

TWO ESSAYS ON CONSUMERS' EVALUATION OF UNCONVENTIONAL PRODUCT
BUNDLES

by

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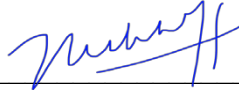
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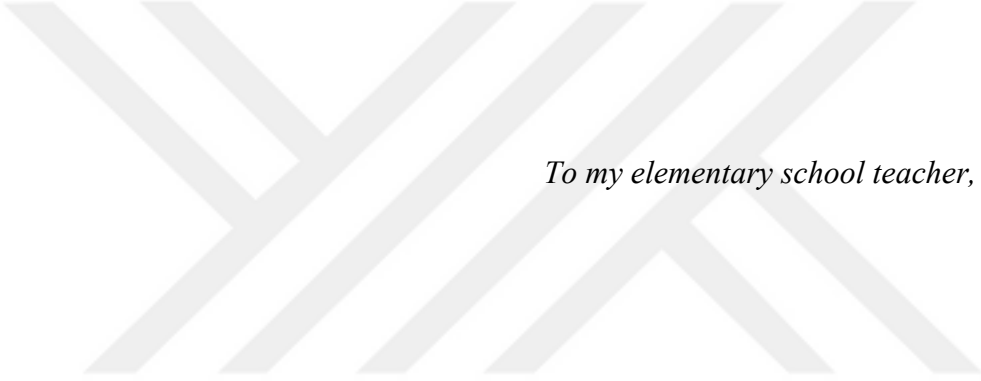


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To my elementary school teacher, Ulviye Selek...

ABSTRACT

Two Essays on Consumers' Evaluation of Unconventional Product Bundles

Mustafa Karataş

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Although the marketplace has long been dominated by product bundles that consist of functionally complementary items which serve a single consumption goal, marketers have recently started to develop bundles that involve consumer products which are non-complementary and which serve distinct consumption goals. However, research comparing the profitability and favorability of such bundles is scarce. This dissertation aims at providing initial insights into consumers' evaluation process of two types of unconventional product bundles; namely, non-complementary product bundles and vice-virtue bundles.

In essay 1, I examine when and why consumers prefer bundles with non-complementary products (e.g., toothpaste and hairbrush) over bundles with functionally complementary items (e.g., toothpaste and toothbrush). I show that the process of evaluating complementary versus non-complementary item product bundles has distinct cognitive consequences. More specifically, I show that evaluating a non-complementary item product bundle results in higher mental abstraction than evaluating a product bundle involving complementary items. Consequently, I further document that consumers prefer non-complementary item bundles over complementary item bundles when they are initially made to think more abstractly or when the decision context involves higher temporal or spatial distance.

In essay 2, I examine bundles that involve vice and virtue products. The main characteristic of vice—virtue bundles is that the two products in the bundle serve different (and often conflicting) goals such as a health goal and a taste goal. These types of bundles have started to become more common in the marketplace since consumers want to indulge themselves without feeling guilty and the virtue component in the bundle relieves the sense of guilt. Despite increasing popularity of vice—virtue bundles, little is known about factors that enhance or hurt consumers' evaluation of such bundles. As an initial investigation of the factors that influence vice—virtue bundle evaluation, I examine in essay 2 the impact of vice magnitude on consumers' evaluation and willingness to pay for the bundle. I show that, when the payoffs associated with bundle components are non-comparable, increasing vice magnitude decreases consumers' valuation of the bundle. However, when what consumers gain by choosing the virtue and what they lose by choosing the vice are comparable, increasing the magnitude of the vice component decreases bundle valuation. I document that these effects occur since consumers engage in distinct justification processes under high versus low payoff comparability.

In a nutshell, this dissertation provides novel insights into how consumers evaluate the two ever-growing types of product bundles. The two studies included in this dissertation enrich our understanding of the psychological underpinnings of bundle evaluation and offer substantive implications for contexts in which consumers make judgments by simultaneously considering multiple pieces of information. Moreover, these studies extend and enrich construal level and moral justification theories.

ÖZETÇE

Tüketicilerin Alışlageldik Olmayan Ürün Demetlerini Değerlendirmesi Üzerine İki İnceleme

Mustafa Karataş

İşletme, Doktora

Temmuz 23, 2020

Tek bir tüketim amacına hizmet eden ve işlevsel olarak birbirini tamamlayan ürünlerden oluşan ürün demetleri piyasaya uzun yıllar hâkim olmuş olsa da, markalar son yıllarda bu özelliğe uymayan, tamamlayıcı olmayan ve farklı tüketici amaçlarına hizmet eden ürünlerden oluşan ürün demetleri geliştirmeye başlamıştır. Ne var ki, tüketicilerin alışık olmadığı bu tür ürün demetlerini nasıl incelediğine ve bu tür ürün demetlerinin kârlılığına dair çalışmalar oldukça azdır. Bu tez, tüketicilerin iki tür yeni ürün demeti tipini (tamamlayıcı olmayan ürünlerden oluşan demetlerini ve hazza dayalı ürünler ile erdemli ürünlerden oluşan ürün demetlerini) nasıl incelediğine dair yeni bulgular ortaya koymayı amaçlamaktadır.

Birinci çalışmada tüketicilerin hangi koşullarda saç fırçası ve diş macunu gibi birbirini işlevsel olarak tamamlamayan ürünlerden oluşan bir ürün demetini diş fırçası ve diş macunu gibi birbirini tamamlayan iki üründen oluşan bir ürün demetine tercih ettiği incelenmektedir. Bu çalışmada, tamamlayıcı olan ve olmayan ürün demeti inceleme sürecinin farklı bilişsel sonuçları olduğu ortaya konmaktadır. Daha açık bir deyişle, tamamlayıcı olmayan ürünlerden oluşan bir demeti değerlendirmenin daha soyut bir düşünüşe sebebiyet verdiği gösterilmektedir. Bunun bir sonucu olarak, tüketicilerin çevresel faktörler nedeniyle soyut düşündüğü veya zamansal ve mekânsal uzaklığın belirgin ve karar verme sürecine içkin olduğu koşullarda tamamlayıcı olmayan ürünlerden oluşan ürün demetlerinin tercih edildiği ortaya konmaktadır.

İkinci çalışma hazza dayalı ürünler (örneğin, çikolata) ve erdem ürünlerinden (örneğin, salata) oluşan demetleri incelemektedir. Bu iki ürün kategorisi arasındaki temel fark, bu ürünlerin sağlıklı yaşamak ve lezzet almak gibi farklı ve çoğunlukla birbiriyle çelişen tüketim amaçlarına hizmet etmesidir. Tüketiciler bir yandan hazza dayalı ürünleri tüketerek kendilerini şımartmak isterken bir yandan da bu ürünlerin getirdiği suçluluk duygusunu hafifletmek istedikleri ve erdem ürünleri suçluluk hissini azalttığı için, bu tip ürün demetleri de gittikçe popüler hale gelmeye başlamıştır. Gittikçe artan popülaritelerine rağmen hangi faktörlerin tüketicilerin bu tip ürün demetlerini değerlendirmelerini etkilediğine dair çok az sayıda çalışma bulunmaktadır. Bu faktörleri saptamaya yönelik olarak yapılan ilk çalışmalardan biri olan ikinci incelemede hazza dayalı ürünün miktarının tüketicilerin ürün demetini değerlemesine olan etkisi incelenmektedir. Ürün demetindeki ürünlerin fayda ve zararının aynı metrik üzerinde kıyaslanamadığı durumlarda hazza dayalı ürünün miktarını artırmanın tüketicilerin ürün demetini değerlendirmesini olumlu etkilediği, kıyaslanabildiği durumlarda ise tüketicilerin beğenisinin hazza dayalı ürün miktarı arttıkça azaldığı gösterilmektedir. Bu çalışma ayrıca bu etkinin bu iki durumda farklı psikolojik meşrulaştırma mekanizmalarının devreye girmesinden kaynaklandığını göstermektedir.

Özetle, bu tez tüketicilerin popülaritesi gittikçe artan iki tip ürün demetini nasıl değerlendirdiklerine dair yeni bilgiler sunmaktadır. Tezde yer alan iki inceleme, ürün demeti değerlendirmesinin psikolojik temelleri hakkındaki anlayışımızı zenginleştirmekte ve tüketicilerin aynı anda birden fazla bilgiyi dikkate alarak karar verdikleri bağlamlar için önemli fikirler vermektedir.

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Chapter 1

INTRODUCTION

Why do sellers bundle their products? An early discussion of this question comes from the field of economics and focuses on the notion of consumer surplus (Adams and Yellen 1976). To give an example, consider that a buyer has a reservation price of \$15 for a coffee mug and \$5 for a pack of coffee. If the store sells these products separately at \$10, then the consumer will not buy the coffee. However, if they are priced together at \$18 without the option to buy items individually, the consumer will buy the bundle. Therefore, this economic view suggests that the bundle will transfer value from the mug, which will cover the lack of value from the coffee.

This view, however, is based on purely economic assumptions and does not help us understand *how* consumers make judgments regarding bundles. In order to address this limitation, subsequent research within the domain of consumer behavior focused on issues related to processing of bundle information and making judgments about the bundle. In this domain, studies broadly examined either the process by which consumers integrate bundle information or the factors that enhance or hurt bundle evaluations.

In the former stream, it has been suggested that consumers' evaluation of bundles reflects an averaging pattern such that overall evaluation of a multi-component bundle is a weighted average of individual evaluations of separate bundle items (Gaeth, Levin, Chakraborty, and Levin 1991; Yadav 1994). An important aspect of this research is that they investigated only bundles with functionally complementary items. In fact, an important finding of the latter stream regarding the factors that enhance bundle evaluation has been complementarity. Much research has repeatedly shown that higher complementarity between bundle items positively influences bundle favorability (Gaeth et al. 1991; Harlam et al. 1995; Strahilevitz and Myers 1998). This suggestion is in line with analytical models and economic analyses of bundling, which argue that consumers' reservation prices for a group of complementary items are super-additive (i.e., the

utility from a bundle is greater than the sum of utilities from each product; Guiltinan 1987; Telser 1979). These studies reason that super-additivity is not observed for non-complementary, independently valued products; hence, pure bundling results in significantly lower optimal prices when non-complementary items are bundled than when complementary products are bundled.

Three aspects of these studies need noting. First, the studies in the former stream investigated solely bundles with complementary items with one primary and one secondary item such as a VCR and a videocassette tape (e.g., Gaeth et al. 1991). Second, the studies which compared the effectiveness of complementary and non-complementary bundles did not consider other salient factors in the decision environment that might influence consumers' evaluation of product bundles. Finally, the focus on the complementary nature of the bundles investigated limited the scope of inquiry to bundles composed of products that serve similar goals in a given consumption setting. To simply summarize the extant knowledge considering these three aspects, consumers like complementary bundles over non-complementary bundles, and they value complementary bundles through an anchoring-and-adjustment process whereby they adjust their overall bundle evaluation with respect to the focal product in the bundle.

These findings are valuable for understanding consumers' evaluation of *complementary* bundles with *a focal item and a tie-in*, which has traditionally dominated the marketplace. However, the marketplace has recently witnessed proliferation of product bundles which involve non-complementary items. Moreover, the marketers nowadays offer bundles with items that have different characteristics in which a given item cannot be assigned the focal or the tie-in role since products serve distinct goals (e.g., vice-virtue bundles in which items are used for qualitatively distinct purposes). One reason for the rise of such unconventional bundles is advances in technology and e-commerce, which allow sellers to bundle multiple functionally unrelated and qualitatively distinct products based on a given consumer's past purchasing behavior (Khan and Dhar 2010). This trend is also observable in brick-and-mortar stores like *Tschibo* which sells many products and bundles from a diverse range of categories from coffee mugs to slippers.

The aim of this dissertation is to investigate two types of such unconventional bundles—non-complementary bundles and vice-virtue bundles—in an attempt to advance marketing theory and practice. In the first essay, I investigate whether and why consumers choose product bundles with non-complementary items over more conventional bundles that consist of functionally complementary products. In the second essay, I investigate how an important characteristic of

vice-virtue bundles, the magnitude of the vice component in the bundle, influences consumers' evaluation of the bundle.

1.1. Synopsis of Essay 1

As explicated above, past research has consistently found that consumers evaluate complementary item bundles more positively than their non-complementary counterparts (e.g., Popkowski Leszczyc and Haubl 2010; Rahinel and Redden 2012). However, these studies have largely investigated the choice between a complementary item and a non-complementary item bundle in isolation. In other words, extant research has not examined if consumers' preference would change when consumers take other factors in the decision context into consideration. In the first essay, I aim at identifying contextual factors that would potentially reverse consumers' preference for complementary bundles over non-complementary bundles.

Building on past research on consumers' bundle evaluation process (Chiambaretto and Dumez 2012; Shaddy and Fishbach 2017; Weaver, Garcia, and Schwarz 2012), I postulate that evaluating a bundle with non-complementary items results in higher mental abstraction because consumers try to relate bundle items at meaningful levels in order to make a single, coherent judgment about the bundle. Based on past research construal level theory (Trope and Liberman 2003) and the fit effect (Cesario and Higgins 2008; Lee and Aaker 2004), which suggests that evaluations get more positive when the abstraction levels implied by different factors in the fit each other, I further predict and show that consumers prefer noncomplementary bundles over complementary bundles when the decision context involves higher psychological distance since psychological distance (proximity) is associated with higher (lower) levels of mental abstraction (Liberman, Sagristano, and Trope 2002). These effects are driven by a cognitive process in which consumers relate bundle items to each other at meaningful thematic levels. Supporting this underlying process, I further show that the effect attenuates when consumers adopt a separating—rather than connecting—mindset (Oyserman 2011).

The first essay adds to research on product bundle evaluation in several ways. First, this research is the first to show when consumers prefer bundles with non-complementary items over complementary ones. Identifying mindset abstraction as a significant factor that influences consumers' relative preference between consumer also offers several practical implications that

help marketers develop more effective and profitable bundle offers. Moreover, this research contributes to research on the process of product bundle evaluation, which suggests that consumers engage in a relational processing during bundle evaluation (Chiambaretto and Dumez 2012; Shaddy and Fishbach 2017), by providing direct evidence that the effects that are characteristic of bundle evaluation occurs only when consumers engage in a connecting mindset.

1.2. Synopsis of Essay 2

In the second essay, I investigate another type of unconventional bundles, which consist of a vice and a virtue product. Traditionally, marketers have developed bundles that consist of products that serve a single consumer goal in terms of both what the consumers want to achieve in a given consumption setting (e.g., enjoying a drink) and what their higher-order purpose in the long run (e.g., being healthy). For instance, a bundle with a pack of coffee and a coffee mug involves two products which functionally serve the same consumer goal of drinking coffee in a given consumption episode. Similarly, an organic food bundle involves products that help consumers achieve their health goals. However, marketplace has recently witnessed bundles that consist of products that serve distinct, or even conflicting, goals as in the case vice—virtue bundles. For instance, in a vice—virtue food bundle, one product serves the consumers' taste goal while the other product is associated with the conflicting goal of health. The recent rise of such bundles has been suggested to be driven by two concurring motives of consumers. Since the choice and consumption of vice products (e.g., chocolate) result in accrual of negative payoffs (e.g., calories), they make consumers feel a sense of guilt. Consumers, on the other hand, want to experience pleasure and indulge themselves *without* a sense of guilt, and a virtue product tied with a vice product lifts this sense of guilt by offering an immediate justification for the choice of the vice (Liu et al. 2015).

Despite the increasing popularity of vice—virtue bundles in the marketplace, research investigating the factors that make consumers' evaluation of such bundles is limited (see, for exceptions, Jiraporn, Charinsarn, and Sheridan, 2016; Liu et al. 2015; Verma, Guha, and Biswas 2016). In the second essay, I investigate the role of an important characteristic of vice—virtue bundles in consumers' evaluation of and willingness to pay for the bundle: the magnitude of the vice component. More specifically, the question I ask in this research if consumers prefer a vice-

virtue bundle with a smaller or larger amount. While the common intuition and the principles of the classical economic theory would suggest that consumers prefer an equally priced bundle with a larger amount, past research on behavioral marketing suggests that a bundle with a smaller amount of vice is more preferable since a vice product becomes harder to justify as its magnitude gets larger.

In the second essay, I reconcile these competing predictions by evincing the moderating role of payoff comparability. As mentioned above, the vice products offer negative payoffs in several distinct forms such as calories (e.g., chocolate), monetary (e.g., a decorative object which is perceived as a frivolous expense), or time (e.g., a lowbrow movie). Virtue products, on the hand offer positive payoffs in different domains such as health (e.g., salad), finances (e.g., an energy-saving durable good), or morality (e.g., an environmentally friendly lightning product). By payoff comparability, I refer to the ease with which these payoffs could be compared on the same metric.

Building on psychological licensing theory (Merritt, Effron, and Monin 2010; Mullen and Monin 2016), I argue in the second essay that the vice product in a vice—virtue bundle is justified through different justification mechanisms depending on the comparability of payoffs. When payoffs could be compared on the same basis of comparison, consumers justify the vice component through psychological *credits*, whereas the justification occurs through psychological *credentials* when the payoffs cannot be compared on the same basis of comparison. For instance, a credits-based justification process occurs when *how much calories* consumers intake by choosing the vice product and *how many calories* they save by choosing the virtue product. However, when the negative payoff associated with the vice product is defined in terms of *the amount of calories* but the positive payoff associated with the virtue product is defined in terms of *a gain in the health domain*, then the justification occurs through psychological credentials. Moreover, I document in this essay a downstream consequence of the mechanism through which licensing occurs. More specifically, I show that the favorability of the bundle increases (decreases) as the bundle involves a larger amount of vice when justification occurs through credentials (credits).

The second essay contributes to growing literature on vice—virtue bundle by identifying payoff comparability as a significant factor that influences the impact of vice magnitude on consumers' preference for vice—virtue bundles. Importantly, this essay significantly advances

research on psychological licensing in two ways. First, the terms credits and credentials have been largely used interchangeably in extant research. This study is the first to identify an antecedent of these processes. Second, this study also shows why it is important to differentiate between the two mechanisms by showing distinct downstream consequences of credits-based and credentials-based licensing processes. More specifically, study 2 adds to psychological licensing research by documenting that the likelihood of indulgence increases (decreases) as the perceived severity or magnitude of the licensed behavior increases when the licensing behavior and the licensed behavior cannot (can) be compared on the same scale.



Chapter 2

WHEN CONSUMERS PREFER BUNDLES WITH NON-COMPLEMENTARY ITEMS TO COMPLEMENTARY ITEMS: THE ROLE OF MINDSET ABSTRACTION

2.1. *Abstract*

Past research shows that consumers evaluate bundles with complementary items more favorably than they evaluate bundles with noncomplementary items. In a series of four experiments that involve evaluation, willingness to pay, and real choice, this essay show that this well-established effect is moderated by the level of mindset abstraction. Complementarity (vs. noncomplementarity) among bundle items prompts relatively concrete (vs. abstract) thinking (study 1). Consequently, consumers evaluate complementary (vs. noncomplementary) bundles more favorably when they think in more concrete (vs. abstract) terms (study 2) or when the consumption context involves lower (vs. higher) spatial (study 3) or temporal (study 4) distance. These effects are mediated by consumers' heightened sense of "feeling right" during decision making under construal fit (study 4). Finally, the level of complementarity among bundle items differentially influences mental abstraction because of consumers' tendency to perceive bundles as a single inseparable unit. Therefore, the effect attenuates when consumers adopt a separating—rather than a connecting—mindset (study 3). Overall, this work significantly extends past research on product bundles by showing the reversal of consumers' preferences among bundles with complementary versus non-complementary items under mindset abstraction. Also, it offers several managerial implications that would help marketers understand when to develop bundled offers with functionally complementary versus non-complementary consumer products.

2.2. *Introduction*

Consider a consumer who wants to buy self-care products. The consumer enters a store, which sells many products and bundles from a diverse range of categories from dental care to hair maintenance products. Next, consider that the consumer encounters two bundles—that is, two (or more) products sold together at a single special price (Guiltinan 1987). One of these bundles involves a toothbrush and a toothpaste, whereas the other contains a hairbrush with the same toothpaste. Which offer would the consumer go for? Would her decision change in a nearby versus a distant store? Would she make the same choice if she plans to use the bundle in the near versus distant future?

An established literature on product bundling predicts that the consumer prefers the former bundle over the latter regardless of other contextual factors such as store location or usage time. This stream of research posits that it is almost always more beneficial for the seller if multiple components of a bundled product or experience are complementary (Popkowski Leszczyc and Haubl 2010; Rahinel and Redden 2013). This finding is unsurprising from a classical economic theory perspective because complementary items have super-additive utilities (i.e., the utility consumers extract from a product is higher under the presence of a complementary product; Guiltinan 1987); thus, they provide higher utility for consumers. Considering these findings, it has long become a common marketplace practice to form bundles with complementary items. In recent years, however, the market has witnessed the proliferation of bundles with functionally noncomplementary products (Khan and Dhar 2010). Although the issue of bundling noncomplementary items received early calls from researchers (Varadarajan 1986), research comparing the relative effectiveness of bundles involving noncomplementary items has remained scarce. In this research, we investigate this gap by identifying the conditions under which consumers prefer noncomplementary bundles over complementary bundles.

Building on past research on consumers' bundle evaluation process (Chiambaretto and Dumez 2012; Shaddy and Fishbach 2017; Weaver, Garcia, and Schwarz 2012) and fit effect (Cesario and Higgins 2008; Lee and Aaker 2004), we show that consumers prefer noncomplementary bundles over complementary bundles when the decision context involves higher mindset abstraction. More specifically, we postulate that complementarity of items changes the level of abstraction at which consumers construe bundles because bundle evaluations

involve a process of relating items to each other to form a single coherent judgment (Chiambaretto and Dumez, 2012). When consumers try to relate noncomplementary objects to one another, they focus on more general and abstract characteristics; however, they focus on readily available and observable attributes when they integrate information about complementary objects. Hence, evaluating a bundle with complementary (vs. noncomplementary) items prompts a lower (vs. higher) level of construal, influencing bundle evaluations when other factors in the environment fit or misfit this level of construal. Consequently, consumers evaluate bundles with complementary (vs. noncomplementary) items more positively when they adopt a relatively concrete (vs. abstract) mindset or when the decision context involves lower (vs. higher) temporal or spatial distance. This effect occurs because fit among factors in the decision context makes consumers “feel right” about their judgments (Higgins 2006). Moreover, the effect results from the bundle evaluation process whereby consumers attend to, and try to, relate both items in the bundle to arrive at a single, coherent judgment. Therefore, the effect disappears when consumers adopt a separating—rather than a connecting—mindset (Oyserman 2011) and process information in a way that involves attending to elements of a whole in isolation from each other.

