How You Categorize Influences How Helpful You Are: The Effect of Categorization Mindset on Consumers’ Social Decisions

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How You Categorize Influences How Helpful You Are: The Effect of Categorization Mindset on Consumers’ Social Decisions

by

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A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Business Administration with a concentration in Marketing
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Keywords: Social Influence, Information Processing, Evaluation Mode, Distinction Bias, Construal Level

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DEDICATION

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ABSTRACT

This dissertation demonstrates how categorization mindsets (introduced by Ulkumen et al., 2010) moderate the altruistic behavior of consumers in decisions that have consequences to others besides oneself. Categorization mindset refers to a way of thinking about options, and is induced by simple sorting or categorization tasks. Ulkumen et al. (2010) has shown that mindsets can be unidimensional (in terms of being focused on a single, salient dimension) or multidimensional (in that both salient and non-salient dimensions are processed). Across three experiments, this dissertation finds that a multidimensional mindset (compared to a unidimensional mindset) enhances the preference for other-oriented options among highly altruistic individuals, but enhances the preference toward self-oriented options among less altruistic individuals. An investigation of the process underlying the results reveals that the interaction between mindset and altruism results from what we describe as the “breadth of processing route.” This route suggests that multi-dimensional mindsets activates a comparative mode since both salient (self-outcome) and non-salient (other-outcome) dimensions are processed simultaneously, while unidimensional mindsets activate a non-comparative mode given that only the salient dimension of self-outcome is processed. The dissertation concludes with a discussion of the substantive and managerial implications along with suggestions for future research.
INTRODUCTION

As every individual is part of a social system (e.g., family, nation, etc), the decisions we make may influence not only ourselves, but also others. In a consumption context, consumers are given a great variety of choices where their purchases not only satisfy their own needs, but may also make a difference in the environment, animal welfare, children, or society as a whole. While such product options tend to be beneficial to society, they usually come with some costs at the consumers’ end where consumers pay a higher price for products that benefit not only themselves, but others as well. For example, consumers pay a higher price for fair-trade products that aim to ensure that farmers in the third world are provided with fair wages. Thus, when exposed to regularly-priced options (e.g., non-fair trade products) and other-oriented options (e.g., fair trade products), consumers must decide between choosing the option that maximizes their self-interests (e.g., pay a lower price for non-fairtrade coffee) and the option that benefits others at some expense to their self-interests (e.g., paying more for fair trade coffee).

Prior research suggests that individual’s preferences toward self-oriented options that maximize their self-interests or other-oriented options that benefit others at some expense to their self-interests may differ based on their underlying social motives, which refers to preferences for certain patterns of outcomes for one’s self and others (Van Lange, 1999). Social motives may be rooted in individual characteristics (Van Lange and Kuhlman, 1994; Messick and McClintock, 1968) or determined from relational factors, such as relationship valence (Loewenstein et al., 1989) or one’s social identity (in-group vs. out-group members, Tajfel and Tuner, 1979). For example, one tends to be more willing to help friends and family members, but
less so when it comes to strangers or enemies. While past research has focused on relational factors that determine social motives, this paper identifies a non-relational factor of *mindset* that may impact one’s social motives and, subsequently, one’s *social decisions*. This is the decision to choose between an option that maximizes self-interest (i.e., self-oriented option) and an option that benefits others at the expense of some self-interest (i.e., other-oriented option). Mindsets refer to ways of thinking, judgment criteria (Xu and Wyer, 2007), or goals (Keinan and Kivetz, 2011) that are induced by a task and subsequently carry over to a different and unrelated contexts or tasks.

In my dissertation, I focus on how simple and seemingly unrelated tasks can activate different categorization mindsets (Ulkumen, Chakravarti, and Morwitz, 2010) that lead to substantial differences in consumers’ social decisions. Ulkumen, Chakravarti, and Morwitz (2010) find that an initial task that uses broad categories creates a *unidimensional mindset* (UM), while an initial task that uses narrow categories creates a *multidimensional mindset* (MM). For example, cheese can be categorized broadly based on one single dimension of “firmness” (e.g., soft cheese vs. firm cheese), but it could also be categorized along multiple dimensions such as firmness and source of cheese (e.g., soft cow cheese, soft goat cheese, firm cow cheese, or firm goat cheese). Once categorization mindset is created, those with a unidimensional mindset (UM) tend to process only the salient dimension (e.g., the innovation aspect of a new product) when making subsequent decisions, whereas those with a multidimensional mindset (MM) tend to process both salient and non-salient dimensions (e.g., both innovation and risk aspects of a new product). It is important to note that while there are multiple dimensions that could be relevant and important to one’s decision, consumers do not necessarily process all of the relevant dimensions, but tend to rely on the dimensions that are made accessible (Herr, Kardes, and Kim,
1991). For example, in Ulkumen et al. (2010), the researchers made two dimensions of risk and innovation accessible to the participants though many other dimensions could be equally important to one’s purchasing decision for new products.

This dissertation examines the role of categorization mindset in consumers’ social decisions, while making two dimensions, self-outcome and other-outcome, accessible to the participants as the focus of this study is to examine how individuals make decisions in a context where self-outcome and other-outcome vary among the available options (i.e., self-oriented options vs. other-oriented options). Two competing mediation routes are proposed to explain the effects of categorization mindset on one’s social decisions. One route, referred to as the “breadth of processing route,” proposes that categorization mindset may alter one’s evaluation mode via different styles of information processing. Individuals with MM (multidimensional mindset) tend to process both salient (self-outcome) and non-salient (other-outcome) dimensions simultaneously thereby activating a comparative evaluation mode. That is, they tend to compare self-outcomes against other-outcomes when evaluating the options presented. In contrast, those with a UM (unidimensional mindset) tend to process only the salient dimension by itself thereby activating a non-comparative evaluation mode. Comparative evaluation modes relative to non-comparative evaluation modes make the perception of the presented options more distinct, as suggested by the distinction bias (Hsee and Zhang, 2004), leading to more extreme responses. However, a distinction bias triggered by a MM may differ when one’s individual characteristics vary. Specifically, less altruistic individuals would perceive the other-oriented option as generating much greater personal costs when compared with the self-oriented option while highly altruistic individuals would perceive the other-oriented option as generating many more benefits to others as compared to the self-oriented option. In other words, less altruistic
individuals focus on *how much they need to sacrifice in order to help others*, while highly altruistic individuals focus on *how much difference they can make to others by giving more*. Therefore, MM would create an enhancing effect where highly altruistic individuals would respond more positively to other-oriented options, while less altruistic individuals would respond more negatively to other-oriented options when they are in a MM relative to a UM. A MM has an enhancing impact on one’s self-orientation or altruistic nature as it activates a comparative evaluation mode. Thus less altruistic individuals become more sensitive to self-outcomes and highly altruistic individuals become more sensitive to other-outcomes. In short, the breadth of processing route suggests that categorization mindset influences one’s social decisions by creating different levels of sensitivity to self-outcomes and other-outcomes and further generates different preferences toward self-oriented options and other-oriented options.

The second route, referred to as the “*construal level route*,” proposes that categorization mindset alters one’s construal level where MM triggers a concrete construal, while UM triggers an abstract construal. Prior research indicates that when an abstract construal is induced, one becomes more cooperative and other-oriented. This is because when one adopts an abstract construal, they become more aware of the similarities between themselves and others. This connection may foster cooperation (Dovidio, 1984; Winterich, Mittal, and Ross Jr. 2009; Simpson, 2006). Thus, the construal level route suggests that a UM may trigger an abstract construal thereby increasing one’s perceived similarity between self and others and further generating a greater preference for other-oriented options. In contrast, a MM may trigger a concrete construal thereby decreasing one’s perceived similarity between self and others and further generating a lesser preference for other-oriented options.
The results of this dissertation show support for the breadth of processing route, indicating that categorization mindset alters one’s social decisions via the activation of different evaluation modes (non-comparative vs. comparative) and via the enhancing impact of MM on one’s altruism orientation. However, the results did not provide evidence for the construal level route, demonstrating that the impact of categorization mindset on one’s social decisions does not result from one’s perception of the similarity between themselves and others. The support of the breadth of processing route indicates that one’s social decisions can be determined by non-relational factors without changing how one views their relationship with others.

This dissertation attempts to extend the research stream on social decisions by examining a non-relational factor of categorization mindset (UM vs. MM) on social decisions, demonstrating that simple and seemingly unrelated tasks may potentially lead to significant differences in one’s social decisions. More importantly, this dissertation controls for a neutral relationship between the participants and the target subject across all experiments to ensure that there are no relational effects. Further, this paper adds to the literature by examining how one’s individual characteristics, such as altruism or socially responsible consumer behavior (SRCB), may interact with the non-relational factor of categorization mindset. This provides additional insights as to how the situational factor of categorization mindset may create different effects for consumers with different characteristics. Additionally, this dissertation contributes to the decision-making literature by confirming that the activation of different evaluation modes does not necessarily depend upon how products are physically presented, but may also be activated by altering consumers’ information processing styles (MM vs. UM). In addition, this study adds insight to the prediction of distinction bias. While Hsee and Zhang (2004) suggest that distinction bias tends to take place when one is in a comparative evaluation mode, this
dissertation suggests that distinction bias may lead to different outcomes when one’s motive varies. In other words, while individuals in a comparative mode tend to perceive the differences to be greater among the presented options, altruistic individuals may be more sensitive to the differences that relate to other-outcomes, while self-orientated individuals may be more sensitive to the differences that relate to self-outcomes. Finally, this paper confirms that when MM is activated, one’s altruism orientation creates a greater impact on one’s social decisions. Thus, while prior research has found that one’s motive may bias information processing (De Dreu, Nijstad, and Knippenberg, 2008) given that individuals tend to search and encode information in a way that is consistent with their initial beliefs about others (De Dreu and Boles, 1998, De Dreu, Nijstad, and Knippenberg, 2008), this dissertation shows a reverse relationship where different information processing styles (UM vs. MM) may influence the extent to which motive (high vs. low altruism) impacts one’s social decisions. MM relative to UM triggers a greater impact of motive (e.g., altruism) on one’s social decisions.

In the following sections, I provide a review of the relevant literature and develop related hypotheses. Then, one pretest and three experiments are presented to examine these hypotheses. Finally, I conclude with a discussion of the results, substantive and practical implications of the findings, and directions for future research.
THEORETICAL BACKGROUND

Social Motives

Social motive refers to the preferences for a particular pattern of outcomes for one’s self and others (Van Lange, 1999). For example, one may attach different weights (e.g., positive, zero, or negative) to others’ outcomes relative to one’s own outcome depending upon their social motives (De Dreu and Boles, 1998, Liebrand, Messick, and Wilke, 1992, Van Lange, 1999). Broadly speaking, social motives can be categorized into: 1) self-oriented motives (or egoistic motives) and 2) other-oriented motives (or prosocial motives) (De Dreu, Weingart, and Kwon, 2000). In this dissertation, self-oriented motives refer to the intent to maximize one’s own outcome, with no regard for the outcomes obtained by others. Alternatively, other-oriented motives refer to the intent to take others’ outcomes into consideration, even when doing so may be at the expense of one’s own outcome.

Social motives may be rooted in individual differences (Messick and McClintock, 1968; Van Lange and Kuhlman, 1994) or determined by situations. For example, those who place greater importance of moral identity (e.g., more caring, compassionate, and kind) are more likely to make decisions that benefit others, such as making donations (Winterich, Mittal, and Ross Jr, 2009). Collectivist cultures also make other-oriented motives more accessible than individualistic cultures (Hulbert, Correa da Silva, and Adegooyega, 2001; Probst, Carnevale, and Triandis, 1999).
Moreover, social motive may be determined from situations. Prior research suggests that one’s relationship with another (e.g., similarity, inter-connectability, relationship valence, future interactions, etc) has a significant influence on which social motive is activated. For instance, an other-oriented social motive (i.e., considering the outcome of others even at the expense of one’s self-outcome) may be activated when helping those similar to the subject than by those that are dissimilar (Batson et al. 1979), when others have a close or positive relationship with the subject (Loewenstein et al., 1989), when the decision involves an in-group member rather than an out-group member (Tajfel and Tuner, 1979), or when future interaction is anticipated (Ben-Yoav and Pruitt, 1984). Several theories in social psychology also confirm that relational factors are critical in determining one’s social motives. For example, social identity theory (Tajfel and Tuner, 1979) suggests that individuals tend to be more other-oriented when dealing with in-group members, but more self-oriented when dealing with out-group members (Tajfel and Tuner, 1979). In addition, self-categorization theory (Turner et al., 1987) suggests that individuals may categorize themselves as a singular “I” (i.e., personal identity), as a more inclusive “we” (i.e., social identity), or as a human being (i.e., human identity). Social motives may vary when one has different views of the relationship between themselves and others. If one has a greater personal identity, they tend to be more self-oriented and make decisions that maximize their own benefits regardless as to the outcome for others. If one has a greater social identity or human identity, they are more likely to be other-oriented and make decisions in a way that benefits the social group or even the collective outcome, rather than just the outcome of their own social group (Wit and Kerr, 2002). Further, different self-construals (independent vs. interdependent) also play a critical role in determining one’s response toward other-oriented options. Independent self-construal focuses on the self as being differentiated from others while interdependent self-
construal focuses on the self as being more connected to others (Markus and Kitayama, 1991). The different views of self in relation to others therefore generate different social decisions.

