

Exploring Novel Antecedents and Consequences of Choice Deferral

Tanya Singh

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By: Tanya Singh

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_____	Chair
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_____	External Examiner
Dr. Jennifer Savary	
_____	Examiner
Dr. Sharlene He	
_____	Examiner
Dr. Darlene Walsh	
_____	Examiner
Dr. DaHee Han	
_____	Thesis Supervisor
Dr. Caroline Roux	

Approved by

Dr. Cedric Lesage, Graduate Program Director

8/3/2022

Dr. Anne-Marie Croteau, Dean
John Molson School of Business

Dissertation Abstract

Exploring Novel Antecedents and Consequences of Choice Deferral

Tanya Singh, Ph.D.

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This dissertation explores novel antecedents and consequences of choice deferral. Choice deferral is a common consumer phenomenon wherein consumers put off making choices due to choice conflict during a decision task. In the first chapter, I summarize extant research in choice deferral and describe research in the related domains of procrastination and choice delay. Based on existing research, I propose a novel consequence of choice deferral. In chapter 2, I examine the impact of choice deferral on subsequent unrelated choice tasks. Across four studies, I find evidence for a novel “deferral momentum” effect, such that initial choice deferral begets subsequent choice deferral. I examine decision confidence as a potential mechanism of this effect and find evidence to support my predictions. Finally, in the chapter 3, I investigate how the degree of choice conflict on initial choice impacts subsequent choice deferral. Across four studies, I find that choice conflict can counterintuitively decrease incidence of choice deferral. I argue this occurs because a conflict mindset can facilitate evaluation of contrasting information and attributes, thus facilitating tradeoffs and reducing deferral. My dissertation aims to expand our understanding of how choice deferral and its determinants can impact subsequent choices. My findings have important implications, both for consumer behavior scholars and marketing practitioners.

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1 Chapter 1: Antecedents and Consequences of Choice Deferral: A Review

Abstract

Consumers often put off decisions that require effort and energy. Choice deferral is a form of decision avoidance that occurs when consumers decide not to choose, after examining the alternatives presented to them. Choice deferral has also been described as “choosing the no-choice option”. Deferral can be impacted by various characteristics of the choice set, aspects of decision context, as well as the affective states and individual differences. Although there exists a lot of research on the antecedents of choice deferral, the consequences of choice deferral remain relatively unexplored. This chapter offers a review of the antecedents of choice deferral and identifies the consequences of choice deferral as an important research gap in this area of research.

1.1 Introduction

Imagine you are at the supermarket to buy some groceries. One of the things on your shopping list is pasta sauce. You find two brands of pasta sauce that are appealing, but cannot decide between the two, and decide not to choose either of these brands. Such choice deferral is a common phenomenon that consumers often engage in. Consumers often put off decisions that require effort and energy (Anderson, 2003; Ferrari, 1994, 2001). In a seminal review of the choice avoidance literature, Anderson (2003) noted that decision avoidance is a higher order phenomenon that can manifest as a preference for no change (e.g.: Status quo bias, Ritov & Baron, 1992) inaction (e.g.: Inaction inertia, Tykocinski et al., 1995; O. E. Tykocinski & Pittman, 1998) and delay (Dhar, 1997a, 1997b; Dhar & Simonson, 2003; Senecal et al., 1995; Solomon & Rothblum, 1984).

My research will focus on the antecedents and consequences of choice deferral. However, choice deferral is not the only choice avoidance phenomena that involves delaying decisions. Other phenomena such as choice delay and procrastination (Ritov & Baron, 1992), have been described in the literature. Choice deferral, choice delay and procrastination are related but different constructs.

First, choice deferral, which is the focus of this chapter, occurs after consumers have decided which options to choose between but cannot decide between the options due to high choice conflict (Anderson 2003, Dhar 1997a). Choice delay on the other hand, has many different causes and can occur at any stage of the decision-making process (Greenleaf & Lehmann, 1995). Greenleaf and Lehmann (1995) built a typology of reasons for purchase decision delay and found consumers may delay purchase for a variety of reasons such as the need for more information about alternatives, the need to seek advice, or waiting for a sale or promotion. Third, procrastination has been studied mostly as a general tendency to put off decisions, and thus has usually been examined as an individual difference (Ferrari, 1991, 1994; Ferrari et al., 1998; Scher & Ferrari, 2000). Ferrari (1991) found that people procrastinate for two major reasons: (1) arousal procrastinators achieve a thrill from putting off a task and then having to complete it in a very short window and (2) avoidance procrastinators avoid a task altogether to evade self-threats which may arise from engaging in an aversive task. This helps preserve their self-esteem. Thus, when faced with a difficult and particularly onerous task, avoidance may help preserve one's self-esteem. Research has shown that procrastination usually indicates an intent to complete the task, but a hesitation to do so based on high anxiety surrounding the task (Anderson, 2003). See table 1 for a comparison of these constructs.

Table 1.1 Comparison of Choice Deferral, Choice Delay and Procrastination

Type of Choice Avoidance	References	Key Features
Choice Deferral	Dhar (1996, 1997a, 1999 etc..)	<ul style="list-style-type: none"> - Occurs right before purchase decision. - Driven by preference uncertainty resulting from choice conflict.
Choice Delay	Greenleaf and Lehman (1995)	<ul style="list-style-type: none"> - Occurs at any point in decision making - Driven by a multitude of reasons: need for money, time, information, counsel etc.
Procrastination	Ferrari (1991); Berzonsky and Ferrari (1996)	<ul style="list-style-type: none"> - Occurs prior to engaging with a task - May be differently motivated – one motivation is preventing erosion of self-esteem. - Driven by trait anxiety and negative affect associated with task.

The aim of this chapter is to review the literature on choice deferral to better understand its causes and consequences. Choice deferral occurs when consumers decide not to choose from the alternatives presented to them, which can also be described as “choosing the no-choice option” (Dhar, 1997a). Research in this domain has found that choice deferral is impacted by various characteristics of the choice set such as assortment size, difficulty of tradeoffs between alternatives, and the similarity of alternatives (Dhar, 1997b, 1997a; Iyengar & Lepper, 2000; Li et al., 2017). Deferral is also driven by aspects of decision context, as well as the affective states and individual differences (Etkin & Ghosh, 2018; Garg et al., 2005; Li et al., 2017; Murali et al., 2018). In the following sections, I will summarize existing research on the antecedents and consequences of choice deferral and propose a novel consequence of choice deferral.

1.2 Theoretical Background

1.2.1 Choice Deferral: Conceptualization and Definition

1.2.1.1 Definition

According to Dhar (1997a) choice deferral is “preference for the no-choice option”. Anderson (2003, p. 144) describes choice deferral as “a situation in which an individual chooses not to choose for the time being.” Dhar (1997a) operationalized the “no-choice” option as “need more information” or “search for more brands.” Thus, choice deferral can be defined as putting off a decision for another time. According to prior research, tradeoffs during choice can trigger anticipated regret and negative emotions (Dhar, 1997b) and choice deferral may provide a coping strategy to evade these negative feelings (Luce, 1998).

1.2.1.2 Characteristics of Choice Deferral

Dhar (1997a) posits that choice deferral occurs after the alternative selection decision, or after consumers have contemplated the various alternatives available to them. According to Dhar

(1997b), choice deferral offers consumers a way to get out of making a difficult choice. When consumers need to choose among many alternatives, they must compare all alternatives across different attributes, increasing the cognitive demands of choice (Dhar, 1996). Consumers who are unwilling to expend cognitive effort may choose to defer, since it is less cognitively effortful. Trying to make complex comparisons across alternatives may also highlight preference uncertainty, leading to greater rates of deferral (Chernev et al., 2015).

Deferral is thus characterized by the difficulty experienced during the choice task itself, and it is distinct from procrastination, conceptualized as an individual tendency to put off tasks, that aims to minimize cognitive effort expended and applies to aversive tasks in general, and not specific choice sets (Ferrari, 2001; Senecal et al., 1995). It is interesting to note that procrastination does have the potential to increase choice deferral as some recent research has found a correlation between academic procrastination among students and deferral of purchase decisions (Parfenova & Romashova, 2019).

1.2.2 Antecedents of Choice Deferral

1.2.2.1 Choice Set Characteristics

Choice Format

Characteristics of the choice set play a large part in the incidence of choice deferral. Prior research has shown, for example, that the rate of deferral is greater when two options are presented rather than when a single option is presented (Dhar, 1997a, 1997b). It would stand to reason consumers would be more likely to choose when they had more than one option. However, this counter-intuitive result occurs because consumers who are presented with two options must carry out more tradeoffs and comparisons, thereby increasing choice complexity and prompting greater deferral. When choosing between two alternatives, deferral is greater when decision conflict is high, or when the two alternatives are equally attractive and neither is blatantly superior, than when one alternative dominates (Tversky & Shafir, 1992). To illustrate this effect, consider a scenario where a consumer must choose between two vacation spots along three different attributes – scenery, travel time and cost, and both vacation spots have similar values for these attributes (e.g., both are scenic, easily accessible, and incur a similar cost). A choice such as this is riddled with conflict and consequently, decision makers are more likely to defer.

Deferral is more likely when a choice set consists of two options are presented with “shared good” and “unique bad” features rather than when they are presented with “unique good” and “shared bad” features (Dhar & Sherman, 1996). The decision maker tends to focus on the unique features, thereby focusing attention on the negative attributes, and it becomes harder to trade-off losses (“unique bad” features) than gains (“unique good” features”), thereby increasing deferral when “unique bad” features are presented. For example, Dhar and Sherman (1996) presented a choice between two vacation spots with “unique bad” features such as pollution, long travel time, expensive (vacation spot A) and bad weather, poor transportation, overcrowded (Vacation spot B), and with shared good features such as good museums and beautiful scenery. In the “unique bad” condition, decision-makers tended to focus on the unique bad features, which did not facilitate choice and led to greater deferral. In the unique good condition, decision makers tended to focus on unique benefits of the alternatives, which facilitated choice to a greater degree and decreased choice deferral. However, “common good” features are not overlooked when deciding.

A study by Nagpal et al. (2011) showed that when more “common good” features are listed along with “unique bad” features, choice deferral is reduced, and information adequacy mediates the effect. Thus, knowing about more attributes, even if those attributes are shared and identical across alternatives, can make consumers believe they have enough information to make a choice, thus reducing deferral.

Another facet of choice format is how consumers filter through the alternatives and view them. Consumers may evaluate all the available alternatives together or use a more sequential evaluation strategy. Dhar (1996) examined whether considering alternatives in a sequential manner versus a simultaneous manner would impact choice deferral. In this study, participants were asked to evaluate two equally attractive options in either a sequential or simultaneous fashion. The results showed that consumers who evaluated alternatives simultaneously tended to engage in more tradeoffs and were more likely to defer choice than those who evaluated choices in a sequential manner.

Consumers can also filter attributes based on their goals. A recent study (Nardini & Sela, 2019) investigated the effect of self-customization, or filtering alternatives based on desired values on important attributes. When using self-customization, consumers can progressively add more filters based on additional attributes and arrive at a choice set that contains alternatives that meet their criteria. (Nardini & Sela, 2019) argue that using self-customization makes consumers feel that they will more easily find their aspired product, thus increasing the desire to find an even better alternative. This prompts a maximizing mindset and leads to greater deferral than when consumers employ a conventional matrix view of alternatives and attributes.

Assortment Size

Assortment size is simply the number of alternatives available to the consumer. When it comes to consumer preference for assortments, research has shown that consumers prefer larger assortments and more choice when making a selection (Chernev, 2003b; Zuckerman et al., 1978). However, although large assortments are alluring because of the prospect of better choice, choice among large assortments is difficult owing to more trade-offs and comparisons. Indeed, research has shown that large assortments can increase consumption (Kahn & Wansink, 2004). However, research has also shown that consumers tend to experience greater difficulty and conflict when asked to choose from a larger assortment of products than when they are asked to choose from a smaller assortment of products (Berger et al., 2007; Chernev, 2003b; Iyengar & Lepper, 2000).

