Option Framing Effects in Making Food Choices

Master Thesis

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List of Abbreviations

A	Additive
ANOVA	Analysis of Variance
BSE	Breast Self-Examination
H	Healthy
HA	Healthy-Additive
HS	Healthy-Subtractive
NC	Need for Cognition
S	Subtractive
U	Unhealthy
UA	Unhealthy-Additive
US	Unhealthy-Subtractive

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1. Introduction

Imagine going to a restaurant and ordering a salad. Would you prefer to build your own salad from a selection of ingredients or to order a fully assembled salad from the menu with the option to remove any ingredients you dislike? Which decision would be more difficult? Would the composition of your final salad be the same in both scenarios if you can choose among the same ingredients at the same prices?

From a normative perspective, and based on intuition, the difference between the two scenarios is irrelevant and should not influence the outcome. The final salad should be the same regardless of whether you add or remove ingredients, given that the ingredients to choose from are the same. However, research shows that objectively identical options can elicit systematic differences in decision outcomes when they are framed in different manners (e.g., Laran & Wilcox, 2011; Levin & Gaeth, 1988; Maheswaran & Meyers-Levy, 1990; Roszkowski & Snelbecker, 1990).

For instance, Kahneman and Tversky (1979, 1984) found that individuals respond to questions framed as losses versus those framed as gains in opposite ways. In essence, they propose that this is because alternatives of a choice are not evaluated in absolute terms, but rather in relation to an initial reference point. This leads to alternatives being viewed as gains or losses to the decision maker, a differentiation that systematically impacts the choice pattern in a predictable way. This is called Prospect Theory.

Following the proposal of this theory, previously judged irrational behaviors such as risk and loss aversion and other decision biases were re-evaluated and able to be explained using Kahneman and Tversky's reasonings. Framing effects constitute a major category of such irrational biases, as they affect a variety of situations, including financial decisions, personnel selection, and everyday encounters such as purchase and consumptions choices. While there are many different types of framing, some of which are more heavily researched than others, this thesis is interested in option framing effects, particularly in multiple option as opposed to mutually exclusive choices. In option framing, choice tasks are framed as additive or subtractive, meaning that options are either added to or removed from a set of options (Huber, Neale, & Northcraft, 1987). This type of framing has been receiving more attention in the literature recently, revealing phenomena that seem to be quite robust and wide-ranging. Two of these are investigated in this paper: differences in perceived task difficulty and in the number of options.

Most of the option framing research has used similar product categories to arrive at their findings, including automobiles, condominiums, computers, and treadmills (Park, Jun, & Mac-Innis, 2000; Pornpitakpan, 2009). They share the characteristics of being non-consumable, durable, and high-priced.

The present thesis intends to answer the question whether the option framing effects are robust across other product categories with opposite traits. The category of food is used as it is consumable, non-durable, and low-priced. In addition to examining a new product category, this paper introduces a previously neglected factor: the nature of the options' attributes. This allows to explore whether an option's positivity or negativity affects option framing effects. In order to receive answers to these questions, an empirical study is conducted.

The remainder of this thesis is organized as follows. First, the literature pertinent to this research is reviewed. The origins of framing effects are discussed before the two most widely researched types of framing in consumer behavior, namely attribute framing and goal framing, are introduced. Option framing effects with mutually exclusive as well as multiple option choices are presented after which a handful of literature-based explanations for these findings are explored. These include risk behavior and loss aversion, the endowment effect, the status quo bias and effort, attribute weights, and the compatibility effect. One by one, their potential influence on the option framing effects is argued. In the next chapter of this paper, the three hypotheses of the empirical study are developed and formulated. Subsequently, the employed research methodology is described, and the independent and dependent variables are defined. The study manipulates task type and food type, and measures their effects on the perceived task difficulty and the number of selected options. Next, the results of the experiment are revealed. The concluding discussion lists a number of theoretical contributions of the findings, offers implications to managers based on their brand's objectives, notes the limitations of the study, and provides suggestions for future research.

2. Theoretical Background

2.1 Prospect Theory and Framing Effects in Consumer Behavior

The concept of Prospect Theory was first introduced by the researchers Kahneman and Tversky. They put the widely used and accepted Expected Utility Theory by Von Neumann and Morgenstern under scrutiny and concluded that it is insufficient as a descriptive model of decision-making under risk (Kahneman & Tversky, 1979). Specifically, they challenged the description invariance of rationality, as their experiments revealed that people reversed their preferences in formally equivalent decision problems when they were framed in different ways. In their famous Asian Disease Problem, for example, they allocated subjects to two groups and provided them with the same problem (Tversky & Kahneman, 1981, p. 453):

> Imagine that the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimate of the consequences of the programs are as follows: […].

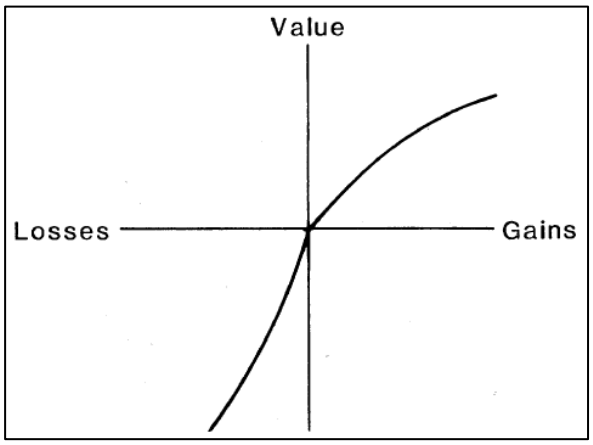
Participants in the first group were given these options: *"If Program A is adopted, 200 people will be saved. If Program B is adopted, there is 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved"* (p. 453). The majority of respondents (72 percent of 152) chose Program A, the risk-averse option. The second group could choose as follows: *"If Program C is adopted 400 people will die. If Program D is adopted there is 1/3 probability that nobody will die, and 2/3 probability that 600 people will die"* (p. 453). Here, Program D, the risk-taking option, was more popular (78 percent of 155). Even though the options are objectively identical, the preferences show that risk aversity is more common in choices that include gains, while risk propensity is more frequent in choices that include losses. This pattern is systematic and large, albeit not universal (Tversky & Kahneman, 1981).

To account for this irrational behavior and predict the shifts of preference, the researchers suggested Prospect Theory as an alternative model. It *"incorporates a basic psychological principle of perception and judgment – sensitivity to changes in magnitude of stimuli rather than the absolute magnitude of stimuli"* (Miller & Fagley, 1991, p. 517). In other words, the theory claims that, rather than using absolute values, decision makers evaluate potential outcomes as deviations (i.e., gains and losses) relative to a neutral reference point that is *"flexible and psychologically determined"* (Meyerowitz & Chaiken, 1987, p. 501). While doing so, they weight losses more strongly than gains of the same magnitude. This is reflected by the S-shaped value function in Figure 1 that Tversky and Kahneman (1981) proposed. It is concave in the domain

of gains (indicating risk aversion), convex in the domain of losses (indicating risk seeking), and steeper for losses than for gains. Moreover, decision weights take the place of probabilities in order to adjust for the certainty effect. This effect is observed when people give more weight to outcomes that are certain compared to outcomes that are merely probably, which contributes to the reversal of preferences (Tversky & Kahneman, 1981).

Figure 1

A Hypothetical Value Function



Source: Tversky & Kahneman (1981, p. 454)

According to Prospect Theory, the initial reference point can be significantly influenced by the manner in which the options (so-called "prospects") are presented ("framed"), as well as by the expectations of the decision maker (Bazerman, 1984; Fischhoff, 1983; Kahneman & Tversky, 1979). As the location of the reference point determines the above-mentioned gains and losses (Puto, 1987), a shift in the reference point affects the evaluation process and sways people's judgments, a phenomenon that has been observed in many types of situations.

For instance, Neale and Bazerman (1985) conducted an experiment on negotiators' willingness to concede when using a strategy of reciprocal concessions. Before engaging in the negotiations as representatives of a hypothetical company, some subjects were told that any concessions would incur serious financial losses to the company and that their objective was to minimize such losses. This constituted the negative framing condition. Participants in the positive framing condition were told that any concessions by the opponent will bring gains for the company and that their goal was to maximize such gains. More concessionary behavior was observed in the positive compared to the negative frame, leading to more successful performances.

Similarly, Neale, Huber, and Northcraft (1986) found that negotiators completed more transactions when the task characteristics were positively rather than negatively framed.

In a study by Levin, Johnson, Russo, and Deldin (1985), respondents were asked to rate hypothetical students based on their midterm and final exam scores. The scores were either expressed in positive terms as percentage correct responses or in negative terms as percentage incorrect responses. The ratings of students' performances were significantly greater when the exam scores were presented in a positive than in a negative fashion.

Hershey and Shoemaker (1980) found that problem context impacts the degree to which decision makers are willing to take risks. Formulating the same scenario as an insurance or a gamble led to more risk-averse versus more risk-seeking behavior, respectively. Qualls and Puto (1989) discovered that organizational buyers facing difficult goals were more inclined to choose a certain alternative when the alternatives were framed as gains, while they opted for the risky alternative when they were framed as losses, presumably to avoid the potential loss.

This phenomenon in which the differential formulation of the same scenario alters one's behavior and decision depending on the focus of attention on gains or losses is broadly referred to as framing effect (Kahneman & Tversky, 1979; Levin & Gaeth, 1988). In the literature, it is often confused with the reflection effect. While they both stem from Prospect Theory, they are distinct in that the reflection effect refers to opposite preferences when the outcomes are gains or losses, while the framing effect refers to opposite preferences when the same outcomes are phrased as if they were gains or losses (Fagley, 1993). The objective outcomes are not changed in framing, but are simply viewed from different perspectives, creating *"a perceptual phenomenon similar to optical illusions"* (Fagley, 1993, p. 451).

Researchers are not in agreement regarding whether the differential evaluation of outcomes caused by framing anticipates and perhaps even molds the experience of these outcomes (Hoch & Ha, 1986; Levin & Gaeth, 1988), or if it only induces decision values without affecting actual experience (Frisch, 1993; Kahneman & Tversky, 1984). Either way, framing effects are common, and even experts such as financial planners and experienced consumers are not immune to them (Bettman & Sujan, 1987; Roszkowski & Snelbecker, 1990). They have shown to be resistant to change – it is difficult to reverse a particular frame once it has been established (Levin, Johnson, & Davis, 1987). However, Takemura identified factors that can weaken the framing effect: decision time (1992), decision justification (1993), and elaboration (1994).