While prior research has focused on individual differences and relational factors that influence one’s social motive and, subsequently, one’s social decisions (decision to choose between self-oriented options and other-oriented options), this dissertation focuses on a non-relational factor of categorization mindset and how this mindset impacts one’s individual characteristics (e.g., high altruism vs. low altruism) and further alters one’s social decisions. Moreover, I examine the interaction between the non-relational factors of categorization mindset and consumers’ individual characteristics, such as altruism and SRCB (socially responsible consumer behaviors). The effect of mindsets on social decisions is discussed in more detail in the next section.

**Mindset**

Mindsets refer to ways of thinking, judgment criteria (Xu and Wyer, 2007), or goals (Keinan and Kivetz, 2011) that are induced by a task and subsequently carry over to different contexts or tasks. This is related to knowledge accessibility (Forster and Liberman 2007) as a procedure becomes more accessible and more likely to be reactivated if it was used in a previous task. The effects of mindsets have been shown to be influential in human behavior. For example, after participants had learned a complex rule to solve problems (i.e., activated a complex mindset), they continued to apply this complex rule to subsequent unrelated tasks even though the successive problems could actually be solved in a much simpler way (Luchins, 1942; Luchins and Luchins, 1959). Levav, Reinholtz, and Lin (2012) also find that when participants are exposed to smaller choice sets in an increasing sequence (i.e., choice set size increases from
5, 10…..to 50), it activates a “maximizing mindset,” which further persists in subsequent tasks where participants are more likely to engage in greater depth in their information search.

*Categorization Mindset*

This paper focuses on the effects of UM and MM on consumers’ social decisions. UM is activated when individuals are previously exposed to a unidimensional (or broad) approach of categorization where fewer dimensions are used for categorization and MM is activated when individuals are previously exposed to a multidimensional (or narrow) approach of categorization where additional dimensions are used for categorization (Ulkumen, Chakravarti, and Morwitz, 2010). For example, cheese can be categorized based on one dimension (unidimensional approach) or multiple dimensions (multidimensional approach). If only one dimension (e.g., firmness) is considered, cheese can be categorized broadly as “firm cheese” or “soft cheese.” In contrast, if more dimensions (e.g., firmness, source of cheese) are taken into consideration, cheese can be categorized more narrowly as “firm cow cheese,” “firm sheep cheese,” “firm goat cheese,” “soft cow cheese,” “soft sheep cheese,” and “soft goat cheese.”

Ulkumen, Chakravarti, and Morwitz (2010) find that when consumers are exposed to unidimensional or multidimensional categorization, it activates UM and MM and, as such, influences subsequent evaluations and decisions. Their research indicates that when individuals have developed a UM from the first task, their subsequent decisions concerning an unrelated task are based on fewer dimensions of information, usually on salient dimensions. In contrast, when individuals have developed a MM from the first task, their subsequent decisions regarding an unrelated task are based on multiple dimensions of information; that is, they would process not only the salient dimensions, but also the non-salient dimensions. Ulkumen, Chakravarti, and
Morwitz (2010) test the impact of categorization mindset in several contexts to confirm that UM activates a unidimensional processing style and a MM activates a multidimensional processing style. It was found that for individuals with a UM, only a few salient cues would guide their evaluations. However, for individuals with a MM, both salient and non-salient cues are used to guide their evaluations. For example, when consumers are exposed to a new product, those with a UM focus only on the salient dimension, either the risk or the innovation associated with the product. However, those with a MM focus on both the risk and the innovation of the new product regardless as to whether the dimension is made salient (Ulkumen, Chakravarti, and Morwitz 2010). It is important to note that participants in both the UM and the MM may be aware of both dimensions of risk and innovation associated with the new product as the same information about the product is presented to the participants in both conditions. However, those in the UM may not feel the need to respond to both dimensions and, as such, simply base their evaluations on the most salient dimension. Thus, those with a MM tend to evaluate the innovation of the product against its risk and make decisions accordingly, whereas those with a UM tend to evaluate only one of the dimensions and make decisions based on that single dimension (risk or innovation associated with the new product).

It is important to note that UM and MM activate different *breadths of processing* (less multidimensional vs. more multidimensional) rather than inducing different depths of processing. Breadth of processing refers to the number of different attributes or dimensions that are processed, while depth of processing is the amount of search or processing that is devoted to each attribute or dimension (Ozanne, Brucks, and Grewal, 1992). Thus, one could process multiple dimensions shallowly or process a single dimension deeply. The findings from Ulkumen, Chakravarti, and Morwitz (2010) suggest that UM and MM do not alter how much
effort is involved when making decisions as neither the completion time for the task nor the ability to recall differ between the UM and MM conditions. As processing time (Ozanne, Brucks, and Grewal, 1992) and ability to recall (Craik and Lockhart, 1972; Smith, Theodor, and Franlin, 1983) have been used as indicators of depth of processing, UM and MM alter breadth of processing without influencing the depth of processing (Ulkumen, Chakravarti, and Morwitz, 2010).

Building upon the work of Ulkumen et. al., (2010), this dissertation proposes two competing mediating routes to predict the effect of categorization mindset (Ulkumen, Chakravarti, and Morwitz, 2010) on one’s social decision. The first route is referred to as the “breadth of processing route” and the second route is referred to as the “construal level route”. The following sections discuss each route in more detail.

Mediation I: Breadth of processing route

Relevant dimensions in a social decision context

This paper applies the concept of the categorization mindset in a social decision context and examines how the activation of a categorization mindset influences one’s social motives that are rooted in individual differences (e.g., altruism) and subsequently alters one’s social decisions when choosing between self-oriented options and other-oriented options. The impact of a categorization mindset on one’s social motives lies in their differential information processing styles: processing the salient dimension (UM) or both the salient and non-salient dimensions (MM). As such, it is important to identify the relevant dimensions in a social decision context.

While several dimensions may be relevant in making a social decision, different dimensions may come into play depending upon which dimension or what information is made
accessible. Using the work of Ulkumen et al. (2010) as an example, they examine how consumers with MM relative to UM respond to new products. Two dimensions are made accessible in their experiments: the innovation and risk associated with the new product where one dimension is by default or experimentally made more salient than the other. Though several other dimensions may be relevant to one’s purchasing decisions regarding new products, such as compatibility, complexity, price, or the trialability of the new product (Tornatzky and Klein, 1982; Holak and Lehmann, 1990; Gatignon and Roberson, 1985), participants tend to rely on the accessible information provided in a particular scenario to make judgments (Tversky and Kahneman, 1973, 1974). This is also consistent with accessibility-diagnosticity theory (Feldman and Lynch, 1988) which suggests that consumers are cognitive misers, as they will not use all of the relevant information to make evaluations or judgments. Instead, they tend to rely on information that is accessible to them as long as the information is relevant or diagnostic to the decision at hand.

Similarly, in a social decision, consumers may process different dimensions relate to themselves and others depending upon which dimension(s) are made accessible. Accessibility of dimensions can be increased by saliency or priming. Saliency refers to the degree to which an object stands out when compared to other objects in a particular situation. For example, if there is a group with seven males and only one female, gender may become a more accessible dimension thereby further influencing the group’s behavior or thinking toward the female member. Priming refers to activating certain representations or associations immediately prior to a situation that increases the accessibility of certain dimensions. For example, while social identity can be based on gender, age, social class, or other dimensions, priming one’s social belonging to a particular university may influence how the subject identifies himself in relation
to others. That is, one may view all students from the same university to be in-group members, while viewing all of the students from a different university to be out-group members despite their age, gender, or race. However, if gender is made more accessible, one may view those of the same gender as in-group members and those of the opposite gender as out-group members regardless as to which university the others attend.

As this dissertation focuses on how individuals make decisions between self-oriented options and other-oriented options, two dimensions are made accessible in all of the experiments: 1) the outcome for self and 2) the outcome for others. The two dimensions are made accessible to examine how consumers respond to self-oriented options and other-oriented options when self-outcome and other-outcome vary. For example, participants are exposed to several apartment options where some options maximize the outcomes to themselves (e.g., apartment options of one’s highest preference, good rent, good location, etc), while other options contribute to the others’ outcome at some expense to the subject (e.g., apartment options where the roommate rated it a little higher although it is not your best choice). This paper also incorporates a marketing-related scenario where participants are asked to choose between regularly-priced coffee (non-fair trade) and fair trade coffee. While the former benefits oneself (e.g., good quality of coffee) with a lower price, the latter benefits both self (e.g., good quality of coffee) and others (e.g., farmers get fair wages), but with a higher price (i.e., cost to self). As such, participants are exposed to two dimensions, including self-outcome (e.g., price to pay for the product, one’s rating or preference toward the apartment) and other-outcome (e.g., benefits to the farmers, roommate’s rating or preference toward the apartment), and asked to make further decisions based on how they process these two accessible dimensions.
**Categorization mindset and information processing**

Those with UM process only salient dimension(s), while those with MM process both salient and non-salient dimensions. As I focus on how consumers make social decisions when two dimensions of self-outcome and other-outcome are made accessible, I examine how individuals with different categorization mindsets process the two dimensions and make social decisions accordingly.

This dissertation makes the assumption that when individuals face two accessible dimensions of self-outcome and other-outcome, self-outcome tends to be the more salient dimension of the two. The prior literature has shown some agreement with this assumption. Social psychologists suggest that self-oriented motives arise naturally, while helping others requires overcoming the self-oriented impulse, especially when that aid may involve some personal costs, such as time, money, energy, or other resources (Dewall, Baumeister, Gailliot, and Maner, 2008). However, while the natural tendency is to want the best for oneself, culture demands what is best for the society (Baumeister and Bushman, 2008). Thus, helping behaviors are more socially acceptable than self-oriented behaviors. People often face motivational conflicts between self-oriented impulses and cultural demands (Baumeister, 2005; Baumeister, Vohs, and Tice 2007; Baumeister and Bushman, 2008) where nature says go and culture says stop (Baumeister and Bushman, 2008). Given this conflict, prior research suggests that advanced psychological processes, such as self-control or self-regulation, are required to overcome our natural self-oriented impulses and to help others (Dewall, Baumeister, Gailliot, and Maner, 2008). In other words, one’s impulse toward self-interest arises automatically, whereas other-oriented behaviors, such as helping, morality, or obedience, require conscious efforts (Baumeister and Bushman, 2008).
Several theories have provided different perspectives in explaining why people help others. A majority of these theories imply that when people help others, they consider the ramifications to themselves to a certain degree. For example, one may evaluate their own ability to provide help, consider whether they have sufficient resources to do so, or what potential benefits they would receive if that help is provided. Kin selection theory (Hamilton, 1964) suggests that people are more willing to help family members or relatives as it increases the chances of gene transmission to the next generation. Social exchange theory (Emerson, 1976) suggests that people tend to weigh rewards against the costs of helping others. These rewards may be external (e.g., materialistic goods or obtaining friendship) or internal (e.g., self-satisfaction). Thus, helping behaviors are more likely to take place when the rewards are considered to outweigh the costs.

Overall, the prior literature suggests that one considers self-interests automatically, but it takes a conscious effort to perform other-oriented behaviors, such as morality or helping others (Baumeister and Bushman, 2008). Further, one tends to consider personal benefits to a certain degree even when providing help. Some examples include “Do I have enough resources or the ability to help?” “What can I get from helping others?” “Is it my responsibility to provide help?” Therefore, it seems that self-outcome is a more salient dimension when making social decisions, while other-outcome is a less salient dimension and requires cognitive effort. In other words, people are more likely to think about themselves, but not necessarily about others. A less common scenario is when an individual puts the needs of others before their own. As such, this dissertation makes an assumption that the dimension of self-outcome tends to be more salient, whereas the dimension of other-outcome tends to be less salient. Given the differential saliency between the two dimensions of self-outcome and other-outcome, those with MM are more likely
to process both dimensions of self-outcome and other-outcome simultaneously, while those with UM tend to rely on the more salient dimension of self-outcome. It is important to note that consideration of only one dimension of self-outcome does not make an individual more self-oriented and the consideration of both self-outcomes and other-outcomes does not, by itself, make one more other-oriented. In other words, categorization mindset changes how people process information about themselves and others, but it does not directly determine one’s level of self-orientation or helpfulness.