The contributions of the present work are twofold. First, we extend extant research on product bundles by showing that consumers do not always prefer bundles with complementary items over those with noncomplementary items, which is a finding that contrasts with extant findings in consumer behavior research (e.g., Harlam, Krishna, Lehmann, and Mela 1995) and with suggestions from classical economic theory (e.g., Venkatesh and Kamakura 2003). More specifically, we show that the favorability of bundles with complementary items over bundles with noncomplementary items reverses when the decision context involves abstract thinking. Second, the current work significantly adds to recent research on bundle evaluation process that shows that consumers perceive product bundles consisting of multiple items as single entities (Shaddy and Fishbach 2017) by documenting a significant cognitive consequence of this process, which allows for novel predictions.

In what follows, we review past research on product bundle evaluation with a focus on the cognitive process through which consumers evaluate product bundles, and research on fit effect, which lead us to our predictions. Next, we present results from four experimental studies and discuss theoretical and managerial implications of our findings.

2.3. *Prior Research on Consumers' Evaluation of Product Bundles*

Past research on consumers' evaluation of product bundles has largely focused on identifying factors that positively affect bundle attractiveness and profitability. These studies have found that several factors including search cost reduction (Harris and Blair 2006a), compatibility risk reduction (Harris and Blair 2006b), and bundle size (Engeset and Opstad 2017) significantly influence consumers' evaluation of product bundles. Among these factors, functional complementarity between bundle items has been identified as the factor that most significantly influences the attractiveness of bundles (Gaeth, Levin, Chakraborty, and Levin 1991; Harlam et al. 1995; Herrmann, Huber, and Coulter 1997; Koukova, Kannan, and Ratchford 2008; Strahilevitz and Myers 1998). In other words, accumulating research has consistently found that consumers evaluate bundles with complementary items more positively than they evaluate bundles with noncomplementary items *ceteris paribus*.

This finding is consistent with analytical models and economic analyses of bundling, which argue that consumers' reservation prices for a group of complementary items are super-additive. In other words, the utility of a product is higher in the presence—compared with absence—of another product that functionally complements it. Consequently, the utility that consumers extract from a bundle with complementary items is greater than the sum of utilities provided by each item (Guiltinan 1987; Telser 1979; Venkatesh and Kamakura 2003). Conversely, valuations of noncomplementary products are independent and do not reflect super-additivity. Thus, classical economic theory suggests that bundling is a more effective strategy for complementary items than for noncomplementary items, and pure bundling results in significantly lower optimal prices when noncomplementary items are bundled.

Although these findings significantly advance our understanding of consumers' relative preference between bundles with complementary and noncomplementary items, they are uninformative regarding the manner by which consumers make judgments during bundle evaluation. In order to address this limitation, subsequent research focused on issues related to information processing during bundle evaluation.

In this stream of research, empirical evidence accumulated showing that consumers do not evaluate bundle items in isolation; rather, they engage in a relational processing which involves joint consideration of bundle items (Chiambareto and Dumez 2012). This relational

processing could be explained by the principles of Gestalt psychology, which argues that people have an automatic tendency to perceive a “whole” that consists of multiple “parts” as a single, inseparable unit (Kohler 1970). In other words, people tend to perceive things as a single, separate entity if they appear as though they belong to the same “whole.” A product bundle by definition is the sale of multiple items that are tied to one another as a single package (Stremersch and Tellis, 2002). This then implies that product bundles create a gestalt since bundle items appear to be parts of the same whole (Shaddy and Fishbach 2017), and consumers relate bundle items to each other to arrive at a single, coherent summary judgment of the bundle (Weaver et al. 2012). In one demonstration of this gestalt processing, a recent study has shown that consumers ask for higher compensation for and experience greater dissatisfaction from damage to an identical product when it belongs to a bundle (Shaddy and Fishbach 2017).

Note that research has also shown that uniform connectedness among separate items results in gestalt cognition (Palmer and Rock 1994). To illustrate, when two dots in a set of several dots are somehow tied or connected to each other, people try to see the connections among them, and they tend to perceive these dots as a single group or entity that is distinct from other dots. This principle works even when the two dots are dissimilar or not proximate (Han, Humphreys, and Chen 1999). In other words, the presence of the connectedness among multiple items suffices for decision makers to perceive them as parts of the same “whole” regardless of the level of similarity or comparability among them.

2.4. Distinct Cognitive Consequences of Evaluating Bundles with Complementary and Non-Complementary Items

The aforementioned discussion then suggests that consumers engage in a relational processing during evaluation of bundles with both complementary (and, thus, similar) and noncomplementary (and, thus, relatively dissimilar) items in order to arrive at a single judgment about the bundle which they perceive to be a single separate entity. Building on this, we propose in the current research that evaluations of complementary and noncomplementary bundles have differential cognitive consequences. Specifically, we predict that evaluating a bundle with noncomplementary items results in a relatively higher mindset abstraction than evaluating a bundle with complementary items. Our proposition is rooted in past research on option

comparability (Johnson 1984, 1989), which suggests that consumers encounter a noncomparability problem in decision contexts in which they need to evaluate multiple items that lack common features. Consumers then adopt a mindset abstraction strategy to solve the noncomparability problem because mindset abstraction enables broader categorization (Rosch 1975) and allows for relating otherwise incommensurable alternatives (Johnson 1984, 1989).

When items in a given product bundle are complementary, they have readily available common features that enable them to be related to each other so that consumers perceive the bundle as a “single unit.” To illustrate using the opening example, a toothbrush and a toothpaste could be related to each other around the relatively concrete, lower-level theme of “cleansing the teeth.” When two items are noncomplementary (e.g., a toothpaste and a hairbrush), however, they lack lower-level common features around which the two items could be related. Thus, a consumer must broaden her thinking and focus on more abstract, higher-order attributes (e.g., “self-care” or “beauty”) that are common across the bundle items in order to relate bundle items to one another at meaningful levels so that she can form a single judgment about the bundle (e.g., “a self-care product offer”).

2.5. *Bundle Item Complementarity—Decision Context Fit and Bundle Evaluations*

Emerging research suggests that, when an external factor fits the level of mindset abstraction of a decision maker, it exerts a significant influence on the decision maker’s judgment and evaluation of targets (Cesario and Higgins 2008; Higgins 2006). Similarly, when multiple factors in a decision context fit within the level of abstraction that they imply, judgments and evaluations for the target intensify because consumers experience heightened cognitive engagement in the decision task under fit (Higgins 2006; Lee, Keller, and Sternthal 2010), which in turn makes them “feel right” about their initial evaluation and judgment, enhancing the valence of these evaluations (Cesario and Higgins 2008; Lee and Aaker 2004). As an empirical demonstration of this fit effect, past research has shown that concretely (vs. abstractly) framed environmental conservation messages result in higher compliance when they involve loss (vs. gain) frames (White, MacDonnell, and Dahl 2011) because loss (vs. gain) frames induce a lower (vs. higher) level of mindset abstraction among decision makers. Similarly, when people are primed with a prevention (vs. promotion) focus, which puts decision

makers in a relatively concrete (vs. abstract) mindset, they evaluate a product more favorably when the information about the product involves lower-level, concrete (vs. higher level, abstract) descriptions (Lee et al., 2010).

A large body of research has shown that a significant corollary of the level of mental construal is the psychological distance between the object and the perceiver (Trope and Liberman 2003). Objects, people, or events that are temporally (Liberman, Sagristano, and Trope 2002) or spatially (Fujita et al. 2006) distant are construed at a higher, more abstract level than are proximal ones. Consequently, the aforementioned fit effect that consumers evaluate targets more positively under fit occurs also when the abstraction level of their mindset fits the level of psychological distance associated with the target of evaluation. For example, consumers prefer more inclusive, broader guarantees that are associated with a higher level of mental construal when consumption will occur in distant future, whereas they switch their preference to more concretely construed attribute-specific guarantees for near-future consumption decisions (Jin and He 2013). Likewise, consumers evaluate intangible (vs. tangible) attributes more favorably in a spatially proximal (vs. distal) setting (Ding and Keh 2017).

Building on this, we further predict that consumers evaluate bundles with complementary items, which induce a relatively more concrete mindset, more favorably when the decision context involves lower temporal or spatial distance. In contrast, we predict the evaluations of bundles with noncomplementary items to be more favorable when the decision context involves higher temporal or spatial distance. As explicated previously, we further predict that posit that this effect is mediated by consumers' higher levels of "feeling right" experience under fit.

Note that a critical aspect of our theorizing is that complementary (vs. noncomplementary) bundles induce a lower (vs. higher) level of mental abstraction because consumers engage in a style of information processing where they relate bundle items. If this theorizing holds true, then the hypothesized fit effect attenuates when consumers rather engage in a style of processing that motivates perceiving things separately—rather than in relation to each other. Recent research suggests that people differ in their tendency to parse out or connect and integrate information (Oyserman, Sorensen, Reber, and Chen 2009). Situational factors and dispositional characteristics influence whether decision makers engage in a separating versus a connecting mindset during task completion (Oyserman 2011). When a separating mindset is activated, people focus on elements of a whole separately and individually without necessarily

relating each element to other parts of the whole. When a connecting mindset is activated, however, they integrate the elements as a whole. Thus, we predict further in consistency with our theorizing that the hypothesized fit effect occurs only when consumers have a connecting mindset but attenuates when they adopt a separating mindset.

2.6. *Overview of Studies*

We present empirical evidence from 4 studies that test our theorizing and predictions. In study 1, we investigate the relationship between bundle item complementarity and mental construal using two distinct measures of construal level. Study 2 tests the hypothesized fit effect that consumers who adopt an abstract (vs. concrete) mindset evaluate noncomplementary (vs. complementary) bundles more favorably. Study 3 and study 4 enhance the generalizability and substantive implications of our findings by operationalizing abstraction through psychological distance. More specifically, these two studies test whether the predicted fit effect is obtained when consumers evaluate bundles with complementary or noncomplementary items under high versus low temporal and spatial distance. Moreover, we examine the moderating role of separating versus connecting mindsets in study 3 and investigate the mediating role of “feeling right” in study 4. The four experiments use different stimuli, different measures of evaluation (i.e., attractiveness, willingness to pay, and real choice), and different methods (i.e., laboratory, online, and field experiments) to show that the observed effect is robust.

2.7. *Study 1: Bundle Item Complementarity and Mindset Abstraction*

Study 1 aims at testing our basic prediction that a complementary-item bundle induces relatively concrete thinking, whereas exposure to a noncomplementary-item bundle heightens mindset abstraction. We test this basic prediction by using two distinct measures of the level of construal.

2.7.1. *Method*

One hundred college students ($M_{age} = 21.5$ years; 56% female) were recruited in return for a chance to participate in a drawing for a monetary reward. They saw a picture of either a complementary or a noncomplementary bundle. The complementary bundle consisted of toothpaste and toothbrush, whereas the noncomplementary bundle consisted of toothpaste and hairbrush. Participants were asked to imagine that they have encountered the bundle shown to them at a store, and asked further to write down briefly the thoughts that would come to their mind when they saw the bundled offer as a consumer (see Appendix A for details).

Following this task, we administered Behavioral Identification Form (BIF; Vallacher and Wegner 1989), which is a 25-item dichotomous questionnaire that measures whether people identify actions at a higher or a lower level. Each item presents two descriptions of a given action, one describing the action at a lower level and the other at a higher level. Finally, participants reported their gender and age. We expected participants who evaluated the noncomplementary (vs. complementary) bundle to (1) use more abstract language when describing their thoughts and (2) describe actions presented in the BIF at a higher (vs. lower) level.

2.7.2. Results

Language Use. We analyzed the abstraction of participants' use of language when they described their thoughts about shown bundles. Models of linguistic categorization suggest that cognitive abstraction is reflected in language abstraction, and that four linguistic categories—descriptive action verbs (DAV), interpretive action verbs (IAV), state verbs (SV), and adjectives (ADJ)—reflect differential levels of mindset abstraction, with descriptive action verbs demonstrating the most concreteness and adjectives demonstrating the most abstraction (Semin and Fiedler 1988). Our prediction was that descriptions of thoughts would involve more (vs. less) abstract linguistic categories in the noncomplementary (vs. complementary) bundle condition.

Following the coding schema developed by Semin and Fiedler (1988), a judge blind to the research hypotheses counted the number of descriptive action verbs (e.g., clean and brush), interpretive action verbs (e.g., help and keep), state verbs (e.g., like and hate), and adjectives (e.g., bright and fresh) used in each response. Based on these numbers, we next calculated a weighted linguistic abstraction score using the following formula: $([1 \times (\text{DAVs}) + 2 \times (\text{IAVs}) + 3$

$\times (\text{SVs}) + 4 \times (\text{ADJs})] \div [\text{DAVs} + \text{IAVs} + \text{SVs} + \text{ADJs}]$). Note that weights in the formula increase as the abstraction implied by the linguistic category increases; hence, a higher linguistic abstraction score reflects a higher level of construal.

An ANOVA with this weighted score as dependent variable yielded a significant effect of bundle item complementarity ($F(1, 98) = 4.61, p = .034$). As predicted, participants used significantly less abstract language when they described their thoughts about the complementary bundle ($M_{\text{complementary}} = 2.01, SD = .59; M_{\text{noncomplementary}} = 2.29, SD = .71$).

Behavior Identification. We subjected participants' responses to BIF to binary coding (low level of construal = 0, high level of construal = 1), and summed. In other words, a higher BIF score reflected a higher level of construal. The results from a one-way ANOVA supported our hypothesis that processing bundles with complementary (vs. noncomplementary) items prompts a concrete (vs. abstract) level of construal. Specifically, participants in the complementary-item bundle condition had a significantly lower BIF score ($M = 9.35, SD = 5.03$) than did those in the noncomplementary-item bundle condition ($M = 12.08, SD = 5.18; F(1, 98) = 7.18, p < .01$).

2.7.3. Discussion

Results from study 1 support our main prediction concerning the link between bundle item complementarity and mental construal. Using two distinct measures of mental construal, we show in study 1 that the evaluation process of a complementary (vs. noncomplementary) bundle results in a lower (vs. higher) mental abstraction. One downstream consequence of this finding based on the construal fit framework is that consumers evaluate complementary (vs. noncomplementary) bundles more favorably when they are in a concrete (vs. abstract) mode of thinking. We test this possibility in study 2.

2.8. Study 2: Mindset Abstraction and Bundle Evaluation

The objective of study 2 is to test our construal fit prediction that consumers' evaluation of bundles with complementary (vs. noncomplementary) items becomes more favorable when they think in relatively concrete (vs. abstract) terms.

2.8.1. Method

Two hundred participants ($M_{age} = 35.7$ years; 40% female) were recruited from Amazon Mechanical Turk in return for monetary compensation. The study employed a 2 (mindset abstraction: abstract vs. concrete) x 2 (bundle item complementarity: complementary vs. noncomplementary), between-subjects design. Participants were first given a category exemplar task that aimed at manipulating their level of mental construal (e.g., Freitas, Gollwitzer, and Trope, 2004). All participants were given the same set of 15 words (e.g., singer, movie, and university). In the concrete mindset condition, they were asked to think of an exemplar of the category the given word implies. In the abstract mindset condition, their task was to come up with a broad category in which the given word is an exemplar. Next, they evaluated either a complementary or a non-complementary item bundle on three 7-point scale items (“I like this bundle;” “This bundle is attractive;” “I would buy this bundle;” 1: “strongly disagree;” 7: “strongly agree”). The complementary bundle consisted of an ironing board and an iron, and the noncomplementary bundle consisted of an ironing board and a handheld vacuum cleaner (see Appendix B for details).

A separate pretest among a different sample from the same population ($N = 50$; $M_{age} = 33.9$ years; 50% female) asked participants to rate (1) perceived complementarity among items in the pairs (1: “noncomplementary;” 7: “complementary”), and (2) overall attractiveness of the two products bundled with the ironing board (“likeable;” “attractive;” “buyable;” 1: “strongly disagree;” 7: “strongly agree”). A paired-samples t test showed that participants’ complementarity rating of the iron to the ironing board was significantly higher than the midpoint of the scale ($M = 6.22$, $SD = 1.37$; $t(49) = 4.98$, $p < .001$), whereas the rating was significantly lower for the vacuum cleaner ($M = 2.56$, $SD = 2.04$; $t(49) = 9.86$, $p < .001$). These two products were rated as equally attractive ($M_{iron} = 5.49$, $SD = 1.02$; $M_{vacuum\ cleaner} = 5.25$, $SD = 1.27$; $t(49) = 1.54$, $p > .1$), establishing that any possible difference in the evaluations of bundles cannot be attributed to differences in the individual attractiveness of these products.

2.8.2. Results

We calculated a composite bundle evaluation score by averaging each participant's rating on the three items (Cronbach's $\alpha = .95$). A two-way ANOVA on this score resulted in a significant interaction of bundle item complementarity and mindset abstraction ($F(1, 196) = 30.02, p < .001$). Planned contrasts supported our fit prediction. When consumers were made to think relatively concretely, they evaluated the complementary bundle more favorably ($M = 5.29, SD = 1.12$) than they evaluated the noncomplementary bundle ($M = 3.85, SD = 1.79; F(1, 196) = 19.57, p < .001$). In contrast, when consumers adopted a higher level of mental construal initially, their evaluation of the noncomplementary bundle was more positive ($M_{complementary} = 4.15, SD = 1.97; M_{noncomplementary} = 5.20, SD = 1.41; F(1, 196) = 10.98, p = .001$).

Examining these results from a different perspective, consumers' evaluation of a complementary-item bundle was more positive when they were made to think relatively concretely ($M_{concrete-complementary} = 5.29, M_{abstract-complementary} = 4.15; F(1, 196) = 12.65, p < .001$). Conversely, the evaluation of the noncomplementary bundle became significantly more positive when consumers adopted an abstract—rather than a concrete—mindset ($M_{concrete-noncomplementary} = 3.85, M_{abstract-noncomplementary} = 5.20; F(1, 196) = 17.57, p < .001$).

2.8.3. Discussion

The results from study 2 provide empirical support for our fit prediction that complementary-item bundles are evaluated more positively than are noncomplementary-item bundles when consumers think in concrete terms. However, the favorability of complementary-item bundles over noncomplementary-item bundles reverses when consumers instead think in abstract terms. Note that this “construal fit” prediction is based on our theorizing that complementary (vs. noncomplementary) bundles induce a concrete (vs. abstract) mindset because consumers relate the bundle items to each other to form a single judgment about the bundle. Study 3 aims at testing this process prediction.

2.9. Study 3: Separating versus Connecting Mindsets and Bundle Evaluation

Four objectives guide study 3. First, we aim to increase the generalizability of our findings by showing the fit effect in bundles from a different, nondurable product category. To

this end, we used the same bundles as in study 1. Second, we test whether bundle evaluations also translate into monetary valuations of consumers by asking participants to report their willingness to pay (WTP) for the bundle. Third, to enhance the theoretical and substantive implications of our findings, we test consumers' evaluation of bundles under different levels of psychological distance, which has been shown in past research to induce abstract processing (Bar-Anan, Liberman, and Trope 2006; Trope and Liberman 2010). We empirically showed the predicted fit effect in study 2 when a concrete or an abstract mental construal was procedurally initially primed in a task that was independent from bundle evaluation. Now, in study 3, we test whether the fit effect occurs when certain characteristics of the bundle evaluation context itself involve differential levels of mental abstraction (i.e., when the bundle is psychologically distant versus close).

Finally and most importantly, we test in study 3 a critical aspect of our process prediction. Our theorizing posits that complementary (vs. noncomplementary) bundles induce a relatively concrete (vs. abstract) mindset because consumers tend to perceive bundles as a single unit. If this theorizing holds true, then the observed fit effect manifests itself (vs. disappears) when consumers are encouraged (vs. discouraged) to relate the bundle items to each other. In study 3, we manipulate whether consumers perceive multiple items in relation to each other (i.e., a connecting mindset) or as being separate and independent (i.e., a separating mindset; Oyserman 2011). We predict the fit effect to occur only in the connecting mindset condition because a change in the level of breadth of the category in which two items are related to each other—and, thus, a change in the level of mental construal—is observed only when consumers relate bundle items to each other. When consumers are discouraged from relating bundle items, however, evaluations are likely to reflect a sum of separate individual evaluations. Thus, we expect evaluations to be uniform across different bundle and distance conditions in the separating mindset condition.

2.9.1. Method

Four hundred and one Turkish college students ($M_{age} = 22.1$ years, 53% female) participated in the study in return for a chance to win a monetary reward. The experiment

employed a 2 (mindset: connecting vs. separating) x 2 (spatial distance: low vs. high) x 2 (bundle items: complementary vs. noncomplementary), between-subjects design.

We used a slightly different version of mindset manipulations used in previous research (Oyserman and Lee 2008). In the connecting mindset condition, participants were asked to think about their family and to write down the shared characteristics among family members that help them be a single, unified family. In contrast, participants in the separating mindset condition wrote down the unique characteristics of each family member that make them unique and separate from others in the family (see Appendix C for details). Next, participants continued to the actual bundle evaluation task. They evaluated a shown bundle either for purchasing from a nearby supermarket (low-distance condition) or a distant supermarket (high-distance condition) on the same three-item scale we used in study 2. In addition, we included an open-ended question asking participants to state their maximum WTP for the bundle in Turkish Liras. The bundle in the complementary (vs. noncomplementary) condition consisted of toothpaste and toothbrush (vs. toothpaste and a hairbrush). Finally, participants indicated their gender and age and were thanked.

We ran a pretest among a different sample from the same student population ($N = 50$; $M_{age} = 20.9$ years; 48% female). In the pretest, participants evaluated either of the products bundled with the toothpaste (i.e., either the hairbrush or the toothbrush), on their complementarity with the toothpaste (1: “noncomplementary,” 7: “complementary”), perceived attractiveness (the three-item scale used in the pretest of study 2), and perceived monetary value (open-ended). Results confirmed that the products are equally attractive ($M_{toothbrush} = 5.31$, $SD = 1.75$; $M_{hairbrush} = 5.13$, $SD = 1.33$; $t(49) = .91$, $p > .3$) and are perceived as having equal worth ($M_{toothbrush} = 9.83$, $SD = 4.76$; $M_{hairbrush} = 9.94$, $SD = 4.30$; $t(49) = .11$, $p > .9$). Moreover, the perceived complementary score was significantly higher than the midpoint of the complementarity scale for the toothbrush ($M = 6.34$, $SD = .77$; $t(49) = 21.43$, $p < .001$) and significantly lower for the hairbrush ($M = 2.52$, $SD = 1.28$; $t(49) = 8.17$, $p < .001$).