Choice deferral when choosing from large assortments of products can occur because of two distinct reasons: firstly, none of the alternatives meet the consumers expectations or secondly, because of uncertainty regarding which alternative is optimal (Jessup et al., 2009; White & Hoffrage, 2009). Iyengar and Lepper (2000) found that participants were less likely to make a choice when choosing between an assortment of 6 jams than when they were choosing between an assortment of 24 jams. Shah & Wolford(2007) observed both the positive and negative effects of assortment size on choice deferral when asking participants to choose a pen from assortments of different sizes. When the assortment size was between 4 and 10 pens, they found that the incidence of choice was high, between 50% to 80%. However, as the assortment sizes increased further from 10 to 18, the incidence of choice fell from 80% to 30%.

According to recent research, to fully understand the effect of assortment size on choice deferral, we must consider the interaction of assortment size with individual differences, the decision-making rules that are employed, as well as contextual factors that can impact choice (Scheibehenne et al., 2010; White & Hoffrage, 2009). White and Hoffrage (2009) propose an explanation based on consumers employing a utility threshold and using an absolute or relative way to compare alternatives in the choice set. They posit that when consumers use an absolute (vs. relative) method of evaluation or evaluate alternatives in isolation (vs. in comparison), thereby simplifying the choice, they are less likely to defer, such that larger assortments facilitate (vs. hinder) choice. They reason this is because absolute judgment is more akin to non-compensatory decision making, it involves fewer trade-offs and facilitates choice.

Similarity of Alternatives

Further, prior research has examined the role of perceived similarity between alternatives on choice deferral (Dhar, 1997b; Kim, 2013; Tversky & Shafir, 1992). Tversky and Shafir (1992) showed that when choice is between similarly attractive options, choice deferral increases. Kim and colleagues investigated the effects of adding small differences to a single attribute on perceived similarity and incidence of choice deferral. Prior research has shown that attributes that bear identical values are not paid much attention when making choices and attributes that are unique receive much more attention (Dhar & Sherman, 1996). When two alternatives are identical on one attribute and different along another attribute, consumers need only consider the attribute that is different to make judgements about the perceived similarity of the alternatives. Kim et al. (2013) claim that adding small differences on one attribute in a two attribute-two alternative choice-set increases perceived similarity, because consumers must average across both alternatives to make judgements about the similarity of the alternatives. For example, if a consumer is presented with a choice between two types of tea, which are priced identically but have different flavors, then the consumer considers only the flavors to judge the similarity of these options. However, if the price and the flavors are different, then the consumer must consider *both* price and flavor to arrive at a judgment of similarity of these options. In their studies, Kim, and colleagues (2013) find that when price and flavor are different, perceived similarity is judged to be greater than when only flavor is different, and price is identical.

1.2.2.2 Emotions and Individual Differences

Consumers' affective states and personality traits have also been shown to impact choice deferral. Prior research has examined the effect of consumer age on deferral (Chen et al., 2011), and demonstrated that older individuals are more likely to defer. The authors argue this occurs because older individuals experience emotions with greater salience (Mather & Carstensen, 2005) and therefore tend to avoid experiencing negative emotions, favoring choice deferral. Mourali et al. (2018) further examined the effect of power on choice deferral. Building on prior research showing that power shifts consumers to an action orientation (Galinsky et al., 2003) the authors hypothesize that consumers who experience greater power should exhibit lower choice deferral. In line with their hypothesis, they found that participants in a high-power condition were significantly less likely to defer than those in a low-power condition.

Affect can arise during the process of making a choice or be unrelated to the choice task (Garg et al., 2005; Luce, 1998). Garg et. al. (2005) showed that incidental negative affect can lead

participants to avoid complex attribute-based tradeoffs and choose the status quo option. In a subsequent study, (Etkin & Ghosh, 2018) examined the effect of positive mood on choice deferral. They posited that being in a positive mood makes consumers ignore unimportant aspects of a product and focus only on its main attributes. This means that consumers must trade off important features, which increases choice difficulty if different alternatives dominate on different attributes. The increased choice difficulty then results in a greater likelihood of choice deferral.

1.2.2.3 Other Contextual Factors

The subjective ease of making a decision, or fluency, can impact choice outcomes (Ho, 2020; Affonso & Sela, 2019; Novemsky et al., 2007). Prior research has investigated this phenomenon by manipulating the metacognitive experience of choice while keeping the choice set and information constant (Novemsky et al., 2007). This manipulation of subjective ease was achieved by making the attribute information of the alternatives in a choice set harder to read (by using a blurry font). They found that when the subjective ease of processing choice information is decreased, choice deferral increased. This occurs because participants attributed the metacognitive difficulty to the choice itself, thus inferring that the choice was difficult, and thereby increasing incidence of deferral. Recent research has examined the effect of regulatory fit between decision styles and fluency (Affonso & Sela, 2019). The authors propose that maximizers expect a choice to be difficult and effortful, and thus experience regulatory fit when the choice is disfluent. Satisficers, on the other hand, aim to minimize effort and experience regulatory fit when choice is fluent. The authors manipulated fluency and disfluency by asking participants to list two versus ten reasons for choosing an option, respectively. They found that maximizers tended to defer less when they experienced disfluency, owing to regulatory fit.

Time constraints can also impact choice deferral. When confronted with a time limit to make decisions, consumers will employ cognitive shortcuts and heuristics (Payne et al., 1988). Some prior research on time pressure and its effect on deferral has shown that time pressure can lead to greater choice deferral (Dhar, 1997a; Lin & Wu, 2005). Dhar and Nowlis (Dhar & Nowlis, 1999) study the effect of time pressure on deferral in both high-conflict or low-conflict choices. Low-conflict choices can be resolved without many trade-offs and do not need a lot of time, whereas high-conflict choices require more tradeoffs to be made and are impacted by time constraints. Dhar and Nowlis (1999) found that when a choice does not require complex tradeoffs (i.e., is low-conflict), time pressure does not impact the degree of choice deferral. However, when choice is high-conflict and thus requires complex tradeoffs, time pressure can shift how decision makers choose an alternative. Prior research has shown that time pressure prompts consumers to employ non-compensatory decision-making rules, which are less effortful (Payne et al., 1988). Under non-compensatory decision rules, consumers use a threshold-based rule to decide whether an alternative should be chosen or not. Using a heuristic avoids complex tradeoffs and facilitates choice, thereby reducing choice deferral under time pressure. Dhar & Nowlis, (1999) found that this simplifies decision making and reduces choice deferral.

1.3 Consequences of Choice Deferral

As previously reviewed, the antecedents of choice deferral have been the subject of much research (Dhar, 1997a, 1997b; Dhar & Nowlis, 1999; Dhar & Sherman, 1996; Dhar & Simonson, 2003; Etkin & Ghosh, 2018; Garg et al., 2012; Mourali et al., 2018; Novemsky et al., 2007). However, the consequences of choice deferral are still relatively unexplored (Tykocinski et al., 1995; Tykocinski & Pittman, 1998). Barring a few studies that examine the effect of inaction when presented with an opportunity on further inaction (Tykocinski et al., 2004; Tykocinski et al., 1995; Tykocinski & Pittman, 1998, 2001), there is a lack of research on the downstream psychological and behavioral effects of choice deferral.

Tykocinski and Pittman (1995, 1998) studied the effect of missing out on an attractive offer on the subsequent likelihood to choose a less attractive version of the same offer. To illustrate, say a consumer could buy a season pass to a ski resort at a 70% discount. If she missed this offer and then subsequently saw that the ski pass is still available, but now at a 30% discount, how would she act? The authors found that consumers who deferred choosing the initial opportunity were less likely to select the subsequent, less attractive opportunity. The authors argued this “inaction inertia” occurs because consumers who deferred experience greater anticipated regret when faced with a less attractive opportunity, due to having initially foregone a better offer. Research has shown that this inaction inertia exists in several domains such as post-promotion consumption (Zeelenberg & van Putten, 2005) and stock markets (Tykocinski et al., 2004). Additionally, several moderators of this effect have been identified such as action vs state orientation and the comparability of initial and subsequent discounts (Liu & Chou, 2020; Van Putten et al., 2009).

Van Putten et al. (Van Putten et al., 2009) posit that consumers induced to be in an action state will be better at getting over the unpleasant experience of missing a discount, whereas those in the state orientation will take longer to forget the negative experience. Based on this, they hypothesize and find experimental evidence to show that consumers with greater action orientation will experience lower inaction inertia than consumers with higher state orientation. Liu and Chou (2020) show that inaction inertia will be greater for monetary vs. non-monetary promotions. They argue this occurs due to the direct comparability of monetary promotions as opposed to non-monetary promotions. Although past research on inaction inertia has shed light on what happens when you forgo an opportunity, there is a lack of research on the psychological and behavioral downstream effects of choice deferral when choosing among a broader set of alternatives.

Building on the existing research on choice deferral and choice conflict, chapter 2 and 3 aim to explore the effects of choice deferral on subsequent choice in more varied and unrelated choice sets. No prior research, to my knowledge, has tested whether deferral would lead to further deferral when the subsequent decision is different from the initial one. Additionally, Tykocinski and colleagues examined the downstream effects of deferral when only one option is being considered. I aim to broaden this research by including binary choices with richer product attribute information, to determine whether a similar effect can be generalized to a broader range of decisions.

In chapter 2, I will examine the impact of initial choice deferral on subsequent choice deferral in unrelated domains and examine the role of decision confidence in this context. Based on existing research in procrastination, I predict that choice deferral may result in greater decision confidence and drive further choice deferral.

In chapter 3, I will examine the role of choice conflict in initial choice on subsequent choice deferral. Choice conflict is a function of the highly dependent on the relative attractiveness of the two alternatives; if they are similarly attractive, choice conflict is higher than when there is an option that is clearly superior (Tversky & Shafir, 1992). Thus, I will examine how high vs. low choice conflict on the initial choice impacts subsequent unrelated choice deferral.

2 Chapter 2: Consequences of Choice Deferral: The Deferral Momentum Effect

Abstract

Consumers often delay making choices. Although the reasons why consumers delay choice have been extensively examined in prior research, the consequences of deferring choice have remained largely unexplored. I propose a novel “deferral momentum” effect, wherein initial choice deferral increases choice deferral on subsequent choices. I present findings (Study 1a and Study 1b) that demonstrate this effect. Additionally, I theorize that increased decision confidence is the underlying mechanism, such that deferral increases confidence in that decision, thereby prompting further deferral. I present a study (Study 2) that demonstrates the effect of deferral on decision confidence and a subsequent study (Study 3) that establishes increased decision confidence as the underlying mechanism of the deferral momentum. I finally discuss the implications and potential contributions of this research. Taken together, my findings provide evidence in support of the deferral momentum and show that choice deferral influences subsequent choices in an important manner. These findings provide implications for marketing scholars, consumers, and practitioners.

2.1 Introduction

Imagine that you are on your way to buy a carry-on suitcase. Your smartphone suddenly slips out of your pocket and falls onto the sidewalk, leaving a big crack on the screen. You immediately try to look for options to repair the screen and find several nearby stores that provide this service. You however decide to put off the decision to repair your phone's screen for later. Would your decision to defer repairing your phone's screen affect your suitcase purchase decision?

Deferral, or delaying making choices, is a common consumer behavior. Owing to its ubiquity and practical significance to the field of marketing, the factors that drive choice deferral have been the subject of much research in consumer behavior (Anderson, 2003; Dhar, 1996, 1997b; Dhar & Nowlis, 1999; Etkin & Ghosh, 2018; Friedman et al., 2018; Greenleaf & Lehmann, 1995b; Mourali et al., 2018; Popovich & Hamilton, 2020). Although the antecedents of choice deferral provide insights about why consumers may choose to delay purchases, the consequences of deferral may be just as important. The aim of the present research is thus to investigate the effects of initial choice deferral on subsequent choices.

Recent research by Tykocinski and colleagues (Tykocinski et al., 1995; Tykocinski & Pittman, 1998, 2001) has investigated the effect of forgoing buying a discounted product on a subsequent opportunity to buy the same product at a lower discount. The authors found that forgoing an initially highly discounted offer makes consumers less likely to choose the same, but less discounted, offer due to regretting missing out on the better offer, a phenomenon they call "inaction inertia." For example, if you missed out on the opportunity to buy an evening dress when it was on sale at a 70% discount, the opportunity to buy it at a 30% discount would make you regret your initial inaction, and hence drive you to not purchase the dress. Research on inaction inertia has also identified moderators of this effect, such as social comparison and action versus state orientations (Kumar, 2004; Van Putten et al., 2009; Zeelenberg, 1999; Zeelenberg et al., 2006).