Activation of different evaluation modes

Categorization mindset creates different information processing styles where those with UM process the salient dimension of self-outcome and those with MM process both dimensions of self-outcome and other-outcome simultaneously. I predict that when one processes both dimensions simultaneously, it activates a comparative evaluation mode comparing self-outcomes against other-outcomes when examining available product options. However, when one focuses on a single dimension, it activates a non-comparative evaluation mode focusing on the salient dimension without making direct comparisons with the non-salient dimension. Prior research has shown some support to this prediction. For example, when two products are presented side by side (i.e., simultaneously), consumers spontaneously compare one product with the other, but are less likely to do so when products are displayed in isolation (Hsee, 1996; Muthukrishnan and Ramaswami, 1999). Similarly, consumers with a MM tend to process all relevant dimensions simultaneously and evaluate the dimensions jointly as if the dimensions are presented side by side rather than separately. Horen and Peiters (2012) also suggest that comparisons are encouraged when consumers have a MM relative to a UM. As such, I expect that in a MM, one
makes evaluations in a comparative mode given that all relevant dimensions (self-outcome and other-outcome) are taken into consideration during the decision-making process. In contrast, in a UM, one undertakes evaluations in a non-comparative mode given that they focus solely on the salient dimension (self-outcome) rather than all of the relevant dimensions.

**Evaluation mode and perceived difference**

As discussed in the previous section, a categorization mindset activates different evaluation modes where MM tends to trigger a comparative evaluation mode and UM is more likely to trigger a non-comparative evaluation mode. Prior research has indicated that different evaluation modes, comparative (e.g., joint evaluations) or non-comparative (e.g., separate evaluations), can influence consumers’ perception of product attractiveness (Hsee and Leclerc, 1998) or consumers’ preferences of the presented products (Hsee, Loewenstein, Blount, and Bazerman, 1999).

This dissertation suggests that different evaluation modes triggered by categorization mindsets may also alter how consumers make social decisions. According to the distinction bias (Hsee and Zhang, 2004), when evaluating two options simultaneously, consumers will perceive the two options as more distinctive. This is because when one evaluates or processes information of the available options simultaneously, they tend to pay greater attention to the subtle differences among the options (Hsee and Zhang, 2004), while ignoring the common features (Dunn, Wilson, and Gilbert, 2003). Hsee and Zhang (2004) depict the function of comparative and non-comparative modes where the slope for the comparative mode is steeper and the slope for non-comparative mode is more flat, as illustrated in Figure 1. A steeper slope implies that one makes very different evaluations when the attributes of the presented options vary. For example,
those in a comparative evaluation mode would feel significantly happier if 240 consumers bought their books than if 160 consumers purchased them. They would also be significantly happier if 160 consumers bought their books as compared to 80 consumers purchasing their books. However, if one is in a non-comparative evaluation mode, they feel equally happy no matter what the number of their books purchased actually was. This is because one can easily distinguish the desirability of each option or situation through direct comparison, but less so when evaluating each option or situation in isolation.

![Diagram](image.png)

**FIGURE 1: FUNCTIONS OF COMPARATIVE AND NON-COMPARATIVE MODE**

Building upon the distinction bias, it is predicted that a MM will trigger a greater sensitivity to the differences between self-oriented options and other-oriented options in terms of how they differ in the outcomes to self and to others. For example, suppose one is faced with a regularly-priced coffee at $4.99 and a fair trade coffee priced at $5.39, where the former is considered to be a self-oriented option (cheaper to self) and the latter is considered to be an
other-oriented option (more expensive to self, but benefits farmers in third world countries). When exposed to the two product options, consumers with a MM may perceive the price difference to be greater between the two options compared to those with a UM and, as such, over-predict the cost to self when selecting the other-oriented option. Accordingly, it is predicted that the distinction bias triggered in a MM condition may lead to an enhancing effect that alters social decisions for consumers with different individual characteristics. Next, the proposed enhancing effect of a multidimensional mindset is further discussed.

The enhancing impact of categorization mindset

Prior research has suggested that several individual differences, such as altruism or moral identity, may predict one’s social decisions (Winterich, Mittal, and Ross, Jr., 2009; Reed, Aquino, and Levy, 2007). This paper focuses on two individual characteristics of altruism and socially responsible consumer behavior (SRCB) and examines how the categorization mindset plays a role in enhancing one’s self-orientation or altruism and further influences social decision-making. In short, while a categorization mindset by itself does not change one’s social motives, it amplifies the altruism or self-orientation that is rooted in individual differences. The following discusses the two individual characteristics of altruism and SRCB.

Altruism. Across several centuries, researchers in different fields of study have been interested in what motivates people to help others. In the economic literature, researchers suggest that people behave in a way that maximize gains and minimize costs. As such, altruistic acts or helping behaviors are usually considered to be self-serving. For example, people will suffer current costs for future benefits or help others in anticipation of reciprocity (Collard, 1978).
In the social sciences, some researchers believe that people who help others have egoistical motives, while others believe that the motivation to help others is strictly altruistic. Egoistic motives refer to the process of helping behaviors with a goal of achieving self-benefits. For example, some researchers suggest that people help others to gain social or material rewards or to avoid social or material punishment (Eisenberg, 1982; Krebs and Miller, 1985). Other researchers suggest that people help others to reduce or avoid experiencing negative emotions, such as distress or anxiety, when seeing others suffer (Batson et. al., 1981; Hoffman, 1981). In contrast, altruistic motives refer to helping behaviors with the goal of achieving other benefits (Batson, 1987). While both egoistic and altruistic motives may lead to the resultant aid, this paper focuses on altruistic motives where people provide assistance with the goal of achieving other-benefits rather than self-benefits. As such, I adopt the definition from Price, Feick, and Guskey (1995) that altruism refers to “the intention to benefit other people as an expression of internal values, regardless of social or motivational reinforcement.”

Prior research has indicated that altruism promotes helping behaviors, such as helping other consumers in the market place (Price, Feick, and Guskey, 1995), becoming involved in volunteer work (Joslyn, 1976; Unger 1991), or making donations to charity (Webb, Green, and Brashear, 2000). This dissertation incorporates the individual characteristics of altruism and predicts that a categorization mindset will generate different responses from high and low altruistic consumers. As previously discussed, a MM would induce a comparative evaluation mode where consumers are more sensitive to the differences between the presented options and consider a greater difference to exist between these options. However, such a distinction bias may lead to different outcomes when one’s social motive varies. This is because consumers tend to process information in a way that is consistent with their motives. Prior research has found
that social motives bias information processing (De Dreu, Nijstad, and Knippenberg, 2008) given that individuals tend to search and encode information in a way that is consistent with their initial beliefs and motives. Therefore, I predict that the distinction bias would differ depending upon one’s motive. Specifically, while highly altruistic and less altruistic individuals in a MM may both perceive a greater difference between self-oriented options and other-oriented options, they perceive the difference to exist in different dimensions. Highly altruistic individuals perceive the difference to exist in the dimension of other-outcome, while less altruistic individuals perceive the difference to exist in the dimension of self-outcome. In other words, less altruistic individuals perceive a greater cost in selecting the other-oriented option over the self-oriented option when they are in MM relative to UM. However, highly altruistic individuals with a MM, relative to a UM, perceive the other-oriented option to generate significantly greater benefits to others compared to the self-oriented option. As such, the following hypotheses are proposed:

**H1:** Highly altruistic individuals perceive a greater difference in other-outcomes between the self-oriented option and the other-oriented option when they are in a multidimensional mindset relative to a unidimensional mindset.

**H2:** Less altruistic individuals perceive a greater difference in self-outcomes between the self-oriented option and the other-oriented option when they are in a multidimensional mindset relative to a unidimensional mindset.

A greater perceived difference between self-oriented options and other-oriented options would further influence one’s decision or preference toward other-oriented options. For individuals with high altruism, a MM would enhance the attractiveness of the other-oriented options because the other-oriented options generate significantly greater benefits to others compared to the self-oriented option. Therefore, highly altruistic individuals would respond more positively to other-oriented options in a MM relative to a UM given the perceived enhanced
difference that exists in the other-outcomes. In contrast, for individuals with low altruism, a MM would enhance the attractiveness of the self-oriented option, while reducing the attractiveness of the other-oriented option. The subject would consider the other-oriented option to carry a much greater personal cost than the self-oriented option. As such, less altruistic individuals would respond more negatively toward other-oriented options in a MM relative to a UM given the enhanced differences that are perceived to exist with the self-outcomes. In other words, highly and less altruistic individuals respond differently toward other-oriented options in the MM relative to the UM. Therefore, the following hypotheses are proposed:

H3: Highly altruistic individuals respond differently than less altruistic individuals in a multidimensional mindset relative to a unidimensional mindset.

H3a: Highly altruistic individuals respond more positively to other-oriented options in a multidimensional mindset relative to a unidimensional mindset.

H3b: Less altruistic individuals respond more negatively to other-oriented options in a multidimensional mindset relative to a unidimensional mindset.

*Socially responsible consumer (SRC).* Socially responsible consumers (SRC) are consumers that purchase products or services that they consider to have a positive or a less negative impact on the environment or on other social issues (Roberts, 1995). They use their purchasing power to express their concerns for society. Socially responsible consumer behavior (SRCB) refers to the behavior of a consumer who bases their “acquisition, usage, and disposition of products on a desire to minimize or eliminate any harmful effects and maximize the long-run beneficial impact on society” (Mohr, Webb, and Harris, 2001, p. 47). SRCB highlights the importance of non-economic purchase criteria on consumer choice (Drumwright, 1994). It is not about maximizing one’s own benefit and minimizing one’s own costs when making purchasing
decisions. Instead, it is about considering the ethical issues as they relate to society, the environment, animals, or other people in the decision-making process, even if doing so may induce greater personal costs (Connolly and Shaw, 2006). Different from corporate social responsibility where the focus is on corporate decision makers, SRCB focuses on consumers’ perspectives of social responsibility.

Prior research has indicated that socially responsible consumers are more likely to alter their consumption patterns to meet social goals and ideals rather than individual goals (Uusitalo and Oksanen, 2004). For example, they seek out products from firms that practice social responsibility or avoid products that may cause harm to society, animals, or the environment (Mohr and Webb, 2005).

This dissertation predicts that the categorization mindset will have a similar effect on high and low SRCs as it does on consumers with high and low altruism. Specifically, a MM is predicted to have an enhancing impact on an individual’s socially responsible consumer behavior relative to that of a UM. In other words, a highly socially responsible consumer (H-SRC) will respond more positively to other-oriented options in a MM relative to a UM. Similarly, a less socially responsible consumer (L-SRC) would respond more negatively toward other-oriented options in a MM relative to a UM. The differential impact of the categorization mindset on high and low SRC is due to the distinction bias and motivated information processing. As suggested by the distinction bias, one would be more sensitive to the differences among the options presented in a MM relative to a UM. Further, social motives may influence how one processes the differences in the presented options. While L-SRCs tend to be more sensitive to the differences of self-outcomes between the presented options, H-SRCs tend to be more sensitive to the differences of other-outcomes given their tendency to be socially responsible. Thus, MM
enhances one’s SRCB and leads to a more positive response to the options that is consistent with one’s social motives. H-SRCs are predicted to respond differently from L-SRCs in a MM relative to a UM. The overall predictions of the breadth of processing route are illustrated in Figure 2.

H4: H-SRCs respond differently from L-SRCs in a multidimensional mindset relative to a unidimensional mindset. H-SRCs respond more positively to other-oriented options, while L-SRCs respond more negatively to other-oriented options in a multidimensional mindset than a unidimensional mindset.

![Breadth of Processing Route Diagram]

**FIGURE 2: BREADTH OF PROCESSING ROUTE**

*Mediation II: Construal level route*

The effects of MM and UM could also follow a “construal level route” where MM activates a concrete construal and UM activates an abstract construal. Construal level theory
(Liberman and Trope, 2008; Trope and Liberman, 2010) suggests that individuals may have an abstract or a concrete mental representation. With a high, abstract construal level, people place objects into a broader category as fewer dimensions are considered. This is because they focus on the similarities between objects creating more inclusive categories of objects. For example, with an abstract mindset, a cell phone and a computer may fall under the same category as they are both communication devices. In contrast, when employing a low, concrete construal level, consumers place objects into a narrow category as more dimensions are taken into consideration. This is because they focus on the differences between the objects creating more exclusive categories of objects. For example, using a concrete mindset, a cell phone and a computer may appear in two different categories as the two items are in different size, though they are both considered communication devices.

