DECOY EFFECTS IN A CONSUMER SEARCH TASK

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ABSTRACT

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Research by Huber, Payne, and Puto (1982) revealed that the addition of a third alternative to a choice set can lead to a redistribution of the choice probabilities for the two existing alternatives, such that one alternative that had not previously been preferred over the other becomes the favored alternative. The results of that study violated both the principles of regularity and similarity, and these findings have since been replicated in numerous studies. The present research was designed to address a potential limitation of these previous studies. Specifically, to the author’s knowledge, no study had yet examined the effect of introducing a decoy alternative to a choice set after the other alternatives have already been presented. This tendency to present all alternatives simultaneously may be a significant limitation for two reasons. First, there is an issue of ecological representativeness: In an actual shopper’s experience, all relevant products are not typically available concurrently. Second, studies of non-instrumental information search indicate that the relative weighting of information may depend on how and when the information was obtained with participants typically placing greater weight on the newly acquired information. Thus there are theoretical grounds to expect a decoy to have different effects on choice, depending on whether the decoy occurs concurrently with, or subsequent to, the other alternatives. In the work reported herein, the effect of inviting or directing participants to search for an asymmetrically dominated decoy alternative was examined to determine whether the act of searching for a third alternative influences participants’ preference for the available alternatives. In the present research, participants were more likely to select the asymmetrically dominated alternative when they had been given the option to search for that alternative than were participants who either had the same alternative
shown to them immediately, or participants who were directed to search for the third alternative. In general, these findings replicated the results of previous studies, in that the addition of a third, inferior alternative to a choice set led to a significant preference for one alternative over the other. However, this same preference shift was not evident when participants sought out the inferior alternative, either voluntarily or when directed to do so.
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INTRODUCTION

Consumer Decision Making

There is a large body of research pertaining to the marketers' competition to gain the consumer’s attention, money, and loyalty. This research includes experiments and theoretical models that are designed to further the understanding of the decision-making behaviors of consumers, and that may enable manufacturing and marketing companies alike to take advantage of such tendencies. The goal of much of this work is to identify factors that increase the choice share, or the rate at which one alternative is preferred over another, for a given product (Pan, O’Curry, & Pitts, 1995; Simonson, 1989). Choice share (also called "market share," e.g., Köhler, 2007; Simonson & Tversky, 1992; Tversky & Simonson, 1993) is a measure of what proportion of the consumer interest will be directed toward a particular alternative. For example, two products that are comparable in features, price, and quality rating will tend to have a roughly equal choice share. However, further research, reviewed below, has determined that this choice share can be manipulated by adding an inferior alternative, a phenomenon known as the decoy effect.

A number of theories describe the steps by which a choice is made. One example is Tversky’s (1972) elimination by aspects theory, which asserted that decision-makers think of each option as a collection of traits. A decision maker first decides which traits are most important and then removes from consideration any option that does not have those traits. Thus, a consumer considering what car to buy might first exclude any models that do not have air conditioning and power steering, followed by those lacking cruise control. One explanation for this method of decision making is that it is easy for the decision maker to justify his or her final
choice. A series of studies conducted by Slovic (1975) supported Tversky’s theory of elimination by aspects, revealing that participants expressed priorities in their decision making.

There is also research examining how the decision making processes can be manipulated. For instance, Slaughter, Sinar, and Highhouse (1999) explain that salespeople may understand the benefit of showing customers an inferior product alternative, and that this may account for why salespeople seldom present customers with only one example of a particular product. Further, research from Simonson, Carmon, and O’Curry (1994) revealed that the addition of a feature or premium to a brand-name product, such as the opportunity to buy a collector’s edition plate, can actually reduce the choice share for that product. Conversely, pointing out a minor defect on another product, such as a small scratch on the side panel of a television that is being sold at a reduced cost, may actually increase the choice share for the defective product at the expense of similar non-damaged products. From these findings, the authors concluded that consumers may actually be dissuaded from purchasing a product when the product is accompanied by a bonus feature that was intended to increase sales, whereas a product with a slight defect that does not impact the functional quality of the product might actually see an increase in market share.

The principle of independence from irrational alternatives addresses the counterintuitive findings of Simonson, Carmon, and O’Curry (1994), as well as those of many other researchers. Also known as the contraction consistency (Neumann, 2007), the principle of independence from irrational alternatives is an important tenet of rational choice theory and choice behavior (Herne, 1996; Highhouse, 1996; Tversky & Simonson, 1993). Originally described as the independence of irrelevant alternatives by Arrow (1951), this principle states that alternatives that are added or removed should not influence choice behavior for the pre-existing alternatives that are still
available. In short, the principle states that if \( X \) is consistently preferred to \( Y \) in rank ordering, the same should be true independent of any other options that might be added to or removed from the situation. The example provided by Arrow (pp. 26) described an election in which people vote by rank-ordering all of the candidates in order of preference. If one of these candidates were to die or if a new candidate entered the race, it should not alter the voter’s ordering of the remaining candidates. In other words, the voter’s rank ordered list should remain the same, except for the removal of the deceased candidate or the addition of the new candidate. Thus, in a choice set containing alternatives \( X, Y, \) and \( Z \) in which \( X \) is preferred over \( Y, X \) should always be preferred over \( Y \), even if \( Z \) is removed as an available alternative or if a fourth alternative \( V \) is added to the choice set. Several years after Arrow’s publication, Luce (1959) suggested that a better wording for the principle would be independence from irrelevant alternatives because the alternatives were not necessarily independent of each other (e.g., the candidates in the example above were not completely independent of each other as they were all competing in the same election and may have shared certain fundamental beliefs).

A heavily-researched variation of the independence from irrelevant alternatives is the principle of regularity. According to regularity, the addition of any alternative to a given choice set should not lead to an increase in the choice share for one of the existing options (e.g., Doyle, O’Connor, Reynolds, & Bottomley, 1999; Heath & Chatterlee, 1995; Highhouse, 1996; Huber, Payne, & Puto, 1982; Köhler, 2007; Tversky, 1972). Several authors have further explained regularity in terms of choosing from two sets, Set A and Set B, illustrated in Figure 1 below. This explanation states that for any alternative \( X \) with membership in Set A, which is a subset of Set B, the probability of choosing \( X \) from Set A is greater than or equal to the probability of choosing \( X \) from Set B (Huber, Payne, & Puto, 1982; Köhler, 2007; Tversky, 1972). In other
words, imagine that Set A includes the alternatives in the original choice set, \(X\) and \(Y\), and because Set A is a subset of Set B, Set B also includes alternatives \(X\) and \(Y\), as well as the added third alternative \(Z\). The probability of choosing \(X\) from Set A would be .5 whereas the probability of picking the same alternative from Set B would be .33. Thus, according to regularity, the probability of choosing a given alternative would not be expected to increase with the addition of another alternative (i.e., alternative \(Z\)).

![Figure 1. Depiction of the principle of regularity. Demonstrates that the probability of choosing alternative \(X\) from the subset Group A (.50) is greater than the probability of choosing the same alternative from the whole set included in Group B (.33).](image)

As an example of regularity, imagine that there are two similar MP3 players for sale, both having the same features and differing only in terms of the sale price and the mean user rating with one MP3 player having the lower price and the other having a higher mean user rating. Consumers will likely be split evenly between the two products, with some preferring to spend less money to purchase the item while other consumers are willing to spend more money and purchase a product with a higher user rating. Regularity stipulates that if a third MP3 player is added to this choice set, the addition should not lead to a higher choice share for either of the MP3 players initially available.
Simonson and Tversky (1992) explained that the violation of regularity is also a violation of value maximization. As described by Tversky and Shafir (1992), value maximization is the theory that a decision maker assigns a subjective value to each available option according to his or her preferences, and then selects the option that is of greatest value to the decision maker. Simonson and Tversky explain that the added option should not influence how the existing options are valued. For example, if a consumer is willing to pay more for a DVD player with a greater number of features, rather than purchase a cheaper base model, the choice share for the former product will be greater than that for the latter. However, if the addition of a third DVD player that is more expensive than the base model and yet has fewer features than either of the other DVD players, leads the consumer to purchase the base model, this change in preference violates both regularity (because the added item increased the choice share for an existing product) and value maximization (because the value assigned by the consumer is not utilized in making the decision or is altered by the addition of another option).

Another concept related to regularity, called the similarity effect, refers to the theory that when a new alternative is added to a choice set, the addition will detract the greatest choice share from the other alternatives to which it is most similar (Doyle, O’Connor, Reynolds, & Bottomley, 1999; Huber, Payne, & Puto, 1982; Huber & Puto, 1983; Köhler, 2007; Simonson, 1989; Tversky, 1972). For example, Tversky (1972) describes a situation in which a consumer has the opportunity to buy one of three recordings: One record is a suite by Debussy and the other two are different recordings of the same symphony by Beethoven. Assuming each of the three recordings is of equal quality and the consumer has no preference for one composer over the other, one would expect the choice share for each of the three recordings to be approximately .33. However, Tversky explains that the similarity of the two recordings of Beethoven would
likely lead a consumer to group them together as a single consideration and thus the choice share for the Debussy recording would be .5, reducing the choice share for each of the Beethoven recordings to .25. In other words, if there was only one recording of a symphony by Beethoven in the choice set, the choice share for both the Beethoven and Debussy recordings would likely be close to .5, but the inclusion of a similar product (i.e., the second Beethoven recording) detracts from the choice share of the first Beethoven recording. Huber and Puto (1983) expand on this, explaining that two products that are very similar or nearly identical, such as two recordings of the same symphony by Beethoven, would attract the same consumers whose interest between the two recordings would likely be equally divided, unless there were a particularly important distinction between the two (e.g., one recording is from the Berlin Philharmonic Orchestra while the second recording was produced by a small community college).

For both regularity and similarity, there is also research suggesting that the violation of either of these principles does not necessarily indicate an irrational choice. Such violations are thought to be due to context effects, described as changes in behavior and preferences due to what other options the consumer encounters or has encountered in the past (Ratneshwar, Shocker, & Stewart, 1987; Simonson & Tversky, 1992). There are two types of context effects: background effects and local effects. As explained by Simonson and Tversky (1992), background effects refer to the way in which past experiences or options that had previously been available influence the consumer’s decision. For example, a consumer may avoid purchasing items from a particular clothing line after purchasing a shirt and finding that all of the buttons had fallen off the first time the shirt was washed. Background effects may also refer to
previous knowledge (e.g., having seen the same product for a lower price elsewhere, the consumer might be less likely to buy it now) or awareness of the experiences of others.

The other type of context effect is the local effect, which refers to the influence that concurrently available alternatives have upon the decision maker. Local effects may be of greatest concern to manufacturers, franchise owners, and store managers because it is possible to control what products are offered concurrently, whereas it is more difficult to monitor what experiences a consumer may have had in the past with a given product. Thus, for a manufacturer or store owner, there may be many ways in which the context can be manipulated in order to increase the choice share of a particular product. Huber, Payne, and Puto (1982) explain that one method might be for the manufacturer to produce and market a second product that is inferior to the first. According to this idea, the choice share for Alternative A may be increased with the addition of an inferior Alternative B. Because Alternative A dominates Alternative B on important attributes (e.g., Alternative B having a higher price, fewer features, and poorer user ratings) the consumer’s attention is more likely to be drawn to Alternative A and thus potentially increasing it’s choice share. Several authors have explained that this shift in attention may be due to the change in the consumer’s perception of how the alternatives relate to one another (Choplin & Hummel, 2005; Hedgecock, Rao, & Chen, 2009; Köhler, 2007; Wedell, 1991; Wedell & Pettibone, 1996). In other words, the addition of Alternative B to the choice set made it possible for the consumer to consider the pros and cons of Alternative A in relation to those of Alternative B, and then to conclude that Alternative A was superior to Alternative B.

Context effects have also been observed with psychophysical stimuli, such as those pertaining to the gustatory (Riskey, Parducci, & Beauchamp, 1979) and olfactory (Pol, Hijman, Baaré, & van Ree, 1998) senses. Research conducted by Riskey and his colleagues revealed that
the sweetness rating of cherry-flavored sodas were significantly higher among participants who initially tasted drinks with lower levels of sucrose than among those participants who tasted samples with higher levels of sucrose. Likewise, the work from Pol, Hijman, Baaré, and van Ree indicated that participants who smelled a series of weak odors later rated the intensity of a new odor significantly higher than did participants who first smelled a series of strong odors. Thus, context effects are not limited to consumer decision making situations.

Relating to context effects, Payne, Bettman, and Johnson (1992) explained that characteristics of the situation or problem can influence decision making behavior, possibly leading people to use choice strategies or standards that they might not otherwise use. Corbin and Marley (1974) offer several possible scenarios in which violating regularity is a rational choice. One such situation is the dilemma of a guest who does not want to pick the most expensive meal on the menu in order to avoid possibly offending his hosts. The addition of a more expensive meal to the list of entrees, even if never ordered by a patron of the restaurant, could make the meal which had previously been the most expensive appear more appealing.

Offering further examples of rational violations of regularity, Sen (1993) argued that value maximization can vary with the situation and with the available options. For instance, someone might prefer having an apple with lunch rather than having a banana, and if two or more apples were available he or she would only have to choose which apple looked best. However, if only one apple and several bananas were left in the basket, this same person might place higher value on social convention (i.e., feeling that it is wrong to take the last apple) and in this situation choose to eat a banana instead. Wedell (1991) described these types of situations as examples of preference shifts, instances in which an otherwise rational decision maker is influenced by extraneous factors, such as wording in health and gambling scenarios (e.g.,
Tversky & Kahneman, 1981). In a review of the relevant literature, Payne, Bettman, and Johnson (1992) found that preference shifts were typically attributed to the frame provided to the decision maker, the decision maker’s strategies for selection, or how the decision maker weighted the available information. Wedell (1991) explained that there are three primary types of preference shifts: those induced by the type of task, those induced by the frame of the situation, and those induced by the context of the decision. The final type of preference shift, contextually-induced reversals, is the focus of the research reported herein.

**Effect of Decoys on Decision Making**

Whereas Corbin and Marley (1974) and Sen (1993) described hypothetical situations in which the rational choice would involve violating regularity, there have also been empirical studies of the violation of both regularity and similarity. Many such empirical studies have made use of dominated decoy alternatives. When added to an existing choice set (also referred to as the core set) the decoy is the alternative that is dominated by at least one of the existing alternatives and is consequently not expected to gain much if any of the choice share, yet influences the choice share of the existing alternatives (Choplin & Hummel, 2005; Heath & Chatterlee, 1995; Herne, 1997; Herne, 1999; Huber, Payne, & Puto, 1982; Huber & Puto, 1983; Ratneshwar, Shocker, & Stewart, 1987). Specifically, the decoy alternative typically leads to a greater choice share for the alternative to which the decoy is closest or most similar, taking from the choice share of the remaining alternatives. This shift in preference is a violation of Luce’s independence from irrelevant alternatives (1959), as well as regularity and similarity.

The inferior, decoy alternative may either be dominated by one or more of the other available alternatives, or non-dominated. As used in this research, the term "dominance" refers to the relative superiority of one alternative over another. For example, if two alternatives are
described in terms of each alternative’s list price and the mean user rating, a dominating alternative will have a higher mean user rating and a lower price. In this usage, one alternative only dominates another if it is superior to that other alternative on all available dimensions. Conversely, a non-dominating alternative is an alternative that is not superior to any of the other alternatives in the choice set on all of the described dimensions or attributes. Thus, if two alternatives are both non-dominating, one alternative may have the lowest price among alternatives in the choice set, but the other alternative may have the highest mean user rating.

Three different types of dominated and non-dominated decoy alternatives have been described in the available literature, illustrated in Figure 2 below. The first of these is the asymmetrically dominated decoy, which is dominated by at least one but not all of the alternatives on all of the given attributes, such as having a higher price and lower quality rating, than one of the dominating alternatives (e.g., Choplin & Hummel, 2005; Doyle, O’Connor, Reynolds, & Bottomley, 1999; Herne, 1997; Herne, 1999; Highhouse, 1996; Huber, Payne, & Puto, 1982; Köhler, 2007; Slaughter, Sinar, & Highhouse, 1999; Wedell, 1991; Wedell & Pettibone, 1996). Thus, because this decoy alternative is asymmetrically dominated by at least one other alternative in the choice set, it is not expected to attract any of the choice share.

The second type of dominated decoy is the symmetrically dominated alternative (Figure 2), an alternative that is dominated by all other alternatives in the choice set (Wedell & Pettibone, 1996). For example, a symmetrically dominated alternative would have the highest price and the lowest user rating among all alternatives in a choice set. Additionally, like the asymmetrically dominated decoy, the symmetrically dominated decoy would be expected to receive little to none of the choice share when included in a choice set because it is inferior to all other alternatives available.
Figure 2. Depiction of the target and competitor alternatives, as well as possible ranges for the dominated and non-dominated decoy alternatives. The target alternative (either $Q$ or $R$) will be the alternative closest to the decoy. For example, when the decoy alternative is either the asymmetrically dominated decoy $q$ or the viable decoy $q'$, the target alternative will be the closest alternative, $Q$. Conversely, when the decoy alternative is either $r$ or $r'$, the target will be the Alternative $R$.