In consumer behavior, two types of framing are most prevalent: *"attribute framing, which affects the evaluation of object or event characteristics, and goal framing, which affects the persuasiveness of a communication"* (Levin, Schneider, & Gaeth, 1998, p. 149).

2.1.1 Attribute Framing

As the simplest form of framing, attribute framing manipulates only a single characteristic or attribute within a given scenario. The influence of such positive versus negative framing is typically measured in the form of yes or no judgments or as favorability ratings. While positive framing typically stimulates positive associations and thus leads to a favorable response, negative framing has the opposite effect (Levin, Schneider, & Gaeth, 1998). For example, a consumer judgment experiment found that labeling ground beef in different ways significantly affected perceptions of its quality. When the beef was labeled as "75% lean" (positive) compared to "25% fat" (negative), subjects' associations with it were more favorable, rating it as less greasy and better tasting, even when they sampled the beef (Levin, 1987; Levin & Gaeth, 1988). In a similar fashion, students were asked to evaluate hypothetical gambles based on initial investment, amount to be won, and probability. The latter was either defined as "chance of winning" (positive) or as "chance of losing" (negative). Their responses to the gambles were significantly more favorable when the probability information was expressed in positive than in negative terms (Levin, Snyder, & Chapman, 1988).

Attribute framing effects are even observed in medical decisions. Wilson, Kaplan, and Schneiderman (1987) conducted a series of studies in which probability information was provided in positive or negative frames. In one of them, participants were asked if they would select surgery for a terminal liver disease based on the probability of survival. At each probability level, the acceptance rate for the surgery was significantly higher when it was worded positively rather than negatively, indicating that individuals were more willing to undergo a risky medical procedure when they were presented with the probability of surviving versus not surviving. Levin, Schnittjer, and Thee (1988) discovered similar tendencies. They informed participants about a new medical technique, and asked them to rate its effectiveness and the degree to which they would recommend it to others, including family members. When the treatment was described as having a "50% success rate" (positive) compared to a "50% failure rate" (negative), both the effectiveness ratings and recommendation likelihoods were significantly higher.

Attribute framing effects are not necessarily only caused by positive versus negative framing. Wording characteristics differently in any fashion can lead to similar effects. For instance, Wadhwa, Kim, Chattopadhyay, and Wang (2019) performed six experiments, including a field experiment, on the consequences of framing a product feature as unexpected. Their results revealed that presenting a product benefit as unexpected increased consumers' desire for the product when their motivation to seek rewards was heightened. Conversely, when an undesirable product feature was marketed as unexpected, this negatively impacted product desirability for consumers whose motivation to avoid losses was heightened. The effects were attenuated when the product feature and category were incongruent.

2.1.2 Goal Framing

In goal framing, the consequences of a decision are manipulated, thereby influencing how persuasive a message is. Positive framing invokes the goal of obtaining a gain, while negative framing invokes the goal of avoiding a loss. The latter has shown to increase the likelihood of an individual completing the act in question (Levin, Schneider, & Gaeth, 1998).

For example, Meyerowitz and Chaiken (1987) examined the effect of stressing positive versus negative consequences of engaging in a preventative healthcare measure in a pamphlet. In their experiment, they exposed college-aged females to either none or one of three versions of a pamphlet explaining the importance and techniques of performing a breast self-examination (BSE) to detect breast cancer: a gain-frame (positive), a loss-frame (negative), and a no-arguments pamphlet. In the positive condition, the pamphlet read, *"Research shows that women who do BSE have an increased chance of finding a tumor in the early, more treatable stage of the disease"* (p. 504). The negative pamphlet said, *"Research shows that women who do not do BSE have a decreased chance of finding a tumor in the early, more treatable stage of the disease"* (p. 504). Subjects in the loss language condition exhibited significantly more positive attitudes towards BSE and higher intentions of performing BSE than those in the other conditions, making the loss frame the most persuasive. In a follow-up four months later, the women in the loss condition manifested the most post-experimental BSE behaviors among all.

Rothman, Salovey, Antone, Keough, and Martin (1993) extended this research by differentiating between prevention and detection behaviors. Performing BSE is a detection behavior and comes with the risk of finding a lump, thus being considered a risky option. According to Prospect Theory, choosing a risky over a riskless option is more likely in the domain of losses,

which explains why the negative frame was more encouraging in the BSE study. When it comes to prevention behaviors such as applying sunscreen or using condoms, performing them is less risky than not performing them. In this case, positively framed messages are more persuasive than negatively framed ones. This was also reflected in the researchers' study, as more women requested sunscreen with an appropriate sun protection factor after reading positively framed pamphlets that stressed the benefits of using sunscreen compared to negatively framed ones.

Maheswaran and Meyers-Levy (1990) discovered that involvement influences message framing. In their experiment, highly involved individuals who engaged in more detailed processing held more favorable attitudes toward the advocated behavior and expressed greater behavioral intentions when the messages were negatively framed. Under low involvement with little emphasis on detailed processing, the positively framed messages were more persuasive.

2.2 Additive and Subtractive Option Framing

Option framing is less heavily researched in consumer behavior than attribute and goal framing, however, its effects are just as meaningful in theory and practice. Unlike the previously discussed types of framing, option framing manipulates the decision process. Depending on whether decision makers choose or reject an option, it is referred to as additive or subtractive option framing. In additive option framing, individuals choose, add, accept, or include options in a consideration set. In subtractive option framing, they reject, remove, eliminate, exclude, or delete options from it (Huber et al., 1987; Park et al., 2000).

For instance, online shoppers can either place multiple items into their shopping carts and then remove the ones that are relatively less attractive, or they can put only their most preferred products into their carts (Sokolova & Krishna, 2016). From a normative perspective, both of these decision strategies should lead to the same outcome, however, consumers seem to make their decisions differently depending on whether they are faced with a choice or rejection task.

2.2.1 Mutually Exclusive Choices

Most of the option framing literature focuses on choice tasks in which the objective is to find one final option: Decision makers are asked to find the option that suits them best. Systematic differences have been found between additive and subtractive option framing choices.

In a personnel selection simulation, for example, researchers asked students to read hypothetical applicants' resumes and cover letters in order to then create a list of applicants who would be accepted or rejected for a job interview (Huber et al., 1987). The way in which the choice task was framed biased the outcome of their decisions. When the selection-related costs were made salient to participants, significantly fewer applicants were selected to be interviewed in the additive than in the subtractive option framing condition. In addition, the results revealed that the acceptance strategy elevated the acceptance threshold that subjects used to make their selections compared to the rejection strategy. The finding that rejecting results in larger consideration sets than choosing has been replicated by many other researchers (e.g., Krishnamurthy & Nagpal, 2008; Levin, Gaeth, Schreiber, & Lauriola, 2002; Levin, Jasper, & Forbes, 1998; Sokolova & Krishna, 2016).

Levin, Prosansky, Heller, and Brunick (2001) extended this discovery by adding a firing task to the hiring task. In the hiring task, respondents were told to consider 24 applicants for a new position. In the firing task, they were told to decide among 24 current employees. In the first step, the instructions were to narrow down the list of 24 individuals to a smaller group that would (versus would not) be seriously considered for hiring (versus firing). In the second step, participants had to make a final choice. Overall, the consideration set was significantly smaller in the inclusion than in the exclusion condition, and in the firing task than in the hiring task. The results also indicated that firing was more difficult and required more effort than hiring, leading to lower satisfaction with decisions. When subjects were able to choose their selection strategy, they were more likely to opt for inclusion than exclusion in the hiring task. The effect was reversed in the firing task, with more respondents choosing exclusion as their strategy.

In an attempt to explore the cognitive processes responsible for this phenomenon, Ordóñez, Benson, and Beach (1999) had participants screen a set of jobs that were described by seven features each. They were given instructions regarding preference criteria for each of the features and were allocated to one of three conditions. In the control condition, subjects were instructed to reject the jobs that they would not consider further and to retain those they would apply for. In the apply condition, they were asked to indicate the jobs that they would or would not apply for. In the reject condition, they had to choose the ones they would or would not reject. Respondents in the apply condition focused their attention on the good features, were more lenient in their screening, and therefore rejected fewer jobs. Conversely, those in the reject condition focused their attention on the bad features, were more stringent, and rejected more jobs. No differences were observed between the reject and control conditions, which suggests that

screening out the bad options is the more "normal" process rather than screening in the good options. When participants were told that they would be made accountable for their screening decisions, they became more stringent in their judgments. Lastly, the researchers tested whether inducing subjects to consider regret would change their responses. They found that more jobs were rejected when decision makers anticipated regret resulting from retaining a bad option than when they anticipated regret resulting from rejecting a good option.

By analyzing need for cognition (NC) as a factor that could impact option framing effects, Levin, Huneke, and Jasper (2000) provided a valuable contribution to the literature. Generally, individuals who are high in NC process information more extensively than those who are low in NC (Cacioppo & Petty, 1982). They instructed students to narrow down the available options of notebook computers to a consideration set by either including or excluding options. Particularly in the inclusion condition, high NC individuals processed information with greater depth and breath, were more focused, and made higher quality selections than low NC individuals. The fact that this was less pronounced in the exclusion condition indicates that the two selection strategies affect decision-making processes in different ways.

2.2.2 Multiple Option Choices

More recently, researchers have been shifting their attention to choice tasks in option framing that allow the selection of multiple options. In the consumer behavior literature, the most commonly used scenario is a product configuration task. In these hypothetical purchase situations, individuals are asked to either add desired product options to a base model or remove undesired ones from a fully loaded model, stressing that the options are not mutually exclusive (e.g., Lu & Jen, 2016; Park et al., 2000; Peng, Xia, Ruan, & Pu, 2016; Pornpitakpan, 2009).