I propose that exposure to unidimensional and multidimensional categorizations may activate an abstract and a concrete construal, respectively. Prior research has found some support for this prediction and suggests that when individuals are exposed to a list of objects or events, the generation of fewer groups or categories is indicative of abstract thinking, while generation of several groups or categories is indicative of a concrete thinking (Burgoon, Henderson, and Markman, 2013; Isen and Daubman, 1984; Liberman, Sagristano, and Trope, 2002; Lee and Ariely, 2006). Thus, I predict that when individuals are exposed to broader categories where fewer dimensions are used for categorization, it may result in an abstract construal. In contrast, when individuals are exposed to narrower categories where more dimensions are taken into consideration, it may induce a concrete construal.

Abstract and concrete construals could further influence how one views the similarity of social objects. As social targets may be broadly represented (e.g., a member of a group) or
narrowly represented (e.g., individuals), abstract construal enhances similarity focus and triggers a more inclusive social categorization (Levy, Freitas, and Salovey, 2002). When one views the other to be in the same social categorization, they are also more likely to consider the other’s benefits and outcomes.

Several theories in social psychology suggest that one’s perception of similarities between themselves and others may be critical in determining a social decision. Social identity theory (Tajfel, 1970; Tajfel and Tuner, 1979) suggests that individuals tend to be more cooperative or other-oriented when dealing with *in-group members* who are similar to them, while self-oriented social motives and behaviors may take place when dealing with *out-group members* who are considered to be different from them. Several researchers have also found that consumers are more likely to help or make donations to those that are identified as in-group members than out-group members (Dovidio, 1984; Winterich, Mittal, and Ross, Jr., 2009). When individuals focus on the similarities among social targets, they perceive less distance and become more inclusive (Rosenthal and Crisp, 2006). As such, previous exposure to broad categorizations (unidimensional) can activate an abstract construal that triggers a focus on similarities and the consumer becomes more other-oriented. However, previous exposure to narrow categorizations (multidimensional) can activate a concrete construal that triggers a focus of differences among social targets. Focus of differences may induce individuals to consider others as out-group members rather than in-group members thereby becoming less other-oriented. The prediction of the construal level route is illustrated in Figure 3.

H5: A unidimensional mindset relative to a multidimensional mindset increases the perception of similarity between self and others.
H6: Individuals with a unidimensional mindset would prefer other-oriented options, while individuals with a multidimensional mindset would prefer self-oriented options.

**FIGURE 3: CONSTRUAL LEVEL ROUTE**
OVERVIEW OF THE EXPERIMENTS

The main focus of this dissertation is to examine the impact of a non-relational factor-categorization mindset (i.e., UM vs. MM) on one’s social decisions. These decisions relate to choosing between maximizing self-interests (i.e., self-oriented option) or considering the interests of others at some personal expense (i.e., other-oriented option). I propose two possible mediating routes to explain the effect of the categorization mindset: 1) the breadth of processing route and 2) the construal level route.

The breadth of processing route suggests that UM and MM would trigger a non-comparative and a comparative evaluation mode, respectively. This is because those with a UM focus on the salient dimension, while those with a MM focus on both salient and non-salient dimensions simultaneously. When one evaluates the available options simultaneously, they tend to be more sensitive to the differences among the presented options and perceive each option to be different from the others. Given an enhanced sensitivity to the differences between the self-oriented option and the other-oriented option, it is predicted that a MM would create an enhancing impact on one’s self-orientation or altruism relative to a UM. In other words, a MM encourages less altruistic individuals to respond more negatively to the other-oriented option, while highly altruistic individuals respond more positively to the other-oriented options. This is because highly altruistic individuals in a MM perceive the other-oriented option to be significantly more beneficial to others when compared to the self-oriented option and they indicate a greater preference for the other-oriented options. Alternatively, less altruistic
individuals in a MM perceive the other-oriented options to be significantly more costly on a personal level when compared to the self-oriented options. They would have a more negative response toward the other-oriented options.

The construal level route suggests that UM and MM trigger an abstract construal and a concrete construal, respectively. As such, those with a UM would focus on the similarities between themselves and others. In contrast, those with a MM focus on the differences between themselves and others. Different perceptions of similarity further influence how much one takes others’ outcomes into consideration when making social decisions. Thus, I predict that those with a UM are more likely to choose or prefer an other-oriented option over a self-oriented option, while those with a MM are more likely to select or prefer a self-oriented option over an other-oriented option.

One pretest and three experiments are conducted to test these predictions. Figure 4 provides an overview of the experiments. The pretest is conducted with both student samples and M-turk samples to determine the effectiveness of the manipulation on the categorization mindset. Experiment 1 aims to examine which route, the breadth of processing route or construal level route, explains the effect of a categorization mindset on one’s social decisions. The individual characteristics of high vs. low altruism are included to determine whether a categorization mindset enhances one’s high vs. low altruism orientation. The results of Experiment 1 demonstrates support for the breadth of processing route, but not for the construal level route, indicating that MM enhances and generates more self-oriented decisions for less altruistic individuals and more altruistic decisions for highly altruistic individuals.
### Experiment 1:
1. Examine which route explains the effects of the categorization mindset.
2. Incorporate the individual characteristics of altruism using an apartment scenario.

### Experiment 2:
- Examine the effect of categorization mindset by:
  1) using a marketing-related scenario,
  2) incorporating a different individual characteristic - SRC (socially responsible consumers),
  3) measuring WTP rather than choice, and
  4) analyzing open-ended responses as to why participants prefer the self-oriented option or the other-oriented option.

### Experiment 3:
1. Examine the underlying process by directly manipulating the mediating factor.
2. Examine distinction bias.
3. Examine the potential confound of income effect.

**FIGURE 4: OVERVIEW OF THE EXPERIMENTS**

Experiment 2 examines the effect of categorization mindsets using a marketing-related scenario, regularly priced coffee vs. fair trade certified coffee, incorporating a different individual characteristic of socially responsible consumer behavior (SRCB). Open-ended responses are also coded to determine whether the participants make social decisions in a way that is consistent with the conceptual prediction of the breadth of processing route. The results of Experiment 2 are consistent with that of Experiment 1 and confirm the enhancing impact of MM on one’s social decisions. The open-ended responses also indicate that low SRCs tend to focus
more on self-outcomes in a MM than a UM, while H-SRCs tend to focus more on other-outcomes in a MM relative to a UM. Additionally, the open-ended responses confirm the assumption made in this dissertation that the dimension of self-outcome tends to be more salient than the dimension of other-outcome as participants, by default, tend to focus more on themselves than others regardless as to whether they are being classified as H-SRCs or L-SRCs.

Experiment 3 examines the underlying process of the breadth of processing route by directly manipulating the mediating factor and examining distinction bias. It is predicted that a MM activates a comparison between self-outcomes and other-outcomes when consumers evaluate the presented options relative to a UM. Thus, Experiment 3 seeks to manipulate the mediating factor by including a second factor of presentation mode where a joint presentation allows a direct comparison between self-outcomes and other-outcomes among the available options (e.g., “Am I willing to pay $0.35 more to help the farmers?”), while separate presentations remove this direct comparison (“e.g., “Am I willing to pay $7.35 for coffee that helps the farmers?”). Thus, the joint presentation condition should replicate the results from the previous two experiments and demonstrate the enhancing effect of a MM. In contrast, the separate presentation condition should diminish the enhancing impact of a MM as consumers will not be able to compare self-outcomes against other-outcomes. Further, Experiment 3 examines the distinction bias and measures how participants perceive the difference of self-outcomes (e.g., price) and the perceived difference of other-outcomes (e.g., benefits to farmers) when evaluating the self-oriented option (JMax) and the other-oriented option (Fair-trade JMax). Finally, Experiment 3 examines the potential confound of the income effect. Prior research has found that altruism may be positively related to one’s income level (Andreoni, 1990). The results of Experiment 3 indicate that the enhancing impact of a MM takes place in the joint presentation
condition, but diminishes in the separate presentation condition. This provides support for the enhancing impact of a MM that is due to the activation of a comparison between self and other-outcomes. Further, highly altruistic participants perceive the difference of other-outcomes between the two presented products (JMax vs. Fair-trade JMax) to be significantly greater when they are in a MM relative to a UM. A mediated moderation is also found where the perceived difference of other-outcomes mediates the interaction between a categorization mindset and altruism on one’s social decisions (i.e., purchase intention for Fair-trade JMax). However, less altruistic participants with a MM do not perceive the difference of self-outcomes between the two presented products to be greater relative to those employing a UM. Further explanations are provided in the discussion section. Finally, income level is found to have a low correlation with altruism and has no interaction with the categorization mindset. Figure 4 provides an overview of these experiments.
PRETESTS

Method

This paper adapted the manipulation of categorization mindset from Ulkumen et al., (2010). Participants were first asked to indicate their hair color, eye color, preferred dog breed for adoption, favorite music genre, and choice of film genre if they were to rent a DVD. Those in the MM were given many alternatives, while those in the UM were given only a few alternatives. For example, when participants were asked about their favorite music genre, those in the UM condition were given the choices of classical, pop, rock, and jazz to choose from, while those in the MM condition were given the choices of classical-opera, classical-orchestral, classical-modern composition, classical-choral, pop-rap, pop-soft rock, pop-country, pop-electropop, rock-mental, rock-black metal, rock-acid rock, rock-southern rock, jazz-acid jazz, jazz- contemporary, jazz-fusion, jazz-Latin jazz, and jazz-smooth to choose from.

Then, participants were asked to complete a personality test generated from Goldberg’s (1990) Big Five personality inventory. Those in the UM marked their responses on a 3-point scale, whereas those in the MM marked their responses on a 9-point scale. Finally, participants were given a list of 12 fruit items and 12 transportation items. Participants in the MM were asked to make four groups from the lists of items and those in the UM were asked to make two groups from the list of items. The groups were created such that the items classified into a group were more similar to each other than the items classified into another group.
To examine whether a categorization mindset has been successfully manipulated, this paper adopted the grouping task used in Ulkumen et al., (2010) as a manipulation check. Participants exposed to the MM (UM) condition should develop a MM (UM) and, as such, classify items or objects into many (fewer) groups in a subsequent, unrelated grouping task. Participants were given 10 animal items and asked to group them as into as many or as few groups as they deemed fit. They could group the animals in as few as one group where all of the animal items belong to the same group or as many as ten groups where all of the animal items belong to different groups.

Two samples were included to examine the effectiveness of the manipulation. 132 students were recruited to participate in the pre-test in exchange for extra credit and 133 participants were recruited from the M-turk panel in exchange for a small compensation.

Results

A one-way ANOVA on the number of animal groups indicates the effectiveness of the manipulation on both the student sample (F (1, 130) = 3.17, p < .05) and the M-turk sample (F (1, 131) = 3.44, p < .07). For the student sample, participants in the MM condition created more groups than those in the UM condition (M_{unidimensional} = 3.8, M_{multidimensional} = 4.6). The M-turk participants indicated a similar response where those in the MM condition created more groups than those in the UM condition (M_{unidimensional} = 3.9, M_{multidimensional} = 4.4).

Manipulation checks are confirmed in the pretest and would not be included across all three main experiments. Prior research has suggested that manipulation checks appear to have the greatest value when conducted in pretests or pilot tests rather than in the main experiments (Perdue and Summers, 1986; Khan, 2011). In addition, when manipulation checks are conducted
in a main experiment, they are usually included after participants have responded to the dependent variable. This may result in several issues. For example, participants’ response to the manipulation check may be altered by the process related to the measure of the dependent variables (Perdue and Summers, 1986). In other words, participants’ response to the dependent variable may bias or influence their response to the subsequent manipulation checks, especially when this measure is self-reported (Kidd, 1976). One solution to this issue is to have a group of participants respond to only the manipulation checks without responding to the dependent variable (Perdue and Summers, 1986). As such, I include a pretest to confirm the effectiveness of the manipulation with no measures of the dependent variable.
EXPERIMENT 1

Experiment 1 examines which route, the breadth of processing route (H1-H4) or the construal level route (H5-H6), explains the effect of a categorization mindset on one’s social decisions. The individual characteristic of high and low altruism was also included to determine whether categorization mindsets trigger an enhancing impact on one’s altruism orientation. A one factor three level (categorization mindset: unidimensional, multidimensional, and control) between-subject design was conducted and one’s level of altruism was measured.