2.9.2. Results

Bundle Evaluation. We calculated a composite score of bundle evaluation by averaging responses to the three items (Cronbach’s $\alpha = .88$). Demonstrating the fit effect across the

overall data, a three-way ANOVA resulted in a significant two-way interaction between bundle item complementarity and distance ($F(1, 393) = 39.58, p < .001$). To elaborate, planned contrasts yielded that consumers evaluated a complementary bundle more favorably when they considered purchasing the bundle from a nearby store ($M_{\text{complementary-close}} = 4.41, SD = 1.50$; $M_{\text{noncomplementary-close}} = 3.18, SD = 1.53$; $F(1, 393) = 33.15, p < .001$). However, this pattern reversed when consumers considered the purchase from a distant store ($M_{\text{complementary-distant}} = 3.37, SD = 1.64$; $M_{\text{noncomplementary-distant}} = 4.05, SD = 1.71$; $F(1, 393) = 9.84, p = .002$). As predicted, this effect was observed because the complementary bundle was evaluated significantly more favorably in a nearby than a distant store ($F(1, 393) = 23.85, p < .001$), and the noncomplementary bundle was evaluated more favorably in a distant compared with a nearby store ($F(1, 393) = 16.10, p < .001$).

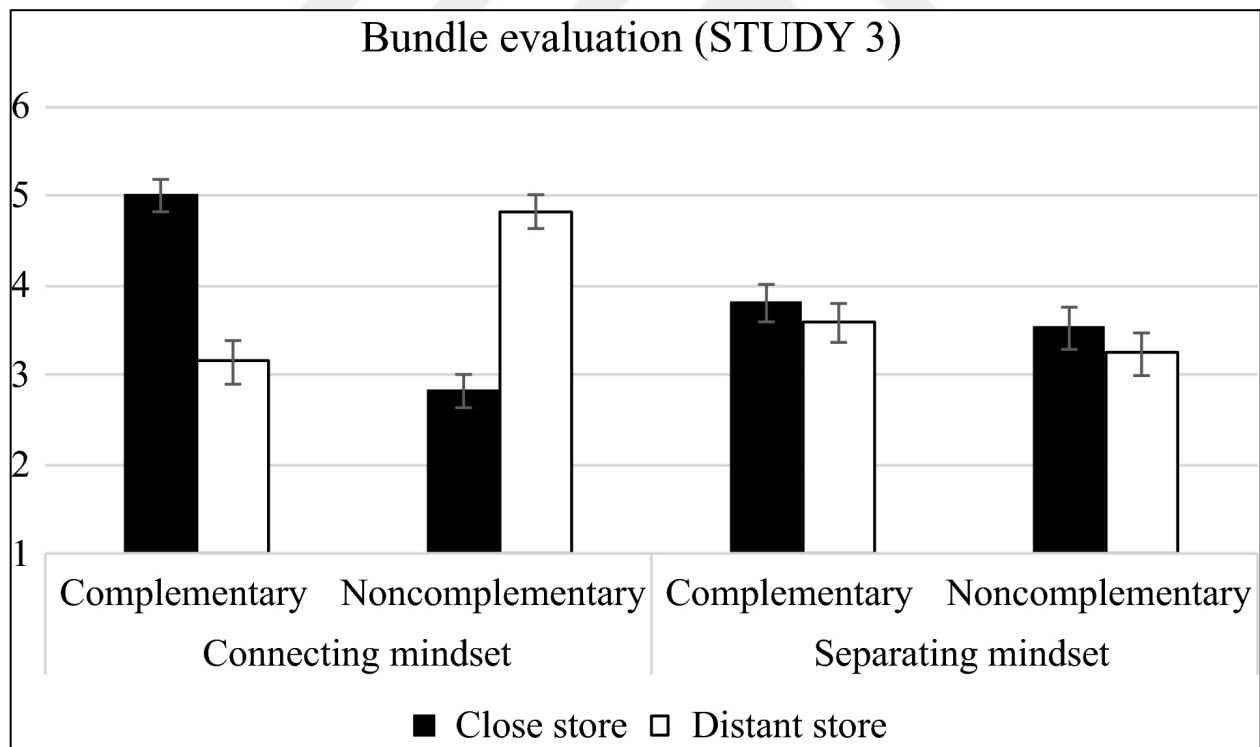


Figure 1. Bundle Evaluation in Study 3 (Essay 1)

More importantly, we obtained a significant three-way interaction ($F(1, 393) = 42.41, p < .001$). We conducted planned contrasts to test the moderating role of separating versus connecting mindsets. When consumers adopted a connecting mindset, the interaction between bundle item complementarity and distance was significant ($F(1, 393) = 187.49, p < .001$). Consistent with the hypothesized fit effect, consumers who were made to think in a connecting manner evaluated a complementary bundle more positively when they considered purchasing it from a nearby supermarket ($M_{close} = 5.01, SD = 1.28; M_{distant} = 3.15, SD = 1.72; F(1, 393) = 38.18, p < .001$). Conversely, consumers' evaluation of the noncomplementary bundle was more positive in the high-distance condition ($M_{close} = 2.84, SD = 1.31; M_{distant} = 4.83, SD = 1.35; F(1, 393) = 44.12, p < .001$).

This pattern of results was obtained because consumers' evaluation of the complementary bundle was significantly more positive than was their evaluation of the noncomplementary bundle when considered for purchase from a spatially close store ($M_{complementary} = 5.01, M_{noncomplementary} = 2.84; F(1, 393) = 52.07, p < .001$). In the distant store, however, the noncomplementary bundle was evaluated more positively than was the complementary bundle ($M_{complementary} = 3.15, M_{noncomplementary} = 4.83; F(1, 393) = 31.36, p < .001$).

However, when a separating mindset was induced among consumers, the interaction between complementarity and distance was no longer significant ($F(1, 393) = .02, p > .8$). The evaluations of bundles were equally positive across supermarkets when items were complementary ($M_{close} = 3.81, SD = 1.48; M_{distant} = 3.59, SD = 1.54; F(1, 393) = .53, p > .4$) or noncomplementary ($M_{close} = 3.53, SD = 1.66; M_{distant} = 3.25, SD = 1.68; F(1, 393) = .90, p > .3$). From a different point of view, consumers evaluated complementary and noncomplementary bundle offers equally favorably when they considered purchase from a nearby ($M_{complementary} = 3.81, M_{noncomplementary} = 3.53; F(1, 393) = .85, p > .3$) or a distant ($M_{complementary} = 3.59, M_{noncomplementary} = 3.25; F(1, 393) = 1.32, p > .2$) supermarket.

Willingness to Pay. The results yielded a similar pattern for consumers' willingness to pay for the bundle. The two-way interaction between bundle complementarity and distance was significant ($F(1, 393) = 19.67, p < .001$), which overall demonstrates the presence of the predicted fit effect. Participants who considered buying the bundle from a close supermarket reported higher WTP for the complementary bundle ($M_{complementary-close} = 15.02, SD = 5.96; M_{noncomplementary-close} = 11.72, SD = 5.31; F(1, 393) = 18.02, p < .001$), whereas those who

considered purchasing it from a distant store stated higher monetary valuation for the noncomplementary bundle ($M_{\text{complementary-distant}} = 12.33$, $SD = 5.39$; $M_{\text{noncomplementary-distant}} = 13.93$, $SD = 5.92$; $F(1, 393) = 4.10$, $p < .05$).

We also obtained a significant three-way interaction ($F(1, 393) = 22.11$, $p < .001$). In the connecting mindset condition, the two-way interaction between distance and complementarity was significant ($F(1, 393) = 41.85$, $p < .001$). Participants who evaluated the complementary bundle reported a significantly higher WTP for it when they considered purchasing it from a nearby store ($M = 16.14$, $SD = 5.65$) than from a distant store ($M = 10.64$, $SD = 5.48$; $F(1, 393) = 25.08$, $p < .001$). In contrast, the noncomplementary bundle yielded a significantly higher WTP ($M = 15.86$, $SD = 6.04$) than did the complementary bundle ($M = 11.33$, $SD = 5.05$; $F(1, 393) = 17.13$, $p < .001$) when consumers imagined seeing the bundles at a distant store.

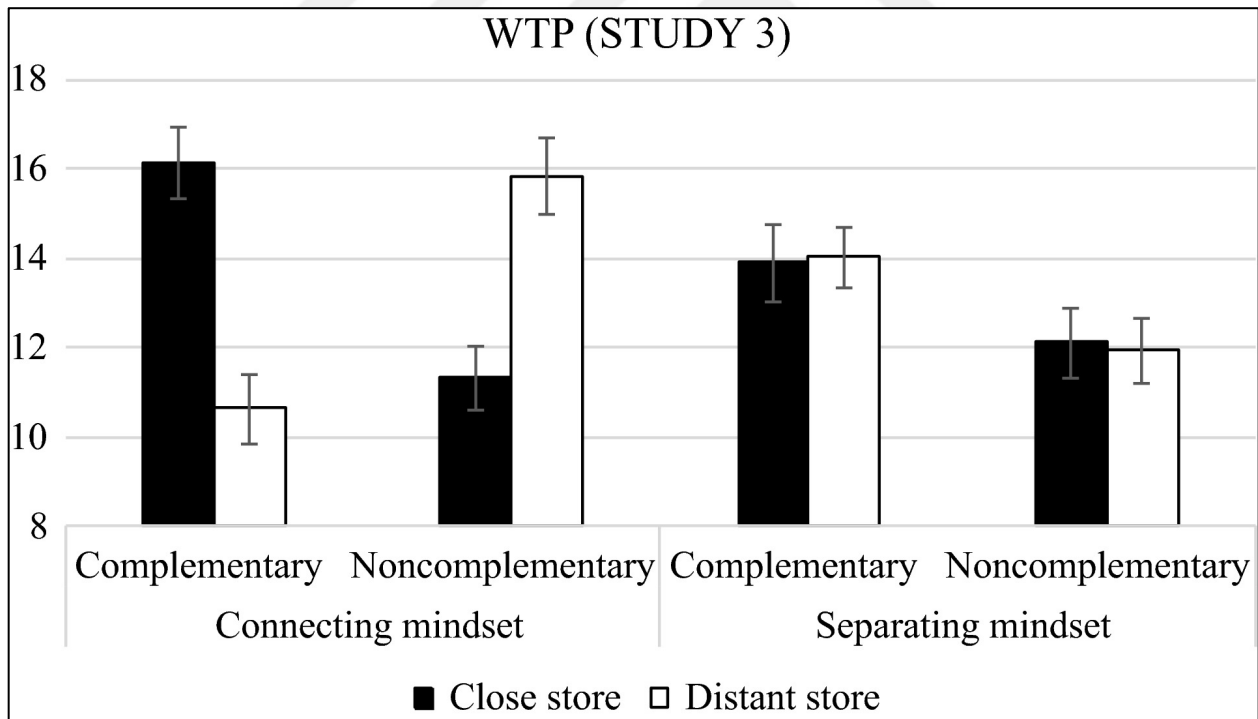


Figure 2: Willingness to Pay in Study 3 (Essay 1)

Akin to results for bundle evaluation, the twoway interaction between distance and complementarity was no longer significant when consumers were instructed to think in a manner

that separates bundle items ($F(1, 393) = .04, p > .8$). Consumers in the separating mindset condition reported an equal WTP for both the complementary ($M_{close} = 13.90, SD = 6.11; M_{distant} = 14.03, SD = 4.78; F(1, 393) = .013, p > .9$) and the noncomplementary bundle ($M_{close} = 12.11, SD = 5.58; M_{distant} = 11.95, SD = 5.13; F(1, 393) = .02, p > .8$) across stores with different levels of spatial distance.

2.9.3. Discussion

Our conceptualization suggests that bundle evaluation involves a process where consumers attend to both items, and try to relate them to form a single summary judgment about the bundle. This process results in a higher (vs. lower) mental construal when bundle items are noncomplementary (vs. complementary), and the fit between this level of mental construal and the level induced by other factors in the decision context enhances evaluations. Consistent with this theorizing, results from study 3 show that a change in the abstraction level of mental construal—and, thus, the predicted fit effect—is not observed when consumers adopt a mode of processing in which they focus on parts of a whole separately rather than the whole as a single, unified entity. Moreover, study 3 extends the findings of study 2 by showing that the fit effect is also observed when abstraction is implied by the context (i.e., spatial distance associated with the purchase) rather than the mental construal of consumers, and the effect translates also into monetary valuation of products.

2.10. Study 4: “Feeling Right” as the Mediating Factor

The objectives of study 4 are threefold. First and foremost, we aim to provide process evidence for our theorizing by examining whether the documented effect is driven by a heightened sense of “feeling right” experience under fit (Higgins 2006). Second, study 4, which is an incentive-compatible field experiment, strengthens the validity of our theorizing and findings by showing the fit effect in the field in real choices of consumers under a different type of psychological distance—temporal distance. Finally, study 4 extends our findings into a different product category—skin-care products.

2.10.1. Method

One hundred customers ($M_{age} = 34.9$ years; 53 female) of a drug store, which also sells self-care products, were invited after check-out to a single factor (temporal distance: low vs. high) study ostensibly presented as a survey on health. Those who agreed to participate answered a single-page survey that involved several generic health-related (e.g., “How many times per year do you see a doctor?” “Do you have health insurance?”) and demographic questions.

Next, participants were told that they could choose between one of the two gift bundles as an appreciation of their participation in the study. Participants in the low temporal distance condition were told that they would immediately receive the gift after stating their preference. Conversely, the experimenter told participants in the high-distance condition that he would order the gifts after all surveys were completed and that the respondent would receive the bundle of their preference one month later. After giving this information verbally, the experimenter showed participants the bundles and handed in one-page survey in which participants stated the bundle of their preference and responded to the “feeling right” measure that involved three 7-point items (“I felt right while making the decision;” “I felt motivated while making the decision;” “I felt wrong while making the decision (reverse coded);” Lee et al. 2010).

We designed bundles with respect to each participant’s gender. The complementary bundle for female customers involved two hair removal products appropriate for women (i.e., a depilatory cream and an after-epilation lotion), whereas the noncomplementary bundle involved a hair removal product (i.e., a depilatory cream) and a sunscreen. The bundles shown to men consisted of two hair removal products appropriate for men (i.e., shaving foam and an after-shave splash) in the complementary condition, and a hair removal product (i.e., shaving foam) and a sunscreen in the noncomplementary condition. The study was conducted in the summer season, when sunscreen use was common among customers.

We ran two separate pretests among different samples of men ($N = 20$; $M_{age} = 34.5$ years) and women ($N = 20$; $M_{age} = 35.9$ years). In these pretests, men (vs. women) evaluated the two products bundled with the shaving foam (vs. depilatory cream) on the same measures used in the pretest of study 3 (i.e., complementarity, attractiveness, and monetary worth). The two products shown were equally attractive for both men ($M_{after-shave} = 4.13$, $SD = 1.45$; $M_{sunscreen} = 4.20$, $SD = 1.64$; $t(19) = .19$, $p > .8$) and women ($M_{after-shave} = 4.33$, $SD = 1.73$; $M_{sunscreen} = 4.35$, $SD = 1.91$;

$t(19) = .03, p > .9$). In addition, the products were rated as having equal monetary value by both men ($M_{after-shave} = 23.49, SD = 12.47; M_{sunscreen} = 24.95, SD = 9.49; t(19) = .47, p > .6$) and women ($M_{after-epilation} = 29.24, SD = 11.50; M_{sunscreen} = 30.75, SD = 12.60; t(19) = .41, p > .6$). Finally, the pretest confirmed that, in both gender groups, the complementarity score of the sunscreen was significantly lower than the midpoint (for women, $M = 2.65, SD = 1.81; t(19) = 3.32, p = .004$; for men, $M = 2.80, SD = 1.61; t(19) = 3.33, p = .003$), whereas the score of products used in complementary bundles was significantly higher than the midpoint (for women, $M = 5.00, SD = 1.45; t(19) = 3.08, p = .006$; for men, $M = 5.10, SD = 1.48; t(19) = 3.32, p = .004$).

2.10.2. Results

Bundle Preference. Because gender did not influence the bundle choice, we did not include it in our analysis. A chi-square test confirmed our prediction by yielding a significant effect of temporal distance on bundle choice ($\chi^2 = 4.86, p < .03$). In the low-distance condition, 29 of 50 customers (58%) chose the complementary bundle. Conversely, the preference of customers shifted significantly toward the noncomplementary bundle in the high temporal distance condition, where only 18 of 50 participants (36%) preferred the complementary bundle.

Mediation Analysis. We computed a composite “feeling right” score by averaging each participant’s responses to the three items (Cronbach’s alpha = 0.94). Next, we estimated bias-corrected coefficients from 10,000 bootstrapped samples for a mediation model (Model 4; Hayes 2013). In the model, we included bundle choice as the dependent variable, temporal distance as the independent variable, and the composite “feeling right” score as the process variable. The model yielded that the independent variable—temporal distance—had a significant effect on the process variable—feeling right ($b = 1.04, t(98) = 2.80, p = .006; CI_{95\%} = [.3048, 1.7760]$). When both variables were included in the model, however, the direct effect of distance on choice was no longer significant ($b = .67, Z = 1.55, p > .1; CI_{95\%} = [.1756, 1.5101]$), and the “feeling right” measure significantly predicted the choice ($b = .27, Z = 2.33, p = .02; CI_{95\%} = [.0443, .5065]$). Importantly, the indirect effect of temporal distance on bundle choice through feeling right was significant, as demonstrated by 95% confidence intervals excluding zero ($b = .29, CI_{95\%} =$

[.0619, .7759]). Consistent with our process theorizing, this result suggests that a heightened sense of “feeling right” mediates the obtained effect.

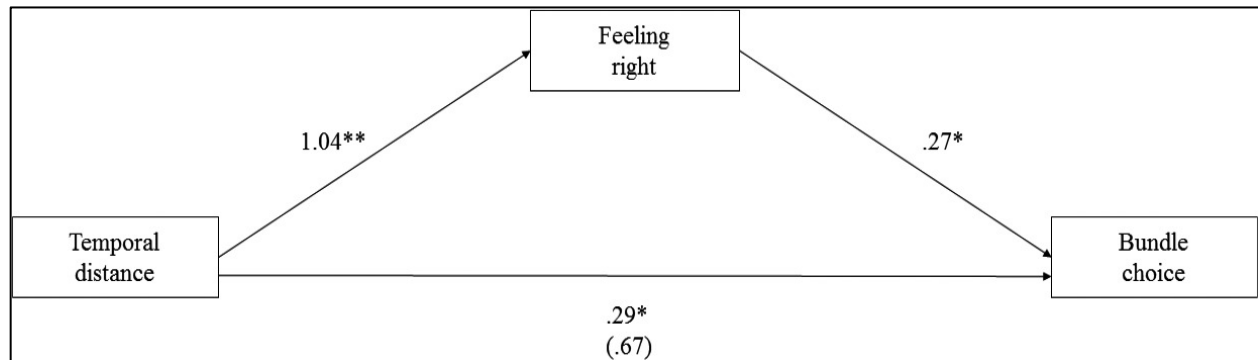


Figure 3: Mediation Analysis Results in Study 4 (Essay 1)

2.10.3. Discussion

Study 4 shows that consumers choose complementary (vs. noncomplementary) bundles under low (vs. high) temporal distance due to the intensification of their “feeling right” experience during decision making. This finding increases the generalizability of our theorizing by documenting the fit effect in the field. Moreover, it heightens the substantive implications of our conceptualization by showing that temporal distance, which is another type of psychological distance that influences mindset abstraction (Liberman et al. 2002), moderates the relative preference of complementary and noncomplementary bundles.

2.11. General Discussion

The current research investigates when and why bundling noncomplementary products could be a more effective strategy than offering consumers complementary-item bundles. To this end, we examined the cognitive corollaries of evaluating complementary versus noncomplementary bundles. Drawing on past research suggesting that (1) consumers engage in a

relational processing manner when evaluating bundles (Chiambaretto and Dumez 2012; Shaddy and Fishbach 2017; Weaver et al. 2012), and (2) mindset abstraction allows for relating seemingly unrelated items (Johnson 1989; Rosch 1975) such that people with an abstract mindset think in more inclusive and broader categories (Liberman et al. 2002), we predicted that complementary (vs. noncomplementary) bundles would be associated with a relatively lower (vs. higher) level of mental construal. To illustrate, a consumer is likely to construe a bundle with toothpaste and a toothbrush as being a tool for “cleansing the teeth.” Conversely, a bundle with toothpaste and a hairbrush is likely to be construed at the higher, more inclusive level of “self-care” because the two products could be related to each other only at broader levels of categories. Furthermore, based on emerging evidence that evaluations of targets are enhanced when multiple factors in the decision environment fit with one another in the level of abstraction they imply (Higgins 2006; Lee et al. 2010), we predicted that people prefer complementary (vs. noncomplementary) bundles when concrete (vs. abstract) processing is prompted.

Empirical evidence from four experimental studies provided support for these predictions. Study 1 showed the basic effect that evaluating a complementary (vs. noncomplementary) bundle leads to concrete (vs. abstract) mental processing, as demonstrated by consumers’ use of less (vs. more) abstract language and their tendency to describe actions less (vs. more) abstractly. Documenting the fit effect, study 2 showed that, when consumers were encouraged to think concretely, they evaluated a complementary bundle more favorably. However, this effect reversed when they were initially made to think abstractly. Study 3 extended the generalizability and applicability of this effect by documenting it when abstraction is operationalized through psychological (i.e., spatial) distance. In study 3, consumers not only evaluated complementary (vs. noncomplementary) bundles more favorably when they considered purchasing them from a nearby (vs. distant) supermarket but also reported higher willingness to pay for the bundle. More importantly, study 3 provided empirical support for a critical aspect of our theorizing by showing that processing style moderates the hypothesized effect such that it attenuates when consumers are encouraged to attend to multiple elements of a single entity separately. Finally, study 4 replicated the effect in the field in real choices of consumers when the decision involves low versus high temporal distance. A significantly higher proportion of consumers preferred the complementary (vs. noncomplementary) bundle when

they would receive it immediately (vs. one month later). Supporting our process explanation, this effect was driven by a “feeling right” experience that occurs in construal fit contexts.