Related research has also examined the effect of including a decoy alternative that is not dominated by any of the other alternatives in the choice set (Figure 2) but is typically viewed by participants as being inferior to at least one other alternative (this is known as the "attraction" or "compromise" effect; Huber & Puto, 1983; Köhler, 2007; Ratneshwar, Shocker, & Stewart, 1987; Simonson, 1989). Such a decoy is referred to as a viable decoy, meaning that it is not dominated by any of the other alternatives and thus may receive some of the market share, but is likely still perceived by the participant as being inferior to at least one of the other
alternatives (Doyle, O’Connor, Reynolds, & Bottomley, 1999; Herne, 1997; Herne, 1999; Huber & Puto, 1983; Kardes, Herr, & Marlino, 1989; Köhler, 2007; Ratneshwar, Shocker, & Stewart, 1987; Simonson, 1989; Simonson & Tversky, 1992). For example, a viable decoy may have a slightly lower price than one of the other alternatives in the choice set, but a much lower mean user rating. Thus, because the viable decoy has a lower price than the other alternative, it is not dominated, but because it also has a lower user rating it is not expected to receive much of the choice share.

**Effect of asymmetrically dominated decoys.** The first empirical examination of the effect of adding an asymmetrically dominated decoy to a choice set was conducted by Huber, Payne, and Puto (1982), which revealed that regularity and similarity could easily and consistently be violated with the addition of such a decoy alternative. The design implemented by Huber, Payne, and Puto utilized two different types of choice sets: a core set which included two alternatives belonging to the same product class (e.g., cars, beer, or television sets), and the experimental set which included the two alternatives from the core set plus a third asymmetrically dominated alternative. Within the core set, the authors’ specified one alternative as the target and the other as the competitor, and both of these alternatives were non-dominating. The term "target" was used because it was the choice share of this item that the researchers wanted to increase. In other words, if a manufacturer or store owner is endeavoring to sell more of a specific product, that product is being targeted with the goal of increasing the product’s choice share. Conversely, the competitor is any similar product that might also attract the consumer’s attention. For a manufacturing company attempting to increase interest in one of the products made by that company, a competitor product would be any similar item produced by a rival manufacturer that might also obtain some of the choice share. As the terms are used in this
field of study, the target and competitor are equal in all but two attributes and neither product is better than the other on both of those attributes (i.e., the target alternative may be superior on Attribute 1 but is inferior on Attribute 2).

The third alternative used by Huber, Payne, and Puto (1982) was an asymmetrically dominated decoy. The three-alternative choice set includes the same target and competitor alternatives included in the core set, as well as the asymmetrically dominated decoy alternative. When this decoy is asymmetrically dominated it is dominated by only the target alternative, meaning that it is inferior to both the target and the competitor on one attribute but inferior to only the target alternative on the second attribute. Thus, an asymmetrically dominated decoy is not expected to attract any of the choice share because it is dominated by one of the alternatives, the target. Figure 2 visually demonstrates the relationship between the target, competitor, and the three types of decoy alternatives (i.e., asymmetrically dominated, viable, and symmetrically dominated).

In this research, Huber, Payne, and Puto (1982) showed participants details such as the price and quality ratings for alternatives belonging to a particular product class and participants were asked to choose from a given set which product they would be most likely to purchase. Participants were told that aside from the two provided attributes (e.g., for cars, ride quality and gas mileage) there were no meaningful differences between the products. In the two-item choice set, both of the products were non-dominating (i.e., neither alternative was superior to the other on both traits). However, in the three-item choice sets, the alternatives from the core set were used with the addition of a third alternative, a decoy which was asymmetrically dominated, meaning that it was dominated by one but not both of the alternatives from the core set. Participants saw product descriptions from six different classes (beer, cars, film, lotteries,
restaurants, and television sets) and were asked to choose one alternative from each set. Huber and colleagues predicted that the inclusion of the asymmetrically dominated decoy alternative would lead participants to favor the dominating target alternative, thus violating regularity.

When the difference in the distribution of choice probabilities between the two-item choice set and the three-item choice set was examined, Huber, Payne, and Puto (1982) found that the choice share for the decoy-dominating alternative increased with the addition of the decoy, with the dominating alternative earning 53% of the market share when the decoy was absent and 56% when the decoy was present. Further, approximately 61% of the participants were asked to come back two weeks later and complete the task again, this time only seeing the two-item core choice sets (i.e., the dominating alternative and the non-dominating alternative). Among those instances in which the asymmetrically dominated decoy was chosen in the first session, 63% chose the dominating alternative in the second session.

As the authors had hypothesized, the results of the research by Huber, Payne and Puto (1982) revealed a violation of regularity and similarity when an asymmetrically dominated decoy alternative was added to the core set. More specifically, the principle of regularity stipulates that the addition of a new alternative to the available choice set cannot increase the choice share for any of the existing alternatives, yet the results indicated that overall choice share for the target alternatives increased significantly, taking from that of the competitor alternative. Additionally, the principle of similarity states that any added alternative will take some choice share from the alternative to which it is the most similar. However, Huber, Payne, and Puto explained that the decoy and the target are more closely related than the decoy and the competitor with regard to the two provided attributes, yet the addition of the decoy did not detract from the choice share of the target alternative but actually did the opposite.
Further work by Doyle, O’Conner, Reynolds, and Bottomley (1995) studied possible influences of different descriptions and situations for the task on consumer preference. The results obtained by Doyle and his colleagues supported the findings of Huber, Payne, and Puto, (1982) and found that the same effects of including an asymmetrically dominated decoy occurred even when the alternatives were considered to be low-involvement purchases (i.e., inexpensive and involved little risk) – both when the participant was asked which alternative they would buy for themselves and which alternative they believed most people would buy. Further, the authors found that in an actual shopping situation, consumers demonstrated significant preference for the higher-quality canned baked beans when the target alternative had the higher quality rating.

Addressing the concern that the asymmetric dominance effect could be due to the specific attributes used to describe differences between alternatives (e.g., price, quality rating, safety features, etc.), Choplin and Hummel (2005) utilized one-dimensional stimuli, such as lines of varying length. Participants were shown the primary example line, and then asked to indicate which of the three lines shown was most similar to the primary example line. The three choices included two alternative lines that were equally different from the primary example line in terms of length (e.g., line C⁻ might be seven millimeters shorter than the target line, whereas the line C⁺ might be seven millimeters longer than the target line), and a decoy line that was either shorter than C⁻ (D⁻) or longer than C⁺ (D⁺). Analysis of the responses revealed that when the choice set included the D⁻ decoy, participants were significantly more likely to select the line C⁻, and the reverse was found when participants were shown the D⁺ decoy, with the line C⁺ receiving the significant majority of the market share. Comparable effects were obtained when participants were asked to rate the similarity of each of the three lines included in the choice set to the primary example line. The authors concluded that the previously observed effects of adding an
asymmetrically dominated alternative were not due to descriptions of the alternatives and suggested that violations of the independence from irrelevant alternatives is not limited to situations in which participants saw alternatives described on two dimensions.

Research led by Wedell (1991) has also contributed greatly towards better understanding the effect of adding an inferior alternative to a choice set. Using a gambling scenario, Wedell utilized two different types of decoys that varied in their relationship to the dominating target alternative. Participants viewed gambles in choice sets with three alternatives, with the defining attributes for each alternative being the monetary amount that could be won and the probability that the participant would win that amount. Two of the alternatives in each choice set were the core alternatives and participants saw these alternatives paired together twice. The first time that the core set was shown, the third alternative in the choice set was dominated by one of the core alternatives, and the second time the core alternatives were shown, the decoy was dominated by the other core alternative. Thus, according to regularity, participants would select the same core alternative each time a particular choice set was shown because the decoy alternative, regardless of which alternative it favored, should have been dismissed. However, the data indicated that participants reversed their preferences, selecting the gamble that dominated the decoy, rather than choosing the same gamble both times. Thus, even when participants saw the same core alternatives twice, the presence of a decoy alternative led to an increase in the choice share for the alternative to which the decoy was most similar.

Concerned that the hypothetical gambling scenarios used by Wedell (1991) may not have been sufficient to induce participants to think seriously about the alternatives, Herne (1999) utilized similar gambles to examine the effect of a decoy in a non-hypothetical situation. Participants were shown a series of scenarios in which there were three alternative gambles (i.e.,
two core alternatives and a decoy alternative dominated by one of the core alternatives),
differentiated in terms of each gamble’s possible monetary prize and the probability of winning
that prize. Participants were then consider the monetary prize and probability of winning
associated with each alternative and to then indicate which alternative they would be most likely
to accept. After selecting an alternative from each of the choice sets, one of these choice sets
was randomly selected and each of the participants won the prize amount related to the
alternative they chose in the selected choice set. The collected data indicated that the decoy
effect was still evident even when real payoffs were offered, both in scenarios when the decoy
was inferior to the target alternative (asymmetric dominance effect) and when the decoy was a
viable, non-dominated alternative in comparison to the target alternative (attraction effect).

Further, Wedell and Pettibone (1996) compared the effects of asymmetrically dominated
decoys to decoys that were symmetrically dominated (i.e., inferior to both of the alternatives in
the core set), in situations where participants were asked to judge the suitability of the
alternatives, rather than choosing the best alternative. Participants were asked to judge
attractiveness of the listed products or services, the importance of the two traits described (e.g.,
for cars, ride quality and miles per gallon), how easily each of the alternatives could be justified,
and to estimate the value of each alternative’s ranking on both of the traits. Among participants
who examined choice sets including asymmetrically dominated range and frequency decoys,
Wedell and Pettibone found that the alternative in the core set to which the decoy was closest
received higher attractiveness, justifiability, and value ratings, but the reverse was true when
participants were asked about the importance of the two traits. Conversely, when participants
compared alternatives that included a symmetrically dominated decoy, results for the importance
and value ratings replicated those obtained in the experiment using asymmetrically dominated
alternatives, but the attractiveness and justifiability ratings were reversed. From these results, the authors concluded that the decoy alternative had a greater influence on judgments and choice when dominated by one rather than all alternatives (the decoy effect was not evident when the decoy alternative was symmetrically dominated).

In addition, a meta-analysis conducted by Heath and Chatterlee (1995) examined results from eight different reports concerning the addition of a dominated decoy alternative to a choice set. Each of these studies asked participants to examine choice sets of different product groups (e.g., beer, televisions, and cars) or consumer services (e.g., insurance companies and restaurants). Overall, the obtained results indicated that the inclusion of a dominated decoy led to an increase in the market share for the target product or service. This effect was stronger when the quality of the target alternative was superior to that of the competitor alternative. Additionally, in an experiment reported in the same article, Heath and Chaterlee compared undergraduates at a small community college to graduate students of a nationally-ranked MBA program at a semi-private university, with respect participants to choice preferences for car brands for beer brands. As the authors had predicted, the graduate students were more image conscious than the undergraduate students, as well as being more likely to buy the name brands and more likely to believe that generic store brands were not as good as national brands. Further, responses from the graduate students replicated the results obtained by the meta-analysis, emphasizing the importance of quality, whereas responses from the undergraduate students were the exact opposite, preferring low price to high quality.

**Effect of viable decoys.** Though not integral to the present study, an important variation of the asymmetric dominance effect is the attraction effect, which also involves situations in which a decoy influences decision making, thus violating regularity. However, the difference is
that the attraction effect refers to the effect of including a decoy that is not dominated by any of the other alternatives but is still relatively inferior (Köhler, 2007; Ratneshwar, Shocker, & Stewart, 1987). These decoys are also described as being viable because the decoy is slightly better than the target on one attribute but poorer on the other attribute, thus making it an impoverished choice in comparison to the target. As described by Heath and Chatterlee (1995), the inclusion of a viable decoy in a choice set increases the likelihood that a consumer will consider any trade-offs or gains between the decoy alternative and the other available alternatives, whereas an asymmetrically dominated decoy is typically dismissed from consideration, though it may continue to influence the consumer’s choice.

Following the work by Huber, Payne, and Puto (1982), Huber and Puto (1983) examined what effect a viable decoy might have on consumer decision making, proposing that a viable decoy added to a choice set might actually increase the choice share of the alternative to which the viable decoy was most similar. Also described as a positive similarity effect, this attraction effect is actually a violation of similarity. When participants were asked to choose from choice sets containing two alternatives, the choice share of the target and competitor alternatives was roughly equal. However, when these same participants were later asked to view the same choice sets with an added viable decoy, the competitor alternatives lost a significant proportion of the choice share to the decoy and target alternatives. Likewise, among participants who viewed choice sets including four alternatives described on three dimensions, the target (i.e., the alternative closest to the viable decoy) had a significantly greater choice share than would be predicted by regularity. Thus, Huber and Puto found that asymmetric dominance is not necessary to violate regularity. The authors further concluded that none of the existing models were sufficiently able to predict the effect of viable decoys.
Further research concerning attraction effects has also been conducted by Ratneshwar, Shocker, and Stewart (1987). Results obtained by Ratneshwar and colleagues replicated the results obtained by Huber, Payne, and Puto (1982) and Huber and Puto (1983) when participants were shown the standard description used by Huber and colleagues using both asymmetrically dominated and viable decoy alternatives. However, participants who were shown elaborated descriptions of the alternatives’ traits were less likely to be influenced by the presence of the decoy alternative, suggesting that showing participants elaborated descriptions of the alternatives may encourage participants to think about their own experiences and rely less on the provided information. Likewise, research from Kardes, Herr, and Marlino (1989) examined the effects of adding a dominated or a viable decoy to a core set and asking participants to make judgments concerning the available alternatives. The authors found that the inclusion of an asymmetrically dominated decoy led to an increased choice share for the target alternative but the same was not true with the inclusion of the viable decoy. Further, participants shown choice sets that included the viable decoy were more likely to view the target alternative as prototypical of the given product class, and rated the target alternative more favorably when the viable decoy was present than when participants only saw the core set.

Further work examining the attraction effect has been done by Simonson (1989). In one report, he examined the effect of telling participants that they could be asked to justify their choices, showing participants either the two-alternative core set or the three-alternative set including the viable decoy. When participants were shown the three-alternative choice set, Simonson found that in comparison to participants told that their responses would remain anonymous, participants told that their responses would be paired with their names and that each could be asked to justify his or her choices to the class demonstrated significantly greater
preference for the target alternative both in written and verbal responses. Subsequent studies also revealed that participants identified the target alternative as being the easiest to justify and least likely to be criticized.

Later, in collaboration with Tversky (1992), Simonson evaluated the influence of an alternative that was designed to appear inferior in tradeoff contrasts and extremeness aversion. A tradeoff contrast refers to the preference for a specific alternative, given the favorability or unfavorability of the other alternatives. The researchers found that when participants were asked state whether they would rather receive $6.00 in cash or a stylish brand-name pen, most participants chose cash, but when a less-popular pen was added to the choice set, choice share shifted to the original stylish pen. Simonson and Tversky explained that the inclusion of a second pen directed participants’ attention and subsequent choice preference towards the pens at the cost of the cash alternative, and the unpopularity of the decoy pen alternative made the stylish pen seem like a better choice.

The second focus of the report by Simonson and Tversky (1992) was extremeness aversion, which refers to the participant’s preference for alternatives that are neither the best nor the worst available. Simonson and Tversky explained that the extremeness aversion may be due to loss aversion, the idea that potential disadvantages outweigh potential gains. When participants were asked to choose between two cameras produced by the same company, the first being relatively inexpensive and having few features, and the second being a more expensive alternative equipped with superior features, the authors found that choice share for the two alternatives was split evenly. However, when a third camera was offered that was more than twice as expensive as the two cameras in the core set but was clearly of superior quality and had the highest number of features, choice share shifted towards the middle alternative that was
neither the least expensive nor had the greatest features. From this, Simonson and Tversky determined that an alternative that has neither the lowest price nor the highest number of features may appeal to the customer as being a compromise between the available extremes, a finding that is a violation of the between-ness inequality, which states that the addition of another alternative will detract the greatest choice share from the adjacent alternative.

**Decoy effects in politics and management.** Although the present study focused on consumer decision making behavior as it relates to the decoy effect, it is also important to explore real-world variations of the effect to understand the pervasiveness of the effect. The effect of adding a decoy alternative, either dominated or viable, to a choice set are not restricted to consumer choices and gambling situations, having also been demonstrated in political and social choices, as well as management decisions. For example, research has indicated that Ross Perot in the 1992 Presidential Election (Pan, O’Curry, & Pitts, 1995) and Ralph Nader in the 2000 Presidential Election (Hedgcock, Rao, & Chen, 2009) may have influenced the outcome of their respective elections by appearing to be decoy alternatives in comparison to the foremost candidates. Work from Pan, O’Curry, and Pitts revealed that when asked to consider the qualifications of George H. W. Bush, William J. Clinton, and Ross Perot regarding national defense and health care, participants demonstrated that they had already developed some opinions with regard to how they felt the candidates compared to one another on a given issue. Specifically, participant responses indicated that participants preferred the candidate who most consistently appeared superior to Perot on key concerns such as national security and health care. Thus, Pan and colleagues suggested that Ross Perot’s entrance into the election may have influenced the voters’ perception of which candidate was most qualified to be president, but
explained that there was no way to be certain as they had no indication of voter preference prior to Perot’s entrance into the election.

Similarly, Hedgcock, Rao, and Chen (2009) collected data which suggested that Al Gore might have actually benefited from Ralph Nader’s candidacy for president had Nader chosen to drop out of the election. Hedgcock and his colleagues suggested that, as a presidential candidate, Nader was perceived by many potential voters as being most similar though still inferior to Gore, thus making Nader a decoy alternative. However, fitting with the conclusions of Tversky (1972) that an added alternative will take the greatest share from the alternative to which it is most similar, the authors suggested that Nader’s entrance into the election might have attracted some of the choice share away from Gore. Based on this shift of attention, Hedgcock and colleagues explained that if Nader had chosen to end his candidacy prior to the election, voters who had been attracted to Gore would most likely have voted for Gore, thus likely changing the outcome of that election.