Method

A one factor three level (categorization mindset: unidimensional, multidimensional, and control) between-subject design was conducted with 136 participants recruited from an M-turk panel (40% female, mean age = 35.57). Participants were first asked to complete several questions to capture their altruism orientation. Altruism is measured on a five-item, seven-point scale adopted from Price, Feick, and Guskey (1995). Participants were asked to indicate the extent to which they agreed or disagreed with each of the following five statements: “It is important for me to help other people,” “It is important for me to serve mankind,” “It is important for me to share what I have,” “It is important for me to give to others,” and “It is important for me to be unselfish” (Cronbach Alpha= .92). Then, participants were exposed to the categorization mindset manipulation using the process described in the pretest.
After completing the altruism measure and the categorization mindset manipulation, participants were exposed to a Kimchi-Palmer figure, which is a measurement for construal levels (Kimchi and Palmer, 1982). Specifically, participants were shown a target figure positioned on the top and two comparison figures positioned below, as shown in Figure 5. Participants were asked to choose which of the two comparison figures is most similar to the target figure positioned on the top. Participants were considered to be thinking more concretely if they choose Pattern A where the similarity judgment is based on the local element and considered to be thinking abstractly if they selected Pattern B where the similarity judgment is based on the global element.

![Kimchi-Palmer Figure](image)

**FIGURE 5: KIMCHI-PALMER FIGURES (KIMCHI AND PALMER, 1982)**

After completing the Kimchi-Palmer (1982) figure task, participants were exposed to the dependent variable measure, which relates to decision-making regarding apartments where one’s own preference of apartments differs from their roommate’s preference. Participants were told that they are looking to share an apartment with an acquaintance in New York City. To control for a neutral relationship between the participants and the acquaintance, participants further read
that this acquaintance is just a friend of a friend. They are neither great friends or are they great enemies. As they search for apartments, they now narrow the selection down to three options: Apartment A, Apartment B, and Apartment C. Table 1 summarizes the evaluation of the three apartments by the participants and the acquaintance, respectively. The scale used is a 10-point scale where “1” indicates “very low preference” and “10” indicates “very high preference.” The minimum threshold of preference is three for both of them to consider the apartment to be acceptable. Thus, all three apartments have met the minimum threshold for both participants and the acquaintance. Apartment B refers to a self-oriented option as it is of the highest preference from the participants’ perspective. Apartments A and C refer to other-oriented options as selecting either one of them indicates some degree of consideration for the acquaintance’s preference. However, Apartment A refers to a consideration of others’ preference at some personal expense, while Apartment C refers to a maximization of the acquaintance’s outcome regardless of the outcome to self. After reading the scenario and reading the evaluations of the three apartments, participants were asked to indicate which apartment they would be most likely to choose.

**TABLE 1: EVALUATIONS OF THE APARTMENTS ON A 10-POINT SCALE (EXPERIMENT 1)**

<table>
<thead>
<tr>
<th></th>
<th>Your preference</th>
<th>Acquaintance’s preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apartment A</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Apartment B</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Apartment C</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>

After completing the question regarding the dependent variable, participants were asked to complete a measure on “inclusion of other in the self” (IOS), which is defined as an
individual’s “sense of being interconnected with another” (Aron et al., 1992, p. 598). The extent to which one includes others in the self depends upon the level of closeness and similarity (Aron et al., 1992). Thus, if a categorization mindset influences participants’ perception of similarity, it should be reflected on the IOS scale. It is predicted that if the effects of categorization mindsets follow the construal level route, UM and MM should result in different extents of IOS. However, if the effects of mindsets follow the breadth of processing route, UM and MM should not differ in terms of IOS. IOS is measured using the pictorial measurement of IOS developed from Aron et al. (1992) (see Figure 6), with “1” indicating “no overlap” and “7” indicating “nearly complete overlap.” Participants will be asked to choose the picture that best describes how they think of their relationship with the acquaintance when they make choices concerning the apartments.

![Figure 6: IOS Measure (Inclusion of Others in Self)](image)

**Results**

*Breadth of processing route*

To determine whether the effects of categorization mindsets follow the prediction of breadth of processing route, a multinomial regression with categorization mindset and altruism
as the independent factor and choice of apartment (Apartment A, B, or C) as the dependent factor was conducted. However, only four participants chose Apartment C, which is the option that maximizes other-outcomes regardless of self-outcomes. For the four participants that chose Apartment C, three of them are in the multidimensional condition, one of them is in the unidimensional condition, and none of them is in the control condition. Given that no participant chose Apartment C in the control condition, unexpected singularities in the Hessian matrix were encountered. A solution to this situation is to merge the choices of Apartment A and Apartment C as both of them represent other-oriented options. Thus, a logistic regression was conducted with categorization mindset and altruism as the independent factors and the choice between self-oriented option (Apartment B) and other-oriented option (Apartment A or Apartment C) as the dependent factor.

The logistic regression revealed a significant main effect of altruism (β芦 = 2.13, Wald (1) = 9.11, p < .01) and a significant interaction between categorization mindset and level of altruism (β条件 x 芦 = -.71, Wald (1) = 5.70, p < .02). The choice of the other-oriented option (Apartment A or Apartment C) is coded as one and the choice of the self-oriented option (Apartment B) is coded as zero. The significant main effect of altruism indicated that higher altruistic individuals are more likely to choose the other-oriented option. The significant interaction between categorization mindset and level of altruism indicates that the impact of categorization mindset on one’s social decisions differs when one’s level of altruism varies. To examine the interaction in more detail, a spotlight analysis was conducted on the continuous measure of altruism. Two groups of high and low altruistic individuals were created. The coefficient for the interaction between the level of altruism and the categorization mindset was significant when the MM condition is compared to all of the other conditions (UM and control).
(β_{mindset x altruism} = 1.32, Wald (1) = 4.32, p < .05). Thus, participants in the MM condition respond differently from those in the UM condition and those in the control group. Specifically, participants with a MM indicate very different preferences for the other-oriented option when their level of altruism varies (P_{high altruism} = 95% vs. P_{low altruism} = 46%, p < .01). However, the coefficient for the interaction between the level of altruism and the categorization mindset was not significant when the unidimensional condition was compared to the control condition (β_{mindset x altruism} = .52, Wald (1) = 1.17, p > .2). In other words, participants of high and low altruism respond more similarly in the unidimensional condition and the control condition. In addition, when compared to the MM condition (P_{high altruism} = 95% vs. P_{low altruism} = 46%, p < .01), high and low altruistic individuals respond less differently in the UM (P_{high altruism} = 81% vs. P_{low altruism} = 63%, p > .05) and in the control condition (P_{high altruism} = 67% vs. P_{low altruism} = 75%, p > .4).

Figure 7 summarizes the results across six different conditions. The results support the prediction of the breadth of processing route where a MM enhances one’s high altruism or low altruism orientation relative to a UM or a neutral mindset (control condition). As illustrated in Figure 7, less altruistic individuals are least likely to select the other-oriented option in the MM condition (P_{multidimensional} = 46% vs. P_{unidimensional} = 63% vs. P_{control} = 75%) and highly altruistic individuals are most likely to choose the other-oriented option in the MM condition (P_{multidimensional} = 95% vs. P_{unidimensional} = 81% vs. P_{control} = 67%). Highly altruistic individuals respond more positively to the other-oriented options when they are in a MM and less altruistic individuals respond more negatively to the other-oriented options when they are in a MM. The enhancing impact of the multidimensional mindset supports the prediction of the breadth of processing route. Therefore, H3 (H3a and H3b) is supported where highly altruistic individuals respond differently than less altruistic individuals in a MM relative to a UM.
FIGURE 7: CHOICE OF OTHER-ORIENTED OPTIONS (EXPERIMENT 1)

Construal level route.

To determine whether the effects of a categorization mindset follow the prediction of the construal level route, a logistic regression was conducted with categorization mindsets (UN, MM, control) as the independent factor and construal level (abstract vs. concrete) as the dependent factor. The results of the logistic regression reveal a non-significant impact of categorization mindset on one’s construal level ($Wald (1) = 2.44, p > .8$). A majority of the participants chose Pattern B, which referred to abstract thinking where participants made similarity judgments based on the global element (i.e., triangle). The results reveal that participants think more abstractly regardless as to categorization mindset ($P_{\text{unidimensional}} = 70.7\%$, $P_{\text{multidimensional}} = 70.5\%$, $P_{\text{control}} = 74.5\%$), as demonstrated in Figure 8.

Consistent with the non-significant results of categorization mindset on one’s construal level, the perception of similarity between self and others did not differ across the three conditions of UM, MM, and the neutral mindset (control condition). As noted in Figure 9, the participants perceived the same level of similarity between themselves and the acquaintance
across different mindset conditions ($M_{\text{unidimensional}} = 2.98$, $M_{\text{multidimensional}} = 2.83$, $M_{\text{control}} = 2.55$, $F(2, 133) = 2.26, p > .3$). Thus, the results of Experiment 1 did not provide support for the construal level route.

**FIGURE 8: CONSTRUAL LEVELS (EXPERIMENT 1)**

![Bar chart showing construal levels across different mindset conditions](image)

**FIGURE 9: INCLUSION OF OTHERS IN THE SELF (IOS) (EXPERIMENT 1)**

Finally, categorization mindset does not have a direct impact on one’s choice of other-oriented options ($P_{\text{unidimensional}} = 73\%$, $P_{\text{multidimensional}} = 78\%$, $P_{\text{control}} = 78.4\%$, Wald (2) = .51, $p > .7$). The results confirm that the prediction of the construal level route does not hold. As such, H5 and H6 are not supported.
Discussion

The results of Experiment 1 lend support to the prediction of the breadth of processing route, but did not support the prediction of the construal level route. MM generates an enhancing impact on one’s low and high altruism orientation. Highly altruistic individuals respond differently than less altruistic individuals in a MM relative to a UM. Less altruistic individuals respond more negatively to the other-oriented options in a MM, while highly altruistic individuals respond more positively to the other-oriented options in a MM relative to a UM or the control condition.

While the construal level route failed to explain the effects of categorization mindset, it does provide us with some additional insight. Prior research suggests that categorization mindsets may trigger different construal levels. However, this relationship has not yet been explicitly tested. The results of Experiment 1 indicate that the relationship between categorization mindset and construal levels does not hold, though conceptually it may seem to make logical sense. Thus, while unidimensional and multidimensional processing is a good indicator of abstract construal and concrete construal, respectively, the reverse relationship is not necessarily true. Categorization mindset could be an indicator of different construal levels, but categorization mindset does not create different construal levels.

In the next experiment, I intend to further examine the effect of categorization mindset by using a marketing-related scenario, fair-trade product vs. regularly-priced product, and by incorporating a different individual characteristic of high vs. low SRCS (socially responsible consumers). In addition, I measure participants’ willingness to pay (WTP) for each of the products rather than measuring their choice between the two options. The measure of WTP
provides us some insight regarding the extent to which consumers are willing to sacrifice their self-outcome in order to contribute to other-outcomes. The measurement of WTP also provides marketers some insight as to how much more consumers are willing to pay for an other-oriented product. This insight allows marketers to adjust their pricing strategy accordingly. Finally, participants were asked to write down their thoughts when exposed to the two product options. This gives us some additional insight as to how a categorization mindset influences one’s social decisions.
EXPERIMENT 2

Method

A one factor, three level (categorization mindset: unidimensional, multidimensional, control) between-subject design was conducted with 212 undergraduate students (49% female, mean age = 24.7). Participants were first asked to complete several questions that capture their SRCB. SRCB was measured by two statements: “I make a special effort to buy from companies that support charitable causes” and “I will not buy a product from a company whose values I do not share” with responses on a seven-point scale anchored at 1 (“strongly disagree”) to 7 (“strongly agree”), a two-item scale adapted from Paek and Nelson (2012). Then, participants were exposed to the mindset manipulation with the process described in the pretest.

After completing the SRCB measure, participants were then shown the ads of two products: JMax coffee and Fair-trade JMax coffee. JMax coffee represents a self-oriented option with a good taste and a lower cost. The ad describes JMax coffee as “JMax Coffee- Better coffee for you. Our coffee has simply outstanding flavor - expertly crafted to bring out sweetness and intensity. Our brews come from the finest bean, expertly roasted to always stay good to the last drop.” Fair-trade JMax coffee, in contrast, represents an other-oriented option with a good taste, but a higher cost to benefit the farmers in third world countries. The ad describes Fair-trade JMax coffees as “Fair-trade JMax Coffee - Better coffee for you, Better life for farmers. Our coffee has simply outstanding flavor - expertly crafted to bring out sweetness and intensity. Fair-trade coffee is defined as coffee for which a fair wage has been paid to the coffee farmers who
live in third world countries.” JMax Coffee is priced at $6.99, while Fair-trade JMax Coffee is priced at $7.35. The materials used are shown in Figure 10 below.

