scenario, participants were directed to view two sets of menus (i.e., menus for two restaurants) and were asked to choose their preferred menu. One of the restaurants offered eight menu items, while the other offered sixteen items.

In the option (menu item)-first condition, participants were directed to read:

You are traveling to City X this weekend (in two months). You know that City X is known for pulled pork – a menu item that you always wanted to try. Having that in mind, you want to find an excellent pulled pork place and make a reservation ahead of time. While browsing the web you find two lists recommending the best pulled pork restaurants in City X.

Participants

Participants were then asked to view two lists of restaurants and choose one list to guide their decision regarding which restaurant to choose. One of the lists showed the eight best pulled pork restaurants, while the other showed the sixteen best pulled pork restaurants.

Anticipated satisfaction with their choice was measured as a dependent variable. Participants were asked to indicate their agreement (1= strongly disagree; 9= strongly agree) with the following questions (Botti & McGill, 2011): "How much do you think you would like and enjoy the dish?"; "How satisfied do you think you would be with the dish?"; "How confident are you that you would like the dish?"; and "How good do you think you would feel about the dish?" (Cronbach’s alpha = .95).

In addition, processing fluency was included as a covariate. CLT researchers suggest that processing fluency influences the matching effect (Labroo & Lee, 2006; A. Y. Lee & Aaker,
2004; A. Y. Lee, Keller, & Sternthal, 2010). They have demonstrated that fluent processing induces more extreme outcomes of construal matching effects. Processing fluency was measured using two items adopted from Lee, Keller, and Sternthal (2010): “It was easy to process” and “It was difficult to understand” (Cronbach’s alpha = .78).

**Stimuli**

Choice set size was varied by the number of options in the choice set (see Appendix D). Consistent with prior literature (Chernev, 2003b; Iyengar & Lepper, 2000), we used six options for small choice sets and sixteen for large assortments.

Each participant viewed either two choice sets for restaurants (assortment-first condition) or two choice sets for menu items (option-first condition). The lists of restaurants included the names and a short description of each restaurant. Similarly, the lists of menu items provided the name of the menu items offered at each restaurant along with a short description. All the options in the small choice sets were also available in the large assortment sets.

**Results**

*Likelihood of choosing a large choice set*

We hypothesized that temporal focus and choice order jointly influence the likelihood of selecting a large choice set. Specifically, we hypothesized that choosing an assortment (restaurant) first for a distant task makes large choice sets attractive. Conversely, choosing an option (menu item) first for a proximal task increases the preference for a large choice set. Overall, there were 133 observations: 71 in the assortment (restaurant)-first condition and 62 in
the option (menu item)-first condition. The number of participants assigned to each cell is shown in Table 3-4.

Table 3-4. The number of participants in each cell

<table>
<thead>
<tr>
<th></th>
<th>Distant Future</th>
<th>Proximal Future</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assortment (restaurant) first</td>
<td>37</td>
<td>34</td>
<td>71</td>
</tr>
<tr>
<td>Option (menu item) first</td>
<td>30</td>
<td>32</td>
<td>62</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>66</td>
<td>133</td>
</tr>
</tbody>
</table>

Overall, participants showed a greater preference for the large choice set (n=88 of 133; 66.2%) than for the small choice set (n=45 of 133; 66.2%). A summary of the likelihood of selecting the large choice sets as a function of choice order and temporal focus is presented in Table 3-5 and Figure 3-3.

Table 3-5. Choice of the large choice set by conditions

<table>
<thead>
<tr>
<th></th>
<th>Distant Future</th>
<th>Proximal Future</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assortment (restaurant) first</td>
<td>32 (86%)</td>
<td>26 (76%)</td>
<td>58 (82%)</td>
</tr>
<tr>
<td>Option (menu item) first</td>
<td>12 (40%)</td>
<td>18 (56%)</td>
<td>30 (48%)</td>
</tr>
<tr>
<td>Total</td>
<td>44 (66%)</td>
<td>44 (67%)</td>
<td>88 (66%)</td>
</tr>
</tbody>
</table>

A logistic regression model with choice order, temporal focus, and their interaction as the predictor variables was conducted to further examine consumers’ propensity to choose a large choice-set (see Table 3-6). Our results showed that temporal focus did not produce a main effect ($\beta = -0.657$, Wald $\chi^2 (1) =1.622$, N.S.), and choice order produced a marginally significant main
effect ($\beta = 0.927$, Wald $\chi^2 (1) = 2.961, p = 0.08$), indicating that participants were marginally more likely to choose the large choice set when they chose the assortment first. In particular, choice order had a positive sign on the original logistic coefficient. As the value of choice order increased, the predicted probability increased, thus increasing the likelihood of choosing a large choice set. The exponentiated coefficients indicated that an increase in the odds by one point increased choice order by 153%.