For instance, Park et al. (2000) asked participants in a series of experiments to configure automobiles, computers, and treadmills by adding or deleting options from the provided models. All three product categories were durable, non-consumable, and high-priced, with the prices of the options representing a small percentage of the product's total price. For the automobile scenario, for example, the average option price equaled roughly four percent of the total product price. The purchase context descriptions included the starting and ending prices of the products. In the additive option framing condition, respondents were told to add any desired options to the base model up to the full model. The opposite task was given to subjects in the subtractive option framing condition. In line with the researchers' expectations, more options were selected

by participants in the subtractive than in the additive option framing condition, leading to higher total option prices. When anticipated regret was added to the scenario, this effect was enhanced. The results also suggested that the reference prices and perceived values of the products were affected by the framing manipulation. It was more likely for the car to be categorized as a premium car in subtractive option framing, while it was more likely to be categorized as an economy car in additive option framing. In addition, consumers who deleted options experienced greater difficulty in the choice task than those who added options. This was also reflected in the time it took to make decisions, being significantly longer in the subtractive than in the additive framing condition.

A similar study was conducted by Pornpitakpan (2009), who used the product category of condominiums to replicate the findings in Thailand and Singapore. Her results revealed that subtractive framing led to larger final option sets and consequently higher total option prices than additive framing. Moreover, subjects who started with the fully loaded model expected higher prices and perceived the condominium to be of higher prestige compared to those who started with the base model. The researchers Krishnamurthy and Nagpal (2008) termed the phenomenon that subtractive framing typically results in a higher number of options than additive framing the choose-reject discrepancy.

Peng et al. (2016) examined the impact of age differences and purchase motivations on the magnitude of this discrepancy. They determined consistent effects regardless of age when participants were told to focus on the ratio of the price and utility of options (information-focus). When they were instructed to focus on the pleasure the options would bring (emotion-focus), there was no framing effect. Older respondents generally selected more options and arrived at higher total prices compared to younger respondents, which was more pronounced in the emotion-focus than in the information-focus condition.

Lu and Jen (2016) extended the option framing literature by adding temporal distance to their experimental scenarios. The main focus of their study was the perceived difficulty of the selection task. They discovered that participants in the additive option framing condition perceived the choice task to be significantly more difficult when it was made for the near future than for the distant future. For respondents in the subtractive option framing condition, this effect was reversed. They found it more difficult to make choices for the distant than for the near future.

2.3 Literature-Based Explanations for Option Framing Effects

There is a plethora of theories that can be used to explain the above-mentioned findings regarding option framing. This work focuses on the elements of reference point, risk behavior, and loss aversion within Prospect Theory, endowment effect, status quo bias and effort, and attribute weights to establish a foundation for the discoveries concerning the choose-reject discrepancy. The reasons for the differences in perceived task difficulty are discussed using loss aversion and the concept of compatibility.

2.3.1 Reference Point, Risk Behavior, and Loss Aversion

As introduced by Prospect Theory, individuals consider potential outcomes of a decision in relation to a neutral reference point rather than in isolation, turning the outcomes into gains or losses instead of absolute values (Kahneman & Tversky, 1979). The position of this reference point can be manipulated by the presentation of the scenario and choice task, changing whether an outcome is perceived as a gain or loss (Lu & Jen, 2016). This mechanism triggers different risk behaviors.

In their personnel selection experiment in which they had subjects screen job applicants for a hypothetical position, Huber et al. (1987) discovered that the consideration sets for applicants being invited to an interview were significantly larger when participants were instructed to accept than to reject applicants. The researchers argue that *"accepting job applicants carries with it an implicit tone of gains (positive framing)"* (p. 138) which induces risk aversion. They contend that job interviews are costly, and therefore inviting a candidate to such an interview constitutes a risk of wasting limited and valuable resources. Hence, risk aversion in this situation leads to fewer candidates being accepted for the next step in the application process. Conversely, *"rejecting applicants […] has the flavor of losses (negative framing)"* (p. 138), thereby eliciting risk-taking propensity. This, in turn, causes more applicants to be identified for further consideration.

Other researchers use the loss aversion component of Prospect Theory to provide reasons for option framing effects. In essence, loss aversion is the phenomenon that individuals feel the impact experienced from losses more strongly than the impact experienced from commensurate gains (Thaler, 1985). In the context of option framing, rejecting options triggers decision makers to consider the losses of those foregone options (Dhar & Wertenbroch, 2000; Sokolova &

Krishna, 2016), resulting in fewer options being rejected and thus larger consideration and option sets. In contrast, the S-shaped value curve of Prospect Theory suggests that the first few units of a good create more utility or value than additional units (Atlas & Bartels, 2018; Kahneman & Knetsch, 1992). In option framing scenarios, this explains why consideration and option sets are typically smaller when options are accepted or added.

Lu and Jen (2016) argue that decision makers in multiple option choices are confronted with trade-offs between monetary resources and product functionality or utility, causing them to experience losses for both types of framing. In additive option framing, adding features to a base model provides greater functionality to the product while incurring a monetary loss. Loss aversion towards money induces consumers to add only a few options. In subtractive option framing, on the other hand, removing features from a fully loaded model brings losses in product functionality while offering a monetary gain due to the lower purchase price. Loss aversion towards utility leads to few options being removed. This provides an explanation for the systematic differences in the number of options selected.

When it comes to the perceived task difficulty, loss aversion may also be able to offer a reasoning. According to Hardie, Johnson, and Fader (1993) as well as Simonson, Kramer, and Young (2004), the loss aversion concerning product utility and features is stronger than the loss aversion concerning product prices and money. Consequently, individuals may experience more conflict when facing a decision including utility losses compared to monetary losses, resulting in them perceiving the task to be more difficult. This is the case in subtractive option framing situations.

2.3.2 Endowment Effect

Another theory that could explain the choose-reject discrepancy is the endowment effect. It had been widely assumed that *"the rate of commodity substitution at a point on an indifference curve is the same for movements in either direction"* (Henderson & Quandt, 1971, p. 12). In other words, if an individual is indifferent between goods A and B and is therefore willing to exchange good A for good B, they should be equally willing to exchange good B for good A.

The researcher Knetsch (1989) questioned this presumed reversibility in a series of experiments and found that individuals often make different choices for the same trade depending on its direction. In the first experiment, he gave university students a mug or a chocolate bar, and

asked them if they would trade it for the other, or he gave them nothing and asked which one they preferred. When subjects were not given an initial entitlement, their preferences for both goods were the same. When they received a chocolate bar, only 10 percent chose to trade it for the mug. When they obtained a mug, only 11 percent opted for the chocolate bar. Hence, their *"preferences were not independent of the direction of the exchanges"* (p. 1278).

In the second experiment, Knetsch further tested this asymmetry using actual cash payments and real goods. He gave participants either two chocolate bars and asked them to indicate the smallest amount of money they would be willing to trade them for, or two one-dollar bills and asked the minimum number of chocolate bars they would exchange them for. Similar to the previous results, respondents were strongly averse to giving up their initial endowment. When they were given money or chocolate first and considered the possibility of giving it up, they valued it significantly more than when they had the chance to acquire it.

Knetsch and other researchers who replicated the findings using pens and other goods called this phenomenon the endowment effect (Kahneman, Knetsch, & Thaler, 1990; Knetsch, 1989). In essence, it suggests that *"people place a greater value on something they already possess than on something equivalent that they do not possess"* (Lu & Jen, 2016, p. 857). In subtractive option framing, decision makers are led to believe that they already have all the options in the fully loaded model. This increases the perceived value of the options and makes it more difficult for consumers to give up them up. Even though they do not actually own the product yet, thinking about the features in terms of already being part of the product makes them more valuable. This, too, explains why only few options are typically removed in subtractive option framing.

2.3.3 Status Quo Bias and Effort

People's tendency to rely on what is given and to minimize their efforts might also be able to provide explanations for option framing effects. The researchers Samuelson and Zeckhauser (1988) conducted experiments with a series of decision tasks and mutually exclusive options to test for potential status quo effects. For each of these decisions, they provided two different versions: a neutral version and a status quo version. In the neutral condition, subjects had to choose from a set of four options that were all presented as equally plausible alternatives. In the status quo condition, one of the options was presented as being the status quo with the other three being alternatives that can be switched to. Within the status quo condition, there were four different versions, each of them putting one of the four alternatives in the status quo position.

By comparing the percentage response rates for each choice alternative across decision tasks, a clear pattern was discovered. When an option was an alternative to the status quo position in a given decision, its percentage response rate was the lowest. When the option was neutral, its response rate was higher. When the option occupied the status quo position, its response rate was the highest.

Samuelson and Zeckhauser (1988) labeled this phenomenon the status quo bias, and offered three explanations for its existence. The first one relates to transition costs and uncertainty of leaving the status quo option. The second reasoning, which stems from loss aversion and the endowment effect, holds cognitive misperceptions accountable. The third explanation stresses psychological commitment to the status quo option, caused by sunk costs, regret avoidance and drive for consistency. Regardless of the true reasons, they concluded that *"individuals display a bias toward sticking with the status quo"* (p. 47). Other researchers have confirmed these findings in numerous experiments (e.g., Fernandez & Rodrik, 1991; Kahneman, Knetsch, & Thaler, 1991).

In the context of option framing, the presentation of the choice task can be seen as equivalent to the status quo manipulation. Deviating from the status quo would warrant a rationale from the decision maker, which in turn requires thought and effort. In additive option framing, for example, consumers start with a base model and are given the choice of adding desired features. This implies that leaving a feature out of the final selection represents the default or status quo. Adding it would require justification, which is why only few are admitted to the option set. In subtractive option framing, on the other hand, the decision begins with a fully loaded model with the possibility of removing undesired features. This suggests that the status quo is to leave an option in the final choice set unless there is a good reason to remove it, and therefore only few are deleted from the choice set (Levin et al., 2001; Yaniv & Schul, 1997).

Taken together, the burden of proof and hence the risk of making a poor choice lies somewhere else depending on the task type. Decision makers are inclined to stay with the default in order to alleviate the negative repercussions from making a bad choice. That is because *"the regret […] is less if it is associated with the status quo position than if it results from a change of the status quo"* when the outcome is poor (Yaniv & Schul, 1997, p. 219). This results in the pronounced discrepancy in the number of options between additive and subtractive option framing conditions.