![Coffee Ads](image.png)

**FIGURE 10: SAMPLE MATERIALS (EXPERIMENT 2)**

After being exposed to the two coffee ads, participants were asked to write down the thoughts that came to mind when looking at the two products: JMax Coffee and Fair-trade JMax Coffee. Then, participants were asked to think about the two coffee products and indicate the highest price they would be willing to pay (WTP) for JMax Coffee and Fair-trade JMax Coffee, respectively. Participants further completed questions that related to their mood and their attitudes toward fair-trade products. Mood is measured by a seven-point semantic scale with four items of “sad-happy,” “bad mood-good mood,” “irritable-pleased,” and “depressed-cheerful” (Lee and Sternthal, 1999, Swinyard, 1993). Attitudes toward fair-trade products were measured
by a seven-point semantic scale with three items of “very negative-very positive,” “very unfavorable-very favorable,” and “very bad-very good” (Tormala and Petty, 2007; Peck and Wiggins, 2006).

Results

Dependent measure.

A linear regression was conducted with categorization mindset and SRCB as the independent factors and the difference in the indicated WTP between JMax and Fair-trade JMax Coffee as the dependent variable (WTP-DIFF). WTP-DIFF captures how much more participants are willing to pay for a product that benefits others. In other words, it captures the extent to which one is willing to sacrifice their self-interest in order to contribute to the interests of others. The results revealed a significant interaction between categorization mindset and SRCB ($\beta_{\text{mindset} \times \text{SRCB}} = .38, p < .05$) but the main effects of categorization mindset ($\beta_{\text{mindset}} = -.05, p > .8$) and SRCB ($\beta_{\text{SRCB}} = - .36, p > .1$) are both non-significant. The significant interaction indicates that the effect of categorization mindsets on one’s WTP-DIFF differs when one’s SRCB varies. To further examine the interaction relationship, a spotlight analysis was conducted on the continuous measure of SRCB. Two groups of high and low SRCs were created. For high socially responsible consumers (H-SRCs), those with a MM are willing to pay a much higher price for Fair-trade JMax Coffee than for JMax Coffee. Specifically, H-SRCs in a MM condition are willing to pay $2.00 more for Fair-trade JMax (other-oriented option) but only $0.25 more in a UM condition and $0.37 more in a control condition. This confirms that a MM enhances one’s socially responsible consumer behavior for H-SRCs and led H-SRCs to pay about 8 times as much as they would if they were in a UM and over 6 times as much as they would if they were in
a control condition (H-SRCs: $M_{\text{multidimensional}} = 2.00$, $M_{\text{unidimensional}} = .25$, $M_{\text{control}} = .37$) (see figure 11).

Similarly, for low socially responsible consumers (L-SRCs), those with a MM indicate the lowest WTP-DIFF, implying that they are least likely to pay more for other-oriented products. Specifically, L-SRCs with a MM, on average, are willing to pay $1$ less for the other-oriented option, indicating that they are not willing to pay extra to help others. In contrast, L-SRCs with a UM is willing to pay $0.38$ dollars more for Fairtrade JMax and those in the control condition is willing to pay $0.60$ more for Fairtrade JMax Coffee. Hence, a MM also enhances the low tendency to be socially responsible for L-SRCs and led L-SRCs to less pay more than what they would pay if they were in a UM or the control condition (L-SRCs: $M_{\text{multidimensional}} = -1.00$, $M_{\text{unidimensional}} = .38$, $M_{\text{control}} = .60$) (see figure 11). Hypothesis H4 is supported in that H-SRCs respond differently from L-SRCs toward the other-oriented option when they are in a MM relative to a UM. Thus, the results of Experiment 2 are consistent with the results of Experiment 1 providing support to the breadth of processing route.

**FIGURE 11: WTP-DIFF (EXPERIMENT 2)**
Additionally, a 3 (mindset: MM vs. UM vs. Control) x 2 (altruism: high vs. low) ANOVA were conducted with WTP- JMax as the dependent variable. The results indicated a main effect of SRCB (F (2, 50) = 5.86, p < .02), showing that H-SRCs indicated a lower WTP for JMax Coffee compared to L-SRCs (M_{H-SRCs} = $6.12, M_{L-SRCs} = $7.12). However, there is no interaction between categorization mindset and SRCB (F (1, 50) = .41, p > .6), showing that there is no enhancing effect of categorization mindset on one’s willingness to pay for a self-oriented product. A summary of participants’ indicated WTP for JMax Coffee is shown on the second row of table 2.

<table>
<thead>
<tr>
<th>Mindset</th>
<th>Unidimensional Mindset</th>
<th>Multidimensional Mindset</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRCB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTP-JMax</td>
<td>L-SRCs</td>
<td>H-SRCs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$7.05</td>
<td>$5.35</td>
<td>$8.00</td>
</tr>
<tr>
<td>WTP-Fairtrade JMax</td>
<td>$7.05</td>
<td>$5.35</td>
<td>$8.00</td>
</tr>
</tbody>
</table>

A 3 (mindset: MM vs. UM vs. Control) x 2 (altruism: high vs. low) ANOVA were also conducted with WTP-Fairtrade JMax Coffee as the dependent variable. The results indicated no significant main effects of categorization mindset (F (2, 51) = 2.24, p > .1) or SRCB (F (1, 51) = .23, p > .6). However, a significant interaction between categorization mindset and SRCB (F (2, 51) = 3.8, p < .03) revealed that there is an enhancing impact of multidimensional mindset on consumers’ WTP for Fairtrade JMax Coffee (other-oriented option). Specifically, H-SRCs are willing to pay much more for Fairtrade JMax in a MM (M_{MM} = $9.00) than in a UM (M_{UM} = $5.60) or a control condition (M_{control} = $6.44). In contrast, L-SRCs are willing to pay less for Fairtrade JMax in a MM (M_{MM} = $7.00) relative to a UM (M_{UM} = $7.43) or a control condition.
(M_{control}= $7.48). Hence, the overall results show support to the “breadth of processing” route where a MM triggers an enhancing impact and leads to an extreme responses from low and high SRCs. However, the enhancing impact takes place only for the other-oriented option (Fair-trade JMax) but not for the self-oriented option (JMax).

Open-ended responses

The open-ended responses were coded based on whether the participants mentioned anything about themselves and others when viewing the two ads. The coding of the responses was broadly categorized as either “mention of self” or “mention of others”. Mention of self includes comments that relate to self-benefits or self-sacrifice. Self-benefits could be external (e.g., “The JMax Coffee is cheaper than the Fairtrade”, “JMax is cheaper. It also looks of good quality,” etc.) or internal (e.g., “It makes me feel good knowing the workers got paid with a honest wage”, “I would feel better about myself supporting fair-trade”) and self-sacrifice could be connected with a positive attitude (e.g., “I would much rather purchase more expensive brand because my money is also going to those in need”) or with negative attitude (e.g., “I cannot afford to pay more”). Mention of others includes comments that relate to other-benefits, which could be associated with positive attitudes (e.g., “It’s nice to know that farmers were being taken care of”) or with negative attitudes (e.g., “No one pays fair pay to third world country employees,” or “I don’t care about how much the farmers make. I care about how much I spend”).

Two judges, who are blind to the conditions and the predictions of the experiment, coded the open-ended responses based on the two broad categories: mention of self and mention of others. The inter-judge agreement was 82 percent. Categorizations on which the two judges
disagree were further given to a third expert judge to categorize. The results of the coding indicate that, overall, mention of self is more frequent than mention of others. About 70% of the participants mentioned something about themselves, but only approximately 30% of the participants mentioned something about others. This provides some evidence that the dimension of self-outcome is more salient than the dimension of other-outcome. Self-outcome is more likely to be considered when one makes decisions.

**FIGURE 12: DOMINATION OF OTHER-ORIENTED THOUGHTS OVER SELF-ORIENTED THOUGHTS**

The open-ended responses were further classified as either self-oriented thoughts or other-oriented thoughts. Self-oriented thoughts include comments relate to external benefits to self, sacrifice of self with a negative attitude, and benefits to others with a negative attitude. Other-oriented thoughts include comments relate to internal benefits to self, sacrifice of self with a positive attitude, and benefits to others with a positive attitude. I further subtracted self-oriented thoughts from other-oriented thoughts and thus any positive values will imply a dominance of other-oriented thoughts over self-oriented thoughts whereas any negative values will imply a dominance of self-oriented thoughts over other-oriented thoughts. As shown in
figure 12, a greater dominance of other-oriented thoughts took place for H-SRCs in a MM and a greater dominance of self-oriented thoughts took place for L-SRCs in a MM relative to UM or control condition. In addition, the enhancing impact of MM on WTP-DIFF is shown to be mediated by the dominance of other-oriented thoughts (CI = .1392 to 2.0578), as shown in figure 13.

![Diagram](image)

**FIGURE 13: MEDIATION OF DOMINANCE OF OTHER-ORIENTED THOUGHTS (EXPERIMENT 2)**

*Control measures*

Both control factors of mood ($\beta_{\text{mood}} = -.18, p > .6$) and attitude toward fair-trade products ($\beta_{\text{attitude}} = -.002, p > .9$) have no impact on one’s WTP-DIFF. In addition, there were no interactions between categorization mindset and mood ($\beta_{\text{mindset x mood}} = .08, p > .6$) nor interactions between categorization mindset and one’s attitude toward fair-trade products ($\beta_{\text{mind x attitude}} = -.03, p > .8$). Hence, neither mood nor attitude toward fair-trade products alter the impact of a categorization mindset on one’s social decisions ($F (12, 88) = .88, p > .5$). A non-significant interaction between attitude and categorization mindset also demonstrated that participants’ attitudes toward fair-trade products do not alter the effect of categorization mindset on one’s social decisions ($F (7, 99) = 1.31, p > .2$).
Discussion

The results of Experiment 2 replicated the results of Experiment 1 and found that MM has an enhancing impact on one’s individual differences (e.g., high vs. low socially responsible consumers). H-SRCs respond differently from L-SRCs in a MM relative to a UM. MM enhances the higher tendency of H-SRCs to be socially responsible and led H-SRCs to be willing to pay about twice as much as they would if they were in a UM or a control condition. In contrast, a MM also enhances the lower tendency of L-SRCs to engage in socially responsible consumer behaviors and led L-SRCs to be willing to pay much less than they would be willing to pay for the fair-trade product (other-oriented option) if they were in a UM or a control condition.

The open-ended responses also provided important insight. The results imply that self-outcome is more likely to be considered across all conditions. While a majority of the participants mentioned something about themselves when exposed to the two ads, a relatively smaller proportion of participants mentioned something about others. In addition, the analysis of the open-ended responses also lend support to the enhancing impact of MM. Specifically, a MM tends to generate more thoughts about self for L-SRCs and fewer thoughts about self for H-SRCs relative to a UM.

The next experiment examines the underlying process of the enhancing impact via: 1) a direct manipulation of the presentation mode; that is, either a joint presentation mode or a separate presentation mode and 2) the examination of the distinction bias. Different presentation modes will make a direct comparison of self-outcome and other-outcomes either available or unavailable. While in all of the previous experiments the participants were presented with all of the options simultaneously, it is predicted that the enhancing effect of MM will diminish if the product options are presented separately rather than jointly. When participants are shown only
one of the options, either the self-oriented option or the other-oriented option, the opportunity to make comparisons between self-outcomes and other-outcomes will be removed. When participants are exposed to only one of the options, they have no idea how much more they are paying for the other-oriented option relative to the self-oriented option nor do they know how much difference they make to farmers by purchasing the other-oriented option. The separate presentation mode makes the comparison between self-outcomes and other-outcomes unavailable even when a MM is created. For example, in a joint presentation condition, a MM may stimulate a consideration of “Am I willing to pay $0.36 more (self-outcome) to help the farmers (other-outcome)?” whereas, in a separate presentation condition, participants are faced with the question of “Am I willing to pay $7.35 for the Fair-trade JMax Coffee?” where no direct comparison between self-outcome and other-outcome is made.

In addition, the distinction bias is examined by measuring participants’ perceived difference in price (self-outcome) as well as their perceived difference in benefits to farmers (other-outcome). It is predicted that less altruistic individuals will perceive a greater price difference between the two options when they are in a MM relative to a UM. In contrast, highly altruistic individuals will perceive a greater difference in the benefits to the farmers between the two options when they are in a MM relative to a UM. Thus, the objective of Experiment 3 is to examine the underlying process of the categorization mindset on one’s social decisions by: 1) making a comparison between the self-outcomes and the other-outcomes available (i.e., joint presentation mode) or unavailable (i.e., separate presentation mode) and by 2) measuring the perceived difference in price (self-outcome) and the perceived difference in benefits to farmers (other-outcome).
EXPERIMENT 3

Method

A 3 (categorization mindset: unidimensional vs. multidimensional vs. control) x 3 (presentation mode: joint vs. JMax coffee only vs. Fair-trade JMax coffee only) between-subject design was conducted with 726 participants recruited from an M-turk panel (46% Female, mean age = 31.3). Participants were first asked to complete several questions that capture their level of altruism with the same measure used in experiment 1. Participants will then be classified as “highly altruistic individuals” vs. “less altruistic individuals” via spotlight analysis. After completing the questions on altruism, participants were exposed to the manipulation of the categorization mindset with the process described in the pretest.