The present research aims to better understand how initial choice deferral impacts choice on subsequent decisions. Although the research by Tykocinski and colleagues (1995, 1998) provides valuable insights into a relatively unknown process, there are still many unanswered questions regarding the downstream effects of choice deferral. Tykocinski and colleagues (1995, 1998) examined a relatively specific decision context where the subsequent choice is for the same product as the initial choice and is always less attractive (in terms of discount). The present research aims to broaden these findings by examining the effect of initial deferral on subsequent decision-making across distinct decisions. For instance, as outlined in the example above, does deferring the decision to repair your phone's screen affect whether you will end up buying a carry-on suitcase?

In the following sections, I will present the theoretical background and motivation of the present research and state my research questions. I will then present four studies that provide evidence in support of my predictions. Finally, I will discuss the implications of this research and future directions.

2.2 Theoretical Background

2.2.1 Choice Deferral

Deferral refers to delaying decision-making or not making a choice right away (Dhar, 1996, 1997b; Greenleaf & Lehmann, 1995). Greenleaf and Lehmann (1995) constructed a typology of reasons for deferral, chief among which are choices that require complex trade-offs (Dhar, 1997b; Dhar & Simonson, 2003). Consumers are often pressed for time and cognitive capacity, and hence may delay certain choices for later (Dhar, 1997a, 1997b). For instance, cognitively demanding choice tasks (Dhar, 1996) and time pressure (Dhar & Nowlis, 1999) have been shown to increase choice deferral. In addition, Tversky and Shafir (1992) found that deferral was greater when no alternative was clearly superior to the others in a choice set, as compared to a choice set where one alternative dominated the others. Dhar and Simonson (2003) further found that introducing the option to defer choice attenuates the compromise effect, or the tendency to choose an alternative that is average on most attributes, as it helps make the choice easier.

2.2.2 Inaction Inertia Versus Deferral Momentum

Tykocinski and Pittman (1995, 1998) found that not availing of an initial attractive offer can lead to further inaction when presented with a subsequent, less attractive offer for the same product. They find evidence that this occurs because of greater anticipated regret when consumers are faced with the less attractive discount, due to having initially foregone the more attractive discount. The inaction inertia effect has been replicated in several different domains, such as post-promotion buying dips (Zeelenberg & van Putten, 2005) and stock markets (Tykocinski et al., 2004). Additionally, several moderators of this effect have been identified. For instance, research has found that the likelihood of choosing a subsequent less attractive offer after foregoing a more attractive initial offer is dependent on whether a referent other took advantage of the initial purchase (Kumar, 2004). Research has also shown that the inaction inertia effect is weakened for action-oriented individuals as compared to state-oriented individuals (Van Putten et al., 2009). Action oriented people are quicker to get over unpleasant experiences, such as missed discounts, contrary to state oriented individuals who take longer to recover from such experiences. Thus, Van Putten et al. (2009) showed that inaction inertia is reduced for action-oriented consumers since they are better able to decouple the past missed discount from a new discount opportunity. Recent research has further shown that inaction inertia is more pronounced for monetary promotions than non-monetary promotions because they are easier to compare (Liu & Chou, 2020).

No prior research, to my knowledge, has tested whether initial deferral would also prompt deferral when the subsequent decision is distinct from the initial one (e.g., different products). The present research thus aims to better understand the effect of initial deferral on subsequent decision-making for distinct decisions. In my research, rather than manipulating the attractiveness of a same-domain subsequent decision (as Tykocinski et al., 1995), I instead test the effect of deferring decisions on subsequent distinct choices. To my knowledge, there is a lack of research on post-deferral psychological and behavioral consequences, as prior research instead tends to focus on anticipated post-decisional states (Abraham & Sheeran, 2003; Wong & Kwong, 2007). I will thus build on research on decision avoidance (Anderson 2003) to develop my predictions.

2.3 Proposed Consequences of Choice Deferral

Numerous studies in psychology have examined the effects of task and decision avoidance (Anderson, 2003; Ferrari, 1994; Marecek & Metee, 1972; Solomon & Rothblum, 1984). Research has shown that people have a tendency to favor inaction (vs. action), errors of omission (vs. commission), and the status quo (Anderson, 2003; Baron & Ritov, 2004; Ritov & Baron, 1992). Making decisions, such as choosing between multiple alternatives, usually involves varying levels of risk and cognitive effort, which is in part why people tend to prefer compromise options and use heuristics to simplify decisions (Frederick, 2002; Wernerfelt, 1995). Decision avoidance could thus help avoid these aversive feelings.

Prior research on procrastination, a type of decision avoidance, has shown that it undermines academic performance, learning, and achievement in the long-term, in part due to self-regulation failures (Ferrari, 2001; Senecal et al., 1995; Tice & Baumeister, 1997). However, recent research (Chu & Choi, 2005) has also shown that procrastination can have positive consequences in terms of self-efficacy, reducing stress, and improving overall performance. For instance, when done in an intentional and planned manner, procrastination can lead to successful time management and self-regulation (Macan et al., 1990). Additionally, procrastination can suspend judgment of task performance, or how well a decision was made, thereby helping protect self-esteem (Ferrari, 1991).

Although procrastination is a distinct psychological construct than choice deferral, they are both forms of decision avoidance that may occur due to the aversive feelings generated during a task (Dhar, 1997; Ferrari, 1991). These common underlying mechanisms indicate that they may have similar downstream consequences. I will thus base my theoretical predictions about the impact of choice deferral on existing findings from the related domain of procrastination.

Building on the academic procrastination literature, I propose that choice deferral may help maintain or increase consumers' confidence in their decision due to a temporary suspension of judgment about the quality of their decision. Relatedly, there is research in consumer psychology that shows consumers often suffer negative consequences, such as lower decision satisfaction and greater regret following choice (Chernev, 2003; Iyengar and Lepper, 2000). By virtue of putting off their decision, consumers do not immediately need to worry about the quality of their choice, and this may help their sense of confidence in their decision for the meantime.

In my research, I will employ measures that ascertain a general consumer self-confidence (Bearden et al., 2001), as well as directly assess decision confidence following a specific decision. Consumer self-confidence, which is a construct that encompasses decision confidence, is defined as "the extent to which an individual feels capable and assured with respect to his or her marketplace decisions and behaviors." (Bearden et al., 2001). According to Adelman (1987), consumer self-confidence reflects one's abilities to create positive outcomes in the marketplace. The construct draws from self-esteem, self-confidence, and dominance measures, but is specially developed for the marketplace and consumption context. Additionally, research has also shown that consumer self-confidence can vary depending on mood (Hellén & Sääksjärvi, 2011), demonstrating that the measure is pliable to external manipulations and contexts. Relatedly, decision confidence has been defined as an individual's confidence in their chosen option (Dhar

1997). Prior work has investigated the role of decision confidence as an antecedent to choice deferral, and has found that decision strategies that result in greater decision confidence are more likely to result in a higher incidence of choice (Dhar 1997). However, no prior work, to my knowledge, has investigated how deferring (vs. not) a choice impacts confidence in that decision.

Building on research on decision avoidance and post-choice behaviors, I first propose that initial choice deferral (vs. no deferral) will increase consumers' confidence in their decision, as it provides them with a short-term relief from having to make a choice. This increase in decision confidence will, in turn, result in greater deferral when faced with subsequent decisions. I thus also predict a *deferral momentum* effect, whereby initial choice deferral will prompt greater choice deferral in subsequent decisions; and this effect will be mediated by an increase in decision confidence. Formally:

H1: Initial choice deferral (vs. no deferral) will prompt greater choice deferral in subsequent decisions.

H2: Initial choice deferral (vs. no deferral) will increase decision confidence.

H3: Increased decision confidence will mediate the relationship between initial choice deferral and subsequent choice deferral.

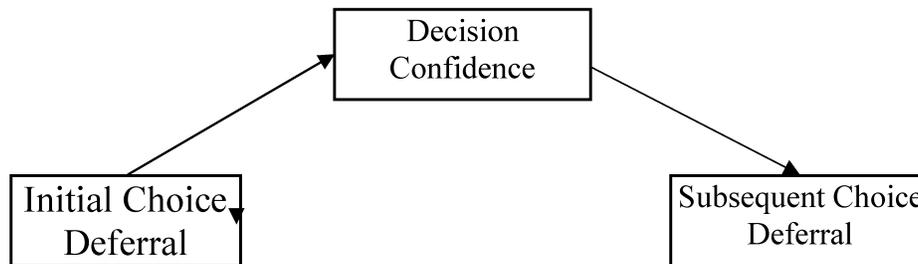


Figure 2.1: Proposed Theoretical Model

2.4 Experimental Studies and Results

2.4.1 Overview of Studies

Study 1a tests the proposed deferral momentum effect, or whether initial choice deferral increases the likelihood of subsequent deferral (H1), using a series of binary choice tasks. Study 1b replicates Study 1a using a choice deferral manipulation (i.e., scenario; H1). Study 2 tests the proposed main effect of choice deferral on decision confidence (H2). Finally, Study 3 tests whether decision confidence mediates the effect of initial deferral on subsequent deferral (H3).

Table 2.1: Summary of Studies

Study	H	N	Dependent Variable(s)	Independent Variable	Stimuli	Results
1a	1	302	Number of decisions deferred	Initial deferral (self-selected)	Choice of digital camera	Initial deferral increases subsequent deferral
1b	1	604	Likelihood of subsequent deferral	Initial deferral (manipulated)	Smartphone screen repair scenario	Initial deferral increases subsequent deferral

2	2	134	Decision confidence	Initial deferral (manipulated)	Smartphone screen repair scenario	Deferral increases decision confidence
3	3	275	Number of decisions deferred; Decision confidence	Initial deferral (self-selected)	Choice of digital camera	Increased decision confidence mediates the effect of initial deferral on subsequent deferral

2.4.2 Study 1a: Deferral Momentum Effect

Methods. The goal of study 1a was to test the hypothesized relationship between initial choice deferral and subsequent choice deferral (H1), or the proposed deferral momentum effect. Three-hundred and two U.S. participants (53% male, $M_{\text{age}} = 31.3$, $SD = 11.52$) were recruited on Prolific and received a monetary compensation equivalent to or above the federal minimum wage for their participation in this study. Participants were first presented with a binary choice (i.e., choosing between two digital cameras; see Appendix for stimuli; Dhar and Nowlis 1999) where they could pick one of the options or decide to look for other options (i.e., choice deferral). Participants were then presented with four other choices from distinct product categories (i.e., cars, laptops, vacations, and apartments; see Appendix for examples; Dhar and Nowlis 1999), with the same choice options as the initial choice (i.e., choosing one of the two alternatives or defer choice). Participants then answered standard demographic questions and attention-related questions. Participants ($N = 50$) were excluded from the analyses based on whether they had failed an attention check, indicated they had been distracted while completing the study, and indicated that we should not use their data in the analyses (final $N = 252$). I summed the number of choices that were deferred in the subsequent decisions (*range*: 0-4) as the dependent variable.

Results. Since participants self-selected into the control and deferral conditions, I tested whether there were systematic differences between the participants who deferred the first choice from those who did not. I found that women were more likely to defer the first decision than men ($M_{\text{Deferral}} = 0.40$, $M_{\text{Control}} = 0.57$, $\chi^2(1, 252) = 7.19$, $p < 0.05$). Consequently, I included gender as a covariate in the analyses, and the results were robust to the addition of gender as a covariate. An ANOVA revealed that initial choice deferral significantly increased subsequent choice deferral ($M_{\text{Deferral}} = 2.10$, $SD = 1.13$, $M_{\text{Control}} = 1.33$, $SD = 1.14$, $F(2,249) = 24.62$, $p < 0.001$). The results are similar when gender is not included in the ANOVA as a covariate (see appendix). The results from study 1 provide evidence in support of H1, as initial choice deferral increased subsequent choice deferral for distinct decisions. A limitation of this study is that participants self-selected into the deferral or no deferral conditions and were thus not randomized into these groups. Study 1b will address this limitation by manipulating choice deferral using a scenario.

2.4.3 Study 1b: Replication of Deferral Momentum Effect

Methods. The aim of study 1b was to address the self-selection bias in Study 1a and replicate the observed deferral momentum effect using a manipulation (i.e., scenario). Six hundred and two U.S. participants (60% male, $M_{\text{age}} = 38.4$, $SD = 24.52$) were recruited on Amazon Mechanical Turk, using CloudResearch, and received a monetary compensation equivalent to or above the federal minimum wage for their participation in this study. After removing duplicate IP

addresses, participants who reported being distracted during the study, and those who failed an attention check, 541 participants remained for the analyses.