2.3.4 Attribute Weights

In addition to the previously presented theories, the type of information available in a decision task can play a role in option framing effects as well. Shafir (1993) suggested this after conducting a series of tests with binary and non-binary choice problems. In the binary decision tasks, he provided two types of options for participants to choose from. One of them was characterized by more positive and more negative features, which he referred to as the enriched option. The other one had fewer positive and negative features and was hence rather neutral, which he labeled the impoverished option. The framing manipulation instructed subjects to either indicate the option they would prefer or choose (positive condition), or the option they would reject, cancel or give up (negative condition). In one of the problems, for instance, the context was described as follows (p. 549):

> Imagine you are planning a week vacation in a warm spot over spring break. You currently have two options that are reasonably priced […]. The travel brochure gives only a limited amount of information about the two options.

The impoverished option listed average weather, beaches, hotel, water, and nightlife. The enriched option had *"lots of sunshine, gorgeous beaches and coral reefs, ultra-modern hotel, very cold water, very strong winds, no nightlife"* (p. 549). In the positive framing condition, respondents were asked to state the vacation spot they would prefer given the information available. In the negative framing condition, they were asked which reservation they would cancel since they could only retain one of them. The enriched option was chosen significantly more often than the impoverished option in the preference condition. In the cancelation condition, however, the response rates for the two options were almost identical.

Based on these results, Shafir deduced that depending on the nature of the decision task, the focus of attention changes between the advantages and disadvantages of the available options. According to the researcher, *"options are not simply ordered according to their attractiveness, with the more attractive selected and the less attractive rejected"* (p. 549). He arrived at the same outcome when having students pick which of two mandatory courses to complete first and which to postpone, with one being average and the other extremely interesting yet tough. Shafir concluded that this systematic and predictable behavior demonstrated a deviation from the principle of procedure invariance as part of rational theory of choice. He summarized his findings by asserting that *"advantages are weighted more heavily in choosing than in rejecting, and disadvantages weigh more heavily in rejecting than in choosing"* (p. 554).

The insights from Shafir's research can be used to explain the choose-reject discrepancy found in the option framing literature. In additive framing conditions, the positive attributes of an option become more prominent. In subtractive framing conditions, an option's negative attributes receive more attention by decision makers. The observations made by Huber et al. (1987) in their personnel selection task serve as an example. Their results yielded that significantly more candidates were selected for a job interview in the rejection than in the acceptance condition.

The information that decision makers in this experiment used to create their acceptance and rejection lists were taken from the applicants' resumes and cover letters. By definition, these types of documents are supposed to show individuals from their best side by accentuating their strengths, accomplishments, and motivation for the position at hand. Very rarely do they include meaningful weaknesses or past failures of a candidate. It is assumed that most applicants followed this general principle, and for this reason, most of the information available to subjects taking part in the study was positive. As the attention was shifted towards these positive features under additive option framing, it was reasonable that decision makers selected only those candidates with the most impressive resumes who stood out among all the other positively biased applications, therefore selecting only a few candidates for a job interview (Ordóñez et al., 1999; Sokolova & Krishna, 2016). Under subtractive option framing, on the other hand, there likely was little negative information to go by when screening for applicants to reject, thus leading to only few of them being listed in the rejection condition. The fact that the task type directs one's attention to either positive or negative option attributes and thus highlights different selection criteria provides a possible reason for the systematic differences in the number of options between additive and subtractive option framing conditions (Laran & Wilcox, 2011; Meloy & Russo, 2004; Yaniv & Schul, 2000).

2.3.5 Compatibility Effect

While the literature provides many potential factors that contribute to the choose-reject discrepancy in option framing, the findings regarding perceived task difficulty have not received much attention. Typically, removing and rejecting options has been shown to be more difficult for decision makers than adding and accepting options. This is reflected not only in self-provided ratings by study participants but also by the amount of time it took them to make their

decisions and their tendency to choose one selection strategy over the other when given the opportunity to do so (e.g., Levin et al., 2001; Park et al., 2000; Sokolova & Krishna, 2016). A possible explanation is the compatibility between the choice task and the nature of the options. In other words, when there is a match between the task and the options, the task would be less difficult than when there is a mismatch between the two.

In the experiment conducted by Park et al. (2000), for example, subjects in the subtractive option framing condition reported higher task difficulty and took longer to make their decisions than those in the additive option framing condition. In this scenario, consumers were asked to configure a product by either adding desired options to a base model (positive) or removing undesired options from a fully loaded model (negative). The available features were all framed in a positive manner, inducing decision makers to think that adding or keeping them would benefit the utility or value of the product. In line with the compatibility assumption, the positively framed task of adding desirable options was easier and took less time than the negative framed task of removing options.

Although Levin et al. (2001) did not measure task difficulty in their study, they allowed participants in their hiring and firing tasks to select their selection strategy. When they were instructed to screen people to be hired (positive), it was much more likely for them to choose an additive (positive) than a subtractive (negative) strategy. When they screened people to be fired (negative), more of them went for the subtractive (negative) than the additive (positive) strategy. Assuming that respondents opted for the strategy that made the task easier to complete, the compatibility theory holds, since the majority selected the strategy that matched the nature of the task.

In a different approach, Meloy and Russo (2004) created compatible and incompatible cases to investigate differences in decision confidence. In the compatible conditions, they had subjects select the better of two positive options or reject the worse of two negative options. In the incompatible conditions, they had them select the better of two bad alternatives or reject the worse of two good alternatives. The results revealed *"greater accentuation of attribute differences, higher certainty in the final choice, and more information distortion"* (p. 114) in the compatible than the incompatible cases. Based on these observations, the researchers concluded that *"the choice process seems to flow more smoothly in the compatible conditions"* (p. 114). Meloy and Russo referred to this as a compatibility effect between the selection strategy and the available options. This effect could be extended to perceived task difficulty, assuming that the higher choice certainty or decision confidence stems from lower task difficulty.

3. Development of Hypotheses

3.1 Product Category

In the existing option framing literature, the majority of experiments have been conducted using mutually exclusive choices rather than multiple option choices. The latter has only been researched more recently, typically involving product configuration tasks in order to determine the existence of a choose-reject discrepancy. The findings across these studies have been consistent, revealing that removing options leads to more options being selected than adding options.

While these observations were made across different product categories of automobiles, treadmills, computers, and condominiums, they all share common characteristics. They are durable, non-consumable, and high-priced products, which has several implications. Generally, the total product price is quite high, while the options only make up a small fraction of it. The monetary losses from adding or keeping product features are not severe, however, the utility losses from removing or not adding them are, since the products are being used for a long time and can therefore negatively affect long-term performance and user experience. In addition, all of the available options or features of these products are conceived as advantageous to the overall product, providing additional benefits when being included without presenting any disadvantages.

This poses the question whether the observed option framing effects are robust across other types of products or whether they must be at least to some extent attributed to the shared characteristics of the heretofore used product categories. In order to examine this, the study at hand uses a non-durable, consumable, and low-priced product category with characteristics oppositive to the ones mentioned above. As the products must be configurable to fit the purpose of the experiment, the product category of food has been chosen, represented by salads and waffles. Both of these food types can, but do not have to, contain multiple ingredients, making them a realistic choice for a configuration task.

Using salads and waffles also makes it possible to manipulate the nature of the attributes. Research has shown that people's behaviors and decisions differ when they involve healthy versus unhealthy foods. For instance, Talukdar and Lindsey (2013) discovered that there is a greater demand sensitivity for a price increase than for a price decrease when it comes to healthy food, whereas the opposite is true for unhealthy food. Cao, Wang, and Wang (2020) found that inducing a state of awe influences people's food preferences. They are more likely to opt for

healthy than unhealthy food when they are in awe compared to when their mood is neutral. Most notably, Sproesser, Kohlbrenner, Schupp, and Renner (2015) observed that people typically choose a healthy over an unhealthy meal for themselves. Therefore, it is supposed that people try to eat healthy food when they are able to.

Based on this assumption, the expectation of this study is that the responses concerning salads and waffles will differ. Salads are generally considered to be healthy due to their good ingredients (Mollen, Rimal, Ruiter, & Kok, 2013), while waffles are generally considered to be unhealthy due to their bad ingredients (Grishin, Li, Olson, & Singh, 2017). Using this healthy versus unhealthy differentiation as a basis for a "good versus bad" or "positive versus negative" manipulation, this experiment allows for further investigation of the literature findings regarding option framing. More specifically, it enables testing of the compatibility theory concerning task difficulty as well as the loss aversion component of Prospect Theory and the consideration of attribute weights concerning the choose-reject discrepancy in the number of options.

3.2 Perceived Task Difficulty

According to past research, subtractive option framing makes a task seem more difficult than additive option framing. In Park et al.'s (2000) product configuration task, the product options were considered to be beneficial to the final product and thus can be considered positive. Adding features to the base model, which is a positively connoted task, therefore constitutes a compatible match to the available options in this context while removing them from the fully loaded model represents an incompatible mismatch. In this scenario, the compatibility effect that is extended from decision confidence holds, however, it is unclear whether it is what drives the differences in perceived task difficulty.

To examine the compatibility theory, this experiment adds a new dimension by introducing attributes that are perceived to be negative. The ingredients of a waffle are generally considered unhealthy and hence bad, given the finding by Sproesser et al. (2017) that individuals usually choose healthy options over unhealthy options when creating their meals. As a result, the compatible and incompatible task types for the waffle are reversed. Now, removing options matches the option attributes, while adding options mismatches them. Taken together, there are two food types, healthy and unhealthy, and two task types, additive and subtractive option framing. The compatibility effect predicts the following:

H1: A mismatch between food type and task type makes the choice task more difficult.

Depending on the food type, different expectations are held concerning the task difficulty of adding and removing options:

H1a: In the healthy condition, the choice task is perceived as less difficult in the additive than in the subtractive option framing condition.

H1b: In the unhealthy condition, the choice task is perceived as less difficult in the subtractive than in the additive option framing condition.

3.3 Number of Options

Based on existing research, it is proposed that the robust choose-reject discrepancy concerning the number of options will be replicated in this study despite the use of a different product category:

H2: More options are selected in the subtractive than in the additive option framing condition – the choose-reject discrepancy.