As a further example of real-world decoy effects, Herne (1997) described the results of a study in which participants were asked to read descriptions of different social concerns (e.g., taxation policies, social benefits for students, models for reducing unemployment in a large city, etc.) and to then indicate which of the listed alternatives they would vote for if they were a member of Parliament. Participants' responses indicated asymmetric dominance effects with the inclusion of an asymmetrically dominated decoy in the choice set, as well as attraction effects with the inclusion of a viable decoy in the choice set. For example, on issues such as taxation policies, programs for cleaning up a lake, and social benefits for students, participants demonstrated an increased preference for the superior alternative with the inclusion of a decoy alternative. In other words, this research indicated that the presence of a decoy alternative may
influence decisions for important political and social issues when the decoy should, according to the theory of independence from irrelevant alternatives, have no influence whatsoever. Further, this research suggested that the existence of inferior alternatives could sway decisions on important social issues, possibly having an overall detrimental effect on those involved.

Other authors have focused on the effects of including an asymmetrically dominated decoy alternative to a choice set in management situations. For example, similar work from Tyszka (1983) also focused on the effect of including a third dominated alternative on management-type decisions such as the selection of mining technologies, job candidates, and technology alternatives. In Tyszka’s work, participants saw sets of either two or three alternatives and each alternative was described by four different traits that indicated how all of the alternatives compared on each of the four attributes (e.g., A might be superior to B and X on Trait I, yet inferior to both B and X on Traits II, III, and IV). In the three-alternative choice sets, alternatives A and B were always in the same order (i.e., A inferior to B or B inferior to A) as was given in the two-alternatives choice sets, with the third alternative X included so that X remained inferior to both A and B though only dominated by one of the core alternatives. Overall, Tyszka found that the context of the decision significantly influenced participant decisions, and that participants failed to demonstrate constant utilities. In other words, the results indicated preference shifts between choices made by participants who saw two alternatives and those who saw three alternatives, suggesting that participants based their decisions on which alternative dominated X on the largest number of traits. Thus, participants may have been failing to consider which traits were most important to the decision at hand.

Also examining the effect of decoys in management decisions, research by Highhouse (1996) indicated that when participants were asked to determine which of three candidates would
be best suited for a management position at a problematic manufacturing plant, the inclusion of a decoy candidate led to significant shifts in choice with the target candidate attracting most of the attention. Further, similar effects were evident when participants were shown the information about the three candidates, and then told that one of the candidates, the asymmetrically dominated decoy, had already accepted a job offer elsewhere. Thus, decoy alternatives may have an influence on choice behavior even when the decoy alternative is no longer available. Highhouse referred to this as a phantom decoy effect and explained that it is not limited to hypothetical situations. For example, someone ordering from a printed catalog may have decided on what he or she would purchase, only to find that one of the desired products is sold out or is no longer being manufactured, which may in turn cause the consumer to decide not to purchase anything, or to purchase products he or she had not previously considered buying.

Extending the research on the influence of asymmetrically dominated decoys on hiring situations, Slaughter, Sinar, and Highhouse (1999) asked participants to watch videos of job candidates completing a short task, and asked participants to then choose a candidate. These authors used video recordings of performance rather than the type of quantitative, numeric descriptions used in much of the other work to determine whether the same decoy effects observed in previous studies also occurred when participants had to infer how the candidates compared with each other. Participant responses indicated that participant preference for the target candidate (i.e., the candidate to whom the decoy candidate was most similar with regard to the quality and quantity of the models created) was greater than that for the competitor candidate, though a preference shift was not evident. The authors concluded that decoy effects were evident when participants had to infer the tradeoffs among the job candidates.
Potential explanations for decoy effects. Several explanations have been offered to account for the violations of regularity and similarity. Köhler (2007) describes two possible explanations for the violation of regularity: changes in perceived importance of the dimensions, and the usage of heuristics in decision making. The first explanation refers to the change in how consumers perceive the available alternatives with the addition of the decoy. Also known as the dimensional weight model (Wedell, 1991) or the weight change model (Wedell & Pettibone, 1996), this explanation indicates that participants notice the attribute or dimension on which the target alternative is superior to both the competitor and decoy alternatives and consequently give more weight to that attribute, or view that dimension as a greater indicator as to which alternative is superior (Choplin & Hummel, 2005; Hedgcock, Rao, & Chen, 2009; Wedell, 1991; Wedell & Pettibone, 1996).

Intuitively, having information about three similar alternatives (i.e., the target, competitor, and decoy alternative) tells the consumer more about the range of alternatives than only having information about two of the alternatives. For example, if a consumer is interested in purchasing a new laptop computer and is having difficulty in deciding between a model with a 250 gigabyte hard drive and another with a 500 gigabyte hard drive, he or she may find that there are other laptops that have hard drives ranging from 80 gigabyte to one terabyte. Expanding the range of possible alternatives may then lead to the consumer developing a perceptual bias toward the initial alternatives, possibly making the 250 gigabyte hard drive seem superfluous in the presence of the 80 gigabyte hard drive, or the 500 gigabyte hard drive seem insufficient knowing that other laptops have twice the hard drive capacity.

Likewise, Tyszka (1983) concluded that participants who were shown three alternatives may have benefited over those participants who were shown only two alternatives because those
who saw three alternatives learned more about the context of the items in the core set. In other words, Tyszka suggested that choosing one alternative may have been easier for participants who saw three alternatives than it was for participants who saw only two alternatives because those who saw three alternatives were shown a dominating alternative (e.g., Alternative A over Alternative X), whereas participants who saw only two alternatives saw no dominating alternative. From this finding, Tyszka suggested that individuals who are having difficulty deciding between two or more items may be increasingly likely to seek out other similar alternatives, not necessarily because they feel that they will prefer one of the additional alternatives but rather they will use it to learn more about the context of the alternatives in the core set. Additionally, Simonson, Carmon, and O’Curry (1994) described previous research and explained that participants may assume that if information is given to them, it must have some relevance to the situation and thus participants try to incorporate the information.

The second potential explanation suggested by Köhler (2007) for the asymmetric dominance and attraction effects is the consumer’s usage of heuristics, such as the dominance heuristic (Highhouse, 1996). This explanation states that participants may choose the alternative that dominates at least one other alternative, either because the dominance is an indication of the superiority of the alternative or because the participant perceives that it would be easiest to justify choosing this alternative. Additionally, selecting the dominating alternative ensures that the most impoverished alternative will not be chosen (Choplin, & Hummel, 2005; Highhouse, 1996; Simonson, 1989; Simonson & Tversky, 1992; Wedell, 1991; Wedell & Pettibone, 1996). As Highhouse explains, if a decision maker chooses to select the target alternative simply because it is the only alternative that dominates the decoy, he or she may be trying to simplify a complex decision. Further, according to Wedell (1991), the dominance heuristic also explains
the absence of a decoy effect when the decoy was symmetrically dominated because neither of
the core alternatives could be distinguished as the dominate alternative.

A third explanation for the violations of regularity and similarity is loss aversion. Many
authors have noted that participants typically prefer avoiding losses and punishments over
obtaining rewards and prizes (e.g., Choplin & Hummel, 2005; Heath & Chatterlee, 1995;
Hedgcock, Rao, & Chen, 2009; Simonson, 1989; Simonson & Tversky, 1992; Tellis & Gaeth,
1990; Tversky & Simonson, 1993; Wedell, 1991). Consequently, decision makers may be more
likely to choose the alternative that they believe they will be least-likely to regret later, rather
than the alternative involving better gains with a potentially much greater risk or cost. This loss
aversion may lead to a greater preference for the target alternative because the target is clearly
better than the decoy alternative and is superior to the competitor on one trait. Thus, even if the
target alternative may not be the best choice, it is clearly not the worst.

**Disjunction Effect and Non-instrumental Information**

Another important area relating to the present study of consumer decision making
behavior is the disjunction effect, and by extension, the effect of non-instrumental information.
Much like the principle of independence from irrelevant alternatives, which states that
alternatives added to or removed from a choice set should not influence the choice share for the
pre-existing alternatives that are still available, the sure-thing principle also suggests a model for
rational choice, and the violation of this principle is known as the disjunction effect (Croson,
1999). Specifically, the sure-thing principle states that if someone prefers Alternative $X$ over
Alternative $Y$ when Event $A$ occurs and when Event $A$ does not occur, he or she should prefer
Alternative $X$ even when the occurrence of Event $A$ is uncertain (Savage 1954). In other words,
whether Event $A$ has occurred or not should be irrelevant if Alternative $X$ is preferred in either
Savage explains this principle in terms of a business man considering whether or not he wants to buy a particular property and wondering whether the outcome of the upcoming presidential election should influence his decision (pp. 21). After considering whether he would buy the property if the democratic candidate were elected and whether he would buy the property if the republican candidate were elected, the business man decides he would buy the property in either case and decides to purchase the property.

However, like the independence from irrelevant alternatives, researchers have also found evidence of violations of the sure-thing principle in hypothetical choice scenarios. The first study, conducted by Tversky and Shafir (1992), revealed that when participants were uncertain whether Event $A$ had occurred, they demonstrated a preference shift. In one scenario used by Tversky and Shafir, participants were asked to imagine that they had just completed a difficult qualifying exam and had recently heard about a well-priced five-day vacation package to Hawaii. Participants were further told that the package offer ended the next day so they would have to decide quickly whether they would purchase the package, but they had the option of paying a $5 non-refundable fee to retain the right to purchase the same package within the next two days. Among participants who were either told to imagine that they passed the qualifying exam and those who were told to imagine that they failed the examination, the majority chose to buy the vacation package, with less than one-third in either group choosing to delay the decision. Presumably, those who were told they had passed the examination felt this would be a suitable reward, and those who failed saw it as a chance to relax and recover from the disappointment. However, when participants were told that they did not yet know whether they passed or failed the exam, 61% chose to delay the decision and pay the $5.00 fee. Bastardi and Shafir (2000) explained that to the participant, waiting to find out the results of the test seemed like a
reasonable decision and probably did not consider that they would likely choose to purchase the vacation package, regardless of the outcome.

Using a hypothetical gambling scenario, Tversky and Shafir (1992) also reported that when participants were asked whether they wanted to accept a second gamble after finding out the results of the first, 69% of those who won the first gamble and 59% of those who lost the first gamble accepted the second. Conversely, when participants were told they would not find out the results of the first gamble until they decided whether they would accept the second, only 36% accepted the second gamble. From this, the authors inferred that these participants who were uncertain about the outcome of the first gamble were unwilling to accept a second gamble because the participants believed that the outcome of the first gamble would determine their willingness to accept a second gamble. However, the finding that both those who knew that they won and those who knew that they lost the first gamble tended to accept the second gamble would suggest that the outcome of the initial event did not matter in deciding whether to accept the second gamble. Thus, these findings suggest that research participants may not fully consider all available alternatives as effectively as the hypothetical businessman described by Savage (1954).

The term disjunction refers to a situation in which there are two foreseeable, though mutually exclusive, outcomes. In the gambling example from Tversky and Shafir (1992), the participant might either win the gamble or lose the gamble. Further, the disjunction effect refers to the participants’ tendency to deviate from the expected pattern of behavior owing to uncertainty experienced over the outcome of a given event. Contributing to the explanation of the disjunction effect, Bastardi and Shafir (1998) also explained that the uncertainty focused on one trait or dimension can cause the decision maker to continue focusing on the same attribute,
which could explain why the sought-after information is more heavily weighted than when the same the information had been available all along.

Kühberger, Komunski, and Perner (2001) further explained the results of Tversky and Shafir (1992) by saying that when a decision maker has all of the information that may seem relevant, he or she can typically think of a definitive reason for a particular course of action. However, when this same decision maker experiences uncertainty about the situation, he or she may have difficulty in forming a solid reason for making a particular choice and thus may choose the alternative he or she may not have otherwise chosen (Kühberger, Komunski, & Perner, 2001; Bastardi & Shafir, 2000). Results similar to those obtained by Tversky and Shafir (1992) have been found by other authors using different situations and scenarios. For example, work from Croson (1999) examined the disjunction effect in the context of the prisoner’s dilemma. Participants in the study were either asked to indicate whether they would cooperate or defect, or they were asked to predict what their opponent had decided to do and then indicate whether they themselves would cooperate or defect. Croson found that in these prisoner’s dilemma scenarios, more than 77% of those participants not asked to guess the decision of their opponent chose to cooperate, whereas only 55% of those directed to guess their opponent’s decision chose to cooperate. Additionally, research conducted by Hristova and Grinberg (2008) also utilized the prisoner’s dilemma, with participants competing against a computer program designed to cooperate and defect a set number of times. Results indicated that the rate of cooperation when participants did not know whether their opponent had cooperated was significantly greater than the rate when participants knew their opponent had defected, and the difference was marginally significant when participants knew the opponent had cooperated, suggesting that the uncertainty experienced by participants led to a preference shift, resulting in a poorer choice.
However, results counter to the disjunction effect have been obtained by several authors. For instance, Kühberger, Komunska, and Perner (2001) utilized a two-step gambling situation, similar to that used by Tversky and Shafir (1992), but varied the amount of hypothetical payoffs and offered participants actual payoffs. When offering participants hypothetical payoffs of the same amount offered by Tversky and Shafir, Kühberger, Komunska, and Perner found no indication of a disjunction effect among participants asked to decide whether they wanted to accept a second gamble before learning the outcome of the first, with the acceptance rate of those in the uncertain condition being only slightly lower than that of participants who knew they lost the first gamble. Additionally, when participants were offered an actual payoff, the rate of acceptance for the second gamble was actually higher among participants who did not yet know the outcome of the first gamble compared to those who knew they lost the first gamble. Collectively, the results from these two studies countered the conclusions reached by Tversky and Shafir (1992).

More recently, research from Bagassi and Macchi (2006), as well as Sun and Li (2008), has suggested that the some of the available work demonstrating a disjunction effect may be due to wording of the situation and the experimental design, rather than uncertainty experienced by the participant. For example, Bagassi and Macchi suggested that the disjunction effect was at least in part due to the emphasis placed on the participants’ knowledge of the situation. More specifically, in the gambling scenario by Tversky and Shafir (1992), Bagassi and Macchi felt that the original wording aggrandized the importance of knowing the outcome of the first gamble in deciding whether to accept the second gamble: “Imagine that the coin has already been tossed, but that you will not know whether you have won $200 or lost $100 until you make your decision concerning the second, identical gamble” (pp. 306). When Bagassi and Macchi revised
the wording to “The coin was tossed, but you don’t know whether you have won $200 or lost $100” (pp. 334), they found no evidence of a disjunction effect. Bagassi and Macchi concluded that the original wording led participants to feel as though they would be accepting the second gamble only to learn about the outcome of the first and that the disjunction effect was dependent on this confusion of objectives, rather than the uncertainty of having won or lost the first gamble. Likewise, the work by Sun and Li (2008) used the same conditions as Bagassi and Macchi but varied conditions within participants, rather than between. The results of this work supported those of Bagassi and Macchi, finding no evidence of a disjunction effect.

In addition to the research supporting and opposing the disjunction effect, other authors have also produced empirical evidence that suggests that the act of seeking out information may lead participants to place greater weight on the obtained information than they would have had the information been immediately available, also described as the effect of non-instrumental information. Work from Bastardi and Shafir (1998; 2000) describes non-instrumental information as any information or outcome that may seem relevant to the situation, but that should not influence a decision maker’s choice. As discussed above, it is also true that the presence of additional choice alternatives should have no influence on preference among the original options, but the term "instrumental information" refers only to information that is not itself a choice option. For example, the weather forecast would be instrumental to someone who would not go fishing when rain was predicted, yet this same information would be noninstrumental to someone else who would go fishing regardless. However, this same person who would typically be willing to fish no matter how bad the weather, might still look up the predictions for that day and despite his determination, a prediction of rain may be sufficient to cause him to stay home. Bastardi and Shafir (1998; 2000) explained that once the decision
maker has decided to seek out the additional, noninstrumental information, he or she may feel that this information must be relevant and useful, otherwise the decision maker would not have bothered to search for it.

The experimental evidence reported by Bastardi and Shafir (1998) supported their hypothesis concerning the effect of noninstrumental information on decision making. The authors found that when participants were asked to consider situations such as registering for a class without knowing who the instructor would be, evaluating applicants to Princeton University, deciding an applicant’s eligibility for a home loan, and deciding whether to purchase a CD player that is on sale, among those given the option to seek out further information that had been noninstrumental when immediately available, 68% accepted the offer. Additionally, this led to preference shifts in two of the four scenarios, evaluating applicants to Princeton and applications for home loans, and a redistribution of choice probabilities in the other two scenarios. Further, to determine whether these same findings would also be evident in real decisions, in comparison to the previous hypothetical scenarios, participants were invited to sign-up for a raffle in which the winner would have to pay a small fee to receive the item won. Bastardi and Shafir found that participants who were told that the fee would be $30.00 when they were informed of the option to sign-up for the raffle were more likely to sign-up for the raffle than those participants who did not know whether the fee would be $10.00 or $30.00. The authors contended that their findings added further support to the hypothesis that participants placed greater weight on the missing information than did other participants who had been given the same information at the beginning of the task.

Subsequent work by Redelmeier, Shafir, and Aujla (2001) surveyed a variety of medical professionals to examine the influence of noninstrumental information in medical decisions.
Redelmeier and his colleagues found that, in the control group, when participants were told up-front the outcome of a particular medical test, most rejected the proposed action (e.g., donating a kidney to a family member, recommending surgery over radiation therapy, or advising a pilot to continue a flight despite a possible medical emergency). In the experimental condition of this study, participants were not immediately told the outcome of the medical testing but were given the option of requesting the information, and were then shown the same results provided to participants in the control group.