2.11.1. Theoretical Implications

These findings have important theoretical implications for bundling research. Past research in product bundling has repeatedly shown that bundling complementary items increases the effectiveness of a bundling strategy (Gaeth et al. 1991; Harlam et al. 1995; Herrmann et al. 1997; Koukova et al. 2008; Popkowski Leszczyc and Haubl 2010; Simonin and Ruth 1995; Strahilevitz and Myers 1998), some speculating that bundling functionally noncomplementary products increases the difficulty of the task of evaluation, leading to less favorable evaluation of bundles (Agarwal and Chatterjee 2003). This well-established finding is consistent with classical economics, which asserts that complementary bundles provide higher utility because the utilities of individual items are super-additive (Guiltinan 1987; Telser 1979; Venkatesh and Kamakura 2003). However, in the current study, we document an effect that challenges these well-documented findings. We do so by developing a general framework that helps understand cognitive correlates of evaluating different types of bundles. More specifically, we show that contexts that involve higher (vs. lower) abstraction reverse the favorability of complementary bundles over noncomplementary ones.

Emerging neurological evidence shows that taking proximal—as opposed to distal—perspectives, which leads to concretization of thinking and adoption of a lower level of mental construal, results in increased activity in certain brain regions (Tamir and Mitchell 2011) that are part of the brain’s “default network” (Raichle et al. 2001). These studies suggest concrete mindsets as the control or baseline thinking mode of humans, which can help us accommodate previous findings within our framework. The aforementioned research on product bundles largely overlooked other factors within the decision context and compared evaluations of complementary-item and non-complementary-item bundles. If participants’ default thinking mode is concrete, then this might have led them to prefer the type of bundle whose evaluation prompts concrete thinking fitting the one activated as the default (i.e., the complementary-item bundle). In addition to deriving additional utility from each item when they are present together (i.e., economic super-additive utilities), consumers might be catching further “cognitive utility”

from bundles with functionally complementary items, increasing their favorability over bundles with noncomplementary items. This preference pattern, however, is not observed when consumers' mindset is pulled away from the "default" concrete thinking by activation of an abstract mindset either procedurally or contextually.

Recently, Darveau and d'Astous (2014) identified one moderator of consumers' relative preference between complementary and noncomplementary items in a bundled offer. They showed that people who engaged in a subtractive option framing perceived greater value in arts/culture bundles when the bundle consisted of complementary items. However, this effect is reversed under additive option framing such that consumers in an additive mode of selection perceived significantly greater value for the noncomplementary arts bundles. Our construal level-based framework can also explain these findings. An additive option framing (i.e., "which products should I add?") emphasizes benefits or utilities of options, whereas a subtractive option framing (i.e., "which options should I remove?") directs one's attention to losses associated with each option. Some authors have argued that benefits relate to higher levels of construal and desirability concerns, whereas a focus on losses is associated with lower levels of construal and concerns with feasibility (Fiedler 2007). Additionally, there is empirical evidence showing that loss frames (vs. gain frames) fit concrete (vs. abstract) mindsets (White et al. 2011). Our findings, which suggest that noncomplementary (vs. complementary) options facilitate an abstract (vs. concrete) mindset, can explain why consumers in an additive (vs. subtractive) option framing perceive greater value from unrelated (vs. complementary) items in a bundle.

The current research also adds to research on the bundle evaluation process. Traditionally, works examining how consumers perceive bundles focused exclusively on the relationship between overall bundle valuation and the valuation of individual items. These studies have drawn on information integration theory (Anderson 1981) and concluded that consumers' evaluation of bundles reflect an averaging pattern such that overall evaluation of a multicomponent bundle is a weighted average of individual evaluations of separate bundle items. Only recently have studies started to delve into the psychological underpinnings of this process. These emerging studies argued that bundles are perceived as single entities (Shaddy and Fishbach 2017) and thus that their evaluation involves a relational information processing in which they try to relate bundle items in order to form a single coherent judgment about the bundle (Weaver et al. 2012). We add to this growing body of research by identifying a

significant consequence of this process in terms of human cognition. Note, however, that our research did not aim at explaining why consumers do engage in relational processing during bundle evaluation. Similar to the work of Shaddy and Fishbach (2017), we documented an important consequence of this rather than explaining why consumers try to relate bundle items to one another. Several factors might motivate consumers to do so, which future research could investigate. For example, consumers might try to make sense of the bundling decision of marketers. If this is the case, individual differences such as need for cognition (i.e., the tendency of engaging in thinking during decision making; Cacioppo and Petty 1982) might moderate the effects we document in the current research.

Our study offers several other opportunities for future research on product bundles. First, we posit and empirically document that complementary (vs. non-complementary) bundles result in a lower (vs. higher) level of construal due to the items being relatable at lower (vs. higher) levels of categories. The stimuli we used to test our consequent predictions were relatable at meaningful levels not only in complementary but also in noncomplementary bundle conditions (e.g., toothpaste and hairbrush at the level of “self-care;” sunscreen and after-shave/after-epilation at the level of “skin care;” ironing board and vacuum cleaner at the level of “housework”). The documented effects might not be obtained when marketers bundle multiple items that are too functionally unrelated to be related to one another at meaningful levels. It would be theoretically interesting to identify what determines the level beyond which this effect disappears. Second, we limited our investigation to functional complementarity or non-complementarity. Future work could also investigate whether the documented effect also arises for bundles in which items are complementary or noncomplementary in different ways (e.g., use time or use occasion complementarity; Varadarajan 1986).

Moreover, future research could examine whether our construal-based framework can be applied to domains different from bundles in which consumers integrate information from several items to make judgments about a single “entity.” One such domain is brand extensions, in which consumers judge a new product by integrating their knowledge and attitudes about the brand and the new product category (Aaker and Keller 1990). Akin to the bundling literature, past empirical evidence on brand extensions also shows that higher fit perceptions between the parent brand and the new product category increase the favorability of consumer responses (Broniarczyk and Alba 1994). This effect, however, is moderated by brand and consumer-related

factors such that low-fit extensions are evaluated more favorably when the parent brand is categorized as luxury rather than functional (Hagtvedt and Patrick 2009) or when consumers are holistic rather than analytical thinkers (Monga and John 2007). Our theorizing helps accommodate these findings. While luxury brands are inherently desirable, functional brands are preferred because they provide a practical benefit in a feasible way (Chitturi, Raghunathan, and Mahajan 2007). Desirability (vs. feasibility) concerns are in turn associated with a higher (vs. lower) level of mental construal (Liberman and Trope 1998). Additionally, research shows that an analytical mode of processing encourages relatively concrete thinking, whereas holistic processing triggers a relatively abstract mindset (Forster, Friedman, and Liberman 2004). Consistent with our theorizing, these findings indeed document that low-fit brand extensions are evaluated more positively under construal fit. The applicability of our framework in the brand extension domain allows for novel predictions that further research could examine.

2.11.2. Managerial Implications

Forming bundles with complementary items has long been a prevalent marketing strategy due to common intuition, assumptions of economic theory, and findings of past behavioral studies. However, our findings suggest that this strategy might not be always the right choice. In addition to challenging this well-established notion, our study offers easy-to-manipulate means to enhance the attractiveness of bundles with items that differ in their level of complementarity. When a manager is to design a bundle, she should carefully consider the psychological distance salient in the decision context. Under low (vs. high) psychological distance, she should consider bundling complementary (vs. noncomplementary) items. From a different point of view, when a marketing manager must sell multiple complementary (vs. noncomplementary) items due to reasons such as inventory management, highlighting psychological proximity (vs. distance) might help by increasing the attractiveness of the bundle.

Although we manipulated only two types of psychological distance in the current research, dimensions of psychological distance reflect a correspondence (Trope and Liberman 2010). Stated differently, if a relationship between a factor and one type of psychological distance holds, then it will also hold for other dimensions of psychological distance. Therefore, the effect empirically documented in this study is also likely to spillover to consumer decisions

in which other distances are salient. Two other types of psychological distance—social distance (Liviatan, Trope, and Liberman 2008) and hypotheticality or probability (Wakslak, Trope, Liberman, and Alony 2006)—also result in higher mental construal such that distant others and unlikely or less-probable events are construed more abstractly. Thus, our framework would predict that consumers prefer noncomplementary bundles when they are making a purchasing decision for others rather than for themselves. In a similar vein, marketers could benefit more from offering noncomplementary incentives when designing conditional or low-probability promotions.

Psychological distance is not the only factor that influences mindset abstraction. A large body of emergent research shows that many factors within a decision context such as assortment size (Xu, Jiang, and Dhar 2013) or the position of the product with respect to the spectator's sight (Aggarwal and Zhao 2015) exert a significant influence on the level of consumers' mental construal. Managers would benefit from complementing these findings by our findings to develop and market bundles with differential levels of item complementarity.

One boundary condition of the current findings should be noted. As explained throughout the manuscript, fit among factors in the decision context intensifies consumers' evaluations in the original direction by making them "feel right" about their initial judgment. In other words, fit conditions could be expected to make initially negative evaluations even more negative. Note that the pretests we conducted show that the stimuli used in experimental studies are not evaluated negatively by consumers. Thus, our findings should not be interpreted as though creating fit in bundle evaluations would increase the favorability of any bundle regardless of consumers' initial attitudes toward the bundles. In fact, creating fit might rather backfire for bundles with unfavorable items.

Chapter 3

“FEAST OR FAMINE?” THE IMPACT OF VICE MAGNITUDE ON THE ATTRACTIVENESS OF VICE-VIRTUE BUNDLES

3.1. *Abstract*

Vice-virtue bundles are becoming increasingly popular in the marketplace. This research investigates how an important aspect of vice-virtue bundles—the magnitude of the vice component—influences consumers’ evaluation of such bundles. Building on research on psychological licensing, the current research proposes that the comparability among payoffs associated with bundle components moderates the impact of vice magnitude on consumers’ evaluation of vice-virtue bundles. Results from four experiments show that, when payoffs are highly comparable, increasing the vice magnitude results in less positive evaluations of the bundle. In contrast, consumers evaluate a vice-virtue bundle with a larger vice more positively when payoffs of bundle components are less comparable. This effect is explained by distinct licensing mechanisms that come into play under high and low payoff comparability. More specifically, consumers license the vice component via psychological credits under high payoff comparability, and via psychological credentials under low comparability. This research significantly advances streams of research on vice-virtue bundles and psychological licensing, and offers substantive implications.

3.2. *Introduction*

Recent advancements in the retailing sector and online environments resulted in proliferation of stores selling products from a diverse range of categories and bundled offers that involve items with different characteristics (Khan and Dhar 2010). An important characteristic that is likely to distinguish products in the marketplace—and, thus in product bundles—is whether the consumption of a given item is perceived as a vice or a virtue. Thus, marketing researchers have recently started to investigate the circumstances under which vice-virtue bundles are evaluated positively (Haws and Liu 2016; Jiraporn, Charinsarn, and Sheridan 2016; Liu et al. 2015; Verma, Guha, and Biswas 2016). However, these studies are limited in number, and several factors that influence the attractiveness of vice-virtue bundles still remain unidentified. The current research examines how a significant aspect of a vice-virtue bundle—the magnitude of the vice component—affects the overall attractiveness of the bundle.

Consider, for example, a souvenir store which runs its own café decides to offer bundles to increase sales. The café considers bundling a healthy sandwich with either one macaron or two macarons. How would the size of the vice component (i.e., one versus two) affect the overall preference and willingness to pay for the bundle? The common intuition would suggest that consumers like the bundle with two macarons more and they would be willing to pay more for it merely because it offers consumers a higher benefit. This intuition is also in line with the basic premises of the classical economic theory, which would predict consumers to value the bundle with two macarons more under the assumption that the marginal utility of the second macaron is non-negative (i.e., the consumer does not get disutility from the second macaron).

On the other hand, research in consumer behavior would predict that consumers like the healthy sandwich-macaron bundle with one macaron more than they like the bundle with two macarons. A long body of research has shown that the choice and consumption of vice products like macarons are associated with a sense of guilt, and with a resulting need for justification (Kivetz and Simonson 2002; Mishra and Mishra 2011; Okada 2005). This finding would then predict that consumers' evaluation of the bundle with two macarons would be less positive because two macarons are harder to justify than a single macaron. In line with this prediction, a recent empirical investigation of consumers' evaluation of vice-virtue food bundles found that

consumers prefer bundles with smaller vice proportions to bundles with larger vice proportions (Liu et al., 2015).

Drawing upon research on psychological licensing (Merritt, Effron, and Monin 2010; Mullen and Monin 2016) and option comparability (Johnson 1984, 1989), we propose in the current research that comparability of payoffs associated with bundle components moderates the impact of vice magnitude on attractiveness of vice-virtue bundles. Our conceptualization suggests that increasing the vice magnitude counterintuitively decreases the attractiveness of vice-virtue bundles when the payoffs associated with bundle components (i.e., the negative payoff associated with the vice component and the positive payoff associated with the virtue component) are comparable. In contrast, when consumers cannot easily compare the payoffs of the individual components, they evaluate the vice-virtue bundle with a larger vice more positively.

We predict this effect to occur because the level of comparability among the payoffs associated with the bundle components causes different mechanisms of justification to come into play. When the payoffs are comparable, justification occurs through a *credits*-based mechanism whereby consumers use psychological credits earned by the virtuous components to justify their indulgences. Because consuming a larger magnitude of vice requires a higher amount of credits, consumers evaluate the bundle with a larger vice less positively. When payoffs are not easily comparable, however, consumers engage in a *credentials*-based justification process, which results in the justification of the consumption of the vice per se. Consequently, increasing the magnitude of *the already-justified* vice component increases the overall attractiveness of the bundle.

The main contributions of the current research are two-fold. First, we advance extant knowledge on vice-virtue bundles by introducing the interactive role of vice magnitude and the level of comparability between the payoffs associated with bundle components in influencing consumers' bundle evaluation. By so doing, we offer substantive suggestions to increase the attractiveness of vice-virtue bundles. Second, we significantly contribute to research on psychological licensing by documenting an antecedent of the mechanism through which indulgent choices are justified. Past research on psychological licensing has largely used credits and credentials interchangeably without delineating the differences between these two mechanisms (see, for reviews, Blanken, van den Ven, and Zeelenberg 2015; Mullen and Monin

2016). In the current research, we show that the level of comparability between the payoffs associated with the licensing and the licensed choices determines whether licensing occurs through a credits-based or a credential-based mechanism. Moreover, the current research documents an important consequence of the mechanism through which licensing occurs. More specifically, we show that the likelihood of choosing an indulgent option increases (vs. decreases) as its magnitude increases when consumers engage in a credentials-based (vs. credits-based) licensing.

We organize the rest of this manuscript as follows: In the next section, we briefly review past research on vice and virtue consumption and psychological licensing, which lead us to our predictions. Next, we present empirical evidence from 4 studies in support of our predictions. Finally, we conclude by summarizing the findings and discussing their theoretical and managerial implications.

3.3. *Consuming Vices and Virtues*

Consumer products could be broadly categorized as vices and virtues with respect to the goal associated with their consumption. This categorization resembles the classification of consumer products as “*wants*” and “*shoulds*” (Wertenbroch 1998), which refers to a distinction among consumer products in terms of short-term and long-term payoffs associated with them. Vices are experientially appealing options that offer immediate gratification; however, their consumption might be harmful in the long-run. Virtues, on the other hand, result in a positive payoff in the long-run and require overriding immediate desires for gratification. In the food consumption setting, for example, an appealing but unhealthy chocolate cake could be classified as a vice because it is associated with negative health payoffs in the long-run whereas a less appealing but healthy fruit salad could be exemplified as a virtue due to its positive payoffs in the domain of health.

A vast body of research has shown that the consumption of vices induces a sense of guilt due to the negative payoffs they are associated with (Kivetz and Simonson 2002). Consequently, consumers become motivated to justify their purchase and/or consumption of vice products in order to relieve this sense of guilt in many different ways. For instance, consumers’ willingness to spend effort for an option is higher for vice products since the effort makes them feel entitled

to consume the product (Kivetz and Zheng 2006). Similarly, prices with odd-ends (i.e., ending with 99-cents) are more effective for vices because consumers perceive a price reduction from a reference price which provides them a cue for justification (Choi et al. 2014). In a similar vein, marketing incentives involving free gifts are more effective when the gift is offered for a vice product because free gifts also help consumers justify their purchases (Lee-Wingate and Corfman 2010). In the context of bundling, Khan and Dhar (2010) showed that attractiveness of a mixed bundle increases when the bundle price is framed as involving a price reduction in the relatively vice—rather than the virtue—component because a price reduction on this component helps consumers justify its purchase.

How does the size of the vice component in a vice-virtue bundle, then, influence the overall attractiveness of a vice-virtue bundle? An inference based on the above discussion would be that keeping the vice component in a vice-virtue bundle larger decreases the overall attractiveness of the bundle. This inference would be made because the relatively indulgent option becomes harder to justify as its magnitude increases. To illustrate giving the opening example, a bundle involving a healthy sandwich and two macarons is likely to be less attractive than when the bundle involves a single macaron because the consumption of two macarons is harder to justify than the consumption of a single macaron.

There is indirect support for this prediction in recent research. The results of a study on vice-virtue food bundles suggest that people overall tend to prefer bundles with small and medium proportions of vice to larger proportions, keeping the overall quantity constant (Liu et al. 2015). More specifically, Liu et al. (2015) identified in their study three consumer segments with respect to their preference between vice and virtue foods (i.e., *vice lovers* who favor taste goal over health goal; *virtue acceptors* who favor health goals over taste goals; *virtue lovers* who have minimal taste goals and can address health and taste goals via pure virtues). Although each of these three segments overall prefers a different vice-virtue proportion, even vice lovers get higher utility from a bundle with one unit of vice and three units of virtue (i.e., an easy-to-justify vice-virtue bundle) than a bundle with one unit of virtue and three units of vice (i.e., a hard-to-justify vice-virtue bundle).

3.4. Psychological Licensing and Justifying Indulgences

Past research on psychological licensing has shown that virtuous acts or choices free people to behave in an indulgent manner in other choices (Merritt et al. 2010). In the context of consumer choices, for example, consumers' likelihood of choosing a luxury over a necessity increases when they initially engage in a virtuous behavior because the initial behavior licenses the negative self-attributions associated with the consumption of luxuries (Khan and Dhar 2006). Along a similar vein, consumers behave less altruistically and cheat more after they purchase an environmentally friendly product than those who initially purchase a conventional product (Mazar and Zhong 2010).

Two possible routes have been suggested in past research with regards to how a virtuous behavior licenses an indulgent choice: a *credits*-based mechanism and a *credentials*-based mechanism (Merritt et al. 2010). The credits-based mechanism suggests the existence of a moral balance account which resembles a bank account. According to this explanation, people earn psychological credits when they engage in a virtuous behavior, which are then used to justify indulgent choices. In other words, the person feels licensed to undertake an indulgent action that needs justification as long as she has enough credits earned through virtuous choices. This implies that the construal of the indulgent behavior does not change under credits-based licensing. Rather, the virtuous choice cancels out the indulgent choice, which keeps the moral account in balance.

The credentials-based explanation, on the other hand, asserts that licensing occurs because doing good (e.g., choosing a virtue product) gives the actor the credentials of a virtuous person. This boost in one's self-concept changes the way the indulgence is construed. The actor relies on her inferences regarding her self-concept while perceiving the indulgence, and feels that the option is now less problematic (Effron and Conway 2015). To put differently, she believes that any subsequent behavior she undertakes as a person who has proven to be virtuous is also a virtue, leading to the justification of the vice behavior per se.

These two accounts give different predictions regarding our research question on the impact of vice magnitude on the overall attractiveness of vice-virtue bundles. If a consumer justifies the vice through credits, the attractiveness of the vice-virtue bundle should decrease as the magnitude of the vice component increases since a higher amount requires more credits. When licensing occurs through credentials, however, the construal of the vice will change, and the consumer will feel the right to indulge in that option regardless of its quantity. In other

words, the consumer will think that she has “*the right* to eat macarons” rather than thinking that she “can eat macarons as long as the negative payoffs associated with eating *that many* macarons is not higher than the positive payoffs associated with the virtuous act.” Consequently, credentials-based licensing will increase bundle attractiveness as the vice magnitude gets larger.

3.5. *Payoff Comparability as an Antecedent of Licensing Mechanism*

Although both aforementioned mechanisms of licensing imply the same consequence (i.e., higher likelihood of indulging in the presence of a virtuous act), the direction of this effect differs with respect to the magnitude of the licensed behavior as we explicated above. Therefore, it is important to identify conditions under which one or the other mechanism will come into play. Notwithstanding, almost no research has yet examined these conditions (Mullen and Monin 2016).

The key difference between the credits account and the credentials account is that former mechanism requires a relatively more calculative and concrete processing style whereby consumers closely monitor and calculate the payoffs associated with the options. The credentials-based licensing, however, is associated with a relatively more abstract processing as it involves higher-order perceptions regarding one’s self-concept. Research on option comparability suggests that mindset abstraction allows for comparing otherwise noncomparable options and alternatives (Johnson 1984). Johnson (1989) evinces that consumers’ joint evaluation of multiple products from different categories results in an abstract strategy of choice since products from different categories involve many non-comparable attributes.

In a vice-virtue bundle context, when the consequences or payoffs of one component is comparable to those of the other component, consumers will engage in a calculative strategy and rely on credits because this context will provide them with readily available information regarding (1) how much credits they earn through choosing the virtue component and (2) how much credits the vice component necessitates. However, when the payoffs associated with bundle components lack comparable attributes, it will be unlikely for consumers to engage in a relatively calculative strategy. Rather, they will rely on the credentials provided by the choice of the virtue component in justifying the vice component. Therefore, we predict that consumers engage in a credits-based (vs. credentials-based) licensing when payoffs associated with

components of a vice-virtue bundle are comparable (vs. non-comparable). Consequently, increasing the magnitude of the vice component decreases (vs. increases) the attractiveness of the bundle when the payoffs are comparable (vs. non-comparable).

3.6. *Vice/Virtue and Hedonic/Utilitarian Distinctions*

Note that the vice/virtue distinction is similar to another categorization of consumer products that has been heavily examined in prior consumer research: hedonic versus utilitarian products. Hedonic products have been defined as being desired for fantasy, pleasure or fun while utilitarian products have been suggested to help consumers fulfill their basic needs or accomplish functional goals (Strahilevitz and Myers 1998). The critical distinction between these two conceptualizations (vice/virtue vs. hedonic/utilitarian) is that vices and virtues are associated with some forms of payoff. A vice involves a negative payoff (e.g., high calories when an attractive food option is consumed) while a virtue involves a positive payoff (e.g., being healthy when a healthy food is consumed) and leads to perceptions regarding one's personality (Okada 2005).