Choice deferral (vs. no deferral) was manipulated using a scenario (see Appendix for stimuli) where participants were told they had broken their smartphone's screen and decided to put off the decision (vs. made the decision right away) to get their screen repaired. Participants were then asked to provide reasons for why they would have made that decision to help strengthen the manipulation. Next, participants were either asked to make a choice between two pieces of luggage (with the option to defer the choice for later) or to choose between two headphones (with the option to defer the choice for later).

Results. I had initially planned to examine the effect of initial deferral (i.e., phone screen scenario) on subsequent deferral in a related (i.e., headphone) versus unrelated (i.e., luggage) product category, thereby running a 2 (deferral vs. control) x 2 (unrelated vs. related product category) experimental design. However, upon analyzing the data, there was no interaction between initial choice deferral and product category relatedness ($\beta = -0.45$, $SE = 0.38$, Wald's $\chi^2(1, 555) = 6.20$, $p = 0.013$), which replicates the deferral momentum effect (H1) without the caveat of self-selection in Study 1a. Taken together, studies 1a and 1b provide evidence for the hypothesized main effect of initial choice deferral on subsequent choice deferral, using both measured and manipulated initial choice deferral.

2.4.4 Study 2: Decision Confidence

Methods. The main objective of study 2 was to test for a psychological consequence of choice deferral, to provide preliminary evidence for the hypothesized mechanism underlying the deferral momentum effect observed in studies 1a and 1b. Specifically, study 2 tested whether initial deferral increases decision confidence. One hundred and thirty-four undergraduate students (44% male, $M_{age} = 21.37$, $SD = 3.30$) from a university participant pool completed this study for a partial course credit.

Participants were first randomized into either a choice deferral or no deferral condition, and choice deferral was manipulated using the same cracked phone screen scenario as in Study 1b. Next, participants completed the Consumer Self-Confidence scale (Bearden et al. 2001). Finally, participants answered standard demographic questions and mood related questions (see appendix for mood results). Similar to study 1a and 1b, participants ($N = 15$) were excluded from the analyses based on whether they had failed attention checks (final $N = 119$).

The Consumer Self-Confidence scale is composed of three sub-dimensions – namely “Information Seeking” ($\alpha = 0.84$), “Consideration Set Formation” ($\alpha = 0.66$), and “Quality of Personal Decision Outcomes” ($\alpha = 0.73$). Owing to the predicted effect of choice deferral on decision confidence, I was particularly interested in the “Quality of Personal Decision Outcomes” dimension, which is related to consumers' confidence in their decision-making abilities.

Results. I find that choice deferral had a marginally significant positive impact on participants' decision confidence ($M_{\text{Deferral}} = 2.56$, $SD = 0.79$, $M_{\text{NoDeferral}} = 2.29$, $SD = 0.80$, $t(116) = 1.85$, $p = 0.06$). Interestingly, the other two sub-dimensions of the scale – information seeking ($M_{\text{Deferral}} = 4.02$, $SD = 0.65$, $M_{\text{NoDeferral}} = 3.99$, $SD = 0.69$, $t(116) = 0.329$, $p = 0.74$) and choice set formation ($M_{\text{Deferral}} = 4.01$, $SD = 0.53$, $M_{\text{NoDeferral}} = 4.04$, $SD = 0.55$, $t(116) = 0.367$, $p = 0.71$) were not affected by choice deferral (see appendix for mood results).

The findings from study 2 provide preliminary support for H2, as participants reported higher decision confidence following choice deferral (vs. no deferral), which may be owing to a suspension of task performance because the decision is deferred. While study 2 provided preliminary evidence for the psychological mechanism underlying the deferral momentum effect, study 3 will test the effect of initial choice deferral on both decision confidence and subsequent deferral, in order to test for the hypothesized mediation effect (H3).

2.4.5 Study 3: Decision Confidence Mediates the Deferral Momentum Effect

Methods. This study tested whether increased decision confidence mediates the effect of initial choice deferral on subsequent choice deferral (H3). Two hundred and five U.S. participants (44% male, $M_{\text{age}} = 21.6$, $SD = 3.7$) were recruited on Prolific and received a monetary compensation equivalent to or above the federal minimum wage for their participation in this study. After removing participants who failed attention checks, reported technical issues, and used smartphones to complete the study, 167 participants remained for the analyses.

Participants first self-selected in the choice deferral (vs. no deferral) condition as in Study 1a (i.e., choosing between two digital camera or looking for other options; adapted from Dhar & Nowlis, 1999), and rated how confident they felt about their decision. Next, participants were sequentially presented with four similar but distinct choice tasks (i.e., cars, laptops, apartments, and vacation; adapted from Dhar & Nowlis, 1999), as in Study 1a, and were again asked to sequentially rate their confidence in each decision (*scale*: 1 = not confident at all to 9 = extremely confident). The dependent variables were the number of subsequent choices participants deferred (*range*: 0-4) and average decision confidence on subsequent decisions.

As an aside, the study first presented participants with a financial scarcity (vs. abundance) manipulation (Nelson & Morrison, 2005), with the goal of testing the potential moderating effect of resource scarcity. However, the scarcity manipulation did not affect decision confidence nor choice deferral (see Appendix for results). Therefore, I collapsed across the scarcity conditions to examine the effect of initial choice deferral on decision confidence and subsequent choice deferral.

Results. Results first revealed that participants who deferred the first choice (vs. not) also deferred more subsequent choices ($M_{\text{Deferral}} = 2.26$, $SD = 1.19$, $M_{\text{NoDeferral}} = 1.13$, $SD = 1.22$, $t(165) = 6.05$, $p < 0.001$) and reported higher average decision confidence ($M_{\text{Deferral}} = 7.67$, $SD = .96$, $M_{\text{NoDeferral}} = 7.14$, $SD = 1.10$, $t(165) = 3.32$, $p = 0.001$). As predicted, decision confidence further mediated the effect of choice deferral on subsequent deferral (95%CI [0.17, 0.52], see appendix for detailed results). These results replicate the deferral momentum effect found in studies 1a and 1b (H1), the effect of choice deferral on decision confidence found in study 2 (H2)

and provides evidence that increased decision confidence mediates the deferral momentum effect (H3).

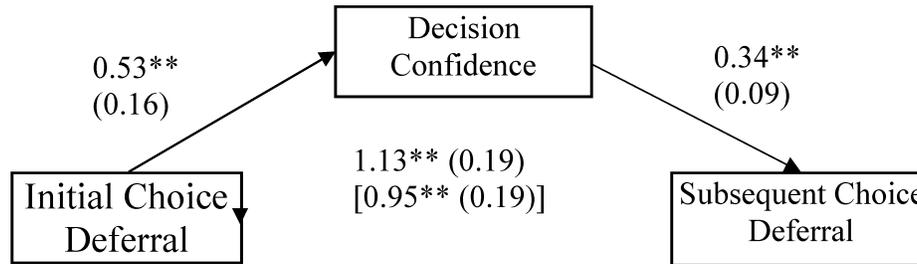


Figure 2.2: Linear Regression Coefficients of mediational analysis from Study 3. Values in parentheses represent the standard errors. $p < 0.05^*$; $p < 0.001^{**}$

2.5 General Discussion

While the antecedents of choice deferral have received much attention, the present research investigates the downstream consequences of choice deferral on subsequent decisions. In sum, studies 1a and 1b showed that initial deferral (both measured and manipulated) prompted greater subsequent deferral, on both related and unrelated choices, as choice relatedness did not moderate the effect in study 1b. Study 3 further provided evidence that initial choice deferral increases decision confidence, and study 4 demonstrated that this increase in decision confidence mediates the effect of initial deferral on subsequent deferral. These findings have several theoretical and practical implications.

First, I examined the effects of initial choice deferral on subsequent choice deferral for distinct decisions, thus broadening the inaction inertia effect (Tykocinski et al., 1995; Tykocinski & Pittman, 1998) to a more varied range of decisions. Second, the deferral momentum effect contributes to research on choice deferral and on sequential decision making by identifying both a new consequence of initial choice deferral (i.e., greater likelihood of subsequent deferral) and a new antecedent of choice deferral (i.e., initial choice deferral). Third, the present research offers a novel psychological consequence of choice deferral, by showing that it increases decision confidence, which prompts further subsequent deferral.

The current research also offers important practical implications. First, the findings suggest that consumers should be careful when making decisions following an initial choice deferral, especially when the decisions bear significance (e.g., charitable donation decisions Ein-Gar et al., 2021), as they may end up deferring a decision they would have otherwise preferred to make. Marketers, on the other hand, should be wary of providing product recommendations after a customer deferred making a choice, in order to reduce their likelihood of deferring subsequent decisions. In addition, marketers should be wary of decision context factors that may increase the likelihood of initial choice deferral, such as larger (vs. smaller) assortments (Ein-Gar et al., 2021) or time pressure (Dhar and Nowlis 1999), as they may trigger a deferral momentum and increase consumers' likelihood of subsequent deferral.

Although the observed results support my predictions, the findings are not without limitations. First, in studies 1a and 3, participants self-selected into choice deferral (vs. no deferral) rather than being randomly assigned to a condition, such that their decision may be due to individual

differences. I managed to replicate the deferral momentum effect using a choice deferral manipulation in study 1b, but the manipulation conversely “forced” participants into a decision they may not have “naturally” made (e.g., would have never deferred or made an immediate decision), as expressed by some participants in their open-ended responses. Future research could investigate whether self-selection into choice deferral (vs. no deferral; as in studies 1a and 3), being “nudged” to defer choice (vs. not; e.g., by manipulating choice difficulty; Tversky & Shafir, 1992), or being “forced” to defer (as in studies 1b and 2) have different downstream effects on consumer behavior, for instance due to reactance (Heilman & Toffler, 1976; Rains, 2013).

Second, although study 3 provided evidence for the hypothesized mediating effect of decision confidence, the effect of initial choice deferral on subsequent choice deferral was still significant, albeit to a lesser extent, when the mediator was added to the model. This suggests that other psychological mechanisms underlie the deferral momentum, which could be further explored in future research.

Third, the marginally significant effect of choice deferral on decision confidence observed in study 2 may be due to the use of the Consumer Self-Confidence scale (Bearden et al. 2001) to assess decision confidence, rather than a more decision-relevant measure (as in study 3). Indeed, the items (e.g., “I often agonize about purchase decisions”) suggest that the scale may be assessing a more stable consumer self-confidence trait, rather than context-specific decision confidence (which produced significant results in study 3). Future research could test whether trait consumer self-confidence plays a role in the deferral momentum effect, as higher (vs. lower) self-confidence could increase the likelihood of initial choice deferral or moderate the effect of initial choice deferral on subsequent deferral.

In sum, the findings presented here help advance our understanding of choice deferral in general, and of its psychological and behavioral consequences. Across four studies, I demonstrate that initial choice deferral increases decision confidence, which in turn increases consumers’ likelihood of deferring subsequent choices. Although further research is necessary to fully understand the robustness and boundaries of these effects, this research provides an important step towards a better understanding of the consequences of choice deferral.

3 Chapter 3: The Role of Choice Conflict in Choice Deferral

Abstract

Choice conflict is an important factor underlying choice deferral. Choice conflict makes it harder to choose one option from a choice set, thus increasing the incidence of choice deferral. Prior research has investigated the antecedents and characteristics of choice deferral. Prior research has also examined how priming conflict via conflicting goals impact subsequent decisions. In addition, although a higher (vs. lower) conflict decision has been shown to increase consumers' likelihood of deferral for that decision, the effects of experiencing this initial choice conflict on subsequent choices have not been explored, to my knowledge. The current research thus attempts to address these gaps by examining how the extent to which conflict on initial choice impacts subsequent choice deferral. Specifically, I examine how choice conflict operationalized both implicitly and explicitly, during an initial decision, impacts the likelihood of deferral of subsequent choices. Being faced with a higher (vs. lower) conflict decision may prompt a cognitive style that facilitates trade-off thinking, thereby decreasing the likelihood of subsequent choice deferral. Across four experiments, I show that when an initial choice is higher (vs. lower) conflict, choice deferral on subsequent decisions decreases. I further show that when choice conflict is imagined rather than experienced, the effect reverses, such that choice deferral on subsequent decisions increases. Taken together, the current research shows that choice conflict can impact choice deferral on subsequent choices in opposing ways depending on the decision context.