Collected data revealed that the majority of the dialysis nurses asked to consider donating a kidney and the urologists asked to consider surgery sought out the additional information, leading to an increased rate of acceptance among the dialysis nurses but a decreased rate of acceptance among the urologists, compared with the responses when the medical information was immediately available. Conversely, 78% of the academic physicians made their decision without the additional medical information, but among those who did request the additional medical information the majority chose to recommend that the pilot continue the flight as planned despite a possible medical emergency, which was a reversal of the responses obtained when this information was immediately available. Thus, the majority of participants (i.e., dialysis nurses and academic physicians) demonstrated preference shifts after choosing to seek out the additional information, suggesting that the act of searching for further information influences decisions and that this influence may even be evident in important medical decisions.

More recently, Bastardi and Young (2010) investigated the influence of noninstrumental information in negotiation situations. Despite previous findings that negotiators often ignored or failed to search for information relevant to their cause, Bastardi and Young predicted that participants in the role of negotiators would be as likely to attribute too much weight to sought-
out information as had been reported by researchers of previous studies. In one experiment, participants were asked to imagine that they had to decide whether their group would protest unfair pricing in the campus bookstore or accept the compromise offered by the bookstore. In support of their hypothesis, the authors found that when participants were told immediately that the university would not penalize protesters, only 39% voted to protest. Conversely, the majority of participants who were told that the university would not decide for two days whether protesters would be punished chose to wait for the decision, and upon hearing that they would not be penalized the majority voted to protest. Thus, participants in the uncertain condition may have perceived the announcement that they would not be punished for protesting as good news and saw it as motivation to protest, although the same information did not have the same effect when presented at the beginning of the task. Comparable results were obtained in scenarios in which participants were asked to imagine that they were on a committee to decide the degree to which industrialized nations needed to reduce their greenhouse gas emissions, and when participants imagined that they were requesting more funding from the university to go towards recruiting minority students.

To summarize, there is a large amount of research examining the effect of adding an asymmetrically dominated decoy to a choice set, as well as research that studies the effect of adding a viable, non-dominated decoy to a choice set. Such research has consistently found that the addition of either type of decoy influences the choice probabilities of the alternatives in the core set in ways that violate Luce’s (1959) independence from irrelevant alternatives, regularity, and similarity. Although these changes in choice share may be viewed as irrational, several authors, as reviewed above, have put forth hypothetical situations in which such violations of regularity and similarity become the rational choice (e.g., Corbin & Marley, 1974; Sen, 1993).
Additionally, other work has examined the disjunction effect and, by extension, the preference shifts made when participants sought out noninstrumental information. This research has demonstrated that if participants have to seek out or wait for additional information, they will likely place greater importance on this information than if they had received the same information immediately.

**Present Research**

Despite the breadth of research available that examines the effect of adding a decoy alternative to a choice set, none of the studies previously cited utilized a situation closely resembling that experienced by a consumer. Specifically, each of these aforementioned studies provided the entire choice set simultaneously, suggesting that all relevant alternatives might be found at the same time in the same store. (Recall that the described investigations involving the search for additional non-instrumental information did not involve searching for additional choice alternatives.) Yet, seldom would it be the case that a single store might concurrently have in stock all products in a given category and having similar features. For example, a large online retailer might carry a wide variety of MP3 players but may be likely to only sell MP3 players from the most popular brands. Conversely, a smaller store may also sell MP3 players with the same or similar features and made of equal quality, but these players may not be produced by the popular brand names and thus might cost less than those players sold by the large online retailer. Consequently, if a consumer is trying to find the MP3 player that best suits his or her needs, it may be necessary to shop at more than one store. Thus, a contribution of the present research is that it examines decoy effects within a context that is ecologically representative of typical shopping situations.
Similar to the decoy effect, further research has found that withholding certain details of a situation may also lead to preference shifts of participants’ choices in a variety of situations, described as the effect of non-instrumental information. As discussed previously, research examining the effect of non-instrumental information on decision making has indicated that the delayed, non-simultaneous presentation of information may lead to preference shifts in choice tasks (e.g., Bastardi & Shafir, 1998; Bastardi & Young, 2010; Redelmeier, Shafir, and Aujla, 2001; Tversky & Shafir, 1992). Specifically, these studies revealed that when a detail about the hypothetical situation was immediately available to participants, that information had no influence on participants’ choices, yet acquiring the same information either by seeking it out or waiting led other participants to select a different course of action. Thus, participants imparted undue weight on non-instrumental information when this information was sought out, resulting in preference shifts. The present research examined whether the act of seeking out additional choice options influenced preferences for consumer goods and services. Specifically, it was expected that a decoy alternative that had to be sought out would be viewed more favorably than if the same decoy alternative were immediately presented to the decision maker, alongside any other available alternatives. If such was the case, that non-simultaneously presented decoy alternatives are weighted differently by consumers, it would suggest that regularity might not be violated in situations in which consumers must seek out additional alternatives.

The present research merged findings from research on the effect of including a decoy alternative in a choice set and the effect of a participant’s search for information. In particular, this research examined whether the preference shifts demonstrated in the work by Huber, Payne, and Puto (1982) and others would also be evident when participants have to search for the additional alternative. In the experiment described herein, all participants were shown several
alternatives from the same two product classes, airplane tickets and automobiles, and were provided with information concerning two important attributes for each product. For the airplane tickets, participants were told that the only differences in the available alternatives were between the lengths of the layover and price. The same or similar product alternatives were used by in some of the previous studies (Huber, Payne, & Puto, 1982; Huber & Puto, 1983; Ratneshwar, Shocker, & Stewart, 1987; Simonson, 1989; Wedell, 1991; Wedell & Pettibone, 1996). Among the automobiles, the only differences were each alternative’s estimated miles-per-gallon and ride quality rating, similar to the stimuli used by Huber, Payne, & Puto (1982) as well as Wedell and Pettibone (1996).

This research included a pilot study and an experiment. The pilot study was conducted to determine which product classes evoked the greatest preference shifts among the undergraduate students surveyed. The experiment included two control conditions and two experimental conditions. The control conditions differed in how many alternatives were shown to participants, with those in the two-alternative condition viewing only the target and competitor alternatives and those in the three-alternative condition viewing the target, competitor, and asymmetrically dominated decoy alternatives. As stated previously, the asymmetrically dominated alternative is a similar alternative that is inferior to the target alternative on both of the available attributes (e.g., for automobiles, the ride quality rating and estimated miles-per-gallon). In both control conditions, participants were asked to indicate which of the alternatives they would be most likely to purchase from the available set of airplane tickets and automobiles.

Participants in the experimental conditions, either voluntary search or forced search, initially saw only the target and competitor alternatives and had to search in order to find the third alternative. As the names suggest, participants in the voluntary search condition had the
option of searching for an additional alternative, whereas participants in the forced search condition were directed to look for a third alternative. For both conditions, the third alternative was the same asymmetrically dominated decoy seen by participants in the three-alternative control condition. Participants randomly assigned to the voluntary search were invited to choose either the target or competitor alternatives, or to search for a third alternative by checking to see if one of the fictional manufacturers (for automobile product classes) or airlines (for airplane ticket product class) offered a similar alternative. Conversely, participants assigned to the forced search condition were first directed to choose either the target or competitor alternative, and on the subsequent page were asked to search one of the three available manufacturers or airlines to see if another similar alternative might be available.

**Predictions.** Results from many reports have indicated that the inclusion of an asymmetrically dominated decoy typically increases the choice share for the target alternative while the decoy itself receives little to no choice share (Choplin & Hummel, 2005; Heath & Chatterlee, 1995; Herne, 1997; Herne, 1999; Huber, Payne, & Puto, 1982; Huber & Puto, 1983; Ratneshwar, Shocker, & Stewart, 1987). Thus, for the present experiment, it was predicted that in the control conditions when all available alternatives were presented simultaneously, the two-alternative and three-alternative choice sets would replicate the findings of previous work. In other words, in the two-alternative choice set, the target and competitor alternatives were expected to receive equal choice share, whereas in the three-alternative choice set the target was expect to receive a greater proportion of the choice share than either of the other two alternatives.

Among participants in the voluntary search experimental condition, it was predicted that most participants would accept the opportunity to view information about a third alternative as a means of learning more about the available alternatives. This prediction was based on the
findings of several previous studies. For example, work from Tyszka (1993) indicated that participants’ choices were influenced by the inclusion of an inferior alternative. From this, Tyszka concluded that participants used the inferior decoy alternative to better understand the context of the situation, comparing the strengths and weaknesses of each alternative, and suggested that when given the opportunity, a decision maker who lacks specific reasons for selecting one alternative over another will likely seek out more information. Research from Capon and Burke (1977) indicated that when given a fixed set of alternatives, consumers sought out more information about the alternatives when the products were durable (e.g., toaster ovens, steam irons) rather than non-durable. Likewise, Beatty and Smith (1987) explained that consumers typically report searching for more information when preparing to purchase a higher priced, durable product, likely due to the consumer’s perception of a greater risk associated with such purchases.

Additionally, the delayed, non-concurrent presentation of a decoy alternative in the voluntary search condition was expected to influence choice probabilities for the target and competitor alternatives. This prediction was based on previous findings regarding participants’ use of sought-out information, that when participants choose to search or wait for further details of the situation, they typically place greater weight on this information and allow it to influence decision making (Bastardi & Shafir, 1998; Bastardi & Young, 2010; Redelmeier, Shafir, & Aujla, 2001). Thus, it was further predicted that participants in the voluntary search condition who did not see the decoy alternative simultaneously with the core choice set and who chose to seek out the third alternative would be more likely to select the decoy out of the entire choice set than they would have been had the decoy been shown initially with the choice set. This was predicted because of an expectation that participants would feel that there was a greater
investment in this sought-out alternative. Specifically, among participants in the voluntary search condition, the choice share for the asymmetrically dominated decoy was predicted to be greater when participants had to seek out the decoy than when it is presented simultaneously with the core choice set, though the target alternative was still expected to receive the greatest choice share. Because the asymmetrically dominated decoy is inferior to the target alternative on both described traits (i.e., price and mean user rating), it was not expected to receive a greater choice share than the target alternative.

However, among participants in the forced search condition, it was expected that even after searching for the third alternative, participants would still choose the same alternative that was selected initially. This prediction was partially based on observations from Schwartz and colleagues (2002) that once some participants have found an alternative with which they are satisfied, additional options are likely to be ignored. Thus, although participants in both conditions had to invest roughly the same amount of time in searching out the third alternative, those in the forced search condition were directed to choose which alternative they would be most likely to purchase prior to searching for the third alternative, whereas participants in the voluntary search condition were able to search for the third alternative without seriously considering the two initially available alternatives (i.e., the target and competitor alternatives). Consequently, these participants might feel greater investment in the alternative they selected initially and thus were predicted choose the same alternative even after searching for the third available alternative.

Further predictions were also made with regard to the way in which participants’ selections from the available alternatives might be related to their responses to the Consumer Style Inventory and the Maximization scale. For the Consumer Style Inventory (Sproles &
Kendall, 1986), it was expected that participants in the voluntary search condition who scored high on the first factor, which assessed the participants’ degree of perfectionistic and high-quality seeking behaviors, would be more likely to search for the decoy alternative than participants who were rated as scoring low on the factor. This prediction was based on the assessment by Sproles and Kendall that consumers who are highly perfectionistic are also more likely to carefully search for additional alternatives. Additionally, when one of a particular alternative’s traits was price, it was also expected that participants who scored highly on the fifth factor, which assessed the participants’ level of price consciousness and tendency to favor lower priced items, would be more likely to choose the lower priced item. It was further expected that participants who scored highly on this factor would be less likely to be swayed by the inclusion of the decoy alternative, and thus would not select the target alternative as frequently as those participants who score low on this factor. Finally, participants who scored high on the sixth factor, which estimated the participants’ impulsive or careless shopping behaviors, were expected to be less likely to search for the additional decoy alternative when assigned to the voluntary search condition. This prediction was founded on the description from Sproles and Kendall, which explained that consumers who were highly impulsive in their shopping behaviors do not strive to find the best possible purchase, and thus participants scoring highly on this factor were not expected to feel that the addition of another available alternative would improve their chances of choosing a good product.

Likewise, predictions were also made with regard to the Maximization Scale developed by Schwartz and colleagues (2002). Regarding the first factor, which measured the participants’ openness to new things, it was predicted that participants in the voluntary search condition who rated high on this factor would be more likely to search for the decoy alternative. Because
participants who score high on this factor are generally open to trying new things, it was expected that they would also be less satisfied with two alternatives when the possibility of a third alternative might offer a chance to find something better. Likewise, the third factor was designed to estimate whether participants have high standards for themselves or those around them. It was predicted that participants who were rated as having high standards would be more likely to choose the alternative with the higher quality rating or higher cost, which could be perceived as an indicator of quality. Additionally, it was also predicted that participants who rated highly on this factor and were assigned to the voluntary search condition would be more likely to search for the decoy alternative than those participants who scored low on the factor.
GENERAL METHOD

Existing research, such as that conducted by Huber, Payne, and Puto (1982), as well as many subsequent studies (e.g., Choplin & Hummel, 2005; Doyle, O’Conner, Reynolds, & Bottomley, 1995; Heath & Chatterlee, 1995; Herne, 1997; Herne, 1999; Wedell, 1991; Wedell & Pettibone, 1996) has collectively determined that the inclusion of an asymmetrically dominated decoy in a choice set can lead to preference shifts. The present research used a design similar to that utilized by these previous studies. Specifically, participants in the present study were shown a number of similar product alternatives belonging to a particular product class and, using the information provided regarding two attributes for each product, asked to indicate which they would be most likely to purchase.

However, to address the possibility that the previous research conducted by Huber and others may not have offered participants an experience sufficiently similar to what is experienced by a real-world consumer, the present research asked some participants to search for an additional alternative, the asymmetrically dominated decoy. In other words, the present research was designed to examine whether the act of searching for an additional alternative leads to a preference shift in comparison to participant preferences when all three alternatives were concurrently available. Further, because the asymmetrically dominated decoy alternative is inferior to one other alternative, it would not be expected to receive much if any of the choice share, and according to regularity it also should not influence participants’ preference for the two other alternatives (Heath & Chatterlee, 1995). Thus, the asymmetrically dominated decoy is a type of non-instrumental information, meaning that the act of searching out that information (e.g., searching for that decoy alternative) should not lead to a preference shift. Based on the findings from research on the effect of non-instrumental information (e.g., Bastardi & Shafir,
1998; Bastardi & Young, 2010; Redelmeier, Shafir, & Aujla, 2001), it was expected that most of the participants in the voluntary search condition would choose to search for the third alternative. Moreover, it was also predicted that these participants who chose to search would thus be more likely to pick the decoy as the alternative they would be most likely to purchase in comparison to participants in the three-alternative control condition who saw the same decoy alternative. Conversely, participants who were directed to search for a third alternative (i.e., the forced search condition) had to indicate which of the core alternatives they preferred before searching for the additional alternative, and thus were expected to choose the same core alternative that they had chosen initially.

**Pilot Study**

A pilot study was first conducted to determine which of several different product classes would be most likely to elicit a preference shift among undergraduate students, and from this the stimuli for the experiment were chosen. Two of the product classes were developed by the experimenter and the other 11 were taken from published articles examining either the decoy effect, which included an asymmetrically dominated decoy, or the attraction effect, which included a viable decoy. Of the 13 product classes, two were of automobiles (i.e., Automobile A and Automobile B product classes) and two were of restaurants (i.e., Restaurant A and Restaurant B product classes), though different attributes were used for each product class (see Appendix D for the list of product classes borrowed from other research).

Participants in this study saw either two or three alternatives from each of the 13 product classes. Those participants who saw three alternatives saw the same core set shown to participants who saw two alternatives, as well as an asymmetrically dominated decoy alternative. For each product class, all participants were asked to indicate which alternative they would be
most likely purchase if they were interested in such an item. After completing this task, participants were asked to respond to some demographic questions and a series of questionnaires.

Participants. Ninety-three undergraduate students of Bowling Green State University participated in this pilot study (59 female, 34 male, $M = 19.42$ years old, SD = 2.018). Additionally, four participants quit the study before completion and three participants abandoned the study without answering any of the questions.

Design. Participants were randomly assigned to one of two conditions, either the two-alternative condition ($n = 46$) or the three-alternative condition ($n = 47$) and in each condition participants were show several similar alternatives from 13 product classes (see Appendix C for the stimuli). The conditions varied between participants. For each of the 13 product classes, participants in the two-alternative condition were shown the core set, the target (i.e., the alternative to which the asymmetrically dominated decoy alternative was most similar) and the competitor (i.e., the alternative to which the asymmetrically dominated decoy alternative was least similar) alternatives for that product class. Participants in the three-alternative condition were shown the same core set, as well as an asymmetrically dominated decoy alternative. The dependent variable was the alternative chosen by the participant for each product class, the target, the competitor, or the decoy.