Hedonic and utilitarian products, however, do not necessarily have these characteristics. A utilitarian item that simply provides a practical utility may not necessarily be associated with positive payoffs or may not lead to positive self-inferences, as the term "virtue" suggests. For example, a conventional lamp which is used simply for practical purposes is a utilitarian but not a virtue product. However, an environmentally friendly lamp that consumes less energy is not only a utilitarian but also a virtue product because it provides consumers with a sense of doing good and because it results in certain positive payoffs in several domains (e.g., saving money, protecting the environment). Because the effect we predict above for vice-virtue bundles is a licensing effect that is driven by the payoffs provided by the bundle components, we further predict that this effect is limited to bundles with vice and virtue products. To put differently, our conceptualization suggests that the effect should disappear when either of the bundle components lacks payoffs even when the products in the bundle are qualitatively similar to yet distinct from vice and virtue products (e.g., hedonic or utilitarian products).

3.7. *The Moderating Role of Identity*

Will all consumers like a vice-virtue bundle with a larger vice more when payoffs associated with bundle components are relatively less comparable, and one with a smaller vice more when payoffs are highly comparable? An important implication of psychological licensing theory is that a virtuous decision leads to indulgence only when this decision does not involve expressing an important aspect of self-identity (Klotz and Bolino 2013). For example, making a healthy food choice will not justify the subsequent indulgences of a consumer for whom being a healthy eater is an important aspect of self-identity. This is because the virtuous act for such a consumer is merely a behavior of being consistent with her self-perception. Changes in one's psychological credits account or in one's perception regarding moral credentials will occur only when the virtuous behavior involves a nonhabitual, non-identity-expressive action. Hence, in line with our conceptualization, we further predict that the effect will manifest itself only among consumers who do not reflect their strongly held, core identity values through the virtuous option because the pattern is a consequence of psychological licensing. Consistent with this, the effect we predict should disappear among a subset of consumers for whom the virtue component in a vice-virtue bundle reflects an important aspect of self-identity.

3.8. *Overview of Studies*

We conducted four studies to test our predictions. In all four studies, we sought empirical support for our basic prediction that increasing the magnitude of the vice component in a vice-virtue bundle decreases (vs. increases) the attractiveness of the bundle when payoffs associated with bundle components are relatively comparable (vs. non-comparable). Study 1 tests this prediction using a proxy of payoff comparability (i.e., product category belonging) whereas other three studies directly manipulate payoff comparability. In order to heighten the generalizability of our findings, we use different types of product bundles, and products with payoffs from different domains. We test our process prediction both indirectly by measuring the post-evaluation vice perceptions of the vice component (Study 2) and directly by manipulating the justification mechanism (Study 3). Finally, studies 1 and 4 provide empirical tests of our predictions regarding the two theoretically driven boundary conditions. Specifically, we investigate the moderating role of identity in study 1, and examine if the effect holds when the non-vice component in the bundle is a utilitarian (but not a virtue) product in study 4.

3.9. Study 1: Sandwich, Macaron(s) and Candle(s)

Study 1 tests our basic prediction that a vice-virtue bundle with a smaller (vs. larger) vice component is evaluated more positively when the payoffs associated with bundle items are relatively comparable (vs. non-comparable). We operationalize payoff comparability in study 1 through product category membership by reasoning that a vice and a virtue in the same product category (e.g., food) are associated with similar payoffs that could be compared to one another (e.g., calories) whereas the payoffs associated with a vice and a virtue from different product categories are relatively incommensurable.

Moreover, study 1 aims at identifying a theoretically derived moderator by investigating the role of identity relevance in the proposed effect. As explicated previously, we expect our proposed effect to occur only among consumers for whom the virtuous behavior does not reflect an important and salient aspect of the self-concept. Our conceptual model that pertains to psychological licensing suggests that consumers for whom the virtue product (e.g., healthy food) is relevant to an important aspect of their self-concept are likely to engage in virtuous behavior (e.g., consuming healthily) on a continuous basis; and thus, they are unlikely to use choosing that product as a means to justify consumption of vices.

3.9.1. Method

Two hundred college students ($M_{age} = 21.7$ years; 124 female) participated in the study in return for course credit. The study employed a 2 (product category: same vs. different) x 2 (vice magnitude: small vs. large), between-subjects design. Participants were randomly assigned to one of the four bundle evaluation conditions in which they were given a scenario. The scenario informed participants that a new bookstore which sells decorative products and runs its own café designed a bundled promotion. After reading the scenario, participants evaluated the bundled promotion on a two-item scale (“This bundle is attractive,” “I would buy this bundle;” 1—strongly disagree, 9—strongly agree), and stated their maximum willingness to pay for the bundle. In the same-category condition, the bundle with smaller (vs. larger) amount of vice consisted of a healthy sandwich and one macaron (vs. four macarons). In the different-categories

condition, the bundles consisted of the same healthy sandwich with either one or four decorative candles (see Appendix D).

After evaluating the bundle and stating their maximum willingness to pay, all participants completed the concern for dieting subscale (Gorman and Allison 1995) of the restrained eating scale (RES) developed by Herman and Polivy (1975). Originally, the RES is composed of two subscales. However, we excluded the weight fluctuation subscale due to its insignificant relationship with self-consciousness (Blanchard and Frost 1983), which is tightly linked to one's self-identity (Cheek and Briggs 1982; Garrett 2002). The concern for dieting subscale, however, has been shown to be significantly correlated with self-consciousness (Blanchard and Frost 1983), establishing its relevance to self-identity. Finally, after completing the 6-item concern for dieting subscale (e.g., "Do you give too much time and thought to food?" "Do you have feelings of guilt after overeating?;" 1—never, 5—always), participants indicated their gender and age, and were thanked.

We ran a pretest among a different sample from the same student population ($N = 140$; $M_{age} = 21.9$ years; 97 female) to establish that the vice or virtue perception of the stimuli by the population is as intended. We asked participants to evaluate either of the following products on two items ("How vice is this product?;" "How virtue is this product?;" 1—not at all, 7—extremely): healthy sandwich, one macaron, one decorative candle, four macarons, or four decorative candles. Note that we created different conditions for small and large amounts of vices in order to rule out the possibility that vice perceptions change when the product is presented as a multipack.

The results yielded that the healthy sandwich is perceived as less vice ($M = 3.03$) than one macaron ($M = 5.53$), four macarons ($M = 5.70$), one candle ($M = 5.42$) or four candles ($M = 5.59$; all p 's $< .001$). Conversely, the virtue perception of the sandwich was significantly higher ($M = 5.48$) than the other four products ($M_{one\ macaron} = 2.07$; $M_{four\ macarons} = 2.12$; $M_{one\ candle} = 2.32$; $M_{four\ candles} = 2.37$; all p 's $< .001$). Moreover, the sandwich was rated significantly lower (vs. higher) than the midpoint of the vice (vs. virtue) scale (p 's $< .01$), whereas the other four products were rated significantly higher (vs. lower) than the midpoint of the vice (vs. virtue) scale (all p 's $< .01$). Finally, the four products bundled with the sandwich did not differ from one another on virtue or vice ratings.

In order to control for individual attractiveness of the items, we also asked participants to evaluate either of the five products on two 7-point scale items (“This product is attractive,” “I would buy this product;” 1—strongly disagree, 7—strongly agree). The results yielded that the five products are equally attractive ($M_{sandwich} = 3.94$, $M_{one\ macaron} = 3.97$, $M_{four\ macarons} = 3.91$, $M_{one\ candle} = 3.82$, $M_{four\ candles} = 3.65$) with contrasts yielding insignificant results for paired mean differences (p ’s $> .4$). This rules out the possibility that any difference in the overall attractiveness of bundles that consist of any two of these products could be attributed to the differences in individual attractiveness of items in the bundle.

3.9.2. Results

Bundle Evaluation. We created a composite bundle evaluation score by averaging participants’ scores on the two items (Cronbach’s $\alpha = .94$). A two-way ANOVA on this score yielded a significant main effect of product category ($F(1, 196) = 4.05$, $p = .045$), such that participants evaluated the bundle with macarons more positively ($M = 5.21$, $SD = 2.76$) than the bundle with candles ($M = 4.48$, $SD = 2.47$). This finding is unsurprising given past findings that perceived complementarity among bundle items increases bundle attractiveness (e.g., Harlam, Krishna, Lehmann, and Mela 1995; Simonin and Ruth 1995). Consistent with this, participants reported a more positive evaluation of the sandwich—macaron bundle in which the two products complement each other in a given food consumption setting.

More importantly, we found a significant interaction of product category and vice magnitude ($F(1, 196) = 10.06$, $p = .002$). Planned contrasts supported our predictions. When the virtue and the vice belonged to the same product category (i.e., the sandwich—macaron bundle), increasing the magnitude of the vice significantly decreased the attractiveness of the bundle ($F(1, 196) = 4.68$, $p = .032$). Participants reported a more positive evaluation of the bundle with one macaron ($M = 5.77$, $SD = 2.59$) than the bundle with four macarons ($M = 4.66$, $SD = 2.82$). However, this pattern reversed for the bundle with vice and virtue items from different product categories, and participants evaluated the bundle with larger vice more positively ($M_{sandwich—one\ candle} = 3.89$, $SD = 2.36$, $M_{sandwich—four\ candles} = 5.08$, $SD = 2.45$; $F(1, 196) = 5.38$, $p = .021$).

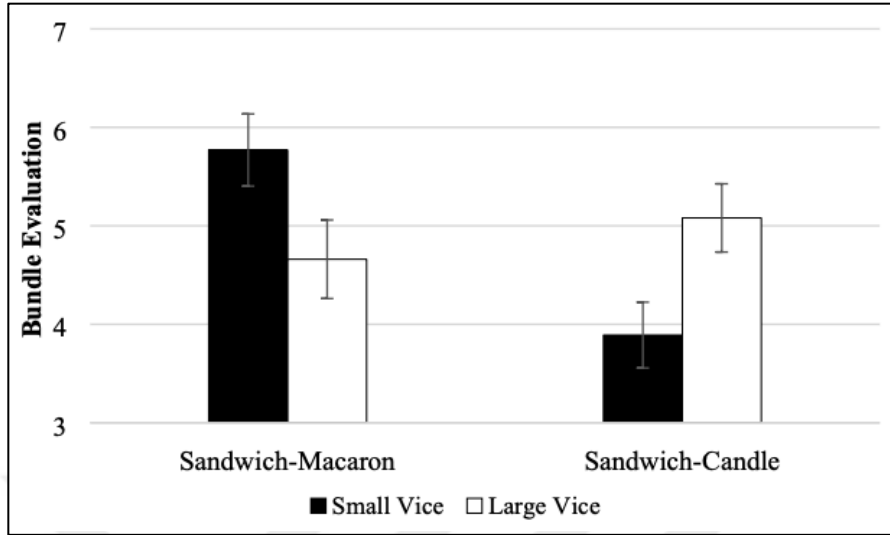


Figure 4: Bundle Evaluation in Study 1 (Essay 2)

Willingness to Pay. We obtained a similar effect for participants' WTP for bundles. A two-way ANOVA resulted in a significant interaction of product category and vice magnitude ($F(1, 196) = 17.35, p < .001$). When the two products belonged to different categories (i.e., sandwich—candle bundle), increasing the amount of the vice resulted in a significantly higher WTP ($M_{\text{sandwich—one candle}} = 14.54, SD = 6.01$; $M_{\text{sandwich—four candles}} = 19.90, SD = 10.03$; $F(1, 196) = 11.23, p < .001$). In contrast, participants' WTP for the food bundle significantly decreased when the bundle involved a larger amount of vice ($M_{\text{sandwich—one macaron}} = 20.26, SD = 6.52$; $M_{\text{sandwich—four macarons}} = 16.20, SD = 8.75$; $F(1, 196) = 6.44, p = .012$). In other words, when the vice-virtue bundle involved products from the same product category, consumers' judgment of the monetary worth of the bundle diminished when they were actually offered more.

Moderation by Identity. We examined our prediction regarding the moderating role of dietary concern in the proposed effect. As explicated previously, our theorizing suggests that the change in the attractiveness of vice-virtue bundles with respect to the magnitude of vice component is a consequence of psychological licensing. If this theorizing holds true, the effect should disappear among a subset of consumers for whom the virtue item reflects an important aspect of self-identity (i.e., restrained eaters) since these consumers are unlikely to see engaging in this specific virtuous behavior as a means for justifying indulgence.

To examine this prediction, we investigated the coefficient estimates yielded by PROCESS Model 3 (Hayes 2013) based on 10,000 bootstrapped samples for both bundle evaluation and WTP. The model for bundle evaluation resulted in a significant three-way interaction ($B = -3.62$; $t = -3.13$, $p = .002$). Supporting our predictions, the interaction between product category and vice magnitude was significant among those with a lower concern for dieting (i.e., at 1 SD below the mean score; $B = 4.49$; $F(1, 192) = 20.43$, $p < .001$). These participants evaluated the bundle with one macaron more positively ($M = 6.50$) than the bundle with four macarons ($M = 3.68$). In other words, increasing the magnitude of the vice component in the sandwich—macaron bundle resulted in significantly less positive evaluations of the bundle ($B = -2.82$; $t = -4.15$, $p < .001$; $CI_{95\%} = [-4.1629, -1.4818]$).

In contrast, participants with lower concern for dieting evaluated the bundle with four candles ($M = 4.67$) more positively than the bundle with a single candle ($M = 3.01$). Stated differently, increasing the vice component of a vice-virtue bundle with items from different product categories resulted in a significant increase in the positivity of the evaluation of the bundle among participants with lower concern for dieting ($B = 1.66$; $t = 2.30$, $p = .022$; $CI_{95\%} = [.2377, 3.0920]$).

This pattern disappeared among consumers with high concern for dieting, as demonstrated by an insignificant interaction between product category and vice magnitude ($B = .06$; $F(1, 192) = .003$, $p > .9$). Among high-dieting-concern consumers, the evaluation of the bundle with sandwich and macaron(s) did not differ with respect to vice magnitude ($M_{\text{sandwich—one macaron}} = 5.02$, $M_{\text{sandwich—four macarons}} = 5.63$; $B = .61$, $t = .89$, $p > .3$; $CI_{95\%} = [-.7321, 1.9597]$). Similarly, bundles with a single candle and four candles were evaluated equally positively ($M_{\text{sandwich—one candle}} = 4.80$, $M_{\text{sandwich—four candles}} = 5.47$; $B = .67$, $t = .93$, $p > .3$; $CI_{95\%} = [-.7450, 2.0851]$).

We also found a significant three-way interaction for the WTP ($B = -11.84$; $t = -3.24$, $p = .001$). The pattern for participants' WTP for bundles was similar to the pattern we obtained for bundle evaluation. The two-way interaction between product category and vice magnitude was significant among participants who were relatively less concerned with dieting (i.e., at 1 SD below the mean score; $B = 16.64$; $F(1, 192) = 28.08$, $p < .001$). Further analyses yielded that, participants with a lower level of concern for dieting reported a significantly lower WTP for the same-category bundle when the vice magnitude was larger ($M_{\text{sandwich—one macaron}} = 22.02$,

$M_{\text{sandwich—four macarons}} = 12.78$; $B = -9.24$, $t = -4.29$, $p < .001$; $CI_{95\%} = [-13.4815, -4.9990]$), whereas their WTP for the different-category bundle was higher when the bundle involved a larger vice ($M_{\text{sandwich—one candle}} = 13.03$, $M_{\text{sandwich—four candles}} = 20.44$; $B = 7.40$, $t = 3.23$, $p = .001$; $CI_{95\%} = [2.8882, 11.9185]$).

The two-way interaction between product category and vice magnitude in predicting the WTP of participants with higher level of concern for dieting was not significant ($B = 2.15$, $F(1, 192) = .47$, $p > .4$). These participants reported equivalent WTPs for bundles with smaller and larger vice components when the bundle items belonged to the same ($M_{\text{sandwich—one macaron}} = 18.47$, $M_{\text{sandwich—four macarons}} = 19.61$; $B = 1.14$, $t = .53$, $p > .5$; $CI_{95\%} = [-3.1133, 5.4029]$) or different ($M_{\text{sandwich—one candle}} = 16.09$, $M_{\text{sandwich—four macarons}} = 19.39$; $B = 3.29$, $t = 1.45$, $p > .1$; $CI_{95\%} = [-1.1817, 7.7719]$) product categories.

3.9.3. Discussion

Results from study 1 provide initial empirical support for our main prediction by showing that increasing the vice magnitude in a vice-virtue bundle with items from the same product category (vs. from different product categories) results in significantly less (vs. more) positive evaluation of the bundle and significantly lower (vs. higher) WTP for the bundle. Study 1 also identifies an important boundary condition for this effect in line with our theorizing, such that the effect appears only among consumers for whom the virtuous item is not relevant to self-identity. However, the effect is mitigated when the virtue component reflects an important aspect of consumers' self-identity.

3.10. Study 2: Sandwich and Macaron(s)

Two objectives guide study 2. First, it examines more directly the role of payoff comparability in the demonstrated effect. Note that we used product category as a proxy of payoff comparability in study 1 by reasoning that the payoffs of items from the same product category (vs. different product categories) are relatively more (vs. less) comparable. Now, we test our theorizing more directly in study 2 by keeping the bundle components constant across conditions while manipulating the payoff comparability.

Second, in study 2 we aim to provide preliminary process evidence for the underlying mechanism. Our conceptualization suggests that the proposed effect results from consumers' engagement in a credits-based (vs. credentials-based) licensing process when the comparability of payoffs associated with bundle items is high (vs. low). As explicated previously, these two mechanisms differentially influence vice perception of the licensed choice (i.e., the indulgence). More specifically, consumers continue perceiving the licensed choice as a vice when a credits-based mechanism is at play. However, their perception is distorted when a credentials-based mechanism is at play such that they perceive the licensed choice as an indulgence to a smaller extent (Effron and Monin 2010; Merritt et al. 2010; Miller and Effron 2010). In study 2, we examine consumers' perceptions of the vice component after they evaluate the bundle in order to provide preliminary evidence for our process prediction.

3.10.1 Method

One hundred and sixty college students ($M_{age} = 22.2$ years; 102 female) participated in the study in return for course credit. The study employed a 2 (payoff comparability: low vs. high) x 2 (vice magnitude: small vs. large), between-subjects design. Participants were randomly shown one of four bundles involving a healthy sandwich with either one macaron or four macarons akin to the same-category condition in study 1. We manipulated payoff comparability through nutritional information on the bundle items. In both high- and low-comparability conditions, the healthy sandwich was presented as involving 110 calories less than a standard sandwich. The nutritional information of the macaron(s), however, differed across conditions. In the high-comparability condition, we informed participants that one piece of macaron involves 51 calories more as compared with a standard macaron. In the low-comparability condition, however, we provided information on fat and carbohydrates content—rather than calories—by informing participants that each macaron involves 6 grams more carbohydrates and 3 grams more fat as compared with a standard macaron. Note that the actual calories are in fact equal across conditions since fat provides 9 calories per gram and carbohydrate provides 4 calories per gram (USDA 2019).

Participants evaluated the bundle on the same two-item scale as in study 1 (“This bundle is attractive,” “I would buy this bundle;” 1—strongly disagree, 9—strongly agree), and reported

their willingness to pay for the bundle. Next, on a separate page, participants rated the extent to which they felt the vice component of the bundle (i.e., macaron) is vice (“This product is a vice product;” 1—strongly disagree, 7—strongly agree). At this stage, participants in the small vice condition were given the picture of a single macaron, whereas those in the large vice condition were presented the picture of four macarons to make sure that each participant rates the exact same vice component in the bundle they evaluated. Finally, participants indicated their gender and age, and were thanked.

3.10.2 Results

Bundle Evaluation. A two-way ANOVA resulted in insignificant main effects of payoff comparability ($F(1, 156) = .09, p > .7$) and vice magnitude ($F(1, 156) = .01, p > .9$). However, we obtained a significant interaction ($F(1, 156) = 8.14, p < .005$). Planned contrasts yielded empirical support for our predictions. When the bundle items were presented on the common standard of comparison (i.e., calories), participants evaluated the bundle with larger vice less positively ($M_{high\ comparability—one\ macaron} = 5.80, SD = 2.43$; $M_{high\ comparability—four\ macarons} = 4.65, SD = 2.49$; $F(1, 156) = 4.21, p < .05$). Conversely, participants evaluated the bundle with larger vice more positively when the payoffs were less comparable ($M_{low\ comparability—one\ macaron} = 4.57, SD = 2.25$; $M_{low\ comparability—four\ macarons} = 5.64, SD = 2.63$; $F(1, 156) = 3.93, p < .05$).

Willingness to Pay. We replicated the effect also in consumers’ WTP for the bundles. A two-way ANOVA on WTP resulted in a significant interaction of payoff comparability and vice magnitude ($F(1, 156) = 17.24, p < .001$). Planned contrast analyses revealed that consumers reported a significantly higher WTP for the bundle with one macaron when the payoffs were comparable ($M_{high\ comparability—one\ macaron} = 23.04, SD = 8.52$; $M_{high\ comparability—four\ macarons} = 18.69, SD = 8.97$; $F(1, 156) = 5.44, p = .021$). In contrast, their WTP was higher for the bundle with four macarons in the low-comparability condition ($M_{low\ comparability—one\ macaron} = 17.39, SD = 8.05$; $M_{low\ comparability—four\ macarons} = 23.79, SD = 7.14$; $F(1, 156) = 12.69, p < .001$).

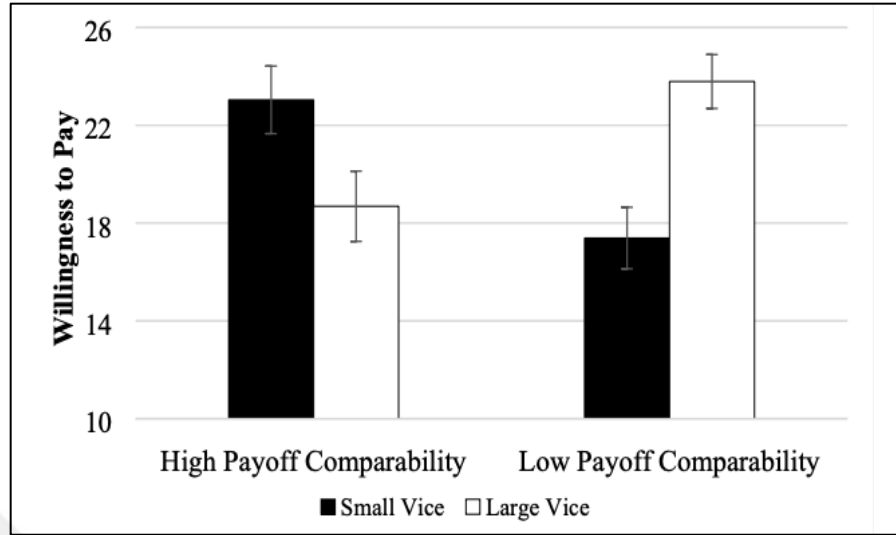


Figure 5: Willingness to Pay for the Bundle in Study 2 (Essay 2)

Post-Evaluation Vice Perceptions. We conducted an ANOVA with payoff comparability and vice magnitude as predictor variables, and consumers' vice perception of the macaron(s) after bundle evaluation as criterion variable. In line with our theorizing, the main effect of vice magnitude ($F(1, 156) = .01, p > .9$) and the interaction term ($F(1, 156) = .01, p > .9$) did not reach statistical significance. However, we found a significant main effect of payoff comparability ($F(1, 156) = 8.48, p = .004$), such that participants' vice perception of the macaron(s) was significantly higher when it was presented in a bundle where its payoff was comparable with that of the virtuous product ($M_{high\ comparability} = 5.64, SD = 1.51$; $M_{low\ comparability} = 4.93, SD = 1.54$). Stated differently, when the payoffs of the bundle items were presented in different (vs. same) standards of measurement, participants perceived the vice component as relatively less (vs. more) vice.