3.1 Introduction

Imagine you are traveling to a conference and need to book a hotel for your stay. You find two hotels to choose between – one is cheaper but far from the conference venue, the other is expensive but closer to the conference venue. Owing to the conflict between these two options, you cannot choose which hotel you want to stay at and decide to put off the decision to consider more options.

Consumers often defer making decisions that they find difficult. Difficult choice tasks tend to engender choice conflict (Tversky & Shafir, 1992b), owing to the attribute-based tradeoffs that must be made in order to arrive at a suitable alternative that fits one's needs. Formally, choice conflict may be defined as the degree of negative correlation between attributes of two alternatives (Luce et al., 1997; Tversky & Shafir, 1992b). The hotel booking choice example illustrates this, as the price and distance from the venue are negatively correlated for the two hotel options (i.e., Hotel A has a high price, Hotel B has a low price; Hotel A has a low distance, Hotel B has a high distance). Prior research has shown choice conflict is driven by assortment size (Iyengar & Lepper, 2000; Kiesler, 1966; Tversky & Shafir, 1992b), the mode of presentation of the alternatives (Dhar & Sherman, 1996; Gourville & Soman, 2005; Markman & Medin, 1995), preference uncertainty (Bettman et al., 1998; Slovic, 1995), and the relative similarity of the alternatives (Luce et al., 1997; Tversky & Shafir, 1992b).

Choice conflict has been known to drive choice deferral (Chernev, 2005; Dhar, 1997a; Iyengar & Lepper, 2000; Tversky & Shafir, 1992b). Although prior research has manipulated choice conflict by modifying choice sets and observing greater deferral, choice conflict has not been made explicit or measured in these studies. In addition, although a higher (vs. lower) conflict decision has been shown to increase consumers' likelihood of deferral for that decision (e.g., Tversky & Shafir, 1992), the effects of experiencing this initial choice conflict on subsequent choices have not been explored, to my knowledge.

In the previous chapter, I found that choice deferral increases decision confidence which, in turn, impacts subsequent choices. Some extant research has suggested that experiencing greater choice conflict may reduce decision confidence (Weber et al., 2000; Zakay, 1985). For instance, Zakay (1985) found that nurses who made patient-related decisions using a compensatory decision-making strategy, implying more conflict, reported lower decision confidence than those who made decisions using a low conflict non-compensatory strategy. Since initial choice conflict may impact decision confidence, it is possible that conflict experienced on initial choice may have downstream consequences. The current research thus examines whether choice conflict experienced, both implicitly and explicitly, during an initial decision impacts the likelihood of choice deferral of subsequent choices.

Prior research has shown that experiencing conflict is not always aversive, and can sometimes be beneficial (Kleiman & Enisman, 2018; Kleiman & Hassin, 2011, 2013; Savary et al., 2015) For instance, experiencing goal conflict can activate a mindset that facilitates systematic information processing, without triggering associated costs such as negative affect and stress, thus improving consumers' ability to make tradeoffs and resolve choice conflict (Savary et al., 2015). Being faced with a higher (vs. lower) conflict decision may prompt a similar mindset, thereby decreasing the likelihood of subsequent choice deferral.

In the following sections, I will present the theoretical background and motivation for the present research and state my research questions. I will then present four studies that provide evidence in support of my predictions. Finally, I will discuss the implications of this research and future directions.

3.2 Antecedents of Choice Conflict

3.2.1 Assortment Size

Extant prior research has investigated the factors influencing choice conflict. For instance, prior research has shown that consumers are more likely to make a purchase when choosing from an assortment of 6 alternatives than when choosing from a larger assortment of 24 alternatives (Iyengar & Lepper, 2000). Iyengar and Lepper (2000) found that participants choosing from larger assortments reported greater choice difficulty and greater regret, which may prompt greater choice deferral in larger assortments. These findings have been replicated in a variety of product categories (Berger et al., 2007; Chernev, 2003b). A larger assortment implies more tradeoffs, increasing the complexity of the choice and the degree of cognitive resources required to find a suitable alternative. As choice conflict increases, it becomes harder to select one option, thereby making it easier to justify deferring choice. Larger assortments may also drive deferral because they shift consumers' ideals in a way that makes them unattainable (Chernev, 2003b; Schwartz, 2004). Even if consumers may believe that they are more likely to find a perfect match for their needs within a seemingly limitless array of choices, greater assortments ironically make the choice harder (Diehl & Poynor, 2010).

Choice conflict is not limited to extremely large assortments. Tverksy and Shafir (1992) paid study participants \$1.50 and then asked half of their participants if they wanted to exchange this money for a *Zebra* pen. They asked the other half if they wanted to exchange their compensation for either a *Zebra* pen or a pair of *Pilot* pens. They found that 25% of participants opted for the payment when just the *Zebra* pen was offered and 53% opted for the payment when both *Zebra* and *Pilot* pens were offered. This illustrates that two options generate more conflict than one and justifies choosing neither.

3.2.2 Mode of Presentation of Alternatives

Another factor which impacts choice conflict is the ease with which consumers may compare attribute-based information. Choice options may be presented such that each product has the same attributes listed, or there may be some unique attributes present only for certain products (Dhar & Sherman, 1996; Markman & Medin, 1995; see Table 3.1 for an example).

Table 3.1 Example of Alignable and Non-Alignable Attributes in Choice

Hotel A	Hotel B
\$150 per Night*	\$100 per Night*
1 mile from Conference Venue*	0.5 mile from Conference Venue*
Fitness Center in Hotel*	No Fitness Center in Hotel*
Free Breakfast	Free Overnight Parking

Note. * Indicates alignable attributes

When all attributes are common among all the alternatives, the choice alternatives have high alignability and are easier to compare. However, when the choice alternatives have more unique attributes, those that are less alignable are harder to compare. When attributes are non-alignable or non-comparable, increasing assortment size decreases purchase likelihood (Gourville & Soman, 2005). Further, Dhar and Sherman (1996) showed that when alternatives are presented as having unique attributes that are bad and shared attributes that are good, choice deferral is higher than when alternatives are presented with unique-good and shared-bad attributes (see table 3.2 for an example). This occurs because consumers perceive the assortment with unique-bad alternatives as less attractive than the assortment with unique-good attributes and defer more.

Table 3.2 Example of Unique “Bad” Attributes and Shared “Good” Attributes

Hotel A	Hotel B
Low Nightly Rate*	Low Nightly Rate*
Great Fitness Center*	Great Fitness Center*
Far from Conference Venue	Very Noisy Street
Poor Customer Service	Poor Quality Food

Note. * Indicates shared “good” attributes

Thus, choice conflict induced by choice complexity can impact rates of choice deferral. In addition, research has shown that when attribute information is presented in a difficult to read format (e.g., hard vs. easy-to-read font), choice deferral increases (Novemsky et al., 2007) due to a lack of perceptual fluency, which increases perceived choice difficulty.

3.2.3 Preference Uncertainty

Consumers also often don’t have strong preferences prior to making some choices. Prior research has shown that in the absence of well-defined preferences, consumers must construct them during the choice task (Bettman et al., 1998; Slovic, 1995). The construction of preferences while evaluating different alternatives and attributes can compound the difficulty of the choice task. Prior research has found that consumers who have a well-articulated desired combination of attributes experience less difficulty during choice (Chernev, 2003a). Additionally, consumers who have less stable preferences also tend to search more, thus increasing the amount of information processed, and increasing the choice conflict experienced (Chernev, 2003b).

3.2.4 Similarity of Choice Alternatives

Prior research has found that the degree of similarity between alternatives can impact choice conflict (Dhar, 1997a; Tversky & Shafir, 1992b). In these studies, participants were shown a binary choice set with two alternatives that were equally attractive (high conflict) or a choice set with two alternatives where one was clearly superior (low conflict). Results showed that participants are much more likely to defer a high conflict choice than a low conflict choice, owing to the lack of a compelling reason to make the choice (Slovic, 1995).

Choice conflict is a well-known antecedent of choice avoidant responses (Anderson, 2003a; Dhar, 1997a; Tversky & Shafir, 1992b). Prior research has manipulated choice conflict in

various ways, such as increasing assortment size, changing the presentation of alternatives and their attributes, and making consumers choose between similarly attractive alternatives (Iyengar & Lepper, 2000; Novemsky et al., 2007; Tversky & Shafir, 1992), and have found that choice conflict increases incidence of choice deferral. However, I will employ a different framework in the current research. Experienced choice conflict will be manipulated by having participants complete a low-conflict vs high-conflict task. In addition, although higher (vs. lower) choice conflict has been shown to increase choice deferral (e.g., Tversky & Shafir, 1992) for the decision where the conflict is experienced, its downstream effects on subsequent choices have not been explored, to my knowledge. The current research thus attempts to address these gaps by examining how choice conflict experienced during an initial decision impacts the likelihood of deferral of subsequent choices.

3.3 Conflict Mindset and Decision Making

Prior research has shown that conflicting goals can activate a conflict mindset, which can then impact decisions unrelated to the conflicting goals (Kleiman & Hassin, 2013). Specifically, Kleiman and Hassin (2013) found that priming conflicting goals reduced the confirmation and anchoring biases on unrelated choices. They first used a word-based priming task to prime the opposing goals of achieving academic success (by using words such as “success”, “grades”, “university”, “library”, “study”, etc.) and socializing (by using words such as “party”, “alcohol”, “going out”, “club”, etc.). Thereafter, they asked participants to complete a hypothesis testing task. Essentially, participants are given a hypothesis (“John is an extrovert”) and they must select from a predetermined set of questions to test their hypothesis. Participants primed with conflicting goals selected questions that were less confirmatory, implying that they considered the possibility that the hypothesis may be untrue. Participants who were not primed with conflicting goals selected more confirmatory questions, implying they fall into the confirmation bias and favor the hypothesis being true.

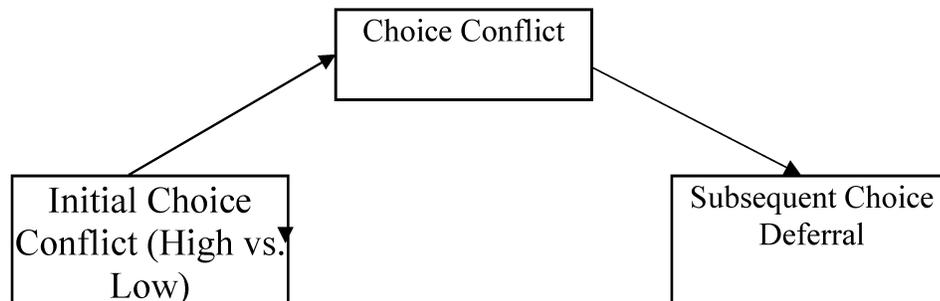
Research has further shown that a conflict mindset primes a cognitive style that takes into greater consideration conflicting information, thus facilitating trade-offs, and increasing choice incidence (Kleiman & Enisman, 2018; Savary et al., 2015). Research has also found that priming conflicting goals can increase decision duration, which implies more deliberation about the decision (Kleiman & Hassin, 2011). Relatedly, decision times have been employed as an implicit measure of choice conflict in past work (Berlyne, 1957; Diederich, 2003; Kiesler, 1966). Of note, Savary et al. (2015) examined the effect of priming conflicting goals on choice deferral. The authors used a lexical task that employed words related to conflicting goals (e.g., “career,” “salary,” “promotion” vs. “party,” “socializing”) to prime conflicting goals of pursuing career success and socializing. Thereafter, participants completed an unrelated choice task. They found that participants who were primed with conflicting (vs. non-conflicting) goals deferred less on subsequent choice tasks. According to the authors, goal conflict prompts a systematic and procedural information processing strategy, which helps resolve subsequent choice conflict, thereby reducing choice deferral.