Procedure. This study was conducted online using the Survey Gizmo tool. After signing up to participate, participants were provided with a web link that they could click on to access the study. At the start of the study, participants were asked to read the informed consent form and if they wanted participate, to indicate this choice at the bottom of the page. After agreeing to participate in the study, participants were randomly assigned to either the two-alternative or three-alternative condition.
At the top of the first page were instructions telling the participant that the task was designed to learn more about how consumers decide which product they will purchase when several similar alternatives are available, and that for each product class they should indicate which product or alternative they would be most likely to choose. After selecting a product from each of the 13 product classes, participants were taken to the next page which asked them to respond to a series of demographic questions (see Appendix F), which included a trick question designed to test whether the participant was paying attention and a question asking whether the participant had tried to seriously consider which alternative he or she would be most likely to purchase. Finally, participants were asked to respond to the Consumer Style Inventory (see Appendix H) and the Maximization Scale (see Appendix I). Once participants had finished responding to the two scales, they were redirected to a separate survey which asked them to enter their name and Bowling Green State University email address, and after entering this information they were shown a short debriefing statement (Appendix J) and the experiment was complete.

The Consumer Style Inventory of Sproles and Kendall (1986) assesses which decision-making styles most influence consumer choices and has been widely used in cross-cultural studies and has been extensively replicated (Bauer, Sauer, & Becker, 2006). The original form includes 40 statements belonging to one of eight categories (perfectionistic, high-quality conscious; brand conscious; novelty-fashion conscious; recreational and hedonistic shopping conscious; price conscious; impulsive, careless; confused by over-choice; and habitual, brand-loyal) and participants are asked to respond to each statement using a five-point Likert scale ranging from “strongly disagree” to “strongly agree”.

For the present research, a shortened form was used following the suggestions of Shim (1996) and Bauer, Sauer, and Becker (2006), including 19 of the original 40 questions.
Replication by Shim (1996) revealed that using the four statements from each category (Shim added a fourth statement to the price conscious category as it only included three statements) which Sproles and Kendall (1986) reported had yielded the highest factor loadings and led to an overall increase in the reliability of the scale. Also, in Sproles and Kendall’s version, two of those statements were reverse scored but the results obtained by Shim indicated that normalizing the statements improved the reliability. Further, the findings of Bauer, Sauer, and Becker (2006) suggested excluding three of the categories of statements (novelty-fashion conscious; recreational and hedonistic shopping conscious; and confused by over-choice). Thus, the shortened form of the Consumer Styles Inventory used for the pilot study and experiment included 20 statements (Appendix H).

Additionally, the Maximization Scale, developed by Schwartz and colleagues (2002), was also included as a means of understanding individual differences between participants. The scale assesses individual differences of maximizing and satisificing behavior. Maximizers are described as those who strive to choose the best alternative or outcome, often with the cost of considering numerous alternatives, whereas satisficers are those who are content with an alternative or outcome that is “good enough” (Polman, 2010; Schwartz, et. al., 2002). As the authors explained, maximizers are typically more likely to report increased feelings of depression and doubts of their own ability, and tend to focus on self-other comparisons.

The Maximization Scale is a 13-statement scale that asks participants to indicate their agreement with each of the statements on a seven-point Likert scale, ranging from “strongly disagree” to “strongly agree”. The Maximization Scale was included in the present research to examine why some participants choose a particular alternative over another and, more importantly, to understand why some participants may choose to search for the additional
alternative in the voluntary search condition of the subsequent experiment when others might not.

Results. Using the Crosstabs function, Chi-square analyses were conducted for each of the product classes to determine whether the participant selections were different from what would be expected, and to examine whether any of the product classes elicited a preference shift between the two-alternative and three-alternative conditions. When the analysis of a given product class revealed a significant shift in preference, additional analyses were conducted to determine which pair of alternatives (i.e., target and competitor, target and decoy, competitor and decoy) led to a significant shift in choice share. The Fisher’s exact test was employed where indicated.

Participant responses to the Consumer Styles Inventory and to the Maximization Scale were coded as described by the respective authors. Specifically, for the Consumer Styles Inventory, responses were scored on a five-point Likert scale such that responses of “strongly disagree” were coded as “1” and responses of “strongly agree” were coded as “5”. Responses to the four statements in each of the utilized categories (i.e., perfectionistic, high-quality conscious; brand conscious; price conscious; impulsive, careless; and habitual, brand-loyal) were averaged. Likewise, responses to the Maximization Scale were scored on a seven-point Likert scale ranging from “strongly agree”, which was coded as “1”, to “strongly agree”, which was coded as “7”. Additionally, responses to the statements in each of the three factors (i.e., open to new things, shopping and social behaviors, and high standards for self and others) were averaged. For both of the scales, these averaged response scores for the sub-scales were included as covariates in an analysis.
Of the 13 product classes, seven resulted in a significant difference between the expected distribution of responses and the observed distribution of responses, although three of the seven product classes did not result in a clear preference shift. The first such result was found with the portable DVD player product class ($\chi^2 (2, N = 93) = 6.324, p = .042$) in which the target alternative was consistently preferred over the competitor alternative, although in the three-alternative condition both the competitor and target alternatives lost some of the choice share to the decoy alternative. Further analysis indicated that there were significant shifts in choice share between the decoy and competitor alternatives (Fisher’s exact test, $p = .024$) and between the decoy and target alternatives (Fisher’s exact test, $p = .026$).

Similar results were obtained from the digital camera product class ($\chi^2 (2, N = 93) = 8.034, p = .018$) with a subsequent analysis indicating a significant shift in preference between the target and competitor alternatives ($\chi^2 (1, N = 91) = 6.034, p = .014$). Finally, analysis of participant responses to the Restaurant A product class revealed another significant shift in choice share ($\chi^2 (2, N = 93) = 6.363, p = .042$), with the primary shift revealed to be between the competitor and decoy alternatives (Fisher’s exact test, $p = .028$). For both the digital camera and the Restaurant A product classes, the target alternatives consistently received the greatest share of the choice share, although the difference in choice share between the target and competitor alternatives was greater in the three-alternative condition.

Additionally, there were also four product classes that did elicit significant preference shifts. For example, responses to the microwave oven stimuli ($\chi^2 (2, N = 93) = 6.20, p = .044$) revealed that participants had equal choice probabilities for the target and competitor alternatives in the two-alternative condition, but the addition of the asymmetrically dominated decoy alternative led to the target alternative gaining the majority of the choice share in the three-
alternative condition. Subsequent analysis revealed a significant shift between the competitor and target alternatives ($X^2 (1, N = 91) = 4.240, p = .039$). Results from analysis of the plane ticket product class ($X^2 (2, N = 93) = 21.7, p < .001$) also revealed a preference shift in that the competitor alternative received the majority of the choice share in the two alternative condition, but the inclusion of a decoy in the three-alternative condition choice set led participants to favor the target alternative though the decoy alternative was not chosen by any of the participants. Similarly, the two automobile product classes, Automobile A ($X^2 (2, N = 93) = 6.72, p = .035$) and Automobile B ($X^2 (2, N = 93) = 11.16, p = .004$), led to similar preference shifts such that the competitor alternative in both product classes received the majority of the choice share in the two-alternative condition but the addition of the decoy led to the target alternative having the greatest choice share among those participants in the three-alternative condition. For the Automobile A product class, the significant shift in choice share was found between the decoy and the competitor alternatives (Fisher’s exact test, $p = .033$), though the shift among alternatives in the Automobile B product class was between the target and competitor ($X^2 (1, N = 92) = 10.172, p = .001$).

To determine which product classes ought to be utilized as the stimuli for the experiment, the Bonferroni correction method for multiple comparisons was used. The resulting cut-off significance value was $p = .00385$ and only two of the product classes met this additional criteria: airplane tickets ($p = .0000026$) and automobile B ($p = .00377$).

Finally, participant responses to the Consumer Style Inventory and Maximization Scale were also analyzed with chi-square analyses. The shortened form of the Consumer Style Inventory included five factors (i.e., perfectionistic, high-quality conscious; brand conscious; price conscious; impulsive, careless; and habitual, brand-loyal) and participant responses to the
statements in each factor were averaged and split along the median for each factor. The participants’ status as being above or below the median was then used as the grouping variable for the subsequent analyses.

There was a significant difference in the distribution of choice share for the microwave oven class for among participants who rated themselves as highly perfectionistic and quality-conscious, and those who rated themselves more lowly on this factor ($X^2 (2, N = 93) = 10.790, p = .005$). Subsequent analyses indicated that the significant difference in the distribution between the target and competitor alternatives, with participants who were not highly perfectionistic favoring the competitor alternative, and those who were highly perfectionistic favoring the target alternative ($X^2 (1, N = 91) = 10.758, p = .001$). Similar results were obtained for the Restaurant A product class ($X^2 (2, N = 93) = 6.501, p = .039$), with participants who rated themselves as highly perfectionistic favoring the target and those who rated themselves lower on this factor favoring the competitor alternative ($X^2 (1, N = 89) = 6.429, p = .011$). Finally, there was also a significant difference in the distribution of choice share for the airplane ticket product class ($X^2 (2, N = 93) = 5.982, p = .014$) such that participants who were highly perfectionistic favored the competitor alternative whereas participants who were less perfectionistic favored the target alternative and no one choosing the decoy alternative.

Significant differences were also found in participant ratings on the brand-conscious, price equals quality factor of the Consumer Style Inventory for the DVD player product class ($X^2 (2, N = 93) = 6.471, p = .039$). Specifically, most participants who chose the competitor alternative were rated themselves as being highly brand-conscious, whereas participants who favored the target alternative typically rated themselves as being less concerned with brand names ($X^2 (1, N = 87) = 4.774, p = .029$).
For the price-conscious, best value for the money factor, both the digital camera product class \((X^2 (2, N = 93) = 8.449, p = .015)\) and the airplane ticket product class \((X^2 (2, N = 93) = 4.543, p = .033)\) indicated that there was a significant difference in choice share between participants who were above or below the median. For both product classes, participants who were rated as less price-conscious were split fairly evenly between the target and competitor or decoy alternatives. However, participants who were rated as more highly price-conscious demonstrated greater preference for the target alternative in the digital camera product class, but favored the competitor alternative in the airplane ticket product class.

Finally, a significant difference in choice share was also found for responses to the desktop computer product class based on the participants’ degree of brand loyalty, \((X^2 (2, N = 93) = 8.838, p = .012)\). Subsequent analyses indicated that participants who rated themselves as highly brand-loyal heavily favored the target alternative, whereas participants who were rated as less habitual in their shopping patterns favored the competitor alternative \((X^2 (1, N = 89) = 6.474, p = .011)\).

Likewise, responses to the Maximization Scale were analyzed in a manner similar to that used for the Consumer Style Inventory. Participant responses to the statements belonging to each of the three factors (i.e., open to new things, shopping and social behaviors, and high standards for self and others) were averaged and the median split for each factor was used as the grouping variable.

In response to the airplane ticket product class, there was a significant difference in the distribution of preferences between those participants who rated themselves as more open to trying new things and those who rated themselves as less open to trying new things \((X^2 (2, N = 93) = 4.491, p = .034)\). Specifically, participants who were more open to trying new things had
no strong preference for the competitor over the target alternative. However, participants who were less open to trying new things demonstrated a high preference for the competitor over the target alternative. The decoy alternative was not selected by any of the participants.

Significant differences in participant preference were also evident for the factor that measured the participants’ degree of having high standards for themselves and others for the CD player ($X^2 (2, N = 93) = 6.689, p = .035$) and the digital camera ($X^2 (2, N = 93) = 6.628, p = .036$) product classes. In the CD player product class, participants who indicated that they typically had higher standards for themselves were equally divided between the target and the competitor alternatives, whereas participants who placed less emphasis on high standards heavily favored the target alternative ($X^2 (1, N = 91) = 6.684, p = .010$). Likewise, in response to the digital camera product class, those rated as having high standards for themselves and others were split somewhat evenly between the target and the competitor, though participants who were rated as having low standards again heavily favored the target alternative, ($X^2 (1, N = 91) = 8.340, p = .004$).

**Discussion.** This pilot study served to replicate the findings from many previous studies, although not all of the product classes resulted in significant differences between the expected and observed responses. Further, it indicated that two particular product classes, airplane tickets and automobiles, might be best for inclusion in the subsequent experiment. However, there is no evident explanation for why some product classes yielded significant preference shifts when others did not.

Further, the finding that several of the factors from the Consumer Style Inventory and the Maximization Scale were significantly related to differences in the distribution of preferences indicates that these scales might be appropriate for inclusion in the final experiment.
Specifically, for the Consumer Style Inventory, participant ratings of their own perfectionistic tendencies, brand consciousness, price consciousness, and degree of loyalty to a particular brand or store were related to strong preferences for one alternative over another, though these preferences were not the same for all factors. Likewise, participant responses to the Maximization Scale also revealed significant differences in the distribution of selections from the different product classes. In particular, the degree of the participants’ openness to new things and whether the participants’ have high standards for themselves and others, but as with the Consumer Style Inventory there were no consistent trends.

**Experiment**

Although the relevant literature has examined the decoy effect in a wide variety of situations, including real-world shopping situations (Doyle, O’Conner, Reynolds, & Bottomley, 1995), gambling scenarios (e.g., Herne, 1999; Wedell, 1991) and one-dimensional stimuli (Choplin & Hummel, 2005), no available study has yet examined the effect of asking participants to search for an additional alternative before deciding which product or alternative they would be most likely to purchase. The goal of the present experiment was to determine whether the influence of non-instrumental information observed in previous work (e.g., Bastardi & Shafir, 1998; Bastardi & Young, 2010; Redelmeier, Shafir, and Aujla, 2001) would also be evident when participants were searching for alternative consumer goods and services.

As stated previously, researchers have found that delaying the presentation of non-instrumental information can lead to preference shifts. In these studies, participants only had to request the additional information – participants did not have to pay for the additional details of the situation or wait for long periods of time to receive the information. Thus, these findings suggest that the simple act of requesting more information is sufficient to lead participants to
invest heavily in this information, much more so than participants who received the same information with no delay.

Relating to the present research, the prediction was that participants in the voluntary search condition would also feel a degree of investment in the alternative they sought out and thus would be more likely to ultimately choose the sought-out alternative than were participants who saw the decoy concurrently listed along with the other available alternatives. Further, in the context of decoy effects, the asymmetrically dominated decoy alternative should be viewed as non-instrumental information because it is inferior to at least one of the other available alternatives and thus should, according to the principle of regularity, receive little or no consideration (Heath & Chatterlee, 1995).

Additionally, it was predicted that participants in the forced search condition, who were first asked to choose from among the items in the core choice set before searching for the third, asymmetrically dominated decoy alternative, would ultimately prefer the item that they chose initially, rather than the item that was sought out. In other words, if a participant initially chose the competitor alternative before searching for the third, decoy alternative, that same participant was expected to again choose the competitor alternative even after finding the third alternative. As indicated by the observations of Schwartz et al. (2002), this prediction was based on the expectation that participants, after selecting which alternative they preferred out of the core choice set, would feel that the alternative chosen initially was sufficient and thus would be less likely to attend to the third, sought-out alternative. In other words, since the sought out alternative would not be noticeably better than the alternative that the participant had initially chosen from the core choice set, it was predicted that the participant would ignore the added alternative.
Participants. All participants were recruited using the Sona Experiment Management System. A total of 351 participants completed the study (215 female, 121 male, $M = 19.22$ years old, SD = 2.32; four participants choose not to identify their sex and the demographic data from 11 participants were not recorded by Survey Gizmo). Additionally, 17 participants quit the study before completion and 33 participants abandoned the study without answering any of the questions. Of the participants who completed the study, responses from seven were excluded because they responded to a catch question that asked participants not to respond, and 16 others were excluded for saying that they did not attempt to take the task seriously. Thus, the data for this experiment included responses from 328 participants.

Design. Participants in this experiment were randomly assigned to one of the four conditions: two alternative control ($n = 76$), three alternative control ($n = 83$), voluntary search ($n = 88$), or forced search ($n = 81$). The presentation order for the two classes (automobile first or airplane ticket first) was counterbalanced across participants. Additionally, the design of this experiment alternated the trait on which the target alternative was dominant (i.e., for the airplane tickets, either the price or the length of the layover and for cars, the estimated miles per gallon or the ride quality). To reduce the number of participants needed for the study, this factor was not fully counterbalanced but the traits were paired and the presentation of these pairs was counterbalanced. Thus participants were either shown a set of airplane tickets in which the target was dominant on the length of layover trait and a set of cars in which the target was dominant on the ride quality trait, or they were shown a set of airplane tickets in which the target had the superior price and the a set of cars in which the target had a superior miles per gallon rating (see Appendix E). For both of the product classes, participants in each of the four conditions saw the same two core alternatives, the target and the competitor, and those participants in the three-
alternative, voluntary search, and forced search conditions also saw the same asymmetrically dominated decoy alternative. As with the pilot study, the dependent variable for this experiment was the alternative chosen by participants as the option that they would be most likely to purchase, either the target, competitor, or decoy. After selecting a product from both of the product classes, participants were asked to respond to a series of demographic questions and respond to two questionnaires.

Procedure. The present experiment was similar to the pilot study in that participants saw a number of alternatives belonging to the same product class, each described in terms of two attributes, and were asked to indicate which alternative they would be most likely to purchase. However, in addition to the two-alternative and the three-alternative conditions, this experiment included two experimental conditions, a voluntary search condition and a forced search condition. As with the pilot study, conditions varied between participants and the data were collected via the World Wide Web using the online survey software SurveyGizmo. For all conditions, participants first saw the informed consent page (Appendix B), asking participants to read over the information about the study and any risks or benefits for participating in the study, and finally to confirm that they consented to participate in the study.