Table 3-6. Logistic regression results

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Expo(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice order</td>
<td>0.927</td>
<td>0.539</td>
<td>2.961</td>
<td>1</td>
<td>0.085</td>
<td>2.528</td>
</tr>
<tr>
<td>Temporal focus</td>
<td>-0.657</td>
<td>0.516</td>
<td>1.622</td>
<td>1</td>
<td>0.203</td>
<td>0.519</td>
</tr>
<tr>
<td>Interaction</td>
<td>1.334</td>
<td>0.813</td>
<td>2.696</td>
<td>1</td>
<td>0.101</td>
<td>3.798</td>
</tr>
<tr>
<td>Constant</td>
<td>0.251</td>
<td>0.356</td>
<td>0.497</td>
<td>1</td>
<td>0.481</td>
<td>1.286</td>
</tr>
</tbody>
</table>

Further, a marginally significant two-way interaction confirmed the predictions ($\beta = 1.334$, Wald $\chi^2 (1) = 2.696, p = 0.10$), which supported Hypothesis 4. The interaction term had a positive sign of the original logistic coefficient. As the value of interaction increased, the predicted probability increased, thus increasing the likelihood of choosing a large choice set. The exponentiated coefficient indicated that an increase in the odds by one point increased the interaction by 279%. The impact is large because the constant term (0.251) defines a starting point of almost zero for the probability values. Thus, large increases in the odds are needed to reach larger probability values (Hair et al., 2010).

The data showed that in the assortment (restaurant)-first condition, participants did not show different levels of preferences for large assortment between those who made a choice for a
distant future (86%) and those who chose an option (menu item) first (76%; \( \beta = 1.678 \), Wald \( \chi^2(1) = 1.163 \), N.S.), as presented in Figure 3-3. Similarly, when participants chose an option (menu item) first, no difference was found between those who were choosing for a distant future (40%) and those who were choosing for a proximal future (56%; \( \beta = -0.657 \), Wald \( \chi^2(1) = 1.622 \), N.S.). Therefore, both Hypothesis 4a and Hypothesis 4b were not supported.

![Figure 3-3. Choice of the large assortment as a function of choice order and temporal focus](image)

To further investigate the marginally significant main effect of choice order, we examined the effect choice order for each temporal focus condition on likelihood of choosing a large choice set. Slicing by temporal focus enabled a comparison of the effect of choice order for each level of temporal focus. The results are depicted in Figure 3-4. In the proximal future condition, participants who chose the assortment (restaurant) first were more likely to choose the large choice set (76%) than those who chose the option (menu item) first (56%; \( \beta = 0.927 \), Wald \( \chi^2(1) = 2.961, p=0.09 \)). When the choice task was framed as being in the distant future, the effect was more salient. Participants who chose the assortment (restaurant) first were more likely to
choose the large choice set (86%) than those who chose the option (menu item) first (40%; $\beta = 2.262$, Wald $\chi^2 (1) = 13.821, p<0.01$).

![Choice of the large choice-set as a function of choice order and temporal focus](image)

Figure 3-4. Choice of the large assortment as a function of choice order and temporal focus

### Anticipated satisfaction with the chosen choice set

Next, the matching effect on participants’ anticipated satisfaction with the choice set was investigated. A 2 (choice order) × 2 (temporal construal) ANCOVA was conducted to examine the matching effect on anticipated satisfaction (Table 3-7). Processing fluency was included as a covariate. A significant interaction effect on anticipated satisfaction was observed ($F (1, 128) = 7.59, p<0.01$). This interaction is visualized in Figure 3-5. Planned contrasts revealed that participants in the option (menu item) first condition reported higher levels of anticipated satisfaction when the temporal focus was proximal ($M_{\text{proximal}} = 8.11$) as opposed to distant ($M_{\text{distant}} = 7.56, F = 6.51, p = 0.01$). For participants in the assortment (restaurant) first condition, the difference in the level of anticipated satisfaction was directionally opposite to the
one observed for participants in the option (menu item) first condition, and was not significant

\( M_{\text{distant}} = 7.68, \ M_{\text{proximal}} = 7.39, F = 1.71, N.S. \). These results partially supported

Hypothesis 5.