In addition, research on the conflict mindset has shown that not all types of conflict produce similar effects (Kleiman & Hassin, 2013; Savary et al., 2015). For instance, Kleiman and Hassin (2013) primed conflict by either priming conflicting goals or showing participants words with opposing meaning. When conflicting goals are primed, they observe an attenuation in the degree

of confirmation bias, or an increased tendency to examine information that counters a previously held view or statement. However, when merely showing words with opposing meaning was employed as a manipulation, the confirmation bias was not attenuated. This suggests that the extent to which conflict is actual (vs. hypothetical) or experienced (vs. imagined) may moderate whether a conflict mindset is activated and, consequently, its downstream effects.

Building on this line of work, I first propose that higher (vs. lower) choice conflict, although it increases choice deferral for the decision where the conflict is experienced, will decrease the likelihood of further deferral on subsequent decisions. I further propose that this effect will be observed when choice conflict is experienced, but not imagined. Formally:

H1: Higher (vs. lower) choice conflict will prompt lower choice deferral in subsequent decisions.
H2: Experienced (vs. imagined) choice conflict will prompt lower choice deferral in subsequent decisions.



As an aside, I have shown in chapter 2 that choice deferral begets further deferral on subsequent choices, an effect I dubbed the *deferral momentum*. This chapter builds on these findings by identifying choice conflict, and the extent to which it is experienced, as a potential moderator for this deferral momentum.

3.4 Experimental Studies and Results

3.4.1 Overview of Studies

Across four studies, I tested whether choice conflict reduces subsequent deferral. In the pilot study, I use decision timing as an indirect proxy for choice conflict and find that greater decision time is associated with lower choice deferral on subsequent choices. In study 1, I manipulate choice conflict using choice sets and find that higher (vs. lower) choice conflict reduces subsequent choice deferral. In study 2, I again manipulate choice conflict using choice sets and measure the degree of conflict experienced by participants to replicate and extend the findings from study 1. Finally, in study 3, I use a hypothetical scenario to manipulate choice conflict and find that, when choice conflict is imagined (vs. experienced), it increases subsequent choice deferral, thus identifying a boundary condition for the effect of choice conflict on subsequent deferral.

3.4.2 Pilot Study: Timing as an Indirect Proxy for Choice Conflict

Methods. The aim of this preliminary study was to explore the effect of choice conflict on subsequent choice deferral using an implicit measure (i.e., choice timing). Two hundred and four

U.S. participants (48% male, $M_{\text{age}} = 31.25$, $SD_{\text{age}} = 9.95$) were recruited on Prolific and received a monetary compensation equivalent to or above the federal minimum wage for their participation in this study. All participants were first shown the same choice task (i.e., choice between two digital cameras; adapted from Dhar & Nowlis, 1999; see appendix for stimuli). They could choose either of the two options or delay their decision and look for other options (i.e., choice deferral). Participants were then asked to make four subsequent choice decisions (i.e., laptops, cars, vacation spots and rental apartments; adapted from Dhar & Nowlis, 1999) with the same decision options. I summed the number of choices that were deferred in the subsequent decisions (range: 0-4) as the dependent variable. Participants were finally presented with standard demographic questions and data quality checks.

Results. After removing participants who failed the attention checks, reported technical issues, and reported being distracted, there were 167 observations left for the analyses. Results showed a marginal negative correlation between initial decision time and subsequent choice deferral ($r(165) = -.14$, $p = .07$), suggesting that participants who spent longer on the initial decision were less likely to defer subsequent choices. However, as previously mentioned, timing data is an indirect measure for choice conflict. Correlational data also does not allow ascertaining a causal relationship. The next studies will address these limitations by more directly manipulating and measuring choice conflict.

3.4.3 Study 1: Manipulated Choice Conflict

Methods. The aim of study 1 is to test for the effect of choice conflict (high vs. low) on subsequent choice deferral more directly. One hundred and thirty-six participants (55% Male, $M_{\text{age}} = 21.55$, $SD = 3.36$) from a university participant pool completed this study for a partial course credit. Participants were first randomly assigned to a high or low conflict choice set (adapted from Tversky and Shafir, 1992; see appendix for stimuli). Both choice sets involved choosing between two apartments to rent, and participants could choose either of the two options or delay their decision and look for other options (i.e., choice deferral). The low conflict choice set included a dominant superior alternative, which has been shown to facilitate choice, whereas the high conflict choice set included two similarly attractive alternatives, which has been shown to prompt choice deferral (Tversky & Shafir, 1992b). Participants were then asked to make four subsequent choice decisions (i.e., digital cameras, laptops, cars, and vacation spots; adapted from Dhar & Nowlis, 1999) with the same decision options. I summed the number of choices that were deferred in the subsequent decisions (range: 0-4) as the dependent variable. Participants were finally presented with standard demographic questions and data quality checks.

Results. After removing participants who failed the attention checks, reported technical issues, and reported being distracted, 120 observations remained for the analyses. First, the results show that the choice conflict manipulation was successful, as the high conflict (vs. low) conflict choice set prompted greater choice deferral ($P_{\text{Deferral(High-Conflict)}} = 44\%$, $P_{\text{Deferral(Low-Conflict)}} = 10\%$, $\chi^2(1,120) = 17.97$, $p < .001$). Second, in line with my predictions, results show that participants exposed to the high (vs. low) conflict choice set were less likely to defer subsequent choices ($M_{\text{High-Conflict}} = 2.07$ $SD = 1.24$, $M_{\text{Low-Conflict}} = 1.19$ $SD = 1.06$, $t(118) = 4.15$, $p < .001$). Thus, when initial deferral stems from a high (vs. low) conflict choice, the deferral momentum effect identified in chapter 2 is reversed. In the next study, I will even more explicitly assess choice conflict by measuring it, and test whether it mediates the effect observed in this study.

3.4.4 Study 2: Manipulated and Measured Choice Conflict

Methods. The aim of study 2 is to (1) replicate the effect of high (vs. low) choice conflict on subsequent deferral observed in study 1, and (2) to explicitly measure choice conflict and test whether it mediates the effect. Eight hundred and eighty participants (54% male, $M_{\text{age}} = 42.25$, $SD = 13.36$) were recruited on Amazon Mechanical Turk, using CloudResearch, and received a monetary compensation equivalent to or above the federal minimum wage for their participation in this study. Participants were first randomly assigned to the same high versus. low conflict choice sets employed in Study 1 (i.e., apartments; see appendix for stimuli). Next, participants were asked to report how they felt about the choice task (i.e., difficult, conflicted, confident, worried about choosing the wrong option, and worried about regretting their choice; scale: 1 = Not at all to 9 = Extremely). Participants were then asked to make four subsequent choice decisions (i.e., digital cameras, laptops, vacation spots and apartments; adapted from Dhar & Nowlis, 1999) where they could choose one of the two options or decide to look for more options (i.e., choice deferral). I summed the number of choices that were deferred in the subsequent decisions (range: 0-4) as the dependent variable. Participants were finally presented with standard demographic questions and data quality checks. The order of presentation of the choice-related measures and the dependent variables was randomized and no order effect was found.

Results. After removing participants who failed attention checks, reported technical issues with the survey, and reported being distracted, 856 observations remained for the analyses. First, the results showed that the choice conflict manipulation was successful, as the high (vs. low) conflict choice set prompted greater choice deferral ($P_{\text{Deferral(High-Conflict)}} = 55\%$, $P_{\text{Deferral(Low-Conflict)}} = 6\%$, $\chi^2(1,854) = 242.44$ $p < .001$). Second, replicating the effect found in study 1, participants exposed to the high (vs. low) conflict choice set were less likely to defer subsequent choices ($M_{\text{High-Conflict}} = 1.36$, $SD = 1.06$, $M_{\text{Low-Conflict}} = 1.73$, $SD = 1.07$, $t(854) = 5.01$, $p < 0.001$). In addition, participants exposed to the high (vs. low) conflict choice set also reported experiencing higher choice conflict ($M_{\text{High-Conflict}} = 4.83$ $SD = 2.40$, $M_{\text{Low-Conflict}} = 2.40$ $SD = 2.06$, $t(854) = 15.91$, $p < .001$). Experienced choice conflict further mediated this effect (95% CI: [-.22; -.06]; see Table 3.3). As an aside, the differences between the other choice-related measures (i.e., choice difficulty, choice confidence, worrying about choosing wrong option, degree of regret after choice) are also significant (see appendix for analyses).

Figure 3.1: Mediation by Experienced Choice Conflict in Study 2

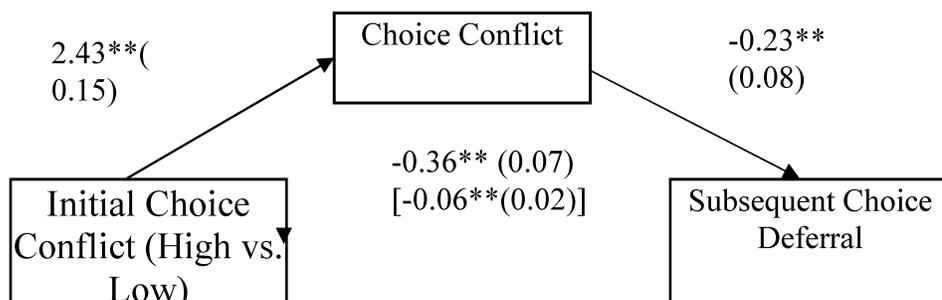


Table 3.3: Mediation by Experienced Choice Conflict

Direct Effect of High vs. Low Choice Conflict on Subsequent Choice Deferral			
Variable	β	SE	t (p-value)
High vs. Low Choice Conflict	-.36	.07	-5.01 ($< .001$)
Effect of High vs. Low Choice Conflict on Measured Choice Conflict			
Variable	β	SE	t (p-value)
High vs. Low Choice Conflict	2.43	.15	15.92 ($< .001$)
Effect of Manipulated and Measured Choice Conflict on Subsequent Choice Deferral			
Variable	β	SE	t (p-value)
High vs. Low Choice Conflict	-.23	.08	-2.79 (.01)
Measured Choice Conflict	-.06	.02	-3.42 (.001)

The findings of study 2 thus replicate and extend those of study 1, showing that exposure to higher (vs. lower) conflict in initial choice reduces the likelihood of subsequent deferral, and demonstrating that experienced choice conflict moderates the effect.

3.4.5 Study 3: Imagined (vs. Experienced) Choice Conflict

Methods. The aim of study 3 was to test whether imagining (vs. experiencing) choice conflict moderates the effect found in study 1 and 2, as it may not activate a conflict mindset (Kleiman & Hassin, 2013), which would thus not help reduce subsequent choice deferral. Eight hundred and seventy-five participants (58% male, $M_{age} = 40.73$, $SD = 12.38$) were recruited on Amazon Mechanical Turk, using CloudResearch, and received a monetary compensation equivalent to or above the federal minimum wage for their participation in this study. Participants were first presented with a scenario (see appendix for stimuli) that asked them to imagine they had cracked their smartphone screen and were searching for options to fix it. In the choice conflict condition, participants were told that they had found two repair shops with similar prices and reviews, and that they could not make up their mind about which store to choose. In the control condition, participants were told that they had found two repair shops and they were able to choose one and get their phone fixed. Next, participants were asked to predict how they would feel about the choice task if they found themselves in such situation (i.e., difficult, conflicted, confident, worried about choosing the wrong option, and worried about regretting their choice; scale: 1 = Not at all to 9 = Extremely, see appendices for all items).

Participants were then asked to make four subsequent choice decisions (i.e., digital cameras, laptops, vacation spots and apartments; adapted from Dhar & Nowlis, 1999) where they could choose one of the two options or decide to look for more options (i.e., choice deferral). I summed the number of choices that were deferred in the subsequent decisions (range: 0-4) as the dependent variable. Participants were finally presented with standard demographic questions and data quality checks. The order of presentation of the choice-related measures and the dependent variables was randomized and no order effect was found.

Results. After removing participants who reported technical issues with the survey, being distracted, and who requested their data not be used for analysis, 808 observations remained for the analyses. First, the conflict (vs. control) scenario increased predicted choice conflict ($M_{\text{Conflict}} = 5.21$, $SD = 1.98$, $M_{\text{Control}} = 3.87$, $SD = 1.68$, $t(806) = 10.34$, $p < .001$). Second, contrary to what was observed in studies 1 and 2, the conflict (vs. control) scenario increased the likelihood of subsequent choice deferral ($M_{\text{Conflict}} = 2.48$, $SD = 1.34$, $M_{\text{Control}} = 2.17$, $SD = 1.38$, $t(806) = 3.24$, $p = .001$). Additionally, predicted choice conflict does not mediate the effect (95% CI: [-.05; .04]). The findings of study 3 therefore suggest that when choice conflict is imagined, rather than experienced, it does not help reduce consumers' likelihood of choice deferral on subsequent decisions. The extent to which choice conflict is actually experienced (vs. merely imagined) thus moderates the effect found in studies 1 and 2.