The two-alternative and three-alternative control conditions were very similar to what participants saw in the pilot study. Depending on the condition to which they were randomly assigned, participants in these conditions saw either two alternatives or three alternatives belonging to the same product class (i.e., airplane tickets and automobiles) and were asked to indicate which of the listed alternatives they would be most likely to purchase. This was done for both of the product classes.
In the experimental conditions, participants were shown the same target and competitor alternatives shown in the two control conditions, and either invited (i.e., voluntary search condition) or directed (i.e., forced search condition) to search for a third alternative, the same asymmetrically dominated alternative shown to participants in the three-alternative control condition. Participants in the voluntary search condition were asked to either search for a third alternative (i.e., the asymmetrically dominated decoy) or pick one of the two listed alternatives (i.e., the target and the competitor alternatives) and thus avoid searching for an additional alternative. Participants assigned to the forced search condition were asked to indicate which of the two core alternatives they would be most likely to purchase, and then on the following page were directed to search the third alternative. The search procedures for both of the experimental conditions were very similar. Participants in both conditions completed this task twice, once looking at information for airplane tickets and once looking at information for automobiles with the order for these scenarios counterbalanced between participants.

For either experimental condition, when participants sought out the third alternative, they were shown a list of three possible options where a similar third option might be found and then select one. Specifically, when participants were asked to choose from a set of automobiles, they were shown a list of manufacturers that might build similar vehicles, and when participants were asked to choose from a set of airplane tickets, they were show a list of airlines that might also offer flights to the same destination. If a product similar to the target and competitor alternatives was available from the selected manufacturer or airline, the participant was asked to select from one of the three alternatives (i.e., the two alternatives initially available and the third, sought-out asymmetrically dominated alternative). Conversely, if a similar product was not available from the selected manufacturer or airline, those participants in the voluntary search condition had the
opportunity to return to the list of two alternatives or to continue searching, whereas those in the forced search condition were directed to continue looking. In both conditions, participants found the decoy alternative available from the second manufacturer or airline they choose to search, regardless of which were selected.

For all conditions, after participants had chosen an alternative from both of the product classes, they were directed to a page that asked some demographic questions (please see Appendix G), including a question designed to test whether the participant was reading the questions closely and another that asked participants to indicate whether they seriously considered the different alternatives. Upon completing the demographic survey, the participants were then asked to respond to a shortened form of Sproles and Kendall’s (1986) Consumer Styles Inventory (please see Appendix H) and the Maximization Scale of Schwartz and colleagues (2002) (please see Appendix I). Once participants had finished responding to the two scales, they were redirected to separate survey that asked them to enter their name and Bowling Green State University email address, and after entering this information they were shown a short debriefing statement (Appendix K) and the experiment was complete.

**Results.** A frequency analysis was conducted to assess some of the predictions regarding the number of participants in the voluntary search condition who chose to search for the additional alternative, as well as the number of participants in the forced search condition who chose a different alternative after searching for the asymmetrically dominated alternative. Contrary to the predictions, the majority of the participants chose not to search for the decoy alternative, with only 28.4% searching for the decoy from the airplane ticket product class, and 19.3% searching for the decoy from the car product class. However, predictions for the forced search condition were supported in that after searching for the decoy alternative, few participants
chose an alternative different from what they had chose initially. Specifically, in response to the airplane ticket product class, only 7.4% of the participants chose a different alternative, and for the car product class only 8.6% chose a different alternative after searching for the decoy.

Further, participant selections from the two product classes were analyzed through a series of chi-square analyses examining the four conditions together and in pairs of conditions (e.g., comparing the distribution of responses to the voluntary search and forced search conditions). As done in the Pilot study, participant responses to both product classes were analyzed by alternatively pairing the four conditions. When one of the analyses resulted in significant outcomes, the pair of conditions was further analyzed by examining choice share for pairs of responses (i.e., target and competitor, target and decoy, competitor and decoy). Results from Fisher’s exact tests were used where noted.

Table 1. Distribution of participant responses for the airplane ticket and the car scenarios.

<table>
<thead>
<tr>
<th></th>
<th>Target</th>
<th>Competitor</th>
<th>Decoy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airplane Tickets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two Alt. Control</td>
<td>48.7% (37)</td>
<td>51.3% (39)</td>
<td>------</td>
</tr>
<tr>
<td>Three Alt. Control</td>
<td>66.3% (55)</td>
<td>32.5% (27)</td>
<td>1.2% (1)</td>
</tr>
<tr>
<td>Voluntary Search</td>
<td>42.0% (37)</td>
<td>52.3% (46)</td>
<td>5.7% (5)</td>
</tr>
<tr>
<td>Forced Search</td>
<td>53.1% (43)</td>
<td>46.9% (38)</td>
<td>0% (0)</td>
</tr>
<tr>
<td><strong>Cars</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two Alt. Control</td>
<td>48.7% (37)</td>
<td>51.3% (39)</td>
<td>------</td>
</tr>
<tr>
<td>Three Alt. Control</td>
<td>79.5% (61)</td>
<td>24.1% (20)</td>
<td>2.4% (2)</td>
</tr>
<tr>
<td>Voluntary Search</td>
<td>48.9% (43)</td>
<td>46.6% (41)</td>
<td>4.5% (4)</td>
</tr>
<tr>
<td>Forced Search</td>
<td>54.3% (44)</td>
<td>45.7% (37)</td>
<td>0% (0)</td>
</tr>
</tbody>
</table>
The first of these analyses found that in the airplane ticket product class, there were significant differences in participant preference between the four conditions, $X^2 (6, N = 328) = 19.768, p = .003$ (Figure 3). Subsequent analyses found that there was no significant shift in participant preference in comparisons between the two alternative and voluntary search condition ($X^2 (2, N = 164) = 4.724, p = .094$), the two alternative and forced search condition ($X^2 (2, N = 157) = .304, p = .581$), the three alternative and forced search condition ($X^2 (2, N = 164) = 4.307, p = .116$), or between the voluntary search and the forced search condition ($X^2 (2, N = 164) = 5.932, p = .052$). However, there were significant differences in the distribution of participant preferences for the two other comparisons of pairs of conditions for the airplane ticket product class.

Figure 3. Distribution of participant preferences for the airplane ticket product class. Results from the two-alternative and three-alternative conditions replicate the findings of previous studies, whereas participants in the voluntary search condition demonstrated a slightly increased preference for the asymmetrically dominated decoy alternative. Conversely, participants who were directed to search for the asymmetrically dominated decoy alternative showed no increased preference for the sought-out decoy.

First, there was a significant difference in the comparison between the two alternative and three alternative control conditions ($X^2 (2, N = 159) = 6.408, p = .041$). Although the choice share of participants in the two alternative condition was evenly split between the target and competitor alternatives (51.3% and 48.7%, respectively), there was a significant preference shift
for the three alternative condition with 66.3% favoring the target alternative over the competitor (32.5%) and the decoy (1.2%). This finding replicated the work of Huber, Payne, and Puto (1982), along with that of other researchers, which found a significant shift in the choice share for the core set of alternatives with the addition of an asymmetrically dominated decoy. Further analyses indicated that a significant difference in participant preference was also evident between the target and competitor alternatives ($X^2 (1, N = 158) = 5.484, p = .019$).

Additionally, responses from participants in the three alternative and voluntary search conditions indicated that between the two conditions there was a significant shift in preference for the three alternatives, $X^2 (2, N = 171) = 10.997, p = .004$ (Figure 4). Specifically, participants in the three-alternative condition preferred the target alternative (66.3%), which replicates the findings of other studies such as Huber, Payne, and Puto (1982). However, in the voluntary search condition, much of the choice share shifted to the competitor (52.3%) and the decoy alternative (5.7%), detracting from the target alternative (42.0%). Follow-up analyses revealed that there were significant differences in the choice share for the target and competitor alternatives ($X^2 (1, N = 165) = 8.461, p = .004$). This significant difference in the distribution of choice share between the two conditions reveals that the difference ratio of participants’ preference for the target over the competitor alternative was smaller for the voluntary search condition (37 : 46) than for the three-alternative condition (55 : 27).

To better understand how searching influenced participant preferences, an additional analysis examined how the distribution of preferences differed between participants who did and did not chose to search for the asymmetrically dominated decoy. The results revealed that participants differed in their preferences based on whether they chose to search for the decoy ($n = 25$) or choose from among the alternatives in the core choice set ($n = 63$, $X^2 (2, N = 88) =$
16.719, \( p < .001 \)). Participants who chose not to search for the decoy and who consequently saw the same alternatives as participants in the two-alternative condition demonstrated a slight preference for the competitor (57.1%) over the target alternative (42.9%). Conversely, among participants who chose to search for the asymmetrically dominated decoy, 24% chose the decoy alternative, whereas the other participants were almost evenly split between the target (40%) and the competitor (36%) alternatives.

Analyses also revealed preference shifts in participants’ response to the car situation. An analysis of all four conditions revealed that there were significant differences in the distribution of responses, \( X^2 (6, N = 328) = 21.275, p = .002 \). Further analyses failed to reveal significant differences in the distribution of responses between the two alternative and voluntary search conditions (\( X^2 (2, N = 164) = .3641, p = .162 \)), between the two alternative and the forced search conditions (\( X^2 (2, N = 157) = .499, p = .480 \)), or between the voluntary search and the forced search conditions (\( X^2 (2, N = 169) = 3.933, p = .140 \)).

![Figure 4. Distribution of participant preferences for the car product class. As seen in the airplane ticket product class, results from the two-alternative and three-alternative conditions replicate the findings of previous studies. Further, although participant responses to both the voluntary search condition and the forced search condition indicated a slight preference for the target alternative, participants in the voluntary search condition were again more likely to choose the asymmetrically dominated decoy alternative than were participants in the other conditions.](image-url)
As with the airplane ticket scenario, the comparison between the two alternative and the three alternative conditions indicated that there was a significant preference shift for the car product class ($X^2 (2, N = 159) = 13.715, p = .001$). Among participants in the two alternative condition, choice share was split fairly evenly between the competitor (51.3%) and the target (48.7%), but in the three alternative condition the target alternative (72.3%) was favored over the competitor (24.1%) and decoy alternatives (2.4%). Additional analyses revealed that there were significant differences in the distribution of participant preferences between the target and competitor alternatives ($X^2 (1, N = 157) = 11.849, p = .001$).

Likewise, there was also evidence of a significant preference shift in the responses of participants in the three alternative condition in comparison to those in the voluntary search condition ($X^2 (2, N = 171) = 10.875, p = .004$). Participants in the three alternative condition heavily favored the target alternative (72.3%) over the competitor (24.1%) and decoy (2.4%) alternatives. However, those participants in the voluntary search condition did not demonstrate the same preference for the target alternative (48.9%) over the competitor (46.6%) and decoy (4.5%) alternatives. Subsequent analyses confirmed that there was a significant difference in choice share between the target and competitor alternatives ($X^2 (1, N = 171) = 10.294, p = .001$). As noted for the airplane ticket product class, the distribution of choice share for the target and competitor alternatives indicated that the ratio of participants preferring the target alternative to the competitor alternative was smaller for the voluntary search condition (43 : 41) than for the three alternative condition (61 : 20).

A subsequent analysis indicated that, within the voluntary search condition, there was also a significant difference in preferences between participants who chose to search for the decoy ($n = 17$) and those who chose not to search for the decoy ($n = 71, X^2 (2, N = 88) = 13, p =$
Participants who chose not to search for the decoy and who thus saw only the target and competitor alternatives exhibited equal preference for the two alternatives (49.3% and 50.7%, respectively). However, among participants who did choose to search for the decoy alternative, 17.6% chose the asymmetrically dominated decoy alternative, and the remaining participants demonstrating equal preference for the target (41.2%) and competitor alternatives (41.2%).

Finally, participant responses also indicated a significant shift in the distribution of preferences between the three alternative and the forced search conditions ($X^2 (2, N = 164) = 9.800, p = .007$). As stated previously, participants in the three alternative condition preferred the target alternative (72.3%) over the competitor and decoy alternatives. However, participants assigned to the forced search condition were more equally divided between the target and competitor alternatives (54.3% and 45.7%, respectively), with none selecting the decoy alternative. Subsequent analyses that paired the target and competitor alternatives confirmed that the shift in choice share between the two alternatives was significant ($X^2 (1, N = 162) = 7.823, p = .005$). Thus, although participants in both groups demonstrated greater preference for the target alternative over the competitor alternative, the ratio of choice share for the target alternative to the competitor alternative was smaller for the forced search condition (44 : 37) than for the three alternative condition (61 : 20).

Responses to the Consumer Style Inventory and Maximization Scale were also analyzed using a series of chi-square analyses. As was done for the pilot study data, a mean participant response was calculated for each of the factors from both of the scales. Participant responses were then split above or below the median and these assignments were then used as the grouping variable for the chi-square analyses. The chi-square analyses indicated that there were no
significant differences in the distribution of participant preferences for any of the five factors of the Consumer Style Inventory or the three factors of the Maximization Scale.

Additionally, participant responses to the Consumer Style Inventory and the Maximization Scale were also analyzed to examine which factors might have influenced participants’ willingness to search for another alternative in the voluntary search condition. In response the car product class, the third factor from the reduced Consumer Style Inventory, the participant’s degree of price consciousness and tendency to consider the best value for the money, revealed significant differences in the participants’ willingness to search for another alternative ($X^2 (1, N = 88) = 4.107, p = .043$). Among the participants rated as being below the median for price consciousness, only 4.5% chose to search for an additional alternative. Conversely, among participants who were rated as being price conscious, the willingness to search for the additional alternative was much greater (24.2%).

Similar results were also obtained from analyzing responses to the Maximization Scale. Analysis of the first factor revealed that for the car product class, participants who rated themselves as being less open to trying new things were less likely to search for the additional alternative (11.8%) than were participants who rated themselves as being more open to trying new things (29.7%), $X^2 (1, N = 88) = 4.440, p = .035$. Likewise, analysis of the factor that estimated whether the participants’ had high standards for themselves and others also revealed significant differences in the distribution of preferences for both the airplane ticket product class ($X^2 (1, N = 88) = 4.291, p = .038$) and for the car product class ($X^2 (1, N = 88) = 6.571, p = .010$). In response to the airplane ticket product class, 17.5% of those participants rated as being below the median chose to search for the third alternative, whereas 37.5% of the participants rated as being above the median chose to search for it. Similarly, participant responses to the car
product class revealed that only 7.5% of the participants who were below the median in their degree of high standards chose to search for the additional alternative, although 29.2% of those above the median chose to search for the same alternative.

**Discussion.** The results of the present study successfully replicated the findings of Huber, Payne, and Puto (1982), as well as those of numerous other authors, by demonstrating a significant preference shift between the two-alternative and the three-alternative condition for both the airplane ticket and the car product class. Specifically, in the two-alternative condition for both product classes, the choice share was split evenly between the two available alternatives. However, with the addition of the asymmetrically dominated decoy alternative, much of the choice share shifted to the target alternative in both product classes. This result further supports the theory that adding a decoy alternative to a choice set will typically attract the consumer’s attention towards the alternative to which the decoy is most similar.

Additionally, predictions regarding the effect of inviting participants to search for an additional alternative (i.e., the voluntary search condition) were also somewhat supported. In both product classes, the majority of the participants chose not to search for the decoy alternative, a finding that countered the hypothesis of Tyszka (1983), which suggested that if a consumer had no specific reason for selecting one alternative over another, that consumer would be likely to seek out other alternatives to better inform the decision. That so few participants in the voluntary search condition chose to search for the additional alternative may indicate that participants were content to choose from the two core alternatives (i.e., the competitor and target alternatives), or that participants did not feel their decision was important enough to warrant further search.
Though the majority of participants chose not to search for the decoy alternative, among those in the voluntary search condition who did choose to search, a greater percentage selected the decoy alternative for the airplane ticket and car product classes (24% and 17.6%, respectively) than did participants who were assigned to the three-alternative control condition (1.2% and 2.4%). Additionally, there was a significant difference between the distribution of responses for those participants in the three-alternative condition and the voluntary search condition. Specifically, for both of the product classes, participants in the three-alternative condition heavily favored the target alternative, whereas participants in the voluntary search condition favored the competitor alternative for both product classes. Together, these findings indicate that the act of searching for an additional alternative can influence participant preferences and even lead some participants to select the inferior alternative. Further, the results also indicate that searching for an additional alternative removes the preference shift observed in much of the relevant literature.

Among participants in the voluntary search condition who chose not to search, the responses are comparable to those of participants in the two-alternative control condition, in that these participants demonstrated no clear preference for one type of alternative over another for either product class. This observation is intuitive because the participants in the two conditions both saw only the target and competitor alternatives and thus would be expected to respond similarly.

However, among those participants in the voluntary search condition who chose to search for the decoy alternative in either the airplane ticket or car product class, the target was not heavily favored over the competitor alternative as observed in the three-alternative condition.
This result, that participants expressed no strong choice share for one alternative over another in the car product class could be due to these participants noting the inferiority of the sought-out decoy alternative and choosing to ignore it because of decoy’s inferiority. If such is the case, that some participants not only excluded the inferior decoy alternative from consideration but also ignored it when deciding between the two core alternatives, it would suggest that participants are making judgments in accord with regularity by not allowing an added alternative to influence their preference for the existing alternatives. However, given that so many studies have consistently found that participants are influenced by the inclusion of a decoy alternative, this explanation would require further support. Additionally, if the products classes used in this experiment had been of the same type (e.g., either durable goods or services), the results for the two product classes might have been more consistent.