Table 3-7. ANCOVA results on anticipated satisfaction

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected model</td>
<td>24.274</td>
<td>4</td>
<td>6.069</td>
<td>7.400</td>
<td>&lt;0.001</td>
<td>0.188</td>
</tr>
<tr>
<td>Intercept</td>
<td>141.071</td>
<td>1</td>
<td>141.071</td>
<td>172.014</td>
<td>&lt;0.001</td>
<td>0.573</td>
</tr>
<tr>
<td>Choice order</td>
<td>2.654</td>
<td>1</td>
<td>2.654</td>
<td>3.237</td>
<td>0.074</td>
<td>0.025</td>
</tr>
<tr>
<td>Temporal focus</td>
<td>0.776</td>
<td>1</td>
<td>0.776</td>
<td>0.947</td>
<td>0.332</td>
<td>0.007</td>
</tr>
<tr>
<td>Interaction</td>
<td>6.228</td>
<td>1</td>
<td>6.228</td>
<td>7.594</td>
<td>0.007</td>
<td>0.056</td>
</tr>
<tr>
<td>Processing fluency</td>
<td>17.521</td>
<td>1</td>
<td>17.521</td>
<td>21.364</td>
<td>&lt;0.001</td>
<td>0.143</td>
</tr>
<tr>
<td>Error</td>
<td></td>
<td>128</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>133</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R squared = 0.188 (Adjusted R squared = 0.162)
Figure 3-5. The interaction effect of choice order and temporal focus on anticipated satisfaction

Discussion

Study 3 demonstrated that choice order influenced consumers’ desire for large choice sets and provided further support for the matching effect. Supporting Hypothesis 4, the results indicated that priming the distant temporal perspective of the choice task increased the appeal of large choice sets when consumers chose an assortment (restaurant) first. When priming the proximal temporal perspective of the choice task, the preference for large choice sets diminished when consumers chose an option (menu item) first. By having participants choose a preferred choice set size, Study 3 provided additional evidence for the matching effect.

The results of Study 3 are particularly important because they identify a key boundary condition for the well-established finding that increasing psychological distance increases preference for large choice sets (Chernev, 2006; Goodman & Malkoc, 2012). This indicates that choice order is a key moderator in our understanding of how psychological distance influences consumers’ decision-making processes. An assortment-first choice order enhances the attractiveness of large choice sets when the choice is for a distant future. This occurs because
such a choice order activates an abstract mindset. In contrast, an option-first choice order increases the appeal of small choice sets when the choice is for a proximal future. In other words, an option-assortment sequence activates a concrete mindset. Furthermore, consumers’ anticipated satisfaction with their selected choice set was enhanced when the choice order matched the temporal focus of the choice task.
Chapter 4

General Discussion

This research examined how choice order influences consumer responses. Prior research shows that how people construe events or objects is driven by psychological distance. Adding to the existing literature, the present research demonstrated that the order of sequential choices influences not only temporal construal but also consumers’ attitude and anticipated satisfaction with their chosen option. Choosing an assortment first tends to increase consumers' construal level, consequently leading to a distant temporal focus when making a choice. We argue that choosing an assortment first (vs. option first) induces temporal focus on the distant future (vs. proximal future), thus leading consumers to experience the matching effect, which in turn enhances their attitudes and anticipated satisfaction.

The present research employed one Pilot Study and three main experiments to examine the underlying psychological mechanisms on the effects of choice order in a restaurant setting. More specifically, this research identified choice order as a contextual factor that influences consumers' construal level. Based on the assortment, construal level, and choice literature, we hypothesized that consumers adopt an abstract vs. concrete mindset, depending on the sequence of choices (assortment-option sequence vs. option-assortment sequence). The study findings showed that individuals’ temporal perspective is influenced by the order sequence. While people choosing an assortment first tend to think of future choice tasks in more abstract terms, those choosing an option first tend to think of future choice tasks in more concrete terms. This difference in construal level gives rise to different temporal perspectives. Across the four studies, this research demonstrated the robust relationship between choice order, construal level, and temporal focus, on consumer responses. When the temporal focus of a choice task (distant future vs. proximal future) matches the choice order (assortment first vs. option first), consumers’
attitudes and anticipated satisfaction with their choice are enhanced. Further, this research demonstrates that the matching effects influence assortment size preferences.

The Pilot Study tested the overarching hypothesis that choice order and consumers' construal level are associated, and established the effect of the choice order manipulation. The results supported the hypothesis that the assortment-first sequence is related to a higher level of construal, whereas the option-first sequence is associated with a lower level of construal. The findings demonstrated that individuals exposed to an assortment-first sequence tend to construe actions at a higher, more abstract level than those exposed to the option-first sequence.

The objective of Study 1 was to test the effect of choice order on individuals' temporal construal of future behaviors. The results showed that participants who were asked to choose a restaurant first construed planned behaviors as happening in the more distant future than those who chose a menu item first. These findings support the hypothesized relationship that an assortment-option sequence is associated with a more distant temporal perspective, whereas an option-assortment sequence is associated with a more proximal temporal perspective. This finding is consistent with prior research showing the reciprocal nature of the relationship between construal level and psychological distance (Trope & Liberman, 2010; Yan, 2014), particularly, the relationship between construal level and temporal distance (Kyung et al., 2010; Liberman, Trope, McCrea, et al., 2007; Spassova & Lee, 2013). Consequently, the results from Study 1 provided further support for the reciprocal link between construal level and temporal distance. The results also suggested that the two different sequences of choice tasks lead to different temporal focus.