It is hypothesized that the aversion towards the loss of ingredients and the relative weight differences drive this effect. As it is hard to give up something good, the loss aversion should be comparably strong in the healthy decision, leading to few options being removed from the fully loaded model. In the unhealthy decision, this loss aversion should be less strong, as it is easier to give up something bad. This should result in more options being removed. Similarly, the respective focus of attention on positive or negative attributes of options when the task is to add or remove ingredients may play a role. When asked to remove ingredients from the fully loaded waffle, subjects should focus on the negative aspects of the ingredients. As they are unhealthy, more ingredients should be removed compared to when they are healthy. As a consequence, the choose-reject discrepancy in the waffle frame should be less pronounced than in the salad frame.

H3: The choose-reject discrepancy is stronger in the healthy than in the unhealthy condition – i.e., the difference in the number of options between task types is larger.

4. Empirical Study on Option Framing Effects in Making Food Choices

4.1 Design, Subjects and Procedure

The hypotheses were tested in an online survey using a 2 (healthy versus unhealthy) x 2 (additive option framing versus subtractive option framing) between-subjects design. The study was implemented using the online survey provider *SoSci Survey* and available on *www.soscisurvey.de*. The link to it was shared during a marketing lecture at the University of Mannheim as well as on various social networks. Participation in the study was voluntary, uncompensated, and accessible using computers or mobile devices with an active internet connection. Before starting, subjects were informed about the approximate length of the questionnaire, the anonymity of their responses as well as the use thereof solely for academic purposes. The topic of the study was not disclosed (see Appendix, Part 1).

After completing a simple attention check (see Appendix, Part 2), respondents were randomly assigned to one of four conditions: Healthy-Additive (HA), Healthy-Subtractive (HS), Unhealthy-Additive (UA), and Unhealthy-Subtractive (US). In this step, the setting of the study was manipulated by presenting the participants with one of four respective purchase scenarios and asking them to make a selection (see Appendix, Parts 3a-3d). The scenario descriptions included imagining going to one of two different food shops and deciding which of the 10 listed ingredients to include in or exclude from the order. After completing the selection of ingredients, subjects were shortly reminded of the task and their choices, and asked to answer two questions on the next page (see Appendix, Parts 4a-4d). The first question related to the perceived difficulty of completing the previous task, and the second question served as a manipulation check regarding the healthy versus unhealthy treatments. Next, respondents were asked to indicate the gender they identify with (female, male, other) and their age (see Appendix, Part 5). Lastly, they were thanked for participating in the study, kindly asked to share the survey link with others, and provided with completion codes for the survey exchange community websites *SurveySwap* (www.surveyswap.io) and *SurveyCircle* (www.surveycircle.com) to redeem their participation points (see Appendix, Part 6).

4.2 Independent Variables

The study used two independent variables to create the four conditions. The first independent variable was the type of food and ingredients to establish a healthy and an unhealthy food

scenario. The second independent variable was the type of choice task that participants were asked to perform, which acted as the option framing manipulation.

4.2.1 Food Type: Healthy versus Unhealthy

To manipulate the type of food, subjects were told to imagine going to either a salad shop or a waffle house. Both of these foods are commonly known, widely popular, and relatively low in price.

For the salad, respondents were able to choose from the following 10 ingredients:

- Cucumber,
- Cherry tomatoes,
- Corn, edamame, or green peas,
- Olives or artichoke hearts,
- Carrot or radish,
- Spinach, arugula, or kale,
- Roasted sweet potato,
- Bell pepper,
- Avocado,
- Broccoli or cauliflower.

For the waffle, these 10 ingredients were provided as options:

- Fruit of choice (canned),
- Chocolate bar of choice,
- Powdered sugar,
- Sprinkles of choice,
- Chocolate sauce of choice,
- Dried fruit flakes of choice,
- Scoop of ice cream,
- Marmalade of choice,
- Crushed Oreo cookies,
- Whipped cream.

While the salad with its fresh, healthy ingredients is believed to be "good" and therefore provides a positive context, the waffle with its sugary, unhealthy ingredients is considered "bad" and hence sets a negative tone. A manipulation check was implemented in the questionnaire to verify this assumption (see Appendix, Parts 4a-4d).

4.2.2 Task Type: Additive versus Subtractive Option Framing

The option framing manipulation ("task type") consisted of two parts. First, participants were provided with one of two versions of the purchase scenario description. Second, the subsequent choice task was phrased in one of two ways.

In the additive option framing condition, subjects were told that their order started with two base ingredients and that they can add any of the 10 ingredients listed below. In the healthy condition, the base salad included lettuce and a dressing of their choice (see Appendix, Part 3a). The base waffle in the unhealthy condition consisted of a folded waffle and a sauce of their choice (see Appendix, Part 3c). Following the scenario description, respondents were asked to select the ingredients that they would like to add to their salad or waffle, respectively.

The subtractive option framing condition began with a fully loaded order. In the healthy condition, the scenario description informed participants that the signature salad contained lettuce, a dressing of their choice, and 10 ingredients selected by the chef (see Appendix, Part 3b). The signature waffle in the unhealthy condition included a folded waffle, a sauce of their choice, and 10 ingredients selected by the chef (see Appendix, Part 3d). In the subsequent choice task, subjects were able to select the respective ingredients that they would like to remove from their salad or waffle.

Similar to the healthy and unhealthy food manipulation, the additive and subtractive option framing manipulation aimed to induce a positive or a negative mindset, respectively. More specifically, adding desired ingredients to a base order establishes a gain frame (positive), whereas removing undesired ingredients from a fully loaded order instigates a loss frame (negative). This manipulation takes after the one used by Park et al. (2000) in their option framing research using cars, computers, and treadmills as product categories.

4.3 Dependent Variables

4.3.1 Perceived Task Difficulty

The perceived task difficulty was measured by having subjects indicate the extent to which they found the ingredient selection easy or difficult. They rated how difficult it was to make their option choice decision on a seven-point scale (1 = very easy, 7 = very difficult). This scale was taken from Park et al. (2000). The respective questions were, *"How difficult did you find adding these ingredients to your salad (waffle)?"*, and *"How difficult did you find removing these ingredients from your salad (waffle)?,"* for the additive and the subtractive option framing conditions, respectively (see Appendix, Parts 4a-4d).

Unlike Park et al. (2000), this study did not measure the amount of time it took respondents to complete the choice task. Their choice task included a lot more options as well as respective prices for each option, leading to longer decision times in general as their participants needed to take more factors into consideration when making their selections. The choice task in the survey at hand is very simple and only takes a few seconds to finish. Thus, no noticeable difference in decision times between conditions was to be expected and therefore it was not measured.

4.3.2 Number of Options

The number of options was measured by counting the options that were still left in the order after adding ingredients to the base order or removing ingredients from the fully loaded order. Within each condition, subjects were able to select any number of ingredients from zero to 10. In the additive option framing condition, respondents were asked to add any desired ingredients to the base order of their salad or waffle, respectively. The amount of ingredients they added was directly measured and represented the number of options. In the subtractive option framing condition, participants removed any undesired ingredients from the fully loaded order of their salad or waffle, respectively. Hence, the amount of ingredients they removed was reversed in order to make it directly comparable to that in the additive option framing condition. The number of removed ingredients was subtracted from the full amount of 10, providing the number of options selected.

In this survey, no purchase prices were given or measured. As the options were ingredients of similar value for both the healthy and the unhealthy condition, the purchase prices for the respective options would have led to results parallel to that of the number of options. Including prices would not have provided useful additional insights and would have been redundant. Hence, for the purpose of keeping the scenario descriptions and choice tasks as simple as possible, purchase prices were not used in this questionnaire.

4.4 Results

The survey was accessed 629 times with 389 recorded data sets of which 371 were completed. 30 of those were removed due to failed attention checks, leaving a total of 341. The data was analyzed using the software *IBM SPSS Statistics*. Table 1 shows the allocation of subjects to the four groups. 220 of the respondents were female, 115 were male, and six indicated that they identified with a non-listed gender. The ages of participants ranged from 16 to 77, with a mean of 27 (SD = 8.34), a median of 25, and a mode of 24. There were no significant differences between conditions regarding gender (p = 0.835198) or age (p = 0.32625).

Table 1
Descriptive Statistics of Gender and Age

	Additive		Subtractive	
Healthy	n_{HA}	86	n_{HS}	89
	$n(Female)_{HA}$	56	$n(Female)_{HS}$	56
	$n(Male)_{HA}$	29	$n(Male)_{HS}$	29
	$n(Other)_{HA}$	1	$n(Other)_{HS}$	4
	$M(Age)_{HA}$	26.49 (8.80)	$M(Age)_{HS}$	26.25 (6.19)
Unhealthy	n_{UA}	83	n_{US}	83
	$n(Female)_{UA}$	54	$n(Female)_{US}$	54
	$n(Male)_{UA}$	29	$n(Male)_{US}$	28
	$n(Other)_{UA}$	0	$n(Other)_{US}$	1
	$M(Age)_{UA}$	28.42 (11.09)	$M(Age)_{US}$	26.94 (6.39)

Note. Standard deviation in parentheses. Subscripts denote the respective conditions: HA = Healthy-Additive; HS = Healthy-Subtractive; UA = Unhealthy-Additive; US = Unhealthy-Subtractive.

4.4.1 Manipulation Check

This study relied on the assumption that the food type manipulation into healthy and unhealthy conditions would lead to "good" or positive versus "bad" or negative associations regarding the selectable ingredients, respectively. A manipulation check was incorporated into the study directly after the completion of the choice task to verify that subjects classified salads as healthy and waffles as unhealthy.

Respondents in the healthy condition were asked, *"How healthy do you find eating a salad?"* (see Appendix, Parts 4a-4b), while those in the unhealthy condition answered the question, *"How healthy do you find eating a waffle?"* (see Appendix, Parts 4c-4d). They provided ratings on a seven-point scale (1 = very unhealthy, 7 = very healthy). Table 2 displays the group statistics of this question. The 175 participants that were allocated to the healthy condition rated salads to be very healthy (M_H = 6.01). The other 166 participants who were part of the unhealthy condition classified waffles to be rather unhealthy (M_U = 2.49).

Table 2
Descriptive Statistics of Manipulation Check

Food Type	N	Mean	Std. Deviation	Std. Error Mean
Healthy	175	6.01	1.199	0.091
Unhealthy	166	2.49	1.301	0.101

As the Levine's test for equal variance yields a significant result (F = 4.491, p = 0.035), equal variances are not assumed for the interpretation of the output of the independent samples t-test that is depicted in Table 3. The test reveals a significant difference in the healthiness ratings between salads and waffles (M = 3.523, $p < 0.001$). Hedges' g is at 2.813, indicating a

strong effect. Salads are indeed considered to be more healthy than waffles. Hence, this lends support to the assumption made for the purpose of the manipulation.