After completing the altruism measure and the categorization mindset manipulation, participants in the joint condition were shown the same two coffee ads used in Experiments 2 (see Figure 10). JMax Coffee is priced at $6.99 and Fair-trade JMax Coffee is priced at $7.35. Participants in the separate condition were either shown the self-oriented option of JMax Coffee or the other-oriented option of Fair-trade JMax Coffee.

After seeing the ad(s), participants were asked to indicate their purchase intention for each coffee option (joint condition) or one of the coffee options (separate condition). Purchase intention was measured by two statements of “How inclined/willing would you be to purchase JMax Coffee/Fair-trade JMax Coffee?” with responses on a seven-point scale anchored at 1 (“not at all inclined/willing”) to 7 (“very inclined/willing”) (White and Peloza, 2009). Participants in
the joint presentation condition were also asked to indicate how different do they think of the prices of the two coffee options as well as how different they think of the two options in terms of their benefits to the farmers. Both questions were measured on a seven-point scale, ranging from “not at all different” (1) to “very different” (7). Finally, participants were asked to indicate their income level at the end of the survey.

Results

Altruism and purchase intention for Fairtrade JMax Coffee

A 3 (unidimensional vs. multidimensional vs. control) x 2 (high altruism vs. low altruism) x 2 (Joint vs. Fairtrade JMax only) ANOVA was conducted on the dependent variable of purchase intention for Fairtrade JMax Coffee. The presentation condition of “JMax only” was not included in this analysis as the focus is to examine how participants across different conditions respond to the other-oriented option of fair-trade JMax coffee. However, all conditions will be included in the next analyses for further examination. The results indicated significant main effects of altruism (F (1, 133) = 18.49, p < .001) and mindset (F (2, 133) = 4.38, p < .05), while the main effect of the presentation mode is not significant (F (1, 133) = .14, p > .7). The main effect of altruism indicated that highly altruistic individuals are more likely to purchase Fair-trade JMax Coffee when compared to less altruistic individuals (M_{low altruistic} = 3.99, M_{high altruistic} = 5.21). The main effect of mindset indicated that those with a MM are more likely to purchase Fair-trade JMax Coffee when compared to those with a UM (M_{unidimensional} = 4.17, M_{multidimensional} = 5.0). Further, there is a significant two-way interaction between categorization mindset and altruism (F (2, 133) = 6.48, p < .01) indicating that highly and less altruistic individuals respond differently to Fair-trade JMax coffee in the MM condition (M_{low} = ...
altruistic = 4.29, M_{high altruistic} = 5.5) relative to the UM condition (M_{low altruistic} = 4.1, M_{high altruistic} = 4.3).

More importantly, there is a significant three-way interaction among categorization mindset, altruism, and presentation mode (F (2, 133) = 3.50, p < .05) indicating that the interaction between categorization mindset and altruism changes when the presentation mode is altered. As illustrated in Figures 14a and 14b, the enhancing impact of MM diminished when the presentation mode switches from the joint presentation (M_{L-altruism} = 4.1, M_{H-altruism} = 5.8, t (131) = -2.77, p < .01) to the separate presentation mode (M_{L-altruism} = 4.6, M_{H-altruism} = 5.1, t (131) = -0.65, p > .5). This implies support for the prediction that MM activates a direct comparison between self-outcomes (e.g., price) and other-outcomes (e.g., benefits to farmers) when evaluating the presented options. However, the direct comparison became unavailable when the self-oriented option and the other-oriented option were presented separately rather than jointly leading to a diminishing of the enhancing impact of the MM.

**FIGURE 14A: PURCHASE INTENTION FOR FAIR-TRADE JMAX COFFEE (JOINT CONDITION)**
In the UM, less altruistic individuals and highly altruistic individuals indicate similar responses toward Fair-trade JMax Coffee when the product ad is presented jointly with JMax Coffee ($M_{L\text{-altruism}} = 4.5$, $M_{H\text{-altruism}} = 3.5$, $t (131) = 1.61, p = .11$) (see Figure 14a). When the Fair-trade JMax is presented separately from JMax Coffee (see Figure 14b), highly altruistic individuals respond more positively toward Fair-trade JMax Coffee as compared to less altruistic individuals ($M_{L\text{-altruism}} = 3.6$, $M_{H\text{-altruism}} = 4.8$, $t (131) = -2.01, p < .05$). For participants in the control condition where no mindset is explicitly primed, they respond similarly to Fair-trade JMax Coffee when it is presented jointly with JMax Coffee and when it is presented separately. Specifically, highly altruistic individuals respond more positively toward Fair-trade JMax relative to less altruistic individuals in both joint presentation conditions ($M_{L\text{-altruism}} = 4.2$, $M_{H\text{-altruism}} = 5.3$, $t (131) = -3.28 p < .01$) (see Figure 14a) and the separate presentation condition ($M_{L\text{-altruism}} = 3.7$, $M_{H\text{-altruism}} = 5.1$, $t (131) = -3.48, p < .01$) (see Figure 14b).

**Responses toward JMax versus Fairtrade JMax**

I further examined whether participants respond differently toward JMax Coffee and Fair-trade JMax Coffee across different conditions. It is suggested that if one perceives a greater difference between JMax and Fair-trade JMax Coffee, they tend to react differently toward the
two coffee options. The results indicated that participants with a UM respond similarly toward JMax and Fair-trade JMax coffee regardless of how the presentation mode or level of altruism varies, as illustrated in Figure 15a. A similar response toward JMax and Fair-trade JMax implies that those with a UM tend to perceive the two coffee options to be similar and, as such, indicate similar purchase intentions toward both coffee options (low altruism and joint presentation: \(M_{JMax} = 4.34, M_{Fairtrade} = 4.5\); high altruism and joint presentation: \(M_{JMax} = 3.8, M_{Fairtrade} = 3.5\); low altruism and separate presentation: \(M_{JMax} = 3.3, M_{Fairtrade} = 3.6\); high altruism and separate presentation: \(M_{JMax} = 4.3, M_{Fairtrade} = 4.8\)). In contrast, participants with a MM respond differently toward JMax and Fair-trade JMax Coffee across all conditions, as shown in Figure 15b. This implies that those with a MM perceive the two coffee options to be different from each other and indicated different purchase intentions toward JMax versus Fair-trade JMax Coffee (less altruism and joint presentation: \(M_{JMax} = 3.15, M_{Fairtrade} = 4.1\); high altruism and joint presentation: \(M_{JMax} = 4.23, M_{Fairtrade} = 5.8\); less altruism and separate presentation: \(M_{JMax} = 3.6, M_{Fairtrade} = 4.6\); high altruism and separate presentation: \(M_{JMax} = 3.3, M_{Fairtrade} = 5.1\)).

FIGURE 15A: PURCHASE INTENTION FOR JMAX VS. FAIR-TRADE JMAX (UM)
FIGURE 15B: PURCHASE INTENTION FOR JMAX VS. FAIR-TRADE JMAX (MM)

The results of the control condition provided some additional insights though there were no predictions explicitly made as to how participants in the control condition may respond to self-oriented options vs. other-oriented options. As illustrated in Figure 15c, less altruistic individuals responded differently toward the two coffee options when the ads were presented separately ($M_{\text{JMax}} = 4.9$, $M_{\text{Fairtrade}} = 3.7$), but not when the ads were presented jointly ($M_{\text{JMax}} = 4.1$, $M_{\text{Fairtrade}} = 4.23$). In contrast, highly altruistic individuals responded differently toward the two options when the ads were presented jointly ($M_{\text{JMax}} = 3.4$, $M_{\text{Fairtrade}} = 5.28$), but not when the ads were presented separately ($M_{\text{JMax}} = 5.2$, $M_{\text{Fairtrade}} = 5.1$).

One possible explanation for the responses that occurred in the control condition could be provided by the evaluability hypothesis (Hsee, 1996). Hsee (1996) suggests that attributes that are hard to evaluate independently (difficult-to-evaluate attributes) are more impactful in a joint evaluation mode, while attributes that are easy to evaluate independently (easy-to-evaluate attributes) are more influential in a separate evaluation mode. Therefore, as less altruistic individuals respond to the two coffee options differently in the separate condition, it is possible that the attribute that they used as a main basis for evaluation is easier to evaluate independently. In contrast, as highly altruistic individuals respond to the two coffee options differently in a joint
condition, it is possible that the attribute they used as a main basis for evaluation is difficult to evaluate independently. Thus, while less altruistic individuals tend to be more sensitive to self-outcomes their evaluations are more likely to be based on the price of the product. Similarly, while highly altruistic individuals tend to be less sensitive to self-outcomes their evaluations are more likely to be based on the benefits to farmers. As such, price could be an easy-to-evaluate attribute and becomes more influential in a separate condition, while benefits to farmers could be a difficult-to-evaluate attribute that becomes more influential in a joint condition.

![Figure 15C: Purchase Intention for Jmax vs. Fair-trade Jmax (Control)](image)

*FIGURE 15C: PURCHASE INTENTION FOR JMAX VS. FAIR-TRADE JMAX (CONTROL)*

*Distinct bias*

To examine whether the distinction bias explains the enhancing effect of MM, a mediation analysis was conducted with perceived price difference and perceived benefits to farmers as two potential mediators. It was predicted that less altruistic individuals will perceive the difference that relates to self-outcome (i.e., price difference) to be greater between the two
coffee options in a MM condition relative to a UM and highly altruistic individuals will perceive the difference that relates to other-outcome (i.e., benefits to farmers) between the two coffee options to be greater in a MM condition relative to a UM.

I used the PROCESS application provided by Hayes (2012) to estimate the indirect interaction effects of the categorization mindset and altruism on purchase intention toward Fair-trade JMax Coffee via the perceived difference between the two coffee options (as shown in Figures 16 and 17) using 5,000 bootstrap samples. The results of the mediation analysis indicated that the perceived difference of benefits to farmers mediates the interaction between the categorization mindset and altruism on one’s purchase intention toward Fair-trade JMax Coffee (CI= -2.7628 to -.3673) as illustrated in Figure 16. Thus, Hypothesis H1 is supported. However, the bootstrap method indicated that perceived price difference does not play a significant mediating role regarding the interaction between the categorization mindset and altruism on purchase intentions for Fair-trade JMax Coffee as shown in Figure 17. Thus, H2 was not supported. The reasons as to why H2 is not supported will be further discussed in the discussion section.

FIGURE 16: MEDIATION TEST (OTHER-OUTCOME) (MM=1, UM = 0, * p < .1, ** p < .05, *** p < .001)
**Income Effect**

Experiment 3 also examines the potential confound of the income effect with the effort to tease out the possibility that the level of income may be a key factor in determining one’s purchasing decision toward an other-oriented option. The results indicated a low and non-significant correlation between altruism and income level (Pearson correlation = .06, \( p > .1 \)). This indicates that the enhancing impact of MM triggers extreme responses from those with high and low altruism and this enhancing impact is not confounded by the income effect. More importantly, the three-way interaction still remains significant after controlling for income level (\( F(6, 292) = 2.08, p = .06 \)) and there is no impact by income level on one’s purchasing intentions toward Fair-trade JMax Coffee (\( F(1, 292) = .43, p > .5 \)).

**Discussion**

The results of Experiment 3 indicate that the enhancing impact of MM is driven by the activation of a comparison between self-outcomes and other-outcomes. The enhancing impact only takes place when a direct comparison is made available via joint presentation mode, but the effect diminishes when the direct comparison between self-outcomes and other-outcomes is made unavailable via separate presentation mode.
Further, a comparison of participants’ responses to JMax versus Fair-trade JMax Coffee implies that those in a UM perceive no difference between the two coffee options and respond similarly to the two coffees, while those in a MM perceive a greater difference between the two coffee options and respond differently to the two coffees. The control condition indicates that price plays a more important role in the separate presentation condition, while benefits to farmers play a more important role in the joint presentation condition. The results imply that price is an easy-to-evaluate attribute, while the benefits to farmers are difficult to evaluate. In other words, participants tend to have some general knowledge about how much coffee typically costs and could easily evaluate price independently without additional price information. However, fair-trade certification is not an attribute that one tends to look for when purchasing coffee unless it is explicitly presented to consumers. Therefore, it is more difficult for consumers to evaluate to what extent the product benefits farmers without having other options presented jointly as a point of reference. In addition, two mediation analyses were conducted to examine whether perceived differences of self-outcomes (price) and perceived differences of other-outcomes (benefits to farmers) mediate the enhancing effect of MM on one’s purchase intentions for Fair-trade JMax Coffee. The results reveal that perceived differences of the benefits to farmers mediates the interaction of the categorization mindset and altruism on purchase intentions for Fair-trade JMax, while perceived price difference does not mediate such a relationship. A possible explanation as to why perceived price differences fail to play a mediating role could be due to its ease in evaluability (Hsee, 1996). Hsee and Zhang (2004) suggest that the distinction bias will not occur in a comparative evaluation mode when individuals are evaluating an attribute that is easy to evaluate independently. In other words, when individuals have sufficient knowledge about the attribute, they can easily evaluate its desirability without requiring any additional information or
having other options presented jointly. Thus, for easy-to-evaluate attributes, the non-comparative curve of the attribute (as noted in Figure 1) will resemble its comparative curve. There will be no comparative/non-comparative difference.