Study 2 extended these findings to investigate the matching effect. It showed that a match (vs. mismatch) between choice order and temporal focus leads to more favorable consumer responses such as attitudes and anticipated satisfaction. These findings offered additional support for the established effect of choice order manipulation shown in the Pilot Study, and provided
evidence for the matching effect on attitudes and anticipated satisfaction. The results indicated a significant interaction effect between choice order and temporal focus of the choice task. More specifically, the assortment-option sequence led individuals to develop more favorable attitudes and higher levels of anticipated satisfaction with their chosen item when the choice task was framed as being in the more distant future (vs. proximal future). Conversely, the option-assortment sequence resulted in more favorable attitudes and anticipated satisfaction when the choice task was framed as being in the more proximal future (vs. distant future). The findings of Study 2 were consistent with prior literature demonstrating the matching effects between psychological distance and various factors, including self-view (Spassova & Lee, 2013), regulatory focus (A. Y. Lee et al., 2010), and confidence level (Wan & Rucker, 2013).

We further proposed that the matching effect influences consumers’ preferences for subsequent choice set size. As expected, the assortment-first choice order increased consumers’ preferences for large choice sets. When choosing for a proximal future, participants were more likely to choose a large choice set when they chose an assortment first. When choosing for a distant future, this effect was more salient. More importantly, when the choice order and temporal perspective matched, participants showed enhanced anticipated satisfaction. These results provided converging evidence for the proposed correspondence between choice order and temporal focus.
Theoretical implications

The present research provides theoretical contributions to three streams of literature: choice, construal level, and assortment. This research contributes to the literature on construal level and psychological distance by demonstrating that choice order can influence whether consumers adopt an abstract or concrete mindset. Previous research has identified many dimensions of psychological distance such as spatial distance (Fujita et al., 2006), temporal distance (Liberman & Trope, 1998; Spassova & Lee, 2013), social distance (Liviatan et al., 2008), probability (Wakslak et al., 2006), and hypotheticality (Liberman & Förster, 2009). Trope and Liberman (2010) urged investigating more dimensions that have not yet been studied. To that end, this research shows that choice order is a contextual factor influencing construal level. Specifically, we demonstrate that ordering choices in a sequential choice task has important implications for how consumers construe the choice and how they perceive the choice in time, as well as for how they respond to the chosen option that matches their construal level and temporal perspective.

The study’s findings also contribute to the choice literature. While most previous research has focused on choosing from an assortment and choosing among assortments (Chernev, 2011), our findings take these insights a step further by identifying an unexplored area of consumers’ decision-making process: the order of choices in a sequential choice task. Consumers often get to decide whether to choose an assortment (e.g., retailer, restaurant) first or to choose a specific item (e.g., a product, a menu item) first. Consumers are faced with these situations partly because of time constraints or their perception of time. In situations in which a purchase needs to be made soon (i.e., proximate decision making), consumers might want to skip the assortment-screening phase and just look for an assortment that offers an option they already have in mind. For example, if a women needs a pair of pantyhose on way to work, she would not consider going
to the mall, even it has better quality products at better prices. Having a clear idea of what to buy provides concrete justification to simplify the choice, and leads consumers to adopt a low-level construal when facing a sequential choice task. To the best of our knowledge, this is the first study that connects two important constructs in consumer choices: choice order and temporal focus. The findings of the present research suggest that matching a choice order and temporal focus enhances anticipated satisfaction with the chosen choice set.

Finally, the current study makes a theoretical contribution to the assortment literature by identifying choice order and temporal focus as factors that jointly influence consumers’ preferences for large choice sets. In the assortment literature, it is well documented that consumers prefer choosing from large choice sets (Broniarczyk, 2008; Chernev, 2003a; Kahn & Lehmann, 1991; Ratner et al., 1999). However, recent research has identified several boundary conditions for such effects. For example, Chernev (2006) found that when consumers focus on the difficulty of choosing from the assortment, their preference for a large assortment declines. Also, consumers have a weaker preference for large choice sets when making less risky decisions than more risky decisions (Boyd & Bahn, 2009). Adding to the literature, the results of the present research provide evidence that consumers prefer large choice sets when choosing an assortment first for a distant future. Moreover, this study lends support to research on choice overload effect (Berger, Draganska, & Simonson, 2007; Botti & Iyengar, 2006; Chernev, Böckenholt, & Goodman, 2015; Dhar, 1997; Iyengar & Lepper, 2000) by demonstrating that consumers are less attracted to large choice sets when they choose an option first and the choice task is framed within a proximate-future focus.
Practical implications