Table 3

Results of T-Test for Equality of Means on Manipulation Check

	t	df	Sig.[a]	Mean Difference	Std. Error Difference	CI[c]	
						L	U
Manipula-tion Check	25.966	332.941	<0.001	3.523[b]	0.136	3.257	3.790

Note. Equal variances are not assumed (Levene's Test: $F = 4.491$, $p = 0.035$).
a. One-sided and two-sided *p*.
b. Hedges' $g = 2.813$.
c. 95% Confidence Interval of the Difference with Lower (L) and Upper (U) Bound.

4.4.2 Perceived Task Difficulty

To analyze the effect of food type and task type on perceived task difficulty, a two-factorial analysis of variance (ANOVA) was performed. The cell sample sizes, means, and standard deviations are reported in Table 4. Based on these descriptive statistics, the means differences are in the predicted direction of Hypothesis 1.

Table 4

Descriptive Statistics of Perceived Task Difficulty

	Additive		Subtractive		Total	
Healthy	n_{HA}	86	n_{HS}	89	n_{H}	175
	M_{HA}	1.59	M_{HS}	2.82	M_{H}	2.22
	SD_{HA}	0.726	SD_{HS}	1.45	SD_{H}	1.304
Unhealthy	n_{UA}	83	n_{US}	83	n_{U}	166
	M_{UA}	3.10	M_{US}	2.42	M_{U}	2.76
	SD_{UA}	1.133	SD_{US}	1.117	SD_{U}	1.171
Total	n_{A}	169	n_{S}	172	N	341

M_A	2.33	M_S	2.63	M	2.48
SD_A	1.209	SD_S	1.312	SD	1.269

Note. Subscripts denote the respective conditions: H = Healthy; U = Unhealthy; A = Additive; S = Subtractive.

Table 5 portrays the results of the ANOVA. They show a significant main effect of food type on perceived task difficulty (F = 20.029; p < 0.001). Subjects in the healthy condition found the choice task to be less difficult (M_H = 2.22) than those in the unhealthy condition (M_U = 2.76). The ANOVA also demonstrates a significant main effect of task type on perceived task difficulty (F = 5.009; p = 0.026). In the additive option framing condition, respondents rated task difficulty to be lower (M_A = 2.33) than those in the subtractive option framing condition (M_S =2.63).

Table 5

Between-Subjects Effects of ANOVA on Perceived Task Difficulty

	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	109.777[a]	3	36.592	28196	<0.001
Intercept	2100.311	1	2100.311	1618.397	<0.001
Food Type	25.993	1	25.993	20.029	<0.001
Task Type	6.5	1	6.5	5.009	0.026
Food Type * Task Type	77.027	1	77.027	59.354	<0.001
Error	437.349	337	1.298		
Total	2646	341			
Corrected Total	547.126	340			

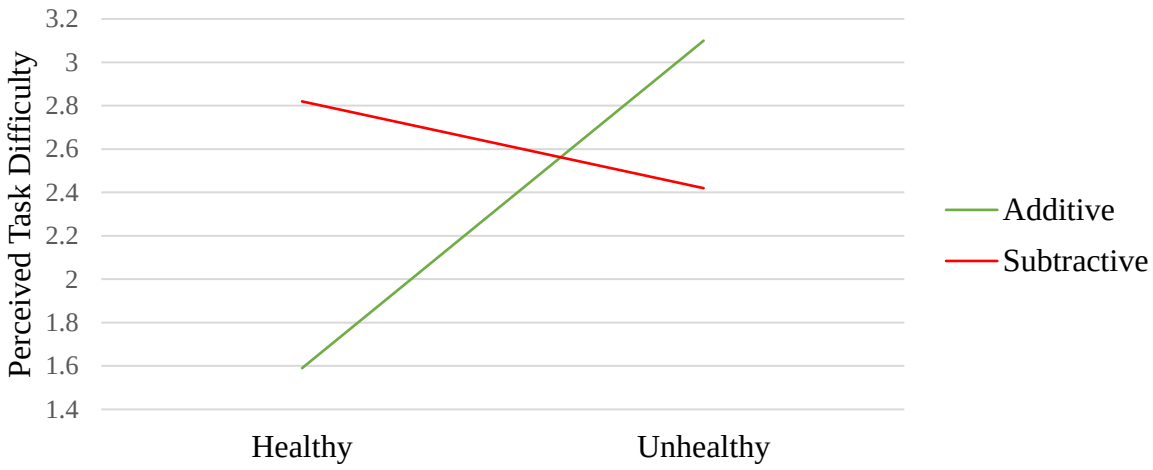
a. R^2 = 0.201 (Adjusted R^2 = 0.194)

In addition to the two main effects, the findings yield a significant two-way interaction of food type by task type on perceived task difficulty (F = 59.354; p < 0.001). This is illustrated in Figure 2, featuring a disordinal crossover effect. More specifically, participants found it more difficult to remove ingredients from the fully loaded salad (M_{HS} = 2.82) than to add ingredients to the base salad (M_{HA} = 1.59) in the healthy condition. This is consistent with Hypothesis 1a.

The effect was reversed in the unhealthy condition. Here, task difficulty was rated higher when ingredients were to be added to the base waffle (M_{UA} = 3.10) than when they were to be removed from the fully loaded waffle (M_{US} = 2.42). This is in line with Hypothesis 1b.

Figure 2

Plot of Interaction of Food Type by Task Type on Perceived Task Difficulty



Follow-up analyses were conducted to assess the significance of these results. Table 6 displays the outcome of the t-tests that were performed within the two food types between task types. The mean difference between additive and subtractive option framing was significant in the healthy condition with a strong effect (M = -1.227; t = -7.114; p < 0.001; g = -1.060), and significant in the unhealthy condition with an intermediate effect (M = 0.675; t = 3.864; p < 0.001; g = 0.597).

Table 6

Results of T-Tests Between Task Types on Perceived Task Difficulty

	t	df	Sig.[a]	Mean Difference	Std. Error Difference	CI[d] L	CI[d] U
Healthy	-7.114	130.433	<0.001	-1.227[b]	0.173	-1.568	-0.886
Unhealthy	3.864	164	<0.001	0.675[c]	0.175	0.330	1.019

Note. For the healthy condition, equal variances are not assumed (Levene's Test: $F_H = 18.833$, $p_H < 0.001$). For the unhealthy condition, equal variances are assumed (Levene's Test: $F_U = 0.037$, $p_U = 0.849$).
a. One-sided and two-sided *p*.
b. Hedges' $g_H = -1.060$.
c. Hedges' $g_U = 0.597$.
d. 95% Confidence Interval of the Difference with Lower (L) and Upper (U) Bound.

Overall, these results are consistent with expectations. As hypothesized, adding ingredients to the salad was significantly easier than removing ingredients from it in the healthy condition. The opposite was true in the unhealthy condition, where adding ingredients to the waffle was significantly more difficult than removing ingredients from it. The predicted disordinal crossover effect can be seen in the plot of interaction in Figure 2. Taken together, this supports both Hypotheses 1a and 1b.

4.4.3 Number of Options

A two-factorial ANOVA was performed to analyze the effect of food type and task type on the number of options. Table 7 depicts the cell sample sizes, means, and standard deviations. Based on these descriptive statistics, the means differences are in the predicted directions of Hypotheses 2 and 3.

Table 7
Descriptive Statistics of Number of Options

	Additive		Subtractive		Total	
Healthy	n_{HA}	86	n_{HS}	89	n_H	175
	M_{HA}	5.80	M_{HS}	8.01	M_H	6.93
	SD_{HA}	1.478	SD_{HS}	1.173	SD_H	1.729
Unhealthy	n_{UA}	83	n_{US}	83	n_U	166
	M_{UA}	2.84	M_{US}	4.42	M_U	3.63
	SD_{UA}	1.006	SD_{US}	1.415	SD_U	1.458
Total	n_A	169	n_S	172	N	341
	M_A	4.35	M_S	6.28	M	5.32

SD_A	1.949	SD_S	2.215	SD	2.297

Note. Subscripts denote the respective conditions.

The output of the ANOVA is reported in Table 8. It reveals a significant main effect of food type on the number of options ($F = 555.654$; $p < 0.001$). Subjects in the healthy condition selected more options ($M_H = 6.93$) than those in the unhealthy condition ($M_U = 3.63$). The ANOVA also demonstrates a significant main effect of task type on the number of options ($F = 185.85$; $p < 0.001$). In the additive option framing condition, respondents selected fewer ingredients ($M_A = 4.35$) than those in the subtractive framing condition ($M_S = 6.28$). This corresponds to the expectation of Hypothesis 2 regarding the widely researched choose-reject discrepancy.