Further, the significant shift in choice share between the three-alternative condition and the forced search condition for the car product class revealed that the choice share of participants in the forced search condition was more evenly divided than that of participants in the three-alternative control condition. This result could be due to the fact that participants in the forced search condition were directed to choose from the existing core alternatives (i.e., the target and competitor alternatives) prior to searching for additional alternatives. Considering that most participants selected the same alternative both before and after searching for the decoy alternative, it is possible that these participants experienced the task in a way similar to that of participants in the two-alternative condition. Specifically, after participants in the forced search condition were directed to choose from the core set of alternatives, they may have felt that the consideration of additional alternatives was unnecessary.
Finally, although the Consumer Style Inventory and Maximization Scale were not related to shifts in choice share for either of the product classes, the results did indicate that responses to several of the factors could be related to the participants’ willingness to search among those in the voluntary search condition. Specifically, the factors estimating price consciousness and a tendency to search for the best value, being open to trying new things, and having high standards for one’s self and others, were related to participants’ willingness to search for an additional alternative with participants who rated highly on these factors being more willing to search for the third alternative than were participants who rated low on these factors. This would support the idea that there are particular static traits that influence consumer behavior and suggest that these participants were acting in a manner similar to how they would behave in a real-life shopping experience.

Thus, results from the present work serve in part to replicate the research of Huber, Payne, and Puto (1982) as well as numerous other studies. Specifically, for both the airplane ticket product class and the car product class, participants in the two-alternative condition were fairly evenly distributed in their preferences, but the addition of an asymmetrically dominated decoy alternative to the choice set led to a reversal of these preferences. However, the present research went a step farther and invited participants to search for the asymmetrically dominated decoy alternative, revealing that when participants chose to search for the decoy alternative the preference shift observed in the three-alternative condition was no longer evident. This finding indicates the act of searching for an additional alternative can have a significant influence on participant preferences, even if the sought-after alternative is not chosen.

Despite these contributions to the general understanding of consumer behavior, there were several limitations to the present study. For example, the search conducted by participants
in the voluntary and forced search conditions was not an accurate representation of a real-life search for additional alternatives, either while shopping via the World Wide Web or between brick-and-mortar stores. Specifically, for the present study participants had only to click on the name of a fictional store to learn whether that store offered an alternative similar to those that the participant had seen previously (for either the airplane ticket or car product class). However, a real-life consumer would either have to conduct a series of web searches if shopping online, or if shopping physical stores would likely have to call or visit several locations. Thus, an actual search for additional alternatives would almost certainly involve a greater investment in terms of time and energy than was put forth by participants in the present study.

Further, due to the nature of the search task used in the present experiment, it is possible that certain aspects of the task itself may have contributed to the difference in decision behavior observed between those who did search for the decoy (i.e., voluntary and forced search conditions) and those who were shown all three conditions simultaneously (i.e., three-alternative condition). Specifically, for participants who did search, either voluntarily or as directed, the task took longer than for those participants who did not search for the asymmetrically dominated decoy alternative. Additionally, the differences in instructions given to participants and the increased complexity of the search task over that of the conditions that involved no searching may have also influenced participants.

To address these limitations, there are several possible changes that might be made to the design for future research. First, it is important to determine whether the decoy effect is still absent for more realistic searching situations, such as showing participants a pair of similar alternatives and then inviting them to search through several actual online retailers (e.g., Amazon, Best Buy, etc) or to contact different local retailers. Second, to address the concern
that the added time on the task or the increased complexity might have influence participant preferences, the search task could be simplified so that it appears to participants that the computer they are using is conducting the search for them. With this design, the search would only take a few seconds and would likely reduce the difference in instructions between the conditions as well as any added complexity or difficulty experienced by participants who search for the decoy alternative. As with the present study, the asymmetrically dominated decoy alternative would then be presented simultaneously with the two core alternatives.

This research has several important implications for the study of consumer decision making behavior. Specifically, the results of this study suggest that the simple act of searching for additional alternatives may eliminate the shift in preference that had previously been observed with the addition of the decoy alternative. Thus, it is possible that the decoy effects recorded by Huber, Payne, and Puto (1982) as well as many others using fictional products, and those of Doyle, O'Connor, Reynolds, & Bottomley, P. A. (1999) which involved a real-life shopping situation, may not be evident when the consumer searches for additional alternatives.

Consequently, as searching for additional alternatives becomes increasingly convenient through wide-spread availability of the internet as a search tool, the present findings suggest that the irrational shifts in preference first noted by Huber and colleagues might no longer be applicable to the modern consumer.

Further, these results also indicate that searching for additional alternatives, either voluntary or by direction, may lead consumers to think more critically about the available alternatives. That is, if participants in the present study who searched for the decoy alternative viewed that sought-out alternative as being an inferior addition to a set of two acceptable options, they may have more readily discarded the decoy alternative as non-instrumental information and
focused on the target and competitor alternatives. If such is the case, it would indicate that participants who searched for the decoy were less likely to alter their perceptions of the alternatives or their own decision criteria than were participants in the three alternative condition, even though all of these participants saw the same alternatives. Specifically, if these participants who searched immediately saw the decoy as being separate from and inferior to the core set of alternatives, the participants were consequently less likely to allow it’s inclusion to influence their choice preference. Thus, the present findings indicate that the simple act of searching for additional alternatives may encourage participants to be more conscientious in their purchases.
APPENDICES
Appendix A: Informed Consent Form for Pilot Study

Consumer Preferences (HSRB# H11D088GX2)

You must be 18 or older to participate in this experiment. The purpose of this experiment is to learn more about how consumers decide which product they will purchase from a group of similar alternatives. You will be asked to look at a series of different types of products or options and from each group, indicate which product you feel you would be most likely to purchase. After completing this part of the experiment, you will be asked to respond to some demographic questions and to respond to several statements regarding your personal shopping preferences and typical choices.

This experiment will take 10 - 15 minutes to complete and you will receive ¼ credits for your participation.

CERTIFICATION OF INFORMED CONSENT

General Benefits: As a result of participating in this experiment, you will help researchers learn more about consumer behavior and decision-making when choosing from two or more alternatives.

Specific Benefits: The benefits to you include experience in working in this type of situation.

Risks: Participation in this experiment involves no risks beyond those encountered in everyday life.

Confidentiality: All data collected in this experiment will remain confidential. Participant responses cannot easily be matched to the respondent. Unless required by law, the researchers will not disclose any information that would reveal your name, or that would allow anyone to connect your name with the data you produced.

Course-Related Credit: If you are receiving experiment credit in exchange for your participation, your instructor should have already decided whether and to what extent the experiment credit will affect your grade. The instructor is also obligated to provide a non-research alternative for earning credit, so that in the end, your decision to participate or to not participate in this experiment will not affect your grade or your class standing.

Your participation in the experiment is voluntary and you are free to withdraw at any time without penalty. You should direct any questions or concerns about your rights as a research participant to the Chair of the Human Subjects Review board (Phone: 419-372-7716, Email: hrsb@bgsu.edu). If you have questions about the experiment, you may contact the researchers (Beth Hartzler, hbeth@bgsu.edu, 419-372-4304; Dr. Richard B. Anderson, randers@bgsu.edu, 419-372-9908).

This study has been approved by the Human Subjects Review Board - HSRB ID# H11D088GX2, expires November 17th, 2011.

By marking "yes" in the space below, you are agreeing that you are 18 years of age or older and are consenting to participate in this experiment.

☐ Yes
Appendix B: Informed Consent Form for Experiment

Consumer Preferences (HSRB# H11D088GX2)

You must be 18 years of age or older to participate in this experiment. The purpose of this experiment is to learn more about how consumers decide which product they will purchase from a group of similar alternatives. You will see two different types of products, flight tickets and cars, and will be asked to compare two or more similar products from each type and then indicate which you feel you would be most likely to purchase. After completing this part of the experiment, you will be asked to respond to some demographic questions and to respond to several statements regarding your personal shopping preferences.

This experiment will take 10 to 15 minutes to complete and you will receive 1/4 (0.25) credits for your participation.

CERTIFICATION OF INFORMED CONSENT

General Benefits: As a result of participating in this experiment, you will help researchers learn more about consumer behavior and decision-making when choosing from two or more alternatives.

Specific Benefits: The benefits to you include experience in working in this type of situation.

Risks: Participation in this experiment involves no risks beyond those encountered in everyday life.

Confidentiality: All data collected in this experiment will remain anonymous. Participant responses cannot easily be matched to the respondent. Unless required by law, the researchers will not disclose any information that would reveal your name, or that would allow anyone to connect your name with the data you produced.

Course-Related Credit: If you are receiving experiment credit in exchange for your participation, your instructor should have already decided whether and to what extent the experiment credit will affect your grade. The instructor is also obligated to provide a non-research alternative for earning credit, so that in the end, your decision to participate or to not participate in this experiment will not affect your grade or your class standing.

Your participation in the experiment is voluntary and you are free to withdraw at any time without penalty. You should direct any questions or concerns about your rights as a research participant to the Chair of the Human Subjects Review board (Phone: 419-372-7716, Email: hsrb@bgsu.edu). If you have questions about the experiment, you may contact the researchers (Beth Hartzler, hbeth@bgsu.edu, 419-372-4304; or Dr. Richard B. Anderson, randers@bgsu.edu, 419-372-9908).

Once you have submitted your responses, please be sure to clear your browser cache and page history.

By marking "yes" in the space below, you are agreeing that you are 18 years of age or older and are consenting to participate in this experiment.

☐ Yes
Appendix C: Stimuli for the Pilot Study

Three Alternative Pilot Study Condition

This study is designed to learn more about how consumers decide which product they will purchase when several similar products are available. For each type of product or alternative below, please indicate which alternative you would be most likely to choose from each of the choice sets. Other than the traits used to describe each of the alternatives, there are no differences between the alternatives in each group.

Compact-Disc (CD) players:
- Product AWF: Price = $313.00 Number of Discs = 3 [Decoy]
- Product VUO: Price = $258.00 Number of Discs = 4 [Target]
- Product ZGE: Price = $369.00 Number of Discs = 10 [Competitor]

Portable DVD players:
- Product NBZ: Price = $181.00 Percent Distortion = 4% [Decoy]
- Product QAZ: Price = $288.00 Percent Distortion = 2% [Competitor]
- Product PQZ: Price = $147.00 Percent Distortion = 4% [Target]

Restaurants [Restaurant A product class]:
- Restaurant NLE: Quality of Meal = 5 Length of Drivetime (in minutes) = 25 [Target]
- Restaurant UMP: Quality of Meal = 3 Length of Drivetime (in minutes) = 5 [Competitor]
- Restaurant VOG: Quality of Meal = 4 Length of Drivetime (in minutes) = 35 [Decoy]

19" Televisions
- Product QUK: Percent Distortion = 2.5% Average Life Span (in years) = 3 [Target]
- Product KJQ: Percent Distortion = 3.5% Average Life Span (in years) = 4 [Competitor]
- Product BYN: Percent Distortion = 3% Average Life Span (in years) = 2 [Decoy]

Digital Cameras:
- Product JRT: Price = $249.00 Number of Megapixels = 10.1 [Target]
- Product YLL: Price = $343.00 Number of Megapixels = 12.2 [Competitor]
- Product RHQ: Price = $298.00 Number of Megapixels = 10.0 [Decoy]

Airplane Tickets:
- Airline CLU: Price = $486.00 Length of Layover (in minutes) = 150 [Competitor]
- Airline XHH: Price = $590.00 Length of Layover (in minutes) = 105 [Decoy]
- Airline UYJ: Price = $590.00 Length of Layover (in minutes) = 60 [Target]
Microwave ovens:
- **Product EDS**: Cooking Power (Watts) = 900, Length of Warranty (in years) = 14 [Competitor]
- **Product YIH**: Cooking Power (Watts) = 1250, Length of Warranty (in years) = 8 [Decoy]
- **Product OBS**: Cooking Power (Watts) = 1600, Length of Warranty (in years) = 8 [Target]

Apartments:
- **Apartment VSY**: Rent = $315.00, Distance from Campus (in minutes) = 10 [Target]
- **Apartment AZP**: Rent = $325.00, Distance from Campus (in minutes) = 15 [Decoy]
- **Apartment TXL**: Rent = $225.00, Distance from Campus (in minutes) = 20 [Competitor]

Automobiles [*Automobile A product class*]:
- **Car WFJ**: Miles-per-Gallon = 32, Number of Safety Features = 3 [Decoy]
- **Car OXZ**: Miles-per-Gallon = 35, Number of Safety Features = 5 [Target]
- **Car LFD**: Miles-per-Gallon = 22, Number of Safety Features = 10 [Competitor]

Automobiles [*Automobile B product class*]:
- **Car ZMH**: Miles-per-Gallon = 30, Ride Quality = 65 [Competitor]
- **Car KQY**: Miles-per-Gallon = 21, Ride Quality = 80 [Decoy]
- **Car TPR**: Miles-per-Gallon = 24, Ride Quality = 80 [Target]

Restaurants [*Restaurant B product class*]:
- **Restaurant PTX**: Price for 2 Meals = $53.00, Wait to be Served (in minutes) = 34 [Target]
- **Restaurant STE**: Price for 2 Meals = $58.00, Wait to be Served (in minutes) = 41 [Decoy]
- **Restaurant HAX**: Price for 2 Meals = $65.00, Wait to be Served (in minutes) = 20 [Competitor]

Desktop Computers:
- **Product ROL**: Processor Speed (in GHz) = 3.2, Hard Drive Capacity (in GB) = 750 [Competitor]
- **Product SSF**: Processor Speed (in GHz) = 2.66, Hard Drive Capacity (in GB) = 800 [Decoy]
- **Product IWN**: Processor Speed (in GHz) = 2.9, Hard Drive Capacity (in GB) = 1,000 [Target]
Jobs:

- Job BTE: Number of Paid Sick Days = 10
  Number of Paid Holidays = 12
  [Competitor]

- Job ASF: Number of Paid Sick Days = 6
  Number of Paid Holidays = 16 [Target]

- Job HUO: Number of Paid Sick Days = 4
  Number of Paid Holidays = 14 [Decoy]
Two Alternative Pilot Study Condition

This study is designed to learn more about how consumers decide which product they will purchase when several similar products are available. For each type of product or alternative below, please indicate which alternative you would be most likely to choose from each of the choice sets. Other than the traits used to describe each of the alternatives, there are no differences between the alternatives in each group.

Compact-Disc (CD) players:
- Product VUO: Price = $258.00 Number of Discs = 4 [Target]
- Product ZGE: Price = $369.00 Number of Discs = 10 [Competitor]

Portable DVD players:
- Product QAZ: Price = $288.00 Percent Distortion = 2% [Competitor]
- Product PQZ: Price = $147.00 Percent Distortion = 4% [Target]

Restaurants [Restaurant A product class]:
- Restaurant NLE: Quality of Meal = 5 Length of Drivetime (in minutes) = 25 [Target]
- Restaurant UMP: Quality of Meal = 3 Length of Drivetime (in minutes) = 5 [Competitor]

19" Televisions
- Product QUK: Percent Distortion = 2.5% Average Life Span (in years) = 3 [Target]
- Product KJQ: Percent Distortion = 3.5% Average Life Span (in years) = 4 [Competitor]

Digital Cameras:
- Product JRT: Price = $249.00 Number of Megapixels = 10.1 [Target]
- Product YLL: Price = $343.00 Number of Megapixels = 12.2 [Competitor]

Plane Tickets:
- Airline CLU: Price = $486.00 Length of Layover (in minutes) = 150 [Competitor]
- Airline UYJ: Price = $590.00 Length of Layover (in minutes) = 60 [Target]

Automobiles [Automobiles B product class]:
- Car ZMH: Miles-per-Gallon = 30 Ride Quality = 65 [Competitor]
- Car TPR: Miles-per-Gallon = 24 Ride Quality = 80 [Target]

Automobiles [Automobiles A product class]:
- Car OXZ: Miles-per-Gallon = 35 Number of Safety Features = 5 [Target]
- Car LFD: Miles-per-Gallon = 22 Number of Safety Features = 10 [Competitor]
Apartments:
  - Apartment VSY: Rent = $315.00  Distance from Campus (in minutes) = 10 [Target]
  - Apartment TXL: Rent = $225.00  Distance from Campus (in minutes) = 20 [Competitor]

Microwave ovens:
  - Product EDS: Cooking Power (Watts)=900  Length of Warranty (in years) = 14  [Competitor]
  - Product OBS: Cooking Power (Watts)=1600  Length of Warranty (in years) = 8 [Target]

Restaurants [Restaurants B product class]:
  - Restaurant STE: Price for 2 Meals = $58.00  Wait to be Served (in minutes) = 41 [Target]
  - Restaurant HAX: Price for 2 Meals = $65.00  Wait to be Served (in minutes) = 20 [Competitor]

Desktop Computers:
  - Product ROL: Processor Speed (in GHz) = 3.2  Hard Drive Capacity (in GB) = 750  [Competitor]
  - Product IWN: Processor Speed (in GHz) = 2.9  Hard Drive Capacity (in GB) = 1,000  [Target]

Jobs:
  - Job BTE: Number of Paid Sick Days = 10  Number of Paid Holidays = 12  [Competitor]
  - Job ASF: Number of Paid Sick Days = 6  Number of Paid Holidays = 16 [Target]
### Appendix D: Sources for the Pilot Study Stimuli

<table>
<thead>
<tr>
<th>Product Class</th>
<th>Articles Using Same Product Class</th>
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<td>Apartments</td>
<td>Simonson, 1989*; Wedell &amp; Pettibone, 1996</td>
</tr>
<tr>
<td>CD Players</td>
<td>Simonson &amp; Tversky, 1992*; Wedell &amp; Pettibone, 1996</td>
</tr>
<tr>
<td>Jobs</td>
<td>Wedell &amp; Pettibone</td>
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<tr>
<td>Microwave Ovens</td>
<td>Simonson &amp; Tversky, 1992*; Wedell &amp; Pettibone, 1996</td>
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<tr>
<td>Personal Computers</td>
<td>Simonson &amp; Tversky, 1992*; Wedell &amp; Pettibone, 1996</td>
</tr>
<tr>
<td>Plane Tickets</td>
<td>Wedell &amp; Pettibone</td>
</tr>
</tbody>
</table>
Appendix E: Stimuli for Experiment

Variation 1: Airplane Ticket Presented First; 2-Alternatives; Target is superior in Layover Time

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets. Please indicate below which ticket you would be most likely to purchase.