The effects of choice order have several practical implications. First, this research demonstrates the importance of understanding what consumers’ *first choice* is. The findings demonstrate that restaurant managers and marketers should consider consumers’ search stage and develop advertising strategies accordingly. When dining out, consumers often choose a restaurant first, based on various attributes such as location, price, and online reviews. Then, they choose a menu item offered by the chosen restaurant. The present study sheds light into situations in which the choice order is reversed. For example, tourists who want to try a Philly cheesesteak sandwich on their trip to Philadelphia look for a restaurant that has the best Philly cheesesteak sandwich in town. In other words, they are involved in an option-first choice sequence. The findings of this study show the effect of choice order on consumers’ responses such as attitudes and anticipated satisfaction with the chosen option. Therefore, hospitality marketers should pay attention to whether consumers want to choose a restaurant first or look for a restaurant that offers a particular menu item. Such information is easily accessible on online platforms such as Yelp and TripAdvisor. Because these websites allow consumers to type in keywords for their searches, hospitality marketers should utilize this information to develop marketing strategies. For example, different search results should be displayed for consumers who type in “best restaurant” vs. “Philly cheesesteak sandwich.” To attract consumers who type “best restaurant,” marketers should advertise messages that highlight the name of a restaurant, not a specific menu item offered at the restaurant. On the other hand, an advertising message that promotes a specific menu item (e.g., Philly cheesesteak sandwich) should attract consumers who type “Philly cheesesteak sandwich.”

Second, restaurant managers should understand that consumers experience the matching effect when choice order and temporal focus match. The findings show that if consumers choose
a restaurant to visit, it is highly likely that they will visit the restaurant later (vs. sooner). In contrast, if consumers decide to have a specific menu item, they tend to find a restaurant which offers the menu item and visit sooner (vs. later). In other words, if consumers want to make a dinner appointment, they are more likely to first choose a restaurant to go to than to first select a menu item they would like to try. Therefore, we suggest that restaurant managers should try to meet the needs of their consumers based on their search stage. For example, restaurants famous for a specific dish might be better off promoting their signature dish on food delivery websites (e.g., OrderUp) or on outdoor menu boards to attract consumers who want a meal soon. 

Supporting the argument for a reverse sequence of decisions (i.e., choosing a menu item first), a growing number of restaurants in New York City offer single-item menus to attract passersby (Cardwell, 2010). Conversely, promoting a restaurant’s brand might be an effective strategy when trying to attract consumers who make reservations.

Practitioners could consider the matching effect when developing advertisement messages. Although only the matching effect of choice order with temporal focus was tested in the present research, CLT literature suggests that it could be further expanded to other psychological dimensions such as social distance and spatial distance. For example, “Reserve a table at Restaurant A for your department’s get-together,” and “What about our special Valentine’s menu for two with your loved one?” might be more effective than, “What about our special menu with your colleague?,” and “Reserve a table at Restaurant A for your special day with your loved one.” Similarly, “Best Kung Pao chicken in this town,” or “Worth traveling to City X for the world’s best Restaurant A,” would be more appealing to consumers than, “Best restaurant in town,” or “Worth traveling to City X for the world’s best cheesecake”

Third, the current study demonstrates that consumers’ preference for large choice sets does not always hold. The study’s findings suggest that the classical wisdom, “more is better,” may be limited to psychologically distant situations in which consumers choose an assortment
first. In these situations a large menu offering will not be required to attract consumers. However, if a choice for a restaurant is to be made first, then psychologically distant consumers will be attracted to restaurants with extensive menu offerings and shy away from restaurants which offer a limited number of menu items. For example, focusing on a restaurant’s extensive menu might be an effective strategy when trying to attract the attention of consumers who don’t have any specific preferences for a particular cuisine. Indeed, popular restaurants such as The Cheesecake Factory (more than 200 menu items, including brunch items, appetizers, soup & salads, sandwiches, pastas, steaks, and desserts) and P.F. Chang’s China Bistro (more than 250 menu selections, including starters, soup & salads, wok classics, noodles, rice, and desserts) display their large assortments on their websites to attract consumers looking for a restaurant. Conversely, restaurants with smaller menu offerings should highlight the benefits of choosing this (i.e., a specific menu item) now but not highlight these benefits of choosing here (i.e., a restaurant) later. For example, a restaurant could offer an instant discount only for a specific menu item, not for all the menu offerings, in an effort to attract passersby during meal times.
Limitations and suggestions for future studies

This research has several limitations that need to be addressed, and we propose suggestions that are worthy of future research. First, the current study involved hypothetical scenarios rather than actual consumption choices. Although we believe that it is appropriate to use scenarios to test the proposed psychological effects, a field study to examine the choice order effect should be conducted in a real restaurant context. Furthermore, replications and extensions with other types of hospitality products/services are needed to increase the external validity of the study findings.