Table 8

Between-Subjects Effects of ANOVA on Number of Options

	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1240.683[a]	3	413.561	251.646	<0.001
Intercept	9461.37	1	9461.37	5757.117	<0.001
Food Type	913.174	1	913.174	555.654	<0.001
Task Type	305.43	1	305.43	185.85	<0.001
Food Type * Task Type	8.468	1	8.468	5.153	0.024
Error	553.833	337	1.643		
Total	11455	341			
Corrected Total	1794.516	340			

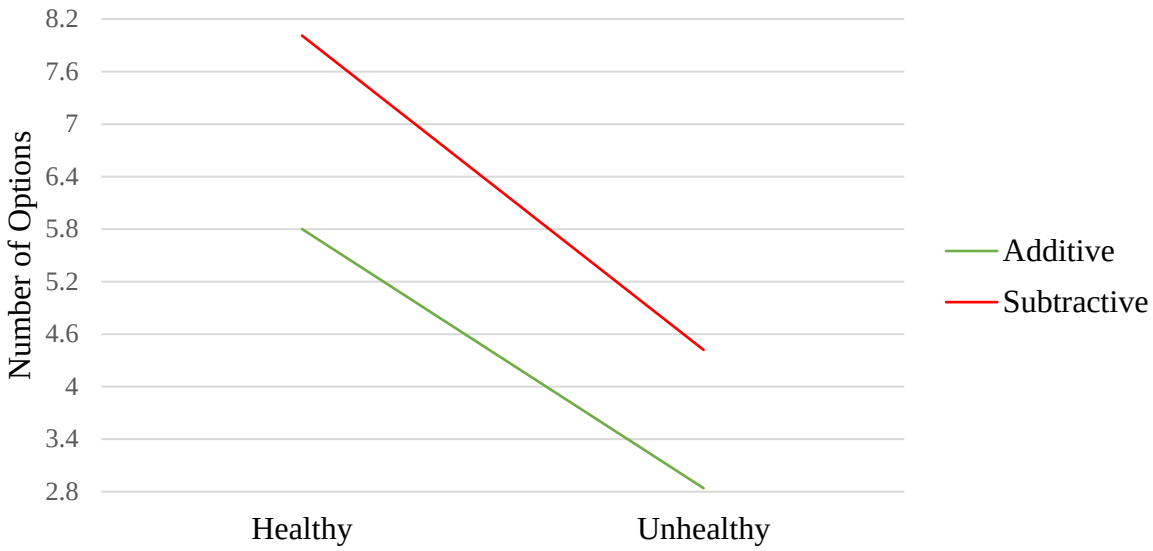
a. $R^2 = 0.691$ (Adjusted $R^2 = 0.689$)

In addition to the two main effects, the results yield a significant two-way interaction of food type by task type on the number of options ($F = 5.153$; $p = 0.024$). Figure 3 plots this ordinal interaction. Participants ended up with more ingredients when they removed them from the fully loaded salad ($M_{HS} = 8.01$) than when they added them to the base salad ($M_{HA} = 5.80$) in the healthy condition. This is consistent with Hypothesis 2. The effect was similar in the

unhealthy condition. More ingredients were selected when they were removed from the fully loaded waffle (M_{UA} = 4.42) than when they were added to the base waffle (M_{US} = 2.84). This, too, is in line with Hypothesis 2.

Figure 3

Plot of Interaction of Food Type by Task Type on Number of Options



To validate the significance of these findings, follow-up analyses were conducted. Table 9 displays the outcome of the t-tests that were performed within the two food types between task types. The mean difference between additive and subtractive option framing was significant in the healthy (M = -2.209; t = -10.93; p < 0.001; g = -1.660) and in the unhealthy condition (M = -1.578; t = -8.28; p < 0.001; g = -1.286), both with strong effects.

Table 9

Results of T-Tests Between Task Types on Number of Options

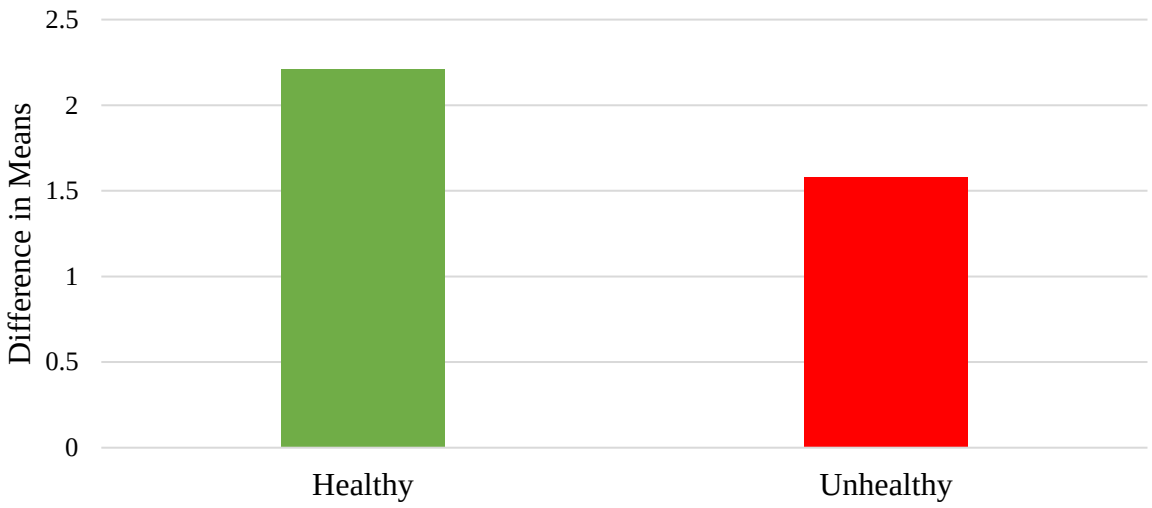
	t	df	Sig.[a]	Mean Difference	Std. Error Difference	CI[d] L	CI[d] U
Healthy	-10.93	161.970	<0.001	-2.209[b]	0.202	-2.609	-1.811

Unhealthy	-8.28	149.611	<0.001	-1.578[c]	0.191	-1.955	-1.202

Note. Equal variances are not assumed for either food type (Levene's Test: $F_H = 4.324$, $p_H = 0.039$; $F_U = 9.443$, $p_U = 0.002$).
a. One-sided and two-sided *p*.
b. Hedges' $g_H = -1.660$.
c. Hedges' $g_U = -1.286$.
d. 95% Confidence Interval of the Difference with Lower (L) and Upper (U) Bound.

Figure 4 illustrates the absolute differences in the means of the number of options across task types. The difference between additive and subtractive option framing is larger in the healthy ($M_H = 2.21$) than in the unhealthy condition ($M_{HU} = 1.58$). This is also reflected in the absolute Hedges' *g*'s, which are 1.660 and 1.286 for the healthy and unhealthy condition, respectively. A higher value indicates a stronger effect. In other words, the task type has a larger impact on the amount of selected ingredients when subjects put together a waffle than when they assemble a salad. This pattern of results is consistent with Hypothesis 3.

Figure 4
Difference in Means of Number of Options Between Task Types



In sum, these results are in line with predictions. As hypothesized, removing ingredients from a fully loaded order led to significantly more options being selected than adding them to a base order. This was true for both food types. The proposed ordinal interaction is plotted in Figure 3. While the graphs point in the same direction, their slopes are different. This is more

obvious in Figure 4, which highlights the differences in the means in the number of options between task types for the two food types. As expected, the difference is larger and the effect size is stronger for salads than for waffles. Taken together, the findings provide support for Hypotheses 2 and 3.

5. Discussion

Several findings were observed in this empirical study. First, subjects engaged in the healthy salad condition perceived the choice task to be more difficult when they were asked to remove ingredients from the fully loaded order than when they were asked to add ingredients to the base order. This effect was reversed in the unhealthy waffle condition, as consumers found the choice task more difficult when they added ingredients than when they removed ingredients. This interaction effect was hypothesized based on the compatibility effect in decision confidence that was extended to task difficulty.

Second, participants in the subtractive option framing condition selected more options than did those in the additive option framing condition. This was the case for both food types. This result was expected given the extensive literature on the choose-reject discrepancy for both mutually exclusive and multiple option decisions (e.g., Huber et al., 1987; Krishnamurthy & Nagpal, 2008; Park et al., 2000). The finding supports the assertion that option framing effects are a robust phenomenon.

Third, the effect size of the choose-reject discrepancy differed between the two food types. It was stronger for the healthy salad condition than for the unhealthy waffle condition. In other words, the difference between the add and remove conditions regarding the number of selected options was larger for salads than for waffles. This observation is in line with predictions.

Taken together, the present study shows that the positive or negative nature of a choice task's options interacts with thus far known option framing effects. Previous research suggested that framing an option choice task as adding options versus removing options influences the size of the consideration and final set as well as the level of difficulty that decision makers perceive when completing the task. The results at hand add to this by introducing a new dimension, and hence provides valuable insights to theory and management about the mechanisms that underlie these phenomena.

5.1 Theoretical Contributions

The literature provides many possible explanations for the two option framing effects regarding perceived task difficulty and number of options that were investigated in this study. Among those are reference point, risk behavior, and loss aversion, endowment effect, status

quo bias and effort, attribute weights, and compatibility effect. The present findings shed light on which of these might be more plausible.

When it comes to perceived task difficulty, two potential reasonings have been suggested: loss aversion and compatibility effect. The former stems from the observation that loss aversion towards product utility is stronger than the one towards money (Hardie et al., 1993; Simonson et al., 2004), deducing that consumers may experience more conflict when making a decision that involves utility losses compared to monetary losses, which is the case in subtractive option framing. The latter extends from the finding that decision makers are more confident in their choice when the nature of the available options and the task match (Meloy & Russo, 2004), and from the finding that individuals typically choose the selection strategy that matches the nature of the task (Levin et al., 2001). While both theories are plausible, the outcomes of the present experiment are in favor of the compatibility effect. That is because the choice task is easier when it is formulated in a negative than in a positive way when the options are of a negative nature, reversed to the effect when the options are of a positive nature. By discovering the impact of the positivity or negativity of options on perceived task difficulty, this thesis adds to existing option framing literature.

In addition, the current findings endorse the robustness of the choose-reject discrepancy in the number of selected options. The product category that was used in this study directly contrasted the ones from previous studies in that it was non-durable, consumable, and low-priced as opposed to durable, non-consumable, and high-priced. Despite these differences, the subtractive and additive conditions in both food types differed significantly in the number of options.

A final contribution of this thesis is that it highlights loss aversion and attribute weight as the drivers of the choose-reject discrepancy. While the endowment effect and the status quo bias provide sufficient explanations for the effect when options are of a positive nature, they fail to do so when options are negative. Loss aversion is able to bridge this gap. When the choice task involves options that are of a negative nature, loss aversion is not as strong as when options are positive. This leads to more options being removed, thus decreasing the number of selected options. Moreover, a subtractive frame shifts the decision maker's attention to the negative attributes of the unhealthy options. This makes removing the options easier, resulting in fewer total options.

5.2 Managerial Implications

From a managerial perspective, the present study, together with previous research, illustrates how product configuration decisions can be manipulated by framing them in different ways. Depending on the goals and intentions of the brand, managers have two options. They can either follow the strategy that maximizes their sales and thus profit, or they can follow the strategy that aims at making the decision process as easy as possible for their customers.

If the objective is to maximize profits, the choose-reject discrepancy indicates that subtractive option framing should be used. Presenting the fully loaded model of a product and giving consumers the possibility to remove any undesired features induces them to keep more options in the final order compared to presenting the base model. This strategy works for products that are durable and non-durable, consumable and non-consumable, low- and high-priced. While the positive or negative nature of the options' attributes may impact the strength of this advantage, it does not threaten its existence.