3.5 General Discussion

This chapter sheds light on the consequences of choice conflict on choice deferral in subsequent choices. Across four studies I replicated the effect of high (vs. low) conflict on subsequent deferral, explicitly measured choice conflict and demonstrated its role as a mediator, and identified a boundary condition (i.e., imagined choice conflict). The results show that when the initial choice is high in conflict, and the conflict is experienced (vs. imagined), choice deferral is reduced in subsequent choices. This may occur because conflict can engender a mindset that favors making tradeoffs, thus increasing the incidence of making a choice on subsequent decisions (Kleiman & Enisman, 2018; Kleiman & Hassin, 2011, 2013; Savary et al., 2015). The results also provide evidence that choice conflict may moderate the previously reported deferral momentum (see chapter 2), where choice deferral begets greater choice deferral, as the choice sets employed to demonstrate the deferral momentum effect were similar to those used in the low conflict conditions in the current research. Conversely, in the current research, high choice conflict increased choice deferral on the initial choice, but resulted in a reduction in choice deferral on subsequent choices, thereby seemingly reversing the deferral momentum. The joint roles of decision confidence and choice conflict in the deferral momentum would thus warrant further investigation. The current research therefore extends our understanding of how choice conflict impacts subsequent decisions. My work also contributes to the deferral literature by showing that a major determinant of choice deferral – choice conflict – can reduce subsequent choice deferral.

Although my results provide compelling evidence regarding the effect of choice conflict on subsequent choice deferral, they are not without limitations. For instance, relatively higher-priced and higher-involvement products were used as stimuli, such as smartphones, laptops, and vacations. These types of products may have inherently resulted in more elaboration and thought. Future research could thus test whether the effect of choice conflict extends to fast moving

consumer goods, and other types of lower-prices and lower-involvement types of products, which may not require as much elaboration and thought to make a choice. Future work could also explore why experiencing versus imaging choice conflict have different effects on subsequent choice, as well as whether conflict intensity may play a role in the effect.

In sum, the findings presented here help advance our understanding of the role of choice conflict in choice deferral, and its downstream consequences. Across four studies, I demonstrate that experiencing (vs. imaging) higher (vs. lower) choice conflict decreases consumers' likelihood of deferring subsequent choices. Although further research is necessary to fully understand the robustness and boundaries of these effects, this research provides an important step towards a better understanding of the consequences of choice conflict.

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5 Chapter 2 Appendix

5.1 Initial Deferral Stimuli

5.1.1 Choice Deferral Self-Selection Task, Studies 1a and Study 3

Digital Camera

Imagine you are looking to buy a digital camera. Please consider all the information about each camera before making your choice. You also have the option of looking for other cameras.

Camera A has:

Very powerful zoom
Large touchscreen viewer
Very easy to use
Fragile, easily scratched
Weak flash

Camera B has:

Face recognition auto-focus
All-weather, shock proof
Wide angle lens
Short battery life
Somewhat large and heavy

I would:

Look for another camera

Choose Camera A

Choose Camera B

5.1.2 Deferral Manipulation, Studies 1b and 2

No Deferral Condition

Imagine you recently dropped your smartphone and, as a result, your screen got cracked.



You want to get the screen repaired to prevent further damage to your phone, so you look for stores that could repair your phone's screen.

You find several options with prices ranging between \$90 to \$150.

You choose a store near you and book an appointment to get your screen repaired.

Deferral Condition

Imagine you recently dropped your smartphone and, as a result, your screen got cracked.



You want to get the screen repaired to prevent further damage to your phone, so you look for stores that could repair your phone's screen.

You find several options with prices ranging between \$90 to \$150.

You choose to put off making a decision for later.

5.2 Dependent Variables

5.2.1 Examples of Subsequent Product Choices, Studies 1a and 3 (adapted from Dhar and Nowlis, 1999)

Laptop Computer

Imagine you are looking to buy a laptop computer. Please consider all the information about each computer before making your choice. You also have the option of looking for other laptops.

Laptop A has:

Large memory
Large software package included
Very small
Poor battery life
Graphics card not very good

Laptop B has:

Good graphics
Fast
Very stylish design
Heavy
Screen easily scratched

I would:

Look for another laptop

Choose Laptop A

Choose Laptop B

Vacation spots

Imagine you are making plans for a vacation. Please consider all the information about each vacation destination before making your choice. You also have the option of looking for other vacation spots.

Vacation Location A has:

Good restaurants and clubs
Good theaters
Attractive beach
Bad weather possible
Frequent traffic jams

Vacation Location B has:

Beautiful scenery
Good museums
Plenty of good party spots
Has a pollution problem
Unfriendly to tourists

I would:

Look for other vacation locations

Choose Location A

Choose Location B

5.2.2 Examples of Subsequent Product Choices, Studies 1b (adapted from Dhar and Nowlis, 1999)

After doing some shopping, you identify the following luggages as potential purchase options.
(Please wait for the pictures of the products to load)

You need to decide whether to proceed with the purchase, by selecting one of the options, or to put off the purchase decision for later.



Samsonite Aspire xLite Expandable Soft Luggage with Spinner Wheels
\$114.99

Sturdiness	★★★★☆ 4.5
For traveling	★★★★☆ 4.5
Maneuverability	★★★★☆ 4.4
Light weight	★★★★☆ 4.4
Durability	★★★★☆ 4.0



Travelpro Maxlite 5 Lightweight Expandable Suitcase
\$112.49

Light weight	★★★★☆ 4.8
Maneuverability	★★★★☆ 4.7
Sturdiness	★★★★☆ 4.6
For traveling	★★★★☆ 4.4
Storage Capacity	★★★★☆ 3.6

Which decision would you make?

I decide to buy the Samsonite suitcase

I decide to buy the TravelPro suitcase

I decide to defer the decision to a later time

After doing some shopping, you identify the following headphones as potential purchase options.
(Please wait for the pictures of the products to load)

You need to decide whether to proceed with the purchase, by selecting one of the options, or to put off the purchase decision for later.



Beats Solo3 Wireless On-Ear Headphones - Matte Black
\$164.99

Volume control	★★★★☆ 4.7
Battery life	★★★★☆ 4.5
Sound quality	★★★★☆ 4.5
Bass quality	★★★★☆ 4.5
Noise cancellation	★★★★☆ 4.2
Material quality	★★★★☆ 4.2



Skullcandy Crusher Bluetooth Wireless Over-Ear Headphone
\$148.99

Battery life	★★★★☆ 4.7
Bass quality	★★★★☆ 4.6
Sound quality	★★★★☆ 4.5
Material quality	★★★★☆ 4.2
Noise cancellation	★★★★☆ 4.0

Which decision would you make?

I decide to buy the Beats headphones

I decide to buy the Skullcandy headphones

I decide to defer the decision to a later time

5.3 Additional Results

Study 1a: Effect of Self-Selected Choice Deferral on Subsequent Deferral

- Manipulation: Digital Camera choice
- Dependent Variables: Deferral on four subsequent choices (cars, laptops, vacation spots and apartments), demographics including age, gender, ethnicity
- Filtering: Participants who failed attention checks, reported being distracted, having technical issues, and asked us not to use their data were excluded from analysis ($N = 302$, $N = 240$ after filtering)
- Results of ANOVA of subsequent deferral without gender as a covariate show that the effect is robust ($M_{\text{Deferral}} = 2.10$, $SD = 1.13$, $M_{\text{Control}} = 1.33$, $SD = 1.14$, $F(2,249) = 28.05$, $p < 0.001$).

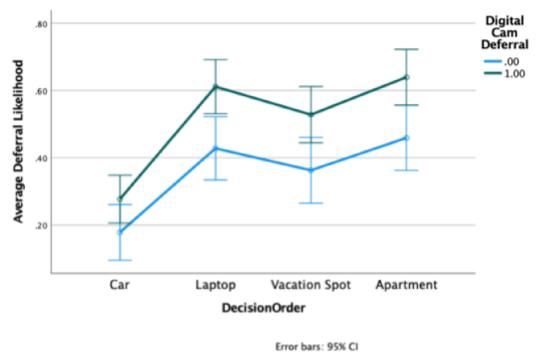


Figure 2A.1: Subsequent choice deferral following initial digital camera choice; 0 = no deferral and 1 = choice deferral

Study 1b: Effect of Manipulated Choice Deferral on Subsequent Deferral

- Manipulation: Cracked phone screen scenario
- Dependent Variables: Subsequent Choice deferral (luggage or headphones)
- Filtering: duplicate IP addresses, participants who completed study on smartphone, reported being distracted, reported having technical issues, and asked not to use their data ($N = 604$, $N = 554$ after filtering)

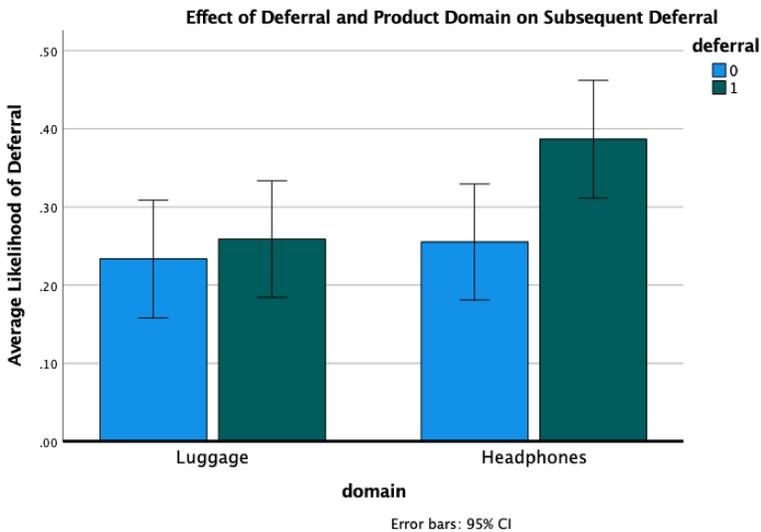


Figure 2A.2: Interaction between choice deferral manipulation and relatedness on subsequent choice deferral

Study 2: Effect of Manipulated Choice Deferral on Decision Confidence

- Manipulation: Phone deferral scenario
- Dependent Variables: Consumer Self-Confidence Scale
- Filtering: Participants who failed both attention checks and reported technical issues ($N = 134$, $N = 118$ after filtering)

Table 2A.1: Results of Study 2

Variable	Control ($n = 60$)		Deferral ($n = 58$)		t (p-value)
	Mean	SD	Mean	SD	
Positive Mood	5.51	1.23	4.58	0.97	4.58 (<0.001)
Negative Mood	4.39	1.74	5.54	1.76	3.56 (<0.001)
Consumer Self-Confidence (Information Seeking)	4.03	0.65	3.99	0.69	0.329 (0.742)
Consumer Self-Confidence (Consideration Set Formation)	4.04	0.55	4.01	0.53	0.367 (0.714)
Consumer Self-Confidence (Decision Confidence)	2.29	0.80	2.56	0.79	1.85 (0.066)

Note. Two-sided p-values are reported

Table 2A.2: Results of Study 2a without applying any filtering criteria

Variable	Control ($n = 65$)		Deferral ($n = 69$)		t (p-value)
	Mean	SD	Mean	SD	
Positive Mood	5.52	1.21	4.62	0.99	4.76 (<0.001)
Negative Mood	4.42	1.69	5.33	1.87	2.93 (0.004)
Consumer Self-Confidence (Information Seeking)	4.03	0.66	3.94	0.68	0.77 (0.446)
Consumer Self-Confidence (Consideration Set Formation)	4.05	0.56	3.97	0.52	0.84 (0.402)
Consumer Self-Confidence (Decision Confidence)	2.31	0.78	2.48	0.77	1.30 (0.198)

Study 3: Effect of Manipulated Choice Deferral on Decision Confidence

- Manipulations: Digital camera choice
- Dependent Variables: Subsequent deferral and decision confidence on four choices (car, laptop, vacation spots, and apartments)
- Filtering: Participants who failed both attention checks, reported technical issues, and used smartphones to complete the study ($N = 200$, $N = 167$ after filtering)