In the present study, the focus was on temporal distance. As other psychological dimensions have been identified by prior research, future research should consider possible relationships between choice order and other psychological distances such as social distance (colleagues vs. best friends). For example, when individuals are looking for a restaurant for a dinner with colleagues, they might be more attracted to restaurants which offer a large set of menu items rather than a limited number of menu items. Conversely, when dining out with best friends, such preferences for large choice sets might not be observed.

The present study assumed that a decision-making process has two stages based on the assortment literature. In reality, however, a decision-making process could involve more than two stages. For example, a series of choices for a dining experience might include choices not only regarding the restaurant and main dish, but also drinks and desserts. While on vacation, consumers make choices for a destination, accommodations, attractions, transportation, and so on. From the results of this research, it cannot be assumed that choice order similarly influences consumers’ responses and their preferences for choice set size in the context of their vacation plans. Future research should continue to examine the effect of choice order in a more complex decision-making context.
The amount of time that elapsed was not considered in this study. Sometimes, a series of choices in a decision-making process take place at different points of time. For example, consumers could reserve a table at a restaurant a week in advance, but they might not choose the menu item until they are at the restaurant. On the other hand, restaurants sometimes require consumers to indicate their choice of menu items upon placing a reservation. For example, Chinese restaurants specializing in Peking duck often ask for menu choices in advance to allow sufficient time to prepare the dish. Interestingly, in such situations in which the timespan is too short, consumers might feel that choices for a restaurant and a menu item take place at the same time. In that case, they would perceive that they make choices simultaneously rather than sequentially. Although this is out of the scope of current study, it might provide an interesting direction for future research to investigate the role of the elapsed time in the relationship between choice order and consumers’ construal level.
Appendix A

Survey questions for Pilot study

1. Assortment (restaurant) first condition

Please imagine that you are going to dine out. You will be making several choice regarding the dining experience. Below is a list of restaurants that you consider. Please choose a restaurant and write down the name of the restaurant in the box below.

**List of Restaurants**

- **Steve's Café**: Steve's cafe has evolved from a chef-driven street food experience to a full-blown restaurant chain. The food uses fresh, locally sourced ingredients and continually redefines the meaning of comfort.

- **Bogue's Restaurant**: A long history of family support can be felt throughout the home, especially in the handcrafted bar and serene outdoor dining area. Classic soul dishes will warm your heart as you dig in to its food.

- **Iaria's Restaurant**: Classic entrees and a vintage atmosphere present a feeling like you time traveled to 1933 when they first opened.

- **Bruno's Ristorante**: Classic Italian-American, neighborhood restaurant. It delivers a meal that is as good as it is big.

- **Uncle John's Cafe**: This decidedly modern diner occupies a 70-year-old building where broad windows and high ceilings house a cheerful dining room perpetually packed with families in search of a good meal.

- **Pann's Restaurant**: If there were awards given to places best representing the diner way of life, Pann's Restaurant could sweep the categories -- from decor to menu. Some diners merit their status through their classic fare and friendly servers; Pann's has both, plus the aesthetic.

- **Brownstone café**: A variety of American grub such as salads & sandwiches round out the menu at this quaint eatery.

The name of the restaurant is.... __________
Below is a list of menu items that [respondent's chosen restaurant is shown here] offers. Please choose one of the menu items and write down the name of the menu item in the box below.

**List of Menu Items**

- **Cobb Salad**: Chilled and diced fire-grilled chicken, crisp bacon, avocado, cheddar cheese, egg, black olives, tomatoes, and bleu cheese on salad greens.

- **Garlic Chicken Primavera**: Juicy garlic sautéed chicken breast served over fettuccine and tossed with sun-dried tomatoes, bruschetta marinara, and summer vegetables.

- **Sizzling Chicken and Cheese**: A sizzling skillet of onions and peppers together with garlic-marinated chicken breasts over melted American and Mexican cheese. Served with our creamy mashed potatoes.

- **Grilled Pork Chops**: Two tender, juicy 8-oz center-cut, mesquite grilled to perfection. Available barbecued or Cajun.

- **Grilled Cedar Salmon**: Our cedar smoke seasoning brings memorable flavor to a firegrilled 7-oz salmon filet, complemented by savory rice and vegetables.

- **Pulled Pork Sandwich**: Slow-cooked pork tossed with our signature barbecue sauce and basted with our smoky-sweet sauce. Piled on a toasted bun with crispy frizzled onions, served with fries.

- **Chicken Caesar Salad**: We toss crisp, chopped romaine lettuce with our own creamy, garlic Caesar dressing, mound it high and top it with chunky strips of hot, sautéed chicken breast, parmesan cheese, and garlic-butter croutons.