Finally, Experiment 3 teases out the potential confound of the income effect and demonstrates that income has no effect on one’s purchase intentions toward Fair-trade JMax Coffee nor does it influence the enhancing impact of MM in a joint presentation mode. More importantly, there is no significant correlation between altruism and income level. This removes the potential confound of the income effect.
GENERAL DISCUSSIONS

Conclusions and implications

At present, an increasing number of marketers have been making efforts to satisfy the needs of society given the importance of fulfilling social responsibilities. Consumers are exposed to many different products where their purchase will influence not only themselves, but also society as a whole. For example, there are a variety of green products on the market that reduce the harm to the environment, fair-trade certified products that provide fair wages to farmers, or brands that emphasize no testing on animals. Consumers’ purchasing decisions will not only affect them personally, but they could potentially make a difference in the environment, farmers, animals, and so forth.

However, helping others comes with a cost on the customers’ end. Brands that become fair-trade certified charge consumers a higher price (Carlson, 2013) and environmentally friendly products also tend to be more expensive than non-green products. Thus, a main focus of this dissertation is to examine how and why consumers make decisions between self-oriented options and other-oriented options. While prior research focuses on one’s individual characteristics or relational factors that determine one’s choice regarding other-oriented options, I identify a non-relational factor of the categorization mindset that could influence one’s social decisions.

Across three experiments, this dissertation demonstrates that simple tasks can create different categorization mindsets and further alter one’s social decisions. Categorization mindset can be created via different product layouts, survey questions using different scale points or
including fewer or more responses to choose from (Ulkumen et al., 2010), or even having consumers participate in simple categorization or grouping tasks. The results of the three experiments indicate that these simple and unrelated tasks can make substantial differences as to how consumers make their subsequent social decisions.

I determine that categorization mindsets alter one’s information processing breadth thereby further generating different evaluation modes. Specifically, those with a MM tend to process both dimensions of self-outcomes and other-outcomes simultaneously activating a comparative evaluation mode where one compares self-outcomes against other-outcomes when evaluating the presented options. In contrast, those with a UM tend to focus only on the salient dimension without processing all of the accessible dimensions simultaneously activating a non-comparative evaluation mode. A comparative evaluation mode triggered by a MM leads to a distinction bias where consumers perceive the difference between the self-oriented option (e.g., JMax coffee) and the other-oriented option (Fair-trade JMax coffee) to be greater. I found that highly altruistic individuals perceive the difference of other-outcomes (e.g., benefits to farmers) to be greater between the two coffee options when they are in the MM as compared to the UM. However, less altruistic individuals did not perceive the difference of self-outcomes (e.g., price) to be greater between the two coffee options when they are in the MM relative to a UM. This result could be due to the easiness of evaluability of price where the distinction bias diminishes for easy-to-evaluate attributes (Hsee and Zhang, 2004).

In addition, I found that consumers with a UM do not see JMax Coffee and Fair-trade JMax Coffee to be different and indicate similar purchasing intentions for both coffee options. However, consumers with a MM indicate a strong preference for one coffee option over the other, indicating that they see the two coffee options to be different with different purchase
intentions. Several potential confounds were also teased out of the experiments by examining participants’ mood, attitudes toward fair-trade products, and one’s income level.

The findings of this dissertation provide several conceptual, as well as managerial insights. From a conceptual perspective, this dissertation contributes to the social decision literature by introducing a non-relational factor of categorization mindset. While creating categorization mindsets seem simple and unrelated to one’s social decisions, it leads to substantial differences in the way consumers make decisions that potentially influence others. More importantly, this dissertation controls for a neutral relationship between participants and the target subject (e.g., an acquaintance who is neither a great friend nor a great enemy, farmers in third world countries) to ensure that there are no relational effects. The findings suggest that categorization mindset is influential even when a neutral relationship is involved.

Additionally, while prior research has focused on individual characteristics and situational relational factors independently without looking at how they may interact with each other, I examine how one’s individual characteristics, such as altruism or SRCB, interacts with the non-relational factor of categorization mindset and further impacts one’s social decisions. This is important as it provides insight regarding how the situational factor of categorization mindset could trigger different impacts when consumers have different characteristics.

Further, I contribute to the decision-making literature and demonstrate that different evaluation modes can be activated by how consumers mentally process information without changing the physical presentation of the products. In other words, while past research has shown that comparative evaluation modes can be activated when products are presented jointly and non-comparative evaluation modes can be activated when products are presented separately, this dissertation indicates that those with a UM activate a non-comparative evaluation mode even
when the products are presented jointly. Thus, different evaluation modes do not necessarily
depend upon how the products are presented. Instead, they can also be activated based on how
consumers mentally process information; that is, whether they have a UM or a MM.

Moreover, this dissertation adds some insight regarding the predictions of the distinction
bias. While prior research has indicated that the distinction bias tends to occur in a comparative
evaluation mode, I determine that the distinction bias may lead to different enhancing effects
depending upon one’s motive. As demonstrated in Experiment 3, highly altruistic individuals
with a MM perceive Fair-trade JMax Coffee to generate greater benefits to farmers when
compared to JMax Coffee. However, less altruistic individuals do not perceive any such
difference between the two coffee options. This is because one tends to search, process, and
encode information in a way that is consistent with one’s motive. The distinction bias works
differently when one’s social motive varies. In other words, the distinction bias generates
enhancing effects in the direction that is consistent to one’s social motives.

Finally, this dissertation finds that when MM is activated, one’s altruism orientation can
create a greater impact on one’s social decisions. Highly and less altruistic individuals respond
differently toward other-oriented options when they are in a MM relative to a UM. Thus, while
prior research has indicate that one’s motive may bias information processing (De Dreu, Nijstad,
and Knippenberg, 2008), I find a reverse relationship where different information processing
styles (UM vs. MM) influence the extent to which motive (high vs. low altruism) impacts one’s
social decisions.

From a managerial perspective, the findings of this dissertation provide inexpensive
approaches for managers to alter consumers’ social decisions via creating categorization
mindsets. It has been shown that categorization mindsets can be easily triggered through
different simple tasks. For example, managers can simply change the layout of product displays where products are categorized based on a few or multiple dimensions. Managers can also have consumers fill out an unrelated survey with questions using few scale points vs. many scale points or include questions with a few or many responses for consumers choose from. In addition, managers can directly alter consumers’ evaluation modes via different presentation modes or explicitly make self-other comparisons salient vs. non-salient.

Additionally, retailers can use the findings of this dissertation strategically in a way that works toward their advantage and also in the best interests of society. For example, for retailers, such as Walmart, where targeted customers tend to be more price-sensitive, it will be more advantageous to trigger a unidimensional mindset where consumers perceive no significant price difference between self-oriented options (e.g., non-green products, non-fair-trade products, etc.) and other-oriented options (e.g., green products and fair-trade products) increasing consumers’ purchasing intentions for products that are slightly more expensive, but beneficial to society. This could potentially increase sales for the retailers and, at the same time, contribute to society by reducing harm to the environment or helping farmers in the third world countries. However, for retailers, such as Wholefoods, where targeted customers tend to be more interested and have the ability to purchase products that tend to be beneficial to society (e.g., green products, organic products, fair-trade products, etc.), it will be more advantageous to trigger a multidimensional mindset where consumers perceive a greater difference between other-oriented options and self-oriented options in terms of the product being less harmful to the environment or generating a positive impact on society as a whole. Therefore, marketers need to clearly know the profile of their customers and utilize categorization mindsets in a way that creates a win-win situation for the firm and for society overall.
Directions for Future Research

There are several directions for future research that could yield advanced understanding and knowledge as to how consumers make social decisions. First, the findings of this dissertation indicate that the distinction bias does not occur when examining perceived price differences between self-oriented options and other-oriented options. One possible explanation is that price is an attribute that is easy to evaluate independently as consumers may have certain knowledge regarding how much coffee typically costs. To further examine the validity of this explanation, future research needs to manipulate the evaluability of attributes that relate to self-outcomes and other-outcomes and determine how the evaluability of attributes influences the enhancing effect of MM and, accordingly, what actions marketers should take.

In addition, I made the assumption that self-outcomes, by default, are more salient than other-outcomes. This assumption is suggested by the prior literature and is also supported by the open-ended responses in Experiment 2. However, to further understand how consumers process salient and non-salient dimensions in social decisions, future research should manipulate the saliency of self and other dimensions and examine whether the results would differ if other-outcomes are made more salient than the self-outcomes.

Moreover, future research should examine whether the results of this dissertation could be generalized to non-human targets, such as the environment or animals. As this paper includes stimuli that look at how consumers make decisions between options that primarily benefit themselves and options that benefit other people (e.g., acquaintance or farmers), it will be interesting to examine whether the enhancing effect of MM can be generalized to non-human subjects. This is because consumers tend to feel psychologically closer to other humans as
compared to non-human targets, such as animals or the environment. Thus, it will be important to determine whether the effects of categorization mindsets are limited to human targets or could be expanded to a broader context. If categorization mindsets can be shown to be influential toward non-human targets, it will be beneficial to marketers in promoting other-oriented buying and consumption behaviors across different product categories.

This dissertation also adapted the manipulation used in Ulkumen et al (2010). Future research is needed to examine different tasks that will be effective in creating categorization mindsets. Other possible manipulations could include using different visual presentations when presenting options or products to participants or having survey questions asked in a hierarchical way. For example, when asking about participants’ eye color, the first question can simply include four responses of brown, blue, green, and gray where only one dimension is involved. If the participants choose the color brown, the next question will be “what kind of brown best describes your eye color” where the second dimension (type of brown) comes into play. Researchers can ask questions in a hierarchical way by starting with a simple question where only one dimension is used, then asking the second question by introducing another dimension, and so forth. This method could potentially have participants thinking along multiple dimensions thereby developing a multidimensional mindset.

Finally, I examined one’s evaluation mode indirectly by 1) making direct self-other comparisons available via joint presentation modes and making the comparison unavailable via separate presentation modes and 2) measuring perceived differences in self-outcomes (e.g., price) and perceived differences in other-outcomes (e.g., benefits to farmers) to examine the distinction bias that tends to take place in a comparative evaluation mode. Future research can examine the evaluation modes more directly by using advanced technologies. For example,
researchers can use mouse lab techniques to examine how consumers in different categorization mindsets use information to evaluate the presented options and make social decisions accordingly. Another technology that may be useful is the eye tracking technique as it captures patterns of information processing and patterns of decision-making providing additional insight as to how consumers with different mindsets make social decisions.
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APPENDIX: IRB EXEMPTION LETTER
RE: Exempt Certification
IRB#: Pro00013026
Title: Categorization mindset and consumers' focus of individual utility or joint utility

Study Approval Period: 6/2/2013 to 6/2/2018

Approved Items:
Protocol Document:
Protocol ver #1, 5.10.13.docx

Consent Script:
Consent form, ver #1, 5.10.13.docx

Dear Ms. Kuo:

On 6/2/2013, the Institutional Review Board (IRB) determined that your research meets USF requirements and Federal Exemption criteria as outlined in the federal regulations at 45CFR46.101(b):

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.
As the principal investigator for this study, it is your responsibility to ensure that this research is conducted as outlined in your application and consistent with the ethical principles outlined in the Belmont Report and with USF IRB policies and procedures. Please note that changes to this protocol may disqualify it from exempt status. Please note that you are responsible for notifying the IRB prior to implementing any changes to the currently approved protocol.

The Institutional Review Board will maintain your exemption application for a period of five years from the date of this letter or for three years after a Final Progress Report is received, whichever is longer. If you wish to continue this protocol beyond five years, you will need to submit a new application at least 60 days prior to the end of your exemption approval period. Should you complete this study prior to the end of the five-year period, you must submit a request to close the study.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

[Signature]

Kristen Salomon, Ph.D., Vice Chairperson

USF Institutional Review Board