3.10.3 Discussion

Study 2 provided support for our conceptualization by showing that payoff comparability drives the predicted effect. More specifically, participants evaluated a given vice-virtue bundle with higher amount of vice less (vs. more) positively when the payoffs associated with the bundle items were made relatively more (vs. less) comparable by presenting the payoffs on the

common standard (vs. different standards) of measurement such as calories (vs. calories versus fat and carbohydrate content).

Moreover, study 2 documented preliminary evidence for the underlying process. As explicated previously, when a credits-based licensing is at play, consumers continue perceiving a vice option as a vice but justifies its consumption through the credits they earn. In credentials-based licensing, however, the credentials provide them with a lens through which the justified choice is perceived, resulting in weaker vice perceptions (Merritt et al. 2010). In line with this, we found in study 2 that participants in the high-comparability (vs. low-comparability) condition reported a higher (vs. lower) vice perception of the vice component.

3.11. Study 3: Steamer and DVD(s)

Two main objectives guide study 3. First, we aim at providing direct empirical evidence for the underlying mechanism, using a moderation-of-process approach (Spencer, Zanna, and Fong 2005). More specifically, we experimentally induce different mechanisms for justifying indulgences, and compare consumers' WTP for vice-virtue bundles with differing amounts of vice components across different justification mechanism conditions. If our conceptualization holds true, then the pattern we find in high-comparability (vs. low-comparability) condition should manifest itself also when consumers are made to rely on credits (vs. credentials) to self-license. Second, study 3 aims at heightening the generalizability of our findings by examining the effect for product bundles with durable goods.

3.11.1 Method

Two hundred and eighty-five college students ($M_{age} = 21.5$ years; 173 female) participated in the experiment in return for course credits. The experiment involved a 3 (licensing mechanism: control vs. credit-based vs. credentials-based) x 2 (payoff comparability: low vs. high) x 2 (vice magnitude: small vs. large), between-subjects design.

Licensing Mechanism Manipulation. Participants were first told that a student submitted an article to appear on the college magazine, and were asked to read and evaluate the article. In the control condition, participants were presented a generic psychology article, describing the

overall aims and methods of the psychological science. Participants in the other two conditions were presented an article entitled “How do people make virtuous choices?” In the credits-based mechanism condition, the article described a credits-based mechanism and informed that psychological science has repeatedly shown that people engage in non-virtuous behavior by calculating and comparing what psychologists call “moral credits.” In the credentials-based mechanism, the article argued that people undertake non-virtuous forms of behaviors depending on how one initial choice makes them feel about their “moral credentials.” After reading the article, participants rated the believability of the information presented in the article (1—not believable, 7—believable).

Product Bundles. Next, participants moved to the second part of the experiment, purportedly presented as an unrelated consumer products evaluation survey. In this part, we asked participants to evaluate a bundle offered by a large-scale electronics store. The bundles involved a steamer and the DVD(s) of a low-brow TV series. In the small (vs. large) vice condition, the bundle involved one DVD (vs. three DVDs) of the series which amounts to a total duration of 90 minutes (vs. 270 minutes). We manipulated the payoff comparability through product description of the steamer. In the high-comparability condition, the steamer was presented as having been designed particularly for saving time while preparing food. In the low-comparability condition, we did not mention any time-saving benefit of the steamer; rather, we presented it as a product developed for preparing healthy food. In other words, the positive payoff associated with the virtue option in the bundle (i.e., steamer) was either comparable (i.e., saving time) or non-comparable (i.e., eating healthily) to the salient payoff associated with the vice option (i.e., time; see Appendix E). Participants reported their WTP on the bundle (open-ended) and indicated their gender and age.

3.11.2. Results

Believability of Articles. We checked whether the three articles differed in the extent to which participants believed in the presented information. An ANOVA yielded an insignificant effect of the article ($M_{control} = 4.93$, $SD = 1.42$; $M_{credits-based\ licensing} = 4.80$, $SD = 1.46$; $M_{credentials-based\ licensing} = 4.61$, $SD = 1.64$; $F(2, 282) = 1.09$, $p > .3$) with contrasts testing paired mean differences also being insignificant (p 's $> .1$).

Willingness to Pay. A three-way ANOVA documented a significant two-way interaction between licensing mechanism and vice magnitude ($F(1, 273) = 15.44, p < .001$). Planned contrasts showed that we replicated the predicted effect across the overall data. More specifically, participants reported a significantly higher WTP for the bundle with three DVDs when the payoffs were less comparable ($M_{low\ comparability—one\ DVD} = 32.53, SD = 25.91$; $M_{low\ comparability—three\ DVDs} = 46.03, SD = 30.34$; $F(1, 273) = 7.69, p < .01$). In contrast, participants reported a significantly lower WTP for the bundle with larger vice (i.e., three DVDs) when payoffs were comparable ($M_{high\ comparability—one\ DVD} = 47.16, SD = 22.24$; $M_{high\ comparability—three\ DVDs} = 34.86, SD = 25.69$; $F(1, 273) = 7.75, p = .01$).

We also obtained a significant three-way interaction ($F(2, 273) = 3.05, p < .05$). Further analyses showed that the effect we predicted was obtained in the control condition where participants read a generic article. In the control condition, the WTP for the bundle with larger vice was significantly lower under high payoff comparability ($M_{high\ comparability—one\ DVD} = 49.96, SD = 24.56$; $M_{high\ comparability—three\ DVDs} = 29.17, SD = 25.03$; $F(1, 273) = 7.73, p < .006$). This pattern reversed in the low payoff comparability condition ($M_{low\ comparability—one\ DVD} = 27.46, SD = 23.73$; $M_{low\ comparability—three\ DVDs} = 50.78, SD = 26.42$; $F(1, 273) = 8.52, p = .004$).

	High Payoff Comparability				Low Payoff Comparability			
	Small Vice	Large Vice	<i>F</i>	<i>p</i>	Small Vice	Large Vice	<i>F</i>	<i>p</i>
Control	49.96 (24.56)	29.17 (25.03)	7.73	< .01	27.46 (23.73)	50.78 (26.42)	8.52	< .01
Credits-based Licensing	53.70 (23.52)	32.24 (24.48)	8.99	< .01	32.07 (23.04)	31.82 (26.71)	.001	n.s.
Credentials-based Licensing	37.70 (14.76)	44.27 (26.46)	.74	n.s.	37.61 (30.29)	51.41 (32.75)	3.93	< .05

Table 1: Willingness to Pay for Steamer-DVD(s) Bundle in Study 3 (Essay 2)

When participants were primed with credits-based mechanism, we found a significant difference in the high comparability condition in the same direction as in the control condition. In other words, participants who were made to rely on credits reported a significantly lower WTP for the bundle with larger vice when the payoffs were relatively comparable ($M_{high\ comparability—one\ DVD} = 49.96, SD = 24.56$; $M_{high\ comparability—three\ DVDs} = 29.17, SD = 25.03$; $F(1, 273) = 7.73, p < .006$).

$DVD = 53.70, SD = 23.52; M_{high\ comparability—three\ DVDs} = 32.24, SD = 24.48; F(1, 273) = 8.99, p = .003$). However, we obtained no significant difference in the low comparability condition when the credits-based mechanism came into play ($M_{low\ comparability—one\ DVD} = 32.07, SD = 23.04; M_{low\ comparability—three\ DVDs} = 31.82, SD = 26.71; F(1, 273) = .001, p > .9$).

In contrast, when participants were made to rely on a credentials-based justification process, the difference among the WTPs of high-comparability bundles that we obtained in the control condition disappeared ($M_{high\ comparability—one\ DVD} = 37.70, SD = 14.76; M_{high\ comparability—three\ DVDs} = 44.27, SD = 26.46; F(1, 273) = .74, p > .3$). In contrast, as expected, we obtained the same pattern for the low-comparability bundles in control and credentials-based licensing conditions ($M_{low\ comparability—one\ DVD} = 37.61, SD = 30.29; M_{low\ comparability—three\ DVDs} = 51.41, SD = 32.75; F(1, 273) = 3.93, p < .05$).

Stated differently, we replicated the effect we found in the control condition under high (vs. low) payoff comparability when we induced a credits-based (vs. credentials-based) licensing. Consistent with our theorizing, these results suggest that licensing occurs through credits under high payoff comparability and through credentials under low payoff comparability.

3.11.3. Discussion

Results from study 3 provided strong support for our process theorizing. Specifically, when participants were made to rely on credits (vs. credentials) to self-license, increasing vice magnitude decreased (vs. increased) under high (vs. low) payoff comparability as in control condition (i.e., when a specific licensing mechanism was not primed). However, the effect in the control condition disappeared when a competing mechanism was procedurally induced. In other words, when credentials-based licensing intervened the bundle evaluation under high payoff comparability, which activates a credits-based licensing, the effect disappeared. Similarly, intervening the licensing process through credits-based justification under low payoff comparability, where licensing occurs through credentials, the effect also mitigated.

Moreover, results from study 3 heightened the generalizability of our findings in two significant ways. First, we replicated the effect for a bundle which consists of relatively durable, non-food products. Second, we showed that the predicted effect occurs also when consumers are not provided with actual amounts of payoffs associated with bundle components.

3.12. *Study 4: Cookbook and String Light(s)*

The main objective of study 4 is to identify a theoretically derived boundary condition for the proposed effect by testing a key component of our conceptualization. Although past research has mostly used two conceptually similar product categorizations—vice/virtue and hedonic/utilitarian—interchangeably (see, for a critique, Vosgerau, Scopelliti, and Huh 2016), there is a critical distinction between them such that vices and virtues are associated with certain negative and positive payoffs, respectively (Okada 2005). The hedonic/utilitarian distinction, on the other hand, does not necessarily connote any positive or negative payoff that would give consumers a sense of entitlement to credits or credentials that help justify an indulgence. If our conceptualization holds true, then the effect which we theorize to occur since consumers engage in different mechanisms of justification based on the level of comparability among the payoffs of options should disappear when the non-vice component is merely a utilitarian product that does not have the properties of a virtue product (i.e., when the non-vice component is not associated with certain positive payoffs).

3.12.1. *Method*

Two hundred and fifty-one college students ($M_{age} = 21.3$ years; 141 female) participated in the experiment in return for a chance to win a monetary prize. The study employed a 3 (non-vice product: utilitarian vs. comparable virtue vs. non-comparable virtue) x 2 (vice magnitude: small vs. large), between-subjects design.

The bundles consisted of a cookbook and a decorative string light. We manipulated the vice magnitude through the number of bulbs the light involved. In the small-magnitude condition, the string light was presented as having 10 led bulbs whereas the light in the large vice condition was presented as being consisted of 100 led bulbs. Similarly, we presented participants different descriptions for the cookbook in order to manipulate the non-vice component of the bundle. In the utilitarian condition, the cookbook was framed as involving easy and practical recipes. In the comparable-virtue (vs. non-comparable virtue) condition, we framed the cookbook as a product for preparing economic, non-costly (vs. healthy) meals (see Appendix F).

Participants evaluated the bundle on the same two-item scale as in previous studies (“This bundle is attractive,” I would buy this bundle;” 1—strongly disagree, 9—strongly agree), and indicated their gender and age.

3.12.2. Results

We created a composite bundle evaluation score by averaging participants’ responses to the two items (Cronbach’s $\alpha = .94$). A two-way ANOVA showed that neither the main effect of product type ($F(2, 245) = .09, p > .9$) nor the main effect of vice magnitude ($F(1, 245) = .26, p > .6$) was significant. However, we obtained a significant two-way interaction ($F(2, 245) = 11.76, p < .001$).

We conducted planned contrast analyses to examine differences in evaluations of bundles with different levels of vice within each level of product type. Results supported our predictions. Specifically, when the cookbook was framed as involving recipes for economic meals (i.e., high comparability), participants evaluated the bundle with larger vice less positively ($M = 4.21, SD = 2.44$) than they evaluated the bundle with smaller vice ($M = 6.07, SD = 2.01; F(1, 245) = 10.58, p = .001$). This pattern reversed when the payoffs were made relatively less comparable by framing the cookbook as a virtuous product for helping prepare healthy food, such that participants evaluated the bundle with larger vice more positively ($M = 6.11, SD = 2.57$) than they evaluated the bundle with smaller vice ($M = 4.08, SD = 2.59; F(1, 245) = 12.93, p < .001$). Critical to our theorizing, these significant differences disappeared when the cookbook was simply framed as a utilitarian but not as a virtue product, such that consumers evaluated the bundles with smaller and larger vice equally positively ($M_{small\ vice} = 4.81, SD = 2.66; M_{large\ vice} = 5.14, SD = 2.90; F(1, 245) = .37, p > .5$).

3.12.3. Discussion

Results from study 4 provided further empirical support for our conceptual framework by showing that the proposed effect manifests itself only when the products in the bundle are associated with payoffs, and disappears when they are not. As an empirical demonstration of

this, study 4 shows that the effect disappears when the non-vice product in the bundle is merely a utilitarian but not a virtue product.

3.13. General Discussion

Product bundles that contain vice and virtue items are becoming increasingly common in the marketplace. Concurrent with this trend, academic research has recently started to identify factors that influence the attractiveness of vice-virtue bundles (Liu et al. 2015; Verma et al. 2016). In the current research, we show that the magnitude of the vice component differently influences the favorability of vice-virtue bundles depending on the extent to which payoffs associated with bundle items could be compared to each other. To elaborate, we show that when bundle item payoffs are relatively commensurable, higher amounts of vice lead to less positive evaluations and lower willingness to pay for the bundle. In contrast, when payoffs cannot be compared to one another on similar standards of measurement, consumers report more positive evaluations and higher willingness to pay for a vice-virtue bundle with a higher amount of vice. We show that this effect is driven by different mechanisms of psychological licensing that come into play depending on the level of comparability among the positive payoff associated with the virtue component and the negative payoff associated with the vice component. Specifically, we demonstrate that consumers rely on a credits-based licensing under high comparability, whereas they license the indulgent component through a credential-based process under low comparability.

Across four studies, we provide empirical support for the predicted effect and the underlying conceptualization in several ways. We show in study 1 that when the items in the bundle belong to the same product category (vs. different product categories), consumers report more (vs. less) favorable evaluation and higher (vs. lower) willingness to pay for the bundle with a larger amount of vice. In study 2, we manipulate the comparability of payoffs while keeping the products constant to document direct evidence for the theorized role of payoff comparability, and we replicate the effect we obtain in study 1.

Other findings from studies 1 and 2 provide also indirect support for our conceptualization related to different mechanisms of licensing under high and low payoff comparability. First, findings from study 1 suggest that the effect is a consequence of

psychological licensing because the effect attenuates among participants for whom the virtue option does reflect an important aspect of self-identity. Second, providing preliminary process support, results from study 2 show that consumers perceive the indulgent option as vice more strongly in the high payoff comparability condition than they do in low-comparability condition.

Findings from study 3 provide more direct process evidence by demonstrating that the effect under high (vs. low) payoff comparability is replicated when consumers are instructed to rely on a credits-based (vs. credentials-based) licensing whereas it attenuates otherwise, suggesting that consumers engage in a credits-based (vs. credentials-based) licensing when payoffs associated with the components in a vice-virtue bundle are comparable (vs. noncomparable) as we theorize. Finally, we identify a theoretically derived boundary condition in study 4 which provides further support for our conceptualization. We theorize that the effect should be limited to vice-virtue bundles due to positive and negative payoffs associated with vice and virtue products. According to our conceptual framework, when the products are qualitatively similar but lack such payoffs, the effect should mitigate. In support of this, study 4 shows that the effect no longer manifests itself when the non-vice product in the bundle lacks positive payoffs when it is framed merely as a utilitarian—not a virtue—product.

3.13.1. Marketing Implications

Our results have important marketing implications. Specifically, our findings suggest that small changes in the vice magnitude in a vice-virtue bundle can have important consequences for the marketers. Our results show that when the payoffs of the bundle components are comparable such that they share a common standard of measurement (e.g., calories), marketers are likely to benefit from keeping the vice component smaller. In contrast, when the payoffs are less comparable, marketers should bundle a larger amount of vice with a given virtue product. It needs noting that we documented these effects not only for bundle evaluation but also for consumers' willingness to pay for the bundle. We consistently found across different studies that consumers were willing to pay more for a vice-virtue bundle with a smaller amount of vice under high payoff comparability. Conversely, consumers' willingness to pay for a vice-virtue bundle with a larger vice was significantly higher when the payoffs were relatively incommensurable.

Note that these effects occurred for identical bundles both when payoffs were made difficult to compare (Study 2) and when payoffs in different domains were highlighted for each component (Study 3). In study 2, we found that consumers' evaluation of a vice-virtue food bundle with a smaller vice was more positive when payoffs associated with both products were described in terms of calories. However, this effect reversed when one of the products involved information on nutritional content in terms of weight, which made it harder for consumers to compare with calories. In study 3, consumers evaluated a steamer-DVD bundle with a single DVD more positively than the same bundle with 3 DVDs when the descriptions of the bundle items attracted consumers' attention to payoffs in the same domain—i.e., time. In contrast, making payoffs less comparable by merely highlighting health—rather than time—benefits of the virtue component reversed this pattern such that consumers evaluated the bundle with larger vice more positively. These findings offer practical ways for marketers to maximize the benefits from bundling vice and virtue products.

3.13.2. Theoretical Implications and Directions for Future Research

The current research significantly adds to the recently growing literature on vice-virtue bundles. In one of the few studies in this domain, Liu and colleagues (2015) have found that consumers consistently prefer vice-virtue food bundles with small to medium proportions of vice to bundles with large proportions of vice. Given that consuming vice products entails a need for justification (Mishra and Mishra 2011; Okada 2005), this finding is unsurprising because a higher amount of vice is harder to justify than a lower amount of vice. In the current research, we show that the impact of vice magnitude on the overall attractiveness of vice-virtue bundles is moderated by the payoff comparability. Specifically, we show that consumers prefer smaller amounts of vice to larger amounts of vice in a vice-virtue bundle only when payoffs associated with bundle components are comparable. When payoffs are relatively less comparable, the pattern reverses such that people evaluate a vice-virtue bundle with a larger amount of vice more positively than a vice-virtue bundle with a smaller amount of vice. Moreover, we show that this effect occurs for both food and nonfood vice-virtue bundles, which extends scant work on vice-virtue bundles that focused largely on food bundles.

Our work significantly advances also the literature on psychological licensing. Although scholars have suggested earlier that licensing could occur through either credits or credentials (Merritt et al. 2010), later studies have not attempted to identify conditions under which one or the other mechanism comes into play (see, for reviews, Blanken et al. 2015; Mullen and Monin 2016). In the current research, we identify payoff comparability as a factor that influences whether a behavior is licensed via credits or credentials. More specifically, we show that credits-based licensing occurs when the payoffs associated with the licensing choice and the licensed choice are comparable. In contrast, lack of comparability among the payoffs results in credentials-based licensing.

One reason why researchers may have not attempted to distinguish between credits-based and credentials-based mechanisms could be that both mechanisms lead to seemingly the same consequence: higher likelihood of indulgence. At a first glance, it is unclear why it is important to identify conditions under which either of the two mechanisms comes into play if both result in the same outcome. The current research is the first to reveal the importance of distinguishing between the two mechanisms by documenting their distinct behavioral consequences. Even though both mechanisms increase indulgence, our findings suggest that increasing the magnitude of the payoffs associated with the licensed behavior increases further the likelihood of indulgence when licensing occurs through credentials. In contrast, when consumers engage in credits-based licensing, a higher magnitude of payoffs associated with the licensed behavior decreases the likelihood of indulgence compared with a lower magnitude.

Our research raises several avenues for future research. First, we documented the effect in bundle evaluation context where consumers encounter the vice and the virtue options simultaneously. Future research could examine if the effect occurs also in sequential consumer choice settings. For instance, will consumers be more likely to indulge in a larger amount of vice following a more virtuous choice when the payoffs are comparable? And, will this pattern reverse when the payoffs are relatively incommensurable?

These questions raise several other questions that are theoretically interesting. Research on self-licensing suggests that people license not only consumption choices that need justification due to the guilt associated with them (Khan and Dhar 2006) but also socially undesirable thoughts and actions such as selfishness (Sachdeva, Iliev, and Medin 2009) or political incorrectness (Effron, Cameron, and Monin 2009). Interestingly, licensing may occur

across domains such that a virtuous choice in one domain can license a subsequent choice in another domain. For instance, Khan and Dhar (2006) found that hypothetically volunteering for a community service increased the likelihood of choosing a luxury product over a necessity in a subsequent choice task. One interesting extension, which could enrich our understanding of self-licensing in general, would be to examine whether our findings would apply to these domains. More specifically, future research could investigate whether subsequent actions would be licensed through credits when the licensing behavior and the licensed behavior are from the same domain, and through credentials when they are from different domains.

One limitation of the present work also needs noting. Consistent with our research question, we examined how the magnitude of the vice component in a vice-virtue bundle influences the bundle attractiveness. A related question is how changes in the size of the virtue component would impact the attractiveness of the bundle. One possible explanation based on our conceptual framework is that increasing the size of the virtue component in a vice-virtue bundle positively influences consumers' evaluation of the bundle when licensing occurs through credits. This is because a larger virtue is likely to result in feelings of accrual of more credits, which can more easily justify the consumption of a certain amount of vice. When licensing occurs through credentials, however, increasing the virtue component might not change the overall attractiveness of the bundle because feelings of being credentialed is likely to depend on the presence or the absence of the virtue rather than its magnitude. Future research could examine this in order to extend the current work.

Chapter 4

CONCLUDING REMARKS AND IMPLICATIONS FOR OTHER MARKETING-RELATED PHENOMENA

Product bundling, which is referred to as selling multiple consumer goods or services at a single price, has been a popular marketing strategy for decades. One reason for the emergence of this strategy has been suggested by early researchers to be that most consumer trips are planned visits, in which consumers buy several units of different products that need replenishment. Consequently, marketers have started to offer bundles that involve products that a consumer is likely to buy in order to facilitate sales (Dempsey 1959; Simonson 1999).