- **Chicken Pasta Alfredo**: Our creamy Alfredo sauce bathes al dente fettuccine pasta ribbons. All topped off with juicy chicken-sautéed with red bell peppers in our special Cajun butter-finished with parmesan shavings.

The name of the menu item is.... __________
In order to improve communication effectiveness we are interested in better understanding how certain behaviors are interpreted. Please select which of the two ways best describes how people think about certain actions.

1. Making a list
   Making a list
   Writing things down

2. Reading
   Following lines of print
   Gaining knowledge

3. Joining the Army
   Helping the Nation's defense
   Signing up

4. Washing clothes
   Removing odors from clothes
   Putting clothes into the machine

5. Picking an apple
   Getting something to eat
   Pulling an apple off a branch

6. Chopping down a tree
   Wielding an axe
   Getting firewood

7. Measuring a room for carpeting
   Getting ready to remodel
   Using a yardstick

8. Cleaning the house
   Showing one's cleanliness
   Vacuuming the floor

9. Painting a room
   Applying brush strokes
   Making the room look fresh

10. Paying the rent
    Maintaining a place to live
    Writing a check

11. Caring for houseplants
Watering plants
Making the room look nice

12. Locking a door
Putting a key in the lock
Securing the house

13. Voting
Influencing the election
Marking a ballot

14. Climbing a tree
Getting a good view
Holding on to branches

15. Filling out a personality test
Answering questions
Revealing what you're like

16. Tooth brushing
Preventing tooth decay
Moving a brush around in one's mouth

17. Taking a test
Answering question
Showing one's knowledge

18. Greeting someone
Saying hello
Showing friendliness

19. Resisting temptation
Saying "no"
Showing moral courage

20. Eating
Getting nutrition
Chewing and swallowing

21. Growing a garden
Planting seeds
Getting fresh vegetables

22. Travelling by car
Following a map
Seeing countryside

23. Having a cavity filled
Protecting your teeth
Going to the dentist

24. Talking to a child
Teaching a child something
Using simple words

25. Pushing a doorbell
Moving a finger
Seeing if someone's home

2. Option (menu item) first condition

Below is a list of menu items. Please choose a menu item that you crave and write down the name of the menu item in the box below.

[List of menu items]
The name of the menu item is...__________

Below is a list of restaurants that has [respondent’s chosen menu item is shown here] on its menu. Please choose a restaurant and write down the name of the restaurant in the box below.

[List of restaurants]
The name of the restaurant is....__________
Appendix B

Survey questions for Study 1

PART 1
Please list three future (e.g., in the next few days, weeks, or months) activities in which you plan to engage in the future (e.g., cooking, running, doing house chores).

1) 
2) 
3) 

PART 2
Please imagine that you are going to dine out. You will be making several choices regarding the dining experience.

[Choice order manipulation is shown]

PART 3
Here is the list of three activities that you plan to do in the future. Please indicate when you plan to engage in these activities in days (e.g., in 1 day, in 4 days, in 15 days, or in 60 days).

<table>
<thead>
<tr>
<th></th>
<th>in ____ days</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) [Self-generated future activity 1 shown here]</td>
<td></td>
</tr>
<tr>
<td>2) [Self-generated future activity 2 shown here]</td>
<td></td>
</tr>
<tr>
<td>3) [Self-generated future activity 3 shown here]</td>
<td></td>
</tr>
</tbody>
</table>
Appendix C

Survey questions for Study 2

(Proximal future condition)

Please imagine that you are going to dine out. You will be making several choices regarding a dining experience which will happen in two days.

(Distant future condition)

Please imagine that you are going to dine out. You will be making several choices regarding a dining experience which will happen in two months.

(The list of restaurants and the list of menu items were randomly shown)

Please state your opinion of the menu item you chose.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative : positive</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>very bad : very good</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>unfavorable: favorable</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Please answer the following questions about the menu item you chose.

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>Neutral</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>How much do you think you would like and enjoy the dish?</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How satisfied would you be with the dish?</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How confident are you that you would like the dish?</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How good do you think you would feel about the dish?</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
PART 1 (Restaurant first condition)

You are traveling to City X this weekend (in two months). You want to try a local restaurant in the area. Having that in mind, you want to find a restaurant and make a reservation ahead of time. You find that there are two restaurants known for high-quality local ingredients. One of the restaurants has eight items on its menu, while the other has 16 items. Please review their menus on the next page and choose one of the two restaurants.