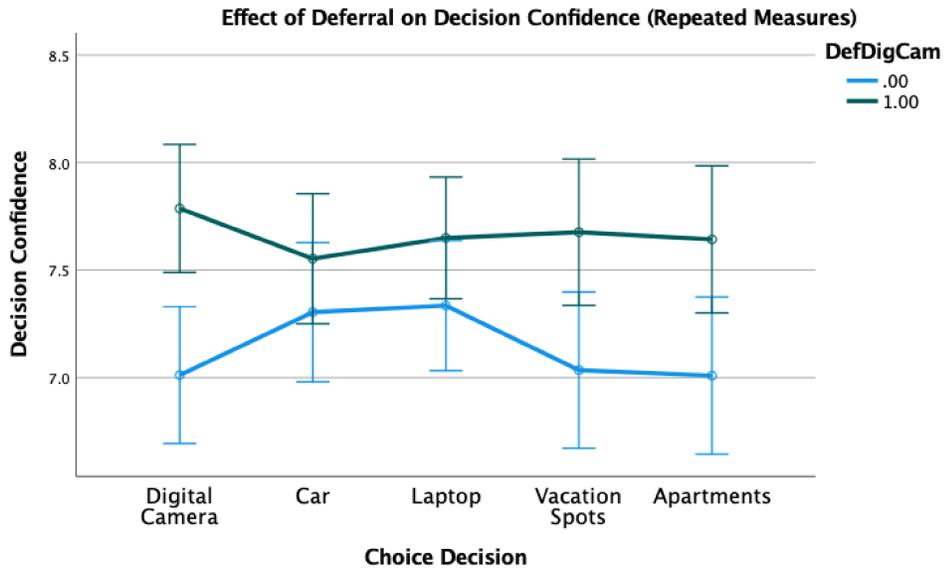
Table 2A.3: Results of Study 3

Variable	Control ($n = 78$)		Deferral ($n = 89$)		t (p-value)
	Mean	SD	Mean	SD	
Overall Deferral	1.13	1.22	2.26	1.19	6.05 (<0.001)
Average Decision Confidence	7.14	1.10	7.67	0.96	3.32 (<0.001)
Decision Confidence (Digital Camera)	7.01	1.45	7.79	1.39	3.52 (<0.001)
Decision Confidence (Cars)	7.29	1.52	7.56	1.39	1.19 (0.238)
Decision Confidence (Laptops)	7.33	1.45	7.65	1.25	1.53 (0.130)
Decision Confidence (Vacation Spots)	7.04	1.66	7.67	1.58	2.53 (0.012)
Decision Confidence (Apartments)	7.00	1.77	7.65	1.51	2.57 (0.011)

Note. Two-sided p-values are reported

Table 2A.4: Results of Study 3 without using any filtering criteria

Variable	Control (<i>n</i> = 95)		Deferral (<i>n</i> = 105)		t (p-value)
	Mean	SD	Mean	SD	
Overall Deferral	1.02	1.19	2.12	1.23	6.46 (<0.001)
Average Decision Confidence	7.17	1.05	7.64	.96	3.30 (0.001)
Decision Confidence (Digital Camera)	7.05	1.41	7.80	1.35	3.83 (<0.001)
Decision Confidence (Cars)	7.26	1.49	7.50	1.38	1.19 (0.235)
Decision Confidence (Laptops)	7.40	1.42	7.68	1.21	1.48 (0.139)
Decision Confidence (Vacation Spots)	7.07	1.63	7.63	1.55	2.46 (0.014)
Decision Confidence (Apartments)	7.07	1.71	7.60	1.46	2.34 (0.021)



Error bars: 95% CI

Figure 2A.3: Repeated-measures analysis of decision confidence for all subsequent decisions (including initial choice)

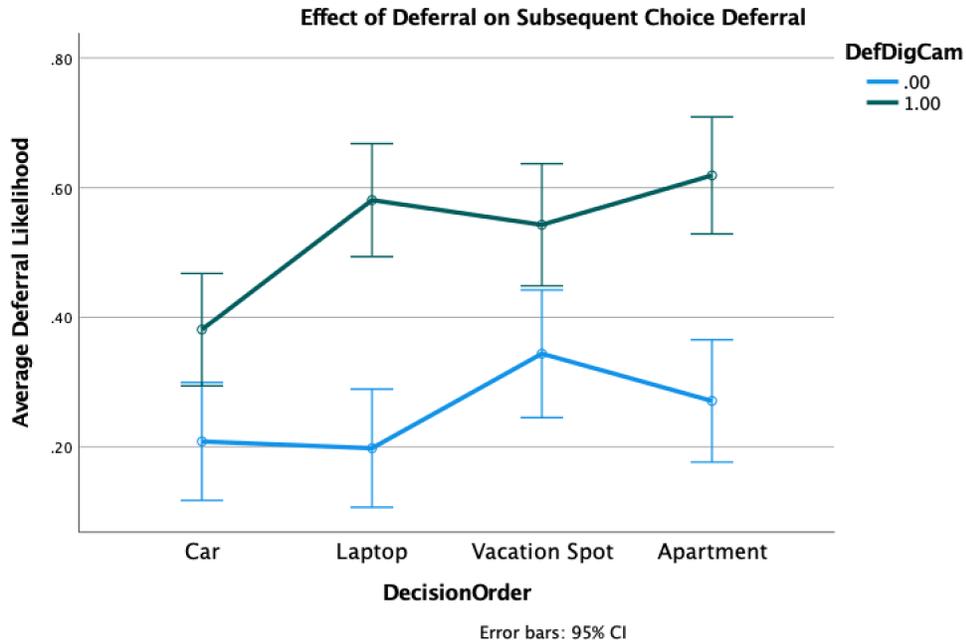


Figure 2A.4: Repeated-measures analysis of subsequent choice deferral for all subsequent decisions (including initial choice)

Table 2A. 5: Study 3 Mediation Results

Direct Effect of Initial Deferral on Subsequent Choice Deferral			
Independent Variable	®	SE	t (p-value)
Initial Choice Deferral	1.13	0.19	6.05 (<0.001)
Effect of Initial Deferral on Average Decision Confidence			
Independent Variable	®	SE	t (p-value)
Initial Choice Deferral	0.53	0.16	3.32 (0.001)
Effect of Both Initial Deferral and Avg. Decision Confidence on Subsequent Choice Deferral			
Independent Variable	®	SE	t (p-value)
Initial Choice Deferral	0.95	0.19	5.12 (<0.001)
Avg. Decision Confidence*	0.34	0.09	3.93 (0.001)

*95% Confidence interval of average decision confidence effect: [0.17; 0.52]

Table 2A.6: Effect of scarcity manipulation on initial deferral, subsequent deferral, and average decision confidence

Variable	Control (n=79)		Scarcity (n=88)		t (p-value)
	Mean	SD	Mean	SD	
Initial Deferral	0.51	0.50	0.56	0.50	0.65 (0.52)
Subsequent Deferral	1.67	1.33	1.78	1.33	0.549 (0.584)
Average Decision Confidence	7.33	1.07	7.49	1.05	0.969 (0.334)

Note. Two-sided p-values are reported

6 Chapter 3 Appendix

6.1 Choice Conflict Stimuli

6.1.1 Deferral Manipulation Used in Study 1 and 2

High Conflict Condition(High-Conflict)

Apartments

Imagine you are looking for a new apartment. Please consider all the information about each apartment before making your choice.

Apartment A has:

Low rent
25 minutes away from campus
Top floor (elevator in building)
Electricity, heating, and internet not included

Apartment B has:

High rent
5 minutes away from campus
Top floor (no elevator in building)
Electricity, heating, and internet included

You can choose between the two apartments or have the option of looking for other apartments.

I would:

Look for other apartments

Choose Apartment A

Choose Apartment B

Low Conflict Condition(Low-Conflict)

Apartments

Imagine you are looking for a new apartment. Please consider all the information about each apartment before making your choice.

Apartment A has:

Average rent
8 minutes away from campus
Top floor (elevator in building)
Electricity, heating, and internet included

Apartment B has:

High rent
25 minutes away from campus
Top floor (no elevator in building)
Electricity, heating, and internet not included

You can choose between the two apartments or have the option of looking for other apartments.

I would:

Look for other apartments

Choose Apartment A

Choose Apartment B

6.1.2 Phone Scenario Task Used in Study 3

Control Scenario

Imagine you recently dropped your smartphone and, as a result, the screen got cracked.



You want to get the screen repaired to prevent further damage to your phone, so you look for stores that could repair your smartphone's screen.

You find two nearby stores with reasonable prices and very good reviews.

You are able to choose which store to go to. You book an appointment with the store to get your screen repaired.

Conflict Scenario

Imagine you recently dropped your smartphone and, as a result, the screen got cracked.



You want to get the screen repaired to prevent further damage to your phone, so you look for stores that could repair your smartphone's screen.

You find two nearby stores with reasonable prices and very good reviews.

You are unable to choose which store to go to. You decide to defer making a decision in order to explore more options.

6.2 Dependent Variables

6.2.1 Decision Conflict Measures Used in Study 2 and 3

You were presented with the following scenario [insert previously seen high/low conflict choice]

Please answer the following questions while considering this scenario.

(Responses on a scale of 1=not at all to 9=Extremely)

How difficult was this choice?

How conflicted did you feel while making this choice?

How confident do you feel about your choice?

How worried would you feel about choosing the wrong option?

How worried would you feel about regretting your choice?

6.2.2 Subsequent Choice Deferral Used in Studies 1, 2, 3 (Example)

Laptop Computer

Imagine you are looking to buy a laptop computer. Please consider all the information about each computer before making your choice. You also have the option of looking for other laptops.

Laptop A has:

Large memory

Large software package included

Very small

Poor battery life

Graphics card not very good

Laptop B has:

Good graphics

Fast

Very stylish design

Heavy

Screen easily scratched

I would:

Look for another laptop

Choose Laptop A

Choose Laptop B

6.3 Additional Results

Study 2 Results

Table 3A1: Effects of High/Low Conflict Conditions in Study 2

Variable	Low Choice Conflict ($n = 431$)		High Choice Conflict ($n = 425$)		t (p-value)
	Mean	SD	Mean	SD	
Choice difficulty	2.18	1.75	4.59	2.41	16.73 (<0.001)
Choice conflict	2.40	2.06	4.83	2.40	15.91 (<0.001)
Decision confidence	7.67	1.79	6.59	1.92	8.45 (<0.001)
Worried choosing wrong option	2.83	2.24	4.73	2.55	11.58 (<0.001)
Worried regret choice	2.61	1.97	4.49	2.53	12.16 (<0.001)

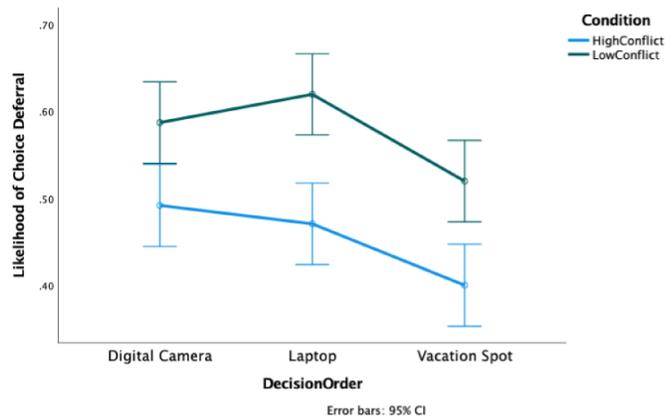


Figure 3A.1: Choice Conflict on Subsequent Deferral in Study 2

Study 3 Results

Table 3A.2 Mediation Analysis Study 3

Direct Effect of High vs. Low Choice Conflict on Subsequent Choice Deferral			
Variable	β	SE	t (p-value)
High Conflict Deferral	0.15	.05	3.20 (0.001)
Effect of High vs. Low Choice Conflict on Measured Choice Conflict			
Variable	β	SE	t (p-value)
High Conflict Deferral	0.73	0.08	9.32 (< .001)
Effect of Manipulated and Measured Choice Conflict on Subsequent Choice Deferral			
Variable	β	SE	t (p-value)
High Conflict Deferral	0.16	.05	3.13 (.002)
Measured Choice Conflict	-0.01	.02	0.31 (.77)