If managers aim to minimize the difficulty of the task for their customers, the recommended strategy depends on the nature of the options. When the options are considered positive or beneficial, an additive frame makes the task easier than a subtractive frame. When they are considered negative or unfavorable, letting customers remove any unwanted options from a fully loaded model of the good alleviates the perceived task difficulty compared to letting them add options to a base model.

Regardless of their objectives, managers should be aware of the consequences of their sales strategies. While from a normative perspective it should not make a difference whether an order starts with a fully loaded or a base model, the outcomes of such product configuration tasks change when they are framed in an additive or a subtractive manner. Consumers may not notice that their decision process is being manipulated. However, if they do detect this, they may feel betrayed and terminate their purchase.

5.3 Limitations of the Study

The present study is a simplified hypothetical purchase scenario that allows for manipulation of independent variables to analyze potential effects on dependent variables. While making it easier to gather and evaluate data points, such a simplification limits the interpretation and generalization of the obtained results in a few ways.

First, the product configuration task in the experiment is not a real-life decision with financial consequences for participants. They do not place an actual order or spend their own money. Given that they are aware that it is a hypothetical situation, they may not behave in the same way they would in a real purchase situation. Therefore, the results may not be generalizable.

Another possible limitation of this research is that it uses a between-subjects design. Even though subjects were randomly assigned to one of the four conditions and analyses of age and gender revealed no group differences, there may still be individual differences between their responses caused by unidentified factors.

Finally, one should note that perceived task difficulty was measured by asking respondents to self-report it on a provided scale immediately after they completed the choice task. There may be more indirect ways of assessing the difficulty of the task to avoid receiving responses that are based on "gut feeling."

5.4 Directions for Future Research

Going forward, there is a variety of opportunities for research to focus on. For example, instead of conducting a laboratory or online experiment, a field study may be able to provide undistorted observations. When the choice task involves a real product that costs real money, responses would not be skewed. Another possibility is to investigate option framing effects for different product categories, such as utilitarian versus hedonic goods or luxury versus necessity goods. So far, most research has been conducted in Western countries. It may also be interesting to examine potential cultural differences, for instance between a Western and an Eastern country.

In other types of framing such as goal framing, there were factors that affected framing effects. As an example, Meyers-Levy and Maheswaran (2004) discovered that the level of personal relevance influenced the persuasiveness of positively versus negatively framed messages. It is conceivable that personal relevance or similar factors such as involvement or elaboration also interact with option framing effects. This potential interaction deserves attention in future research.

Moreover, the aspect of task difficulty can be looked at more closely. While it has been observed that additive and subtractive option framing impact how difficult a choice task is perceived, it is unclear if this has any consequences for subsequent situations. It is possible that a

difficult product configuration task depletes cognitive resources and therefore limits self-control later on. This could, for instance, impact impulse buying behavior.

6. Conclusion

Option framing effects are a robust phenomenon in decisions of many situations. Not only does the manner in which a choice task is formulated affect the number of options that are selected, but also the level of difficulty that decision makers feel while performing the task. Based on findings in the literature, a number of explanations are proposed to account for these effects. Through empirical research, this thesis brings clarity to the more plausible reasonings.

In an online survey with a hypothetical purchase scenario, subjects were given either a fully loaded or a base order of a salad or waffle, and were asked to remove or add any ingredients, respectively. When the task involved a healthy salad, its difficulty was rated higher when ingredients were to be removed than added. The opposite effect was observed when the decision was made for an unhealthy waffle, making it easier for participants to remove undesired ingredients. These findings strongly support the compatibility effect theory.

The results also revealed a choose-reject discrepancy for both food types, replicating existing research. However, this effect was significantly stronger in the healthy salad than in the unhealthy waffle condition. It is reasoned that a combination of loss aversion and a shift in attribute weights is the cause of this difference.

Taken together, the present study adds to the literature by providing plausible explanations for the discovered option framing effects. It also offers recommendations to managers who, depending on their brand's objectives, can follow different strategies. There are still a lot of opportunities for future research to investigate option framing effects further, some of which are outlined in the previous section. Although a number of questions still remain, this thesis confirms the existence of decision biases that lead to irrational behavior.

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Appendix

Screenshots of the Online Study on SoSci Survey

Part 1: Introduction

0% completed

Dear participant,

Thank you for taking the time to participate in this survey.

The completion will take approximately **2-3 minutes**. I kindly ask you to read the following description carefully. There will be **no right or wrong** answers. Please answer as freely and honestly as possible.

The protection of your data is important! All responses are recorded anonymously and will be used solely for academic purposes.

I greatly appreciate your support in this research.

Next

Hong Nhung Ta, University of Mannheim – 2022

Part 2: Attention Check

20% completed

What is 10 minus 6?

In the box below, please write “I read the instructions”

Next

Part 3a: Scenario & Choice Task (Healthy-Additive Condition)

40% completed

Imagine going to a **salad shop**.

Your order starts with lettuce and a dressing of your choice.
You can **ADD** as many of the 10 ingredients listed below as you like.

Please select the ingredients that you would like to ADD to your salad.

Cucumber	Spinach, arugula, or kale
Cherry tomatoes	Roasted sweet potato
Corn, edamame, or green peas	Bell pepper
Olives or artichoke hearts	Avocado
Carrot or radish	Broccoli or cauliflower

Part 3b: Scenario & Choice Task (Healthy-Subtractive Condition)

40% completed

Imagine going to a **salad shop**.

Their signature salad contains lettuce, a dressing of your choice, and 10 ingredients selected by the chef.
You can **REMOVE** as many of those 10 ingredients as you like.

Please select the ingredients that you would like to REMOVE from your salad.

Cucumber	Spinach, arugula, or kale
Cherry tomatoes	Roasted sweet potato
Corn, edamame, or green peas	Bell pepper
Olives or artichoke hearts	Avocado
Carrot or radish	Broccoli or cauliflower

Part 3c: Scenario & Choice Task (Unhealthy-Additive Condition)

40% completed

Imagine going to a **waffle house**.

Your order starts with a folded waffle and a sauce of your choice.
You can **ADD** as many of the 10 ingredients listed below as you like.

Please select the ingredients that you would like to ADD to your waffle.

Fruit of choice (canned)	Dried fruit flakes of choice
Chocolate bar of choice	Scoop of ice cream
Powdered sugar	Marmalade of choice
Sprinkles of choice	Crushed Oreo cookies
Chocolate sauce of choice	Whipped cream

Part 3d: Scenario & Choice Task (Unhealthy-Subtractive Condition)

40% completed

Imagine going to a **waffle house**.

Their signature waffle contains a folded waffle, a sauce of your choice, and 10 ingredients selected by the chef.
You can **REMOVE** as many of those 10 ingredients as you like.

Please select the ingredients that you would like to REMOVE from your waffle.

Fruit of choice (canned)	Dried fruit flakes of choice
Chocolate bar of choice	Scoop of ice cream
Powdered sugar	Marmalade of choice
Sprinkles of choice	Crushed Oreo cookies
Chocolate sauce of choice	Whipped cream

Part 4a: Perceived Task Difficulty & Manipulation Check (Healthy-Additive Condition)

47% completed

You added to your salad:

–

How difficult did you find adding these ingredients to your salad?

Very easy ○ ○ ○ ○ ○ ○ ○ Very difficult

How healthy do you find eating a salad?

Very unhealthy ○ ○ ○ ○ ○ ○ ○ Very healthy

Part 4b: Perceived Task Difficulty & Manipulation Check (Healthy-Subtractive Condition)

47% completed

You removed from your salad:

–

How difficult did you find removing these ingredients from your salad?

Very easy ○ ○ ○ ○ ○ ○ ○ Very difficult

How healthy do you find eating a salad?

Very unhealthy ○ ○ ○ ○ ○ ○ ○ Very healthy

Part 4c: Perceived Task Difficulty & Manipulation Check (Unhealthy-Additive Condition)

60% completed

You added to your waffle:

–

How difficult did you find adding these ingredients to your waffle?

Very easy ○ ○ ○ ○ ○ ○ ○ Very difficult

How healthy do you find eating a waffle?

Very unhealthy ○ ○ ○ ○ ○ ○ ○ Very healthy

Part 4d: Perceived Task Difficulty & Manipulation Check (Unhealthy-Subtractive Condition)

47% completed

You removed from your waffle:

–

How difficult did you find removing these ingredients from your waffle?

Very easy ○ ○ ○ ○ ○ ○ ○ Very difficult

How healthy do you find eating a waffle?

Very unhealthy ○ ○ ○ ○ ○ ○ ○ Very healthy

Part 5: Socio-Demographics

80% completed

What is your gender?

- ○ Female
- ○ Male
- ○ Other

How old are you?

I am ____ years old

Part 6: End of Survey

soSci
oFb - der onlineFragebogen

Thank you for your participation!

I highly appreciate your support.

Please feel free to share this survey with others.

www.soscisurvey.de/food_choices

SurveyCircle: 3M6S-68H9-UWWP-5UZQ

SurveySwap: TMEU-SD53-PHFO

Hong Nhung Ta, University of Mannheim – 2022

Affidavit

Hiermit versichere ich, dass diese Abschlussarbeit von mir selbst verfasst ist und dass ich keinerlei fremde Hilfe in Anspruch genommen habe. Ebenso versichere ich, dass diese Arbeit oder Teile daraus weder von mir selbst noch von anderen als Leistungsnachweise andernorts eingereicht wurden. Wörtliche und sinngemäße Übernahmen aus anderen Schriften und Veröffentlichungen in gedruckter oder elektronischer Form sind gekennzeichnet. Sämtliche Sekundärliteratur und sonstige Quellen sind nachgewiesen und in der Bibliographie aufgeführt. Das Gleiche gilt für graphische Darstellungen und Bilder sowie alle Internet-Quellen. Ich bin ferner damit einverstanden, dass meine Arbeit zwecks eines Plagiatsabgleichs in elektronischer Form anonymisiert versendet und gespeichert werden kann. Mir ist bekannt, dass von der Korrektur der Arbeit abgesehen werden kann, wenn die Erklärung nicht erteilt wird.

Mannheim,

_____