The most important question for developing bundles, however, has been which products consumers are likely to buy together. Before advances in technology, when it was not as easy to track a given consumer's needs and preferences, marketers heavily relied on products that complement each other in a given consumption setting. Thus, marketers started to develop relatively riskless bundles with products that functionally complement each other. For instance, it has been very common to encounter bundles with cereal and milk, toothbrush and toothpaste, or razors and blades because it is easy to predict that a consumer who needs and purchases one of these products also needs and plans to buy the other product.

Advances in technology, on the other hand, have made it much easier for marketers to track a given consumers' preferences in distinct product categories. In today's marketing environment, it is easy for both online and brick-and-mortar sellers to identify a given customer's purchasing habits and product preferences by tracking their consumption history through web cookies as well as customer loyalty cards. Additionally, both online and offline outlets have started to sell recently products from a more diverse range of categories than they are used to sell in the past. For product bundling, this has resulted in product variety in product bundles (Khan and Dhar 2006), which now involves products that are not necessarily merely

complementary. As explicated in the current dissertation, two most common types of such product bundles that do not necessarily serve the same goal in a particular consumption setting have been bundles with non-complementary items and bundles with a vice and a virtue product. However, research investigating the processes consumers engage in while evaluating such bundles has remained limited.

In the current dissertation, I aimed at shedding light on consumers' process of evaluation of such bundles and its downstream consequences. In the first essay, I examined how consumers evaluate bundles with non-complementary items, and whether it differs from their evaluation of bundles with complementary items. Empirical evidence showed that evaluating a complementary-item bundle is associated with a different level of mindset abstraction than evaluating a bundle with non-complementary items. More specifically, I found that evaluating a bundle with complementary items results in a less abstract mindset than evaluating a bundle with non-complementary items. Consequently, consumers evaluate complementary (versus non-complementary) bundles more positively when the salient factors in the decision context (e.g., timing of the consumption, or the spatial distance of the consumption decision) fit a concrete (versus abstract) mindset.

In the second essay, I evaluated how the magnitude of the vice component in a vice-virtue bundle influences the attractiveness of the bundle. Although common intuition would suggest that consumers' valuation would be higher for a bundle which offers more, I showed that the impact of vice magnitude on consumers' liking of and willingness to pay for the bundle is moderated by payoff comparability (i.e., whether the positive payoff associated with the virtue component and the negative payoff associated with the vice component could be compared on the same unit of measurement). More specifically, essay 2 documented that vice-virtue bundles with a larger vice is evaluated more positively when the payoffs are not comparable; however, this effect reverses when the payoffs are relatively easy to compare.

Note that the process evidence in essay 1 shows that the obtained effects are driven by consumers' Gestalt processing tendency during bundle evaluation. In other words, consumers tend to perceive a "bundle" (i.e., two or more products tied to each other) as a single, inseparable unit. Also, the process evidence in the second essay suggests that the documented effect is driven by different mechanisms of psychological licensing such that people tend to license a choice that needs justification through another virtuous choice that is available in the immediate

environment. The implications for these processes in the context of bundle evaluation have been discussed throughout the dissertation. However, they might have implications for several other streams of research in which consumers integrate multiple pieces of information.

Research on information integration theory (Anderson 1981), which has long served as the theoretical basis for bundle evaluation (Gaeth, Levin, Chakraborty, and Levin 1991; Simonin and Ruth 1995; Yadav 1994), has shown that not only consumer products but also information about brands (Dawar and Lei 2009), country of origin (Jo, Nakamoto, and Nelson 2003), and humans (Cohen, Miniard, and Dickson 1980) are processed as a *pieces of information* that are integrated during judgment making. Following this, the process evidence we document in essay 1 is likely to apply to contexts in which decision makers are provided multiple pieces of information simultaneously and inseparably.

One such context where the Gestalt processing might come into play, then, is cause-related marketing (Lafferty and Goldsmith 2005), in which a brand ties itself to a specific cause in a strategic alliance (Davidson 1997). In brand-cause alliances, consumers do consider both pieces of information about the brand and the cause. One stream of research in this domain has investigated the impact of fit between the company and the cause in the effectiveness of these alliances (Pracejus and Olsen 2004; Nan and Heo 2007; Samu and Wymer 2009). By definition, brand—cause fit refers to the extent to which a company's or a brand's image aligns with the purposes of the cause (Lafferty 2007). While some brand—cause alliances involve higher fit (e.g., the alliance between the Purina pet foods and the National Humane Society; Varadarajan and Menon 1998), others have a lower fit between the brand and the cause (e.g., pennies donated by Starbucks to Asian Tsunami disaster victims; Gupta and Pirsch 2006).

Some studies have shown that higher fit between the brand and the cause has a positive impact on company-related outcomes (Pracejus and Olsen 2004). Indeed, a qualitative inquiry has documented that consumers strongly believe that a company or a brand should sponsor only the causes that have a logical connection with the company's commercial activities (Haley 1996). On the other hand, there is also empirical evidence suggesting that moderate fit between the brand and the cause is more effective than higher levels of fit (Trimble and Rifon 2006; Lafferty 2007).

The construal-level explanation we provide might help reconcile seemingly contradictory findings in the literature regarding when a high or low brand—cause fit is more helpful in cause-

related marketing activities. More specifically, consumers might construe a low-fit alliance at more abstract, higher levels of *targeted goal* while they construe a high-fit alliance at more concrete levels of *means for achieving a goal*. To exemplify, consider Starbucks helping tsunami disaster victims in Asia versus coffee producers in Africa. When consumers elaborate on the intentions of Starbucks for these causes, the former alliance is likely to bring higher-order principles into consumers' minds (e.g., "Starbucks is trying to *do good* for the society") while the latter might be perceived as a means to prevent coffee producers being unable to produce coffees in the long run. Thus, it is one possibility that low-fit alliances result in a higher level of mindset while high-fit alliances result in a relatively less abstract state of mind. Consequently, when other factors related to the alliance fit the level of abstraction implied by the level of the congruence between the brand and the cause, consumers' positive perception of the company might amplify.

There is some evidence in the literature that supports this possibility. In one work, for instance, Menon and Kahn (2003) investigated the impact of fit on two different types of philanthropic activities—advocacy advertisements and sales promotions—on consumers' perceptions of the company. The main difference between these two types of activities is that an advocacy advertisement involves highlighting a higher-order, abstract goal that the company advocates. A cause promotion, on the other hand, involves some concrete contribution to the cause conditional upon purchase (e.g., specific dollars donated to the cause). In other words, an advocacy advertisement involves abstract messages whereas a cause promotion involves more concrete benefits. This research has found that, while higher congruence increases the favorability ratings for cause promotions, lower congruence between the cause and the brand is more effective for advocacy advertisement. This finding is in line with the process evidence we present in study 1, and consequent fit predictions.

Future studies may examine whether (1) the level of brand—cause fit influences human cognition in the same way as product bundle item complementarity influences, and (2) this change in human cognition interacts with other factors in the decision environment to determine the effectiveness of the strategy. These studies might identify several specifics of cause—brand partnerships that might be effective under high versus low fit. For instance, in a cause-related marketing activity, a brand might announce giving specific dollars to a cause versus donating a percentage of the price for every purchase. Past research showing that certainty is associated with more concrete construal (Helzer and Edwards 2012) would then suggest that using certain

dollars of the purchase will be a more effective strategy when the brand—cause is high as compared to using relatively difficult-to-calculate percentages (e.g., 7.5% of each purchase valued at \$19.99).

Another context in which consumers need to integrate multiple pieces of information is the evaluation of multi-feature products. Recently, products in many consumer markets have become increasingly multifunctional since marketers have seen increasing the number of features in a product as a way to enhance and differentiate the product from its competitors (Mukherjee and Hoyer 2001; Nowlis and Simonson 1996). Research investigating the impact of adding product features on product evaluation have largely relied on the basic tenets of classical economic theory, and models based on economic theory and used additive utility functions in which each positively evaluated attribute significantly enhances the demand for the product (Lancaster 1971; Srinivasan, Lovejoy, and Beach 1997). Behavioral studies have supported these predictions by showing that the choice share of a product in a given choice set increases as the number of both relevant and irrelevant features increases (Brown and Carpenter 2000). This effect is obtained since consumers' perceptions regarding the capability of a multifunctional product is higher as compared to its no-frills counterparts (Thompson, Hamilton, and Rust 2005).

Some other studies, however, reported that the impact of adding features on product evaluation is not straightforward. Under certain circumstances, consumers evaluate products with less features more positively than products with more features. Several factors including consumers' focus on capability versus usability during evaluation (Thompson, Hamilton, and Rust 2005), usage frequency consideration (Goodman and Irmak 2013), congruity between the product category and the added feature (Angelis and Carpenter 2009), and the nature of the base product (i.e., whether the product is hedonic or utilitarian; Gill 2008) have been shown to moderate consumers' preferences in the context of multifunctional products.

It is noteworthy that these effects are examples of dilution effect (Nisbett, Zukier, and Lemley, 1981), which is a judgmental effect whereby considering a piece of (non-diagnostic) information along with others weakens the overall judgment made by considering only the diagnostic information. In other words, multi-feature product evaluations also represent a context where consumers consider multiple pieces of information (i.e., each function of the product) simultaneously in order to form a judgment. Therefore, the process we document in essay 1 might also apply to multifunctional product evaluations. Future research could examine whether

mindset abstraction is yet another moderator of consumers' liking of multifeatured products. Consider, for instance, a smartphone which is marketed through two ads. In one ad, the message emphasizes benefits or features of the smartphone (e.g., screen features and interface) that are perceptually linked to a specific, lower level attribute (e.g., usability). In the other ad, two equally positively valued features (e.g., camera and audio features) which could be linked to each other at higher levels (e.g., enjoyment) are presented. It is likely that the former ad will drive a relatively lower level of mindset abstraction than the latter ad. In such cases, marketers might benefit from using other tools associated with different levels of mindset abstraction in their communication. For instance, communicating unrelated benefits would be a more effective strategy for creating demand much before the launch (i.e., when psychological distance is high). Similarly, recent research shows that rounded prices (e.g., \$800.00) invoke an abstract thinking while non-rounded prices (e.g., \$798.99) induce a relatively lower level of mental construal (Kim, Ciu, Choi, Lee, and Marshall 2020). In marketing multifeatured products, marketers might benefit from combining a rounded price with relatively unrelated features, and a non-rounded price with features that add to the perceptions of a single attribute.

Akin to the process evidence we document in essay 1, the findings of essay 2 speak to contexts different from product bundles. Psychological licensing is a phenomenon that has been shown to occur in several domains from political correctness (Choi and Crandall 2008) to dishonesty (Mazar and Zhong 2010). Any behavior that is perceived as moral or “good” could be used by consumers to justify any behavior that is perceived as a “*wrongdoing*.” As explicated previously, our main contribution to this stream of research is identifying when consumers justify the so-called wrongdoing through psychological entitlement called credentials, and when they rely on countable psychological credits. More specifically, we show that the comparability of payoffs associated with the licensing and the licensed behavior determines which mechanism comes into play. Consequently, the likelihood of the wrongdoing increases (decreases) as its perceived payoffs get larger under credentials-based (credits-based) licensing.

This finding relates back to another question that has been raised in the past. In their paper, Miller and Effron (2010) speculate that within-domain and between-domain licensing (i.e., whether the licensing behavior is in the same domain as the licensed behavior) might be one factor that influences the licensing mechanism. Our findings imply that within-domain licensing might facilitate psychological credits to be taken into consideration by decision makers while

cross-domain licensing might occur through psychological entitlement experienced by decision makers while evaluating whether to engage in a wrongdoing. Future research could investigate if our findings hold in different licensing domains. It needs noting, however, that the licensed choice or behavior in the consumer products domain might differ from licensing in other domains. We have shown that credentials-based licensing increases the likelihood of indulgence as the magnitude of the licensed choice gets larger. However, this effect holds because the additional unit of the choice still provides a nonnegative benefit. In other words, a larger amount of the choice is more attractive than a smaller amount of the choice *ceteris paribus*. This might still hold in a setting where consumers license, for example, a dishonest behavior aimed at maximizing personal gains (e.g., claiming more money than they actually deserve). However, in contexts where self-interest does not change as a function of the magnitude or the severity of the decision (e.g., racial discrimination in a hiring decision), credentials-based licensing might result in a constant likelihood of licensing irrespective of the magnitude. Future research could enrich our understanding of the psychological underpinnings of licensing behavior by examining our findings in other licensing domains.

Finally, marketers often remind consumers of their past achievements (e.g., working hard) in order to sell hedonic products (e.g., a vacation package) by providing messages that would help consumers justify the indulgence (e.g., “you deserve it”). The process evidence we report in this dissertation might be helpful for marketers in such marketing actions. One implication of our findings is that making consumers attend to the same basis (vs. different bases) of evaluation for both the licensing achievement and the licensed decision will decrease consumer desire as the marketing offer has less (vs. more) to offer. For instance, a university student is likely to desire a longer summer holiday vacation more when she attends to (1) how it makes her feel about the hard-work she has put forth during the semester and (2) the duration of the vacation. In other words, the likelihood of succumbing into an indulgent vacation will increase as the duration of it increases when the justifying cue is evaluated in terms of a different basis of evaluation. Marketers who employ such tactics in their actions might design their offers and messages in line with the process we document in this dissertation.

BIBLIOGRAPHY

- Aaker, D. A., & Keller, K. L. (1990). Consumer evaluations of brand extensions. *Journal of Marketing*, 54, 27–41.
- Agarwal, M. K., & Chatterjee, S. (2003). Complexity, uniqueness, and similarity in between bundle choice. *Journal of Product and Brand Management*, 12, 358–376.
- Aggarwal, P., & Zhao, M. (2015). Seeing the big picture: the effect of height on the level of construal. *Journal of Marketing Research*, 52, 120–131.
- Anderson, N. H. (1981). *Foundations of information integration theory*. San Diego, CA: Academic Press.
- Angelis, M. D., & Carpenter, G. S. (2009). The effect of adding features on product attractiveness: the role of product perceived congruity. In A. L. McGill and S. Shavitt (Eds.), *Advances in Consumer Research* (Vol. 36, pp. 651-652). Duluth, MN: Association for Consumer Research.
- Bar-Anan, Y., Liberman, N., & Trope, Y. (2006). The association between psychological distance and construal level: evidence from an implicit association test. *Journal of Experimental Psychology: General*, 135, 609–622.
- Blanchard, F. A., & Frost, R. O. (1983). Two factors of restraint: concern for dieting and weight fluctuation. *Behaviour Research and Therapy*, 21, 259-267.
- Blanken, I., van de Ven, N., & Zeelenberg, M. (2015). A meta-analytic review of moral licensing. *Personality and Social Psychology Bulletin*, 41, 540-558.
- Broniarczyk, S. M., & Alba, J. W. (1994). The importance of the brand in brand extension. *Journal of Marketing Research*, 31, 214–228.
- Brown, C. L., & Carpenter, G. S. (2000). Why is the trivial important? A reasons-based account for the effects of trivial attributes on choice. *Journal of Consumer Research*, 26, 372-385.

- Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology*, 42, 116–131.
- Cesario, J., & Higgins, E. T. (2008). Making message recipients “feel right”: how nonverbal cues can increase persuasion. *Psychological Science*, 19, 415–420.
- Cheek, J. M., & Briggs, S. R. (1982). Self-consciousness and aspects of identity. *Journal of Research in Personality*, 16, 401–408.
- Chiambaretto, P., & Dumez, H. (2012). The role of bundling in firms’ marketing strategies: a synthesis. *Recherche et Applications en Marketing (English Edition)*, 27, 91–105.
- Chitturi, R., Raghunathan, R., & Mahajan, V. (2007). Form versus function: How the intensities of specific emotions evoked in functional versus hedonic trade-offs mediate product preferences. *Journal of Marketing Research*, 44, 702–714.
- Choi, B. P., & Crandall, C. S. (2008). Permission to be prejudiced: legitimacy credits in the evaluation of advertisements with black and white models. In A. Y. Lee and D. Soman (Eds.), *Advances in Consumer Research* (Vol. 35, pp. 24–25). Duluth, MN: Association for Consumer Research.
- Choi, J., Li, Y. J., Rangan, P., Chatterjee, P., & Singh, S. N. (2014). The odd-ending price justification effect: The influence of price endings on hedonic and utilitarian consumption. *Journal of the Academy of Marketing Science*, 42, 545–557.
- Cohen, J. B., Miniard, P. W., & Dickson, P. R. (1980). Information integration: an information processing perspective. In J. C. Olson (Ed.), *Advances in Consumer Research* (Vol. 7, pp. 161–170). Ann Arbor, MI: Association for Consumer Research.
- Darveau, J., & d'Astous, A. (2014). Bundle building in the arts: an experimental investigation. *Psychology & Marketing*, 31, 591–603.
- Davidson, J. (1997). Cancer sells. *Working Women*, 22, 36–39.
- Dawar, N., & Lei, J. (2009). Brand crises: the roles of brand familiarity and crisis relevance in determining the impact of brand evaluations. *Journal of Business Research*, 62, 509–516.
- Dempsey, W. L. (1959). Multiple packaging: A merchandising tool. *Journal of Marketing*, 23, 287–292.
- Ding, Y., & Keh, H. T. (2017). Consumer reliance on intangible versus tangible attributes in service evaluation: the role of construal level. *Journal of the Academy of Marketing Science*, 45, 848–865.

- Effron, D. A., Cameron, J. S., & Monin, B. (2009). Endorsing Obama licenses favoring whites. *Journal of Experimental Social Psychology*, 45, 590-593.
- Effron, D. A., & Conway, P. (2015). When virtue leads to villainy: advances in research on moral self-licensing. *Current Opinion in Psychology*, 6, 32-35.
- Effron, D. A., & Monin, B. (2010). Letting people off the hook: when do good deeds excuse transgressions? *Personality and Social Psychology Bulletin*, 36, 1618-1634.
- Engeset, M. G., & Opstad, B. (2017). Evaluation effects of bundle size and price presentation. *Journal of Consumer Marketing*, 34, 393-403.
- Fiedler, K. (2007). Construal level theory as an integrative framework for behavioral decision-making research and consumer psychology. *Journal of Consumer Psychology*, 17, 101-106.
- Forster, J., Friedman, R. S., & Liberman, N. (2004). Temporal construal effects on abstract and concrete thinking: consequences for insight and creative cognition. *Journal of Personality and Social Psychology*, 87, 177-189.
- Freitas, A. L., Gollwitzer, P., & Trope, Y. (2004). The influence of abstract and concrete mindsets on anticipating and guiding others' self-regulatory efforts. *Journal of Experimental Social Psychology*, 40, 739-752.
- Fujita, K., Henderson, M. D., Eng, J., Trope, Y., & Liberman, N. (2006). Spatial distance and mental construal of social events. *Psychological Science*, 17, 278-282.
- Gaeth, G. J., Levin, I. P., Chakraborty, G., & Levin, A. M. (1991). Consumer evaluation of multi-product bundles: an information integration analysis. *Marketing Letters*, 2, 47-57.
- Garrett, B. (2002). *Personal identity and self-consciousness*. New York, NY: Routledge.
- Gill, T. (2008). Convergent products: what functionalities add more value to the base? *Journal of Marketing*, 72, 46-62.
- Goodman, J. K., & Irmak, C. (2013). Having versus consuming: failure to estimate usage frequency makes consumers prefer multifeature products. *Journal of Marketing Research*, 50, 44-54.
- Gorman, B. S., & Allison, D. B. (1995). Measures of restrained eating. In D. B. Allison (Ed.), *Handbook of assessment methods for eating behaviors and weight-related problems* (pp. 149-184). Thousand Oaks, CA: Sage Publications.

- Guiltinan, J. P. (1987). The price bundling of services: a normative framework. *Journal of Marketing*, 51, 74–85.
- Gupta, S., & Pirsch, J. (2006). A taxonomy of cause-related marketing research: Current findings and future research directions. *Journal of Nonprofit & Public Sector Marketing*, 15, 25-43.
- Hagtvedt, H., & Patrick, V. M. (2009). The broad embrace of luxury: Hedonic potential as a driver of brand extendibility. *Journal of Consumer Psychology*, 19, 608–618.
- Haley, E. (1996). Exploring the construct of organization as source: Consumers' understandings of organizational sponsorship of advocacy advertising. *Journal of Advertising*, 25, 19-35.
- Harlam, B. A., Krishna, A., Lehmann, D. R., & Mela, C. (1995). Impact of bundle type, price framing and familiarity on purchase intention for the bundle. *Journal of Business Research*, 33, 57-66.
- Han, S., Humphreys, G. W., & Chen, L. (1999). Uniform connectedness and classical Gestalt principles of perceptual grouping. *Perception & Psychophysics*, 61, 661– 674.
- Harlam, B. A., Krishna, A., Lehmann, D. R., & Mela, C. (1995). Impact of bundle type, price framing and familiarity on purchase intention for the bundle. *Journal of Business Research*, 33, 57–66.
- Harris, J., & Blair, E. A. (2006a). Consumer preference for product bundles: The role of reduced search costs. *Journal of the Academy of Marketing Science*, 34, 506–513.
- Harris, J., & Blair, E. A. (2006b). Functional compatibility risk and consumer preference for product bundles. *Journal of the Academy of Marketing Science*, 34, 19–26.
- Haws, K. L., & Liu, P. J. (2016). Half-size me? How calorie and price information influence ordering on restaurant menus with both half and full entrée portion sizes. *Appetite*, 97, 127-137.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression based approach*. New York, NY: The Guilford Press.
- Helzer, E. G., & Edwards, J. A. (2012). Causal uncertainty prompts abstract construal of behavior. *Social Cognition*, 30, 519-536.
- Herman, C. P., & Polivy, J. (1980). Restrained eating. In A. J. Stunkard (Ed.), *Obesity* (pp. 208-225). Philadelphia, PA: Saunders.