### Menu offered by Restaurant A

<table>
<thead>
<tr>
<th>Cobb Salad: Chilled and diced fire-grilled chicken, crisp bacon, avocado, cheddar cheese, egg, black olives, tomatoes, and bleu cheese on salad greens.</th>
<th>Asian Garlic Chicken: Two plump chicken breasts are sautéed and topped with our tangy garlic sauce. We serve them with savory rice, broccoli florets, and stir-fried mushrooms, onions, and red peppers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sizzling Chicken and Cheese: A sizzling skillet of onions and peppers together with garlic-marinated chicken breasts over melted American and Mexican cheese. Served with our creamy mashed potatoes.</td>
<td>Turkey Burger: We fire-grill a well-seasoned turkey patty, then serve it on a toasted whole-wheat bun with all the garnished plus a mound of crispy fries.</td>
</tr>
<tr>
<td>Grilled Pork Chop: Two tender, juicy 8-oz center-cut, mesquite grilled to perfection. Available barbecued or Cajun.</td>
<td>Bacon Cheeseburger: Our mouthwatering all beef patty covered with melted American cheese and crispy bacon.</td>
</tr>
<tr>
<td>Grilled Cedar Salmon: Our cedar smoke seasoning brings memorable flavor to a fire-grilled 7-oz salmon filet, complemented by savory rice and vegetables.</td>
<td>Classic Sirloin: A generous 10-oz cut, expertly seasoned and fire-grilled just the way you like it.</td>
</tr>
</tbody>
</table>
Which of the two restaurants would you like to visit?

- Restaurant A
- Restaurant B
PART 1 (menu item first condition)

You are traveling to City X this weekend (in two months). You know that City X is known for pulled pork - a menu item that you always wanted to try. Having that in mind, you want to find an excellent pulled pork place and make a reservation ahead of time. While browsing the web you find two lists recommending the best pulled pork restaurants in the City X. You need to choose one of the two websites to further your search. One of the websites shows best eight pulled pork restaurants, while the other shows best 16 restaurants. Both lists are known as credible sources. Please review the lists on the next page and choose one of the two websites.

Best Restaurants by Website A

Steve's Café: Steve's café has evolved from a chef-driven street food experience to a full-blown restaurant chain. The food uses fresh, locally sourced ingredients and continually redefines the meaning of comfort.

Bogue’s Restaurant: A long history of family support can be felt throughout the home, especially in the handcrafted bar and serene outdoor dining area. Classic soul dishes will warm your heart as you dig in to its food.

Iaria’s Restaurant: Classic entrees and a vintage atmosphere present a feeling like you time traveled to 1933 when they first opened.

Mama Carolla’s Café: A long history of family support can be felt throughout the home, especially in the handcrafted bar and serene outdoor dining area. Classic dishes will warm your heart and soul.

Bruno’s Ristorante: Classic Italian-American, neighborhood restaurant. It delivers a meal that is as good as it is big.

Uncle John’s Café: This decidedly modern diner occupies a 70-year-old building where broad windows and high ceilings house a cheerful dining room perpetually packed with families in search of a good meal.

Pann’s Restaurant: If there were awards given to places best representing the diner way of life, Pann’s Restaurant could sweep the categories -- from decor to menu. Some diners merit their status through their classic fare and friendly servers; Pann’s has both, plus the aesthetic.

Brownstone Café: A variety of American grub such as salads & sandwiches round out the menu at this quaint eatery.
Which of the two websites is where you would like to further review?

- Website A
- Website B
PART 2
You will be asked to answer some questions regarding your choice. Please carefully reflect on your decision making process when answering the questions that follow.

Please answer the following questions about your choice of restaurant (website) (A or B).

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>-</th>
<th>-</th>
<th>Neutral</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>How much do you think you would like and enjoy the restaurant?</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>How satisfied would you be with the restaurant?</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>How confident are you that you would like the restaurant?</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>How good do you think you would feel about the restaurant?</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>

Next, we are interested in your decision making process regarding the restaurant (website) choice. Please indicate your agreement with the following statements.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>-</th>
<th>-</th>
<th>Neutral</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>It was easy to process the information</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>It was difficult to understand the information</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>
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VITA

Eunjin Kwon was born in Jinhae, South Korea. She received a Bachelor of Science degree in Business Administration (specialized in Tourism Management) from Kyunghee University, Seoul in 2006. She spent a year at Xenterra Parks and Resorts in Grand Canyon, AZ for an internship training during her undergraduate program. Then, she obtained her Master’s degree in Hospitality Management from Conrad N. Hilton School at University of Houston, TX. After working at the M.D. Anderson Cancer Center as a hotel management contract analyst, she returned to Korea and worked at Solbridge International Business School as a special assistant to the Vice President. With her industry experience and inspired by her mentors, Dr. Choong-Ki Lee and Dr. Ki-Joon Back, she discovered her passion for research and teaching. She, therefore, worked on and received her Ph.D. from the Pennsylvania State University with a major in Hospitality Management and a minor in Recreation, Park, and Tourism Management.

In Fall 2016, Eunjin will begin her academic career as an assistant professor in the Department of Family and Consumer Sciences at Lamar University, TX.