- Herrmann, A., Huber, F., & Coulter, R. H. (1997). Product and service bundling decisions and their effects on purchase intention. *Pricing Strategy and Practice*, 5, 99–107.
- Higgins, E. T. (2006). Value from hedonic experience and engagement. *Psychological Review*, 113, 439–460.
- Jin, L., & He, Y. (2013). Designing service guarantees with construal fit: Effects of temporal distance on consumer responses to service guarantees. *Journal of Service Research*, 16, 202–215.
- Jiraporn, N., Charinsarn, A. R., & Sheridan, M. (2016). Sugar in disguise or healthy indulgence: a cross-cultural comparison of the perceptions of dietary vice/virtue bundles. *Management & Marketing*, 11, 410-430.
- Jo, M. S., Nakamoto, K., & Nelson, J. E. (2003). The shielding effects of brand image against lower quality countries-of-origin in global manufacturing. *Journal of Business Research*, 56, 637-646.
- Johnson, M. D. (1984). Consumer choice strategies for comparing noncomparable alternatives. *Journal of Consumer Research*, 11, 741–753.
- Johnson, M. D. (1989). The differential processing of product category and noncomparable choice alternatives. *Journal of Consumer Research*, 16, 300–309.
- Khan, U., & Dhar, R. (2006). Licensing effect in consumer choice. *Journal of Marketing Research*, 43, 259-266.
- Khan, U., & Dhar, R. (2010). Price-framing effects on the purchase of hedonic and utilitarian bundles. *Journal of Marketing Research*, 47, 1090–1099.
- Kim, J., Cui, Y. G., Choi, C., Lee, S. J., & Marshall, R. (2020). The influence of preciseness of price information on the travel option choice. *Tourism Management*, 79, doi:104012.
- Kivetz, R., & Simonson, I. (2002). Earning the right to indulge: effort as a determinant of customer preferences toward frequency program rewards. *Journal of Marketing Research*, 39, 155-170.
- Kivetz, R., & Zheng, Y. (2006). Determinants of justification and self-control. *Journal of Experimental Psychology: General*, 135, 572-587.
- Klotz, A. C., & Bolino, M. C. (2013). Citizenship and counterproductive work behavior: a moral licensing view. *Academy of Management Review*, 38, 292- 306.

- Kohler, W. (1970). *Gestalt psychology: An introduction to new concepts in modern psychology*. New York, NY: Liveright Publishing Corporation.
- Koukova, N. T., Kannan, P. K., & Ratchford, B. T. (2008). Product form bundling: implications for marketing digital products. *Journal of Retailing*, 84, 181–194.
- Lafferty, B. A. (2007). The relevance of fit in a cause–brand alliance when consumers evaluate corporate credibility. *Journal of Business Research*, 60, 447–453.
- Lafferty, B. A., & Goldsmith, R. E. (2005). Cause–brand alliances: does the cause help the brand or does the brand help the cause?. *Journal of Business Research*, 58, 423–429.
- Lancaster, K. (1971). *Consumer demand: a new approach*. New York, NY: Columbia University Press.
- Lee, A. Y., & Aaker, J. L. (2004). Bringing the frame into focus: the influence of regulatory fit on processing fluency and persuasion. *Journal of Personality and Social Psychology*, 86, 205–218.
- Lee, A. Y., Keller, P. A., & Sternthal, B. (2010). Value from regulatory construal fit: the persuasive impact of fit between consumer goals and message concreteness. *Journal of Consumer Research*, 36, 735–747.
- Lee-Wingate, S. N., & Corfman, K. P. (2010). A little something for me and maybe for you, too: promotions that relieve guilt. *Marketing Letters*, 21, 385–395.
- Liberman, N., Sagristano, M. D., & Trope, Y. (2002). The effect of temporal distance on level of mental construal. *Journal of Experimental Social Psychology*, 38, 523–534.
- Liberman, N., & Trope, Y. (1998). The role of feasibility and desirability considerations in near and distant future decisions: A test of temporal construal theory. *Journal of Personality and Social Psychology*, 75, 5–18.
- Liu, P. J., Haws, K. L., Lamberton, C., Campbell, T. H., & Fitzsimons, G. J. (2015). Vice-virtue bundles. *Management Science*, 61, 204–228.
- Liviatan, I., Trope, Y., & Liberman, N. (2008). Interpersonal similarity as a social distance dimension: Implications for perception of others' actions. *Journal of Experimental Social Psychology*, 44, 1256–1269.
- Mazar, N., & Zhong, C. B. (2010). Do green products make us better people? *Psychological Science*, 21, 494–498.

- Menon, S., & Kahn, B. E. (2003). Corporate sponsorships of philanthropic activities: when do they impact perception of sponsor brand?. *Journal of Consumer Psychology, 13*, 316-327.
- Merritt, A. C., Effron, D. A., & Monin, B. (2010). Moral self-licensing: when being good frees us to be bad. *Social and Personality Psychology Compass, 4*, 344-357.
- Miller, D. T., & Effron, D. A. (2010). Psychological license: when it is needed and how it functions. *Advances in Experimental Social Psychology, 43*, 115-155.
- Mishra, A., & Mishra, H. (2011). The influence of price discount versus bonus pack on the preference for virtue and vice foods. *Journal of Marketing Research, 48*, 196-206.
- Monga, A. B., & John, D. R. (2007). Cultural differences in brand extension evaluation: The influence of analytic versus holistic thinking. *Journal of Consumer Research, 33*, 529-536.
- Mukherjee, A., & Hoyer, W. D. (2001). The effect of novel attributes on product evaluation. *Journal of Consumer Research, 28*, 462-472.
- Mullen, E., & Monin, B. (2016). Consistency versus licensing effects of past moral behavior. *Annual Review of Psychology, 67*, 363-385.
- Nan, X., & Heo, K. (2007). Consumer responses to corporate social responsibility (CSR) initiatives: Examining the role of brand-cause fit in cause-related marketing. *Journal of Advertising, 36*, 63-74.
- Nisbett, R. E., Zukier, H., & Lemley, R. E. (1981). The dilution effect: nondiagnostic information weakens the implications of diagnostic information. *Cognitive Psychology, 13*, 248-277.
- Nowlis, S. M., & Simonson, I. (1996). The effect of new product features on brand choice. *Journal of Marketing Research, 33*, 36-46.
- Okada, E. M. (2005). Justification effects on consumer choice of hedonic and utilitarian goods. *Journal of Marketing Research, 42*, 43-53.
- Oyserman, D. (2011). Culture as situated cognition: Cultural mindsets, cultural fluency, and meaning making. *European Review of Social Psychology, 22*, 164-214.
- Oyserman, D., & Lee, S. W. (2008). Does culture influence what and how we think? Effects of priming individualism and collectivism. *Psychological Bulletin, 134*, 311- 342.

- Oyserman, D., Sorensen, N., Reber, R., & Chen, S. X. (2009). Connecting and separating mind-sets: Culture as situated cognition. *Journal of Personality and Social Psychology*, 97, 217–235.
- Palmer, S., & Rock, I. (1994). Rethinking perceptual organization: The role of uniform connectedness. *Psychonomic Bulletin & Review*, 1, 29–55.
- Popkowski Leszczyc, P. T., & Haubl, G. (2010). To bundle or not to bundle: determinants of the profitability of multi-item auctions. *Journal of Marketing*, 74, 110–124.
- Pracejus, J. W., & Olsen, G. D. (2004). The role of brand/cause fit in the effectiveness of cause-related marketing campaigns. *Journal of Business Research*, 57, 635–640.
- Rahinel, R., & Redden, J. P. (2013). Brands as product coordinators: matching brands make joint consumption experiences more enjoyable. *Journal of Consumer Research*, 39, 1290–1299.
- Raichle, M. E., MacLeod, A. M., Snyder, A. Z., Powers, W. J., Gusnard, D. A., & Shulman, G. L. (2001). A default mode of brain function. *Proceedings of the National Academy of Science*, 98, 676–682.
- Rosch, E. (1975). Cognitive representations of semantic categories. *Journal of Experimental Psychology: General*, 104, 192–233.
- Sachdeva, S., Iliev, R., & Medin, D. L. (2009). Sinning saints and saintly sinners: the paradox of moral self-regulation. *Psychological Science*, 20, 523–528.
- Samu, S., & Wymer, W. (2009). The effect of fit and dominance in cause marketing communications. *Journal of Business Research*, 62, 432–440.
- Semin, G. R., & Fiedler, K. (1988). The cognitive functions of linguistic categories in describing persons: Social cognition and language. *Journal of Personality and Social Psychology*, 54, 558–568.
- Shaddy, F., & Fishbach, A. (2017). Seller beware: how bundling affects valuation. *Journal of Marketing Research*, 54, 737–751.
- Simonin, B. L., & Ruth, J. A. (1995). Bundling as a strategy for new product introduction: effects on consumers' reservation prices for the bundle, the new product, and the tie-in. *Journal of Business Research*, 33, 219–230.
- Simonson, I. (1999). The effect of product assortment on buyer preferences. *Journal of Retailing*, 75, 347–370.

- Spencer, S. J., Zanna, M. P., & Fong, G. T. (2005). Establishing a causal chain: why experiments are often more effective than mediational analyses in examining psychological processes. *Journal of Personality and Social Psychology*, 89, 845-851.
- Srinivasan, V., Lovejoy, W. S., & Beach, D. (1997). Integrated product design for marketability and manufacturing. *Journal of Marketing Research*, 34, 154-163.
- Strahilevitz, M. A., & Myers, J. (1998). Donations to charity as purchase incentives: how well they work may depend on what you are trying to sell. *Journal of Consumer Research*, 24, 434-446.
- Stremersch, S., & Tellis, G. J. (2002). Strategic bundling of products and prices: A new synthesis for marketing. *Journal of Marketing*, 66, 55-72.
- Tamir, D. I., & Mitchell, J. P. (2011). The default network distinguishes construals of proximal versus distal events. *Journal of Cognitive Neuroscience*, 23, 2945-2955.
- Telser, L. G. (1979). A theory of monopoly of complementary goods. *Journal of Business*, 52, 211-320.
- Thompson, D. V., Hamilton, R. W., & Rust, R. T. (2005). Feature fatigue: When product capabilities become too much of a good thing. *Journal of Marketing Research*, 42, 431-442.
- Trimble, C. S., & Rifon, N. J. (2006). Consumer perceptions of compatibility in cause-related marketing messages. *International Journal of Nonprofit and Voluntary Sector Marketing*, 11, 29-47.
- Trope, Y., & Liberman, N. (2003). Temporal construal. *Psychological Review*, 110, 403-422.
- Trope, Y., & Liberman, N. (2010). Construal level theory of psychological distance. *Psychological Review*, 117, 440-463.
- USDA. (2019). *How many calories are in one gram of fat, carbohydrate, or protein?*
<https://www.nal.usda.gov/fnic/how-many-calories-are-one-gram-fat-carbohydrate-orprotein>
- Vallacher, R., & Wegner, D. (1989). Levels of personal agency: individual variation in action identification. *Journal of Personality and Social Psychology*, 57, 660-671.
- Varadarajan, P. R. (1986). Horizontal cooperative sales promotion: a framework for classification and additional perspectives. *Journal of Marketing*, 50, 61-73.

- Varadarajan, P. R., & Menon, A. (1988). Cause-related marketing: A coalignment of marketing strategy and corporate philanthropy. *Journal of Marketing*, 52, 58-74.
- Venkatesh, R., & Kamakura, W. (2003). Optimal bundling and pricing under a monopoly: contrasting complements and substitutes from independently valued products. *Journal of Business*, 76, 211-31.
- Verma, S., Guha, A., & Biswas, A. (2016). Investigating the pleasures of sin: the contingent role of arousal-seeking disposition in consumers' evaluations of vice and virtue product offerings. *Psychology & Marketing*, 33, 620-628.
- Vosgerau, J., Scopelliti, I., & Huh, Y. E. (2016). Pleasure, guilt and regret in consumption: revisiting the vice-virtue categorization in theories of self-control. In P. Moreau and S. Puntoni (Eds.), *Advances in Consumer Research* (Vol. 44, pp. 164-168). Duluth, MN: Association for Consumer Research.
- Wakslak, C. J., Trope, Y., Liberman, N., & Alony, R. (2006). Seeing the forest when entry is unlikely: probability and the mental representation of events. *Journal of Experimental Psychology: General*, 135, 641-653.
- Weaver, K., Garcia, S. M., & Schwarz, N. (2012). The presenter's paradox. *Journal of Consumer Research*, 39, 445- 460.
- Wertenbroch, K. (1998). Consumption self-control by rationing purchase quantities of virtue and vice. *Marketing Science*, 17, 317-337.
- White, K., MacDonnell, R., & Dahl, D. W. (2011). It's the mind-set that matters: the role of construal level and message framing in influencing consumer efficacy and conservation behaviors. *Journal of Marketing Research*, 48, 472-485.
- Xu, J., Jiang, Z., & Dhar, R. (2013). Mental representation and perceived similarity: how abstract mindset aids choice from large assortments. *Journal of Marketing Research*, 50, 548-559.
- Yadav, M. S. (1994). How buyers evaluate product bundles: a model of anchoring and adjustment. *Journal of Consumer Research*, 21, 342-353.

APPENDIX A

Instructions and Stimuli Used in Study 1 (Essay 1)

Exact Wording of Instructions: “Below is a product bundle that consists of two products, which is offered at a single price. Imagine that you encountered this bundle at a store. Please briefly describe the thoughts that would come to your mind when you see this bundled offer as a consumer.”



Figure A1: Pictures Used in Complementary and Non-Complementary Conditions in Study 1 (Essay 1)

APPENDIX B

Instructions and Stimuli Used in Study 2 (Essay 1)

Exact Wording of Instructions used in Low (versus High) Mindset Abstraction Condition: “In this task, we are interested in how people generate examples of (versus categories for) objects. You will be shown a word, and then you will be asked to generate an example of it (versus a category for which the given word is an exemplar).”

Words used in the Category-Exemplar Task: “Singer; Smartphone; University; Movie; Cloth; Perfume; Meal; Coke; Animal; Plant; Car; House; Supermarket; Sunglasses; Computer”

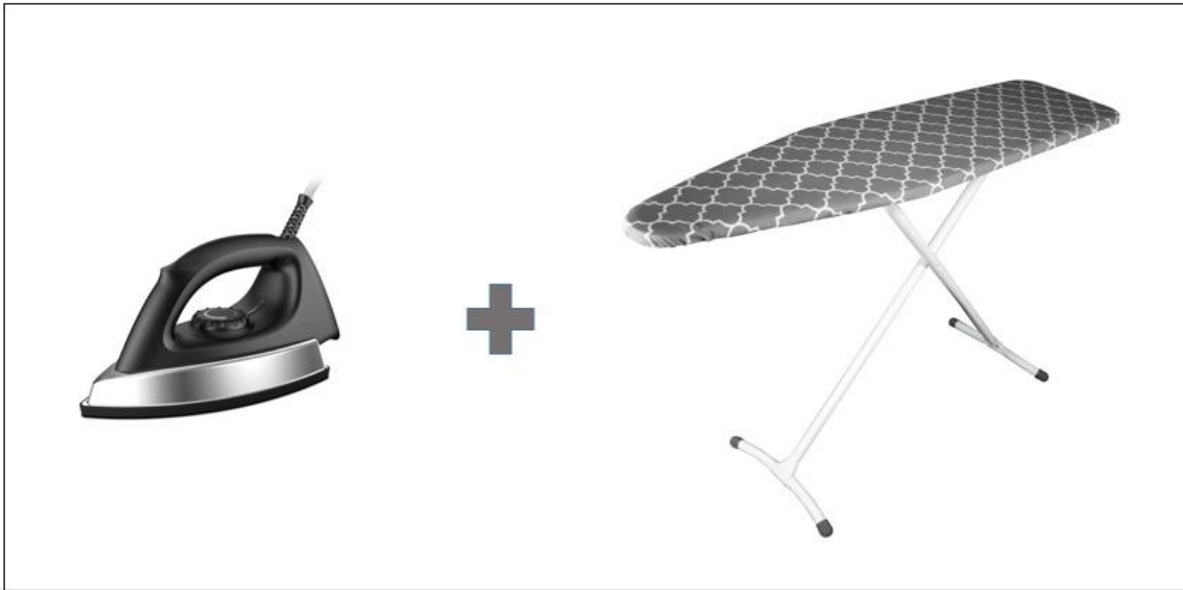


Figure B1: Picture Used in the Complementary Bundle Condition in Study 2 (Essay 1)

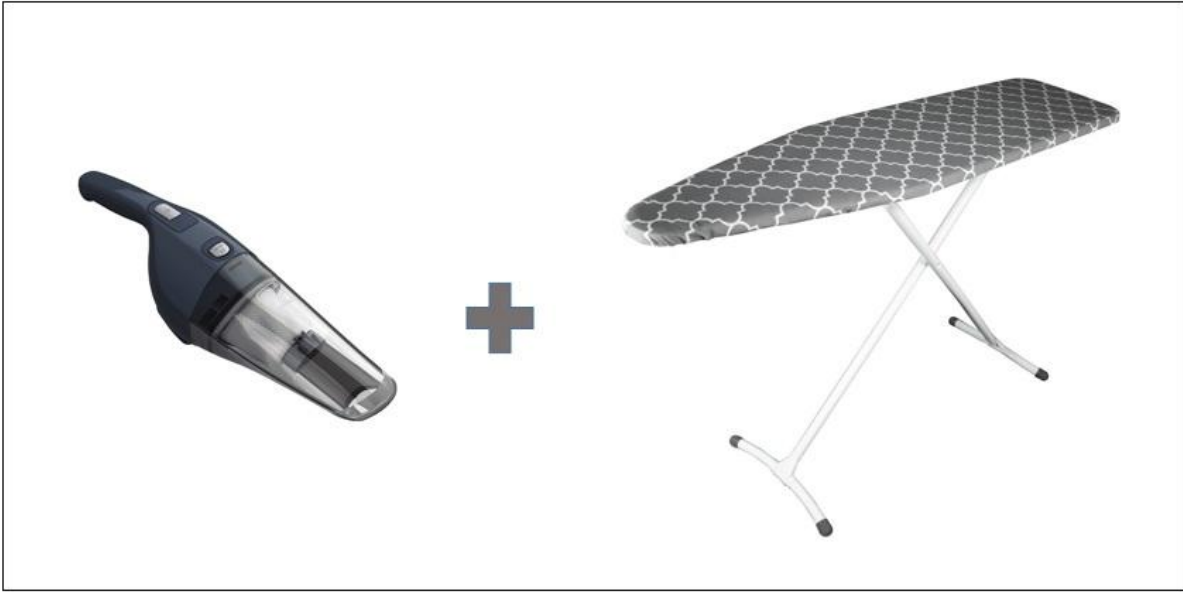


Figure B2: Picture used in the Non-Complementary Bundle Condition in Study 2 (Essay 1)

APPENDIX C

Instructions in Study 3 (Essay 1)

Exact Wording of Instructions in the Separating Mindset Condition: “Please think about the unique features of each member of your family. Please write below how these unique features make every family member different and separate from other family members.”

Exact Wording of Instructions in the Connecting Mindset Condition: “Please think about the common characteristics among each member of your family. Please write below how these common characteristics make you a single, unified family.”

Exact Wording of Instructions in the Low Distance Condition: “Imagine that you encountered the following product bundle consisting of two products on a store that is located very close to you. Please evaluate this bundle on the scale provided.”

Exact Wording of Instructions in the High Distance Condition: “Imagine that you encountered the following product bundle consisting of two products on a store that is located spatially distant to you. Please evaluate this bundle on the scale provided.”

APPENDIX D

Stimuli and the Concern for Dieting Scale used in Study 1 (Essay 2)



Figure D: Pictures used in Comparable and Non-Comparable Conditions in Study 1 (Essay 2)

The Concern for Dieting Scale Items used in Study 1 (Essay 2):

- How often are you dieting?
- Do you have feelings of guilt after overeating?
- Do you eat sensibly in front of others and splurge alone?
- Do you give too much time and thought to food?
- Would a weight fluctuation of 5 kg affect the way you live your life?
- How often are you conscious of what you are eating?

APPENDIX E

Stimuli and Instructions Used in Study 3 (Essay 2)



Figure E: Pictures used in Study 3 (Essay 2)

Instructions in the Low-Comparability (vs. High Comparability) Condition: “Imagine that you have encountered the following bundle in an electronics store that sells several durable goods. The bundle consists of a steamer which has is designed and sold for cooking healthy food (vs. quick and practical food in minutes) and one/three DVDs of *Bir Erkek Bir Kadın* with a total running time of 90/270 minutes. Please indicate below the maximum amount you would pay for this bundle in Turkish Liras.”

APPENDIX F

Stimuli and Instructions Used in Study 4 (Essay 2)

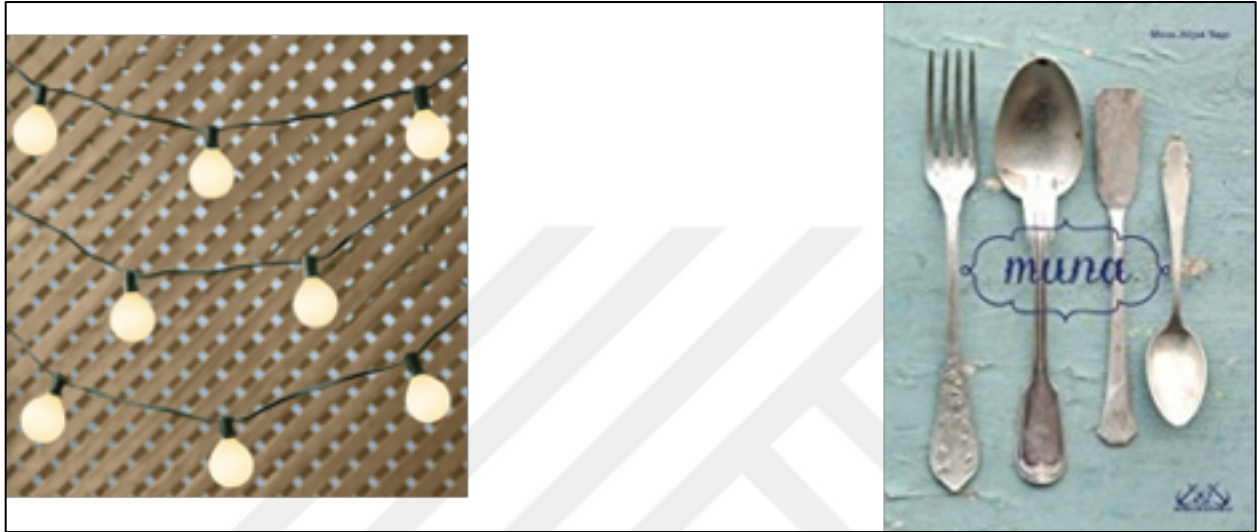


Figure F: Pictures used in Study 4 (Essay 2)

Description of the String Lights: “a string light with 10-/100-bulb(s)”

Description of the Cookbook in the Utilitarian Condition: “a cookbook which involves easy-to-cook recipes”

Description of the Cookbook in the Comparable Virtue Condition: “a cookbook which involves economic, money-saving recipes”

Description of the Cookbook in the Noncomparable Virtue Condition: “a cookbook which involves healthy recipes”