- Travel Airlines: Price = $590.00  Length of Layover (in minutes) = 60 [Target]
- Connect Airlines: Price = $486.00  Length of Layover (in minutes) = 150 [Competitor]

Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars. Please indicate below which car you would be most likely to purchase.

- Manufactured by Compella: Miles-per-Gallon = 30  Ride Quality = 65 [Competitor]
- Manufactured by Varnia: Miles-per-Gallon = 24  Ride Quality = 80 [Target]
Variation 2: Airplane Ticket Presented First; 3-Alternatives; Target is superior in Layover Time

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets. Please indicate below which ticket you would be most likely to purchase.

- Travel Airlines: Price = $590.00, Length of Layover (in minutes) = 60 [Target]
- Connect Airlines: Price = $486.00, Length of Layover (in minutes) = 150 [Competitor]
- Red Jet Airlines: Price = $590.00, Length of Layover (in minutes) = 105 [Decoy]

Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars. Please indicate below which car you would be most likely to purchase.

- manufactured by Varnia: Miles-per-Gallon = 24, Ride Quality = 80 [Target]
- manufactured by Compella: Miles-per-Gallon = 30, Ride Quality = 65 [Competitor]
- manufactured by Daihatson: Miles-per-Gallon = 22, Ride Quality = 80 [Decoy]
Variation 3: Airplane Ticket Presented First; Voluntary Search; Target superior in Layover Time

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets.

You may either select one of these two airlines, or you can search for a third airline that offers flights with the same route.

- Travel Airlines: Price = $590.00  Length of Layover (in minutes) = 60 [Target]
- Connect Airlines: Price = $486.00  Length of Layover (in minutes) = 150 [Competitor]
- Search for tickets from other airlines

Please select one of the airlines below to see which airlines also offer flights between Toledo Express Airport and Toronto, Ontario. You may also return to the two alternatives you already saw.

- Hilman Airlines
- Britt Airlines
- Express Airlines
- Return to previous list

Sorry, it doesn't look like Hilman Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Britt Airlines, Express Airlines, or return to the original two options?

- Britt Airlines
- Express Airlines
- Return to previous list

Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Connect Airlines: Price = $486.00  Length of Layover (in minutes) = 150 [Competitor]
- Britt Airlines: Price = $590.00  Length of Layover (in minutes) = 105 [Decoy]
- Travel Airlines: Price = $590.00  Length of Layover (in minutes) = 60 [Target]

Good news, Express Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Express Airlines: Price = $590.00  Length of Layover (in minutes) = 105 [Decoy]
- Travel Airlines: Price = $590.00  Length of Layover (in minutes) = 60 [Target]
- Connect Airlines: Price = $486.00  Length of Layover (in minutes) = 150 [Competitor]

Sorry, it doesn't look like Britt Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Hilman Airlines, Express Airlines, or return to the original two options?

- Hilman Airlines
- Express Airlines
- Return to previous list
### Good news, Hilman Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- **Travel Airlines:** Price = $590.00  
  Length of Layover (in minutes) = 60 \[\text{Target}\]
- **Hilman Airlines:** Price = $590.00  
  Length of Layover (in minutes) = 105 \[\text{Decoy}\]
- **Connect Airlines:** Price = $486.00  
  Length of Layover (in minutes) = 150 \[\text{Competitor}\]

### Good news, Express Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- **Express Airlines:** Price = $590.00  
  Length of Layover (in minutes) = 105 \[\text{Decoy}\]
- **Connect Airlines:** Price = $486.00  
  Length of Layover (in minutes) = 150 \[\text{Competitor}\]
- **Travel Airlines:** Price = $590.00  
  Length of Layover (in minutes) = 60 \[\text{Target}\]

### Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- **Connect Airlines:** Price = $486.00  
  Length of Layover (in minutes) = 150 \[\text{Competitor}\]
- **Travel Airlines:** Price = $590.00  
  Length of Layover (in minutes) = 60 \[\text{Target}\]
- **Hilman Airlines:** Price = $590.00  
  Length of Layover (in minutes) = 105 \[\text{Decoy}\]

### Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- **Travel Airlines:** Price = $590.00  
  Length of Layover (in minutes) = 60 \[\text{Target}\]
- **Britt Airlines:** Price = $590.00  
  Length of Layover (in minutes) = 105 \[\text{Decoy}\]
- **Connect Airlines:** Price = $486.00  
  Length of Layover (in minutes) = 150 \[\text{Competitor}\]

### Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars.

You may either select one of these two cars, or you can search for a car from a third manufacturer that builds cars with similar features.

- **manufactured by Compella:** Miles-per-Gallon = 30  
  Ride Quality = 65 \[\text{Competitor}\]
- **manufactured by Varnia:** Miles-per-Gallon = 24  
  Ride Quality = 80 \[\text{Target}\]
- **Search for cars from other manufacturers**

Please select one of the car manufacturers below to see which offers cars similar to those built by Compella and Varnia. You may also return to the two alternatives you already saw.

- **Sarmach**
- **Inveco**
- **Laylend**
- **Return to previous list**
Sorry, it doesn't look like Inveco manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Laylend, Sarmach, or return to the original two options?
- Laylend
- Sarmach
- Return to the previous list

Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.
- manufactured by Varnia: Miles-per-Gallon = 24 Ride Quality = 80 [Target]
- manufactured by Laylend: Miles-per-Gallon = 22 Ride Quality = 80 [Decoy]
- manufactured by Compella: Miles-per-Gallon = 30 Ride Quality = 65 [Competitor]

Good news, Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.
- manufactured by Compella: Miles-per-Gallon = 30 Ride Quality = 65 [Competitor]
- manufactured by Sarmach: Miles-per-Gallon = 22 Ride Quality = 80 [Decoy]
- manufactured by Varnia: Miles-per-Gallon = 24 Ride Quality = 80 [Target]

Sorry, it doesn't look like Laylend manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Inveco, Sarmach, or return to the original two options?
- Inveco
- Sarmach
- Return to the previous list

Good news, it looks like Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.
- manufactured by Sarmach: Miles-per-Gallon = 22 Ride Quality = 80 [Decoy]
- manufactured by Compella: Miles-per-Gallon = 30 Ride Quality = 65 [Competitor]
- manufactured by Varnia: Miles-per-Gallon = 24 Ride Quality = 80 [Target]

Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.
- manufactured by Varnia: Miles-per-Gallon = 24 Ride Quality = 80 [Target]
- manufactured by Compella: Miles-per-Gallon = 30 Ride Quality = 65 [Competitor]
- manufactured by Inveco: Miles-per-Gallon = 22 Ride Quality = 80 [Decoy]

Sorry, it doesn't look like Sarmach manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Laylend, Inveco, or return to the original two options?
- Laylend
- Inveco
- Return to the previous list

Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.
- manufactured by Varnia: Miles-per-Gallon = 24 Ride Quality = 80 [Target]
- manufactured by Inveco: Miles-per-Gallon = 22 Ride Quality = 80 [Decoy]
- manufactured by Compella: Miles-per-Gallon = 30 Ride Quality = 65 [Competitor]
Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

<table>
<thead>
<tr>
<th>Option</th>
<th>Miles-per-Gallon</th>
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<td>manufactured by Laylend:</td>
<td>22</td>
<td>80 [Decoy]</td>
</tr>
<tr>
<td>manufactured by Compella:</td>
<td>30</td>
<td>65 [Competitor]</td>
</tr>
</tbody>
</table>
Variation 4: Airplane Ticket Presented First; Forced Search; Target superior in Lay Over Time

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets. Please indicate below which ticket you would be most likely to purchase.

- **Travel Airlines:** Price = $590.00 Length of Layover (in minutes) = 60 [Target]
- **Connect Airlines:** Price = $486.00 Length of Layover (in minutes) = 150 [Competitor]

Thank you for choosing [airline selected above] Airlines. However, there are three other airlines that might also have flights from Toledo Express Airport to Ontario, Canada. Please select one of the airlines below to see which airline offers flights similar to those you saw previously.

- Britt Airlines
- Hilman Airlines
- Express Airlines

Sorry, it doesn't look like Hilman Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Britt Airlines or Express Airlines?

- Britt Airlines
- Express Airlines

Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Britt Airlines: Price = $590.00 Length of Layover (in minutes) = 105 [Decoy]
- Connect Airlines: Price = $486.00 Length of Layover (in minutes) = 150 [Competitor]
- Travel Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Target]

Good news, Express Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Connect Airlines: Price = $486.00 Length of Layover (in minutes) = 150 [Competitor]
- Express Airlines: Price = $590.00 Length of Layover (in minutes) = 105 [Decoy]
- Travel Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Target]

Sorry, it doesn't look like Britt Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Hilman Airlines or Express Airlines?

- Express Airlines
- Hilman Airlines

Good news, Hilman Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Travel Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Target]
- Hilman Airlines: Price = $590.00 Length of Layover (in minutes) = 105 [Decoy]
- Connect Airlines: Price = $486.00 Length of Layover (in minutes) = 150 [Competitor]
Good news, Express Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- **Connect Airlines:** Price = $486.00 Length of Layover (in minutes) = 150 [Competitor]
- **Travel Airlines:** Price = $590.00 Length of Layover (in minutes) = 60 [Target]
- **Express Airlines:** Price = $590.00 Length of Layover (in minutes) = 105 [Decoy]

Sorry, it doesn't look like Express Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Britt Airlines or Hilman Airlines?

- **Hilman Airlines**
- **Britt Airlines**

Good news, Hilman Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- **Connect Airlines:** Price = $486.00 Length of Layover (in minutes) = 150 [Competitor]
- **Hilman Airlines:** Price = $590.00 Length of Layover (in minutes) = 105 [Decoy]
- **Travel Airlines:** Price = $590.00 Length of Layover (in minutes) = 60 [Target]

Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- **Britt Airlines:** Price = $590.00 Length of Layover (in minutes) = 105 [Decoy]
- **Connect Airlines:** Price = $486.00 Length of Layover (in minutes) = 150 [Competitor]
- **Travel Airlines:** Price = $590.00 Length of Layover (in minutes) = 60 [Target]

Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars. Please indicate below which car you would be most likely to purchase.

- **Manufactured by Compella:** Miles-per-Gallon = 30 Ride Quality = 65 [Competitor]
- **Manufactured by Varnia:** Miles-per-Gallon = 24 Ride Quality = 80 [Target]

Thank you for choosing [manufacturer selected above]. However, there are three other manufacturers that might also build cars similar to that built by [manufacturer selected above]. Please select one of the car manufacturers below to see which manufacturer offers cars similar to those you saw previously.

- **Inveco**
- **Sarmach**
- **Laylend**

Sorry, it doesn’t look like Inveco manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Laylend or Sarmach?

- **Laylend**
- **Sarmach**

Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- **manufactured by Varnia:** Miles-per-Gallon = 24 Ride Quality = 80 [Target]
- **manufactured by Compella:** Miles-per-Gallon = 30 Ride Quality = 65 [Competitor]
- **manufactured by Laylend:** Miles-per-Gallon = 22 Ride Quality = 80 [Decoy]
Good news, Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Sarmach: Miles-per-Gallon = 22, Ride Quality = 80 [Decoy]
- manufactured by Compella: Miles-per-Gallon = 30, Ride Quality = 65 [Competitor]
- manufactured by Varnia: Miles-per-Gallon = 24, Ride Quality = 80 [Target]

Sorry, it doesn't look like Laylend manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Inveco or Sarmach?

- Inveco
- Sarmach

Good news, it looks like Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Varnia: Miles-per-Gallon = 24, Ride Quality = 80 [Target]
- manufactured by Sarmach: Miles-per-Gallon = 22, Ride Quality = 80 [Decoy]
- manufactured by Compella: Miles-per-Gallon = 30, Ride Quality = 65 [Competitor]

Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Compella: Miles-per-Gallon = 30, Ride Quality = 65 [Competitor]
- manufactured by Inveco: Miles-per-Gallon = 22, Ride Quality = 80 [Decoy]
- manufactured by Varnia: Miles-per-Gallon = 24, Ride Quality = 80 [Target]

Sorry, it doesn't look like Sarmach manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Laylend or Inveco?

- Laylend
- Inveco

Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Inveco: Miles-per-Gallon = 22, Ride Quality = 80 [Decoy]
- manufactured by Varnia: Miles-per-Gallon = 24, Ride Quality = 80 [Target]
- manufactured by Compella: Miles-per-Gallon = 30, Ride Quality = 65 [Competitor]

Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Varnia: Miles-per-Gallon = 24, Ride Quality = 80 [Target]
- manufactured by Compella: Miles-per-Gallon = 30, Ride Quality = 65 [Competitor]
- manufactured by Laylend: Miles-per-Gallon = 22, Ride Quality = 80 [Decoy]
Variation 5: Airplane Ticket Presented First; 2 Alternatives; Target is superior in Price

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets. Please indicate below which ticket you would be most likely to purchase.

- Travel Airlines: Price = $486.00, Length of Layover (in minutes) = 105 [Target]
- Connect Airlines: Price = $590.00, Length of Layover (in minutes) = 60 [Competitor]

Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars. Please indicate below which car you would be most likely to purchase.

- Compella: Miles-per-Gallon = 24, Ride Quality = 80 [Competitor]
- Varnia: Miles-per-Gallon = 30, Ride Quality = 65 [Target]
Variation 6: Airplane Ticket Presented First; 3 Alternatives; Target is superior in Price

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets. Please indicate below which ticket you would be most likely to purchase.

- **Travel Airlines:** Price = $486.00 Length of Layover (in minutes) = 105 [*Target*]
- **Connect Airlines:** Price = $590.00 Length of Layover (in minutes) = 60 [*Competitor*]
- **Red Jet Airlines:** Price = $529.00 Length of Layover (in minutes) = 105 [*Decoy*]

Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars. Please indicate below which car you would be most likely to purchase.

- **manufactured by Varnia:** Miles-per-Gallon = 30 Ride Quality = 65 [*Target*]
- **manufactured by Compella:** Miles-per-Gallon = 24 Ride Quality = 80 [*Competitor*]
- **manufactured by Daihatson:** Miles-per-Gallon = 30 Ride Quality = 60 [*Decoy*]
Variation 7: Airplane Ticket Presented First; Voluntary Search; Target is superior in Price

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets.

You may either select one of these two airlines, or you can search for a third airline that offers flights with the same route.

- Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]
- Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]
- Search for tickets from other airlines

Please select one of the airlines below to see which airlines also offer flights between Toledo Express Airport and Toronto, Ontario. You may also return to the two alternatives you already saw.

- Hilman Airlines
- Britt Airlines
- Express Airlines
- Return to previous list

Sorry, it doesn't look like Hilman Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Britt Airlines, Express Airlines, or return to the original two options?

- Express Airlines
- Britt Airlines
- Return to previous list

Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]
- Britt Airlines: Price = $529.00 Length of Layover (in minutes) = 105 [Decoy]
- Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]

Good news, Express Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Express Airlines: Price = $529.00 Length of Layover (in minutes) = 105 [Decoy]
- Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]
- Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]

Sorry, it doesn't look like Britt Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Hilman Airlines, Express Airlines, or return to the original two options?

- Express Airlines
- Hilman Airlines
- Return to the previous list
Good news, Hilman Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- **Hilman Airlines:** Price = $529.00  
  Length of Layover (in minutes) = 105 [Decoy]

- **Travel Airlines:** Price = $486.00  
  Length of Layover (in minutes) = 105 [Target]

- **Connect Airlines:** Price = $590.00  
  Length of Layover (in minutes) = 60 [Competitor]

Good news, Express Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- **Connect Airlines:** Price = $590.00  
  Length of Layover (in minutes) = 60 [Competitor]

- **Travel Airlines:** Price = $486.00  
  Length of Layover (in minutes) = 105 [Target]

- **Express Airlines:** Price = $529.00  
  Length of Layover (in minutes) = 105 [Decoy]

Sorry, it doesn't look like Express Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Britt Airlines, Hilman Airlines, or return to the original two options?

- **Hilman Airlines**
- ** Britt Airlines**
- **Return to the previous list**

Good news, Hilman Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- **Hilman Airlines:** Price = $529.00  
  Length of Layover (in minutes) = 105 [Decoy]

- **Travel Airlines:** Price = $486.00  
  Length of Layover (in minutes) = 105 [Target]

- **Connect Airlines:** Price = $590.00  
  Length of Layover (in minutes) = 60 [Competitor]

Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- **Britt Airlines:** Price = $529.00  
  Length of Layover (in minutes) = 105 [Decoy]

- **Connect Airlines:** Price = $590.00  
  Length of Layover (in minutes) = 60 [Competitor]

- **Travel Airlines:** Price = $486.00  
  Length of Layover (in minutes) = 105 [Target]

Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars.

You may either select one of these two cars, or you can search for a car from a third manufacturer that builds cars with similar features.

- manufactured by Compella:  
  Miles-per-Gallon = 24  
  Ride Quality = 80 [Competitor]

- manufactured by Varnia:  
  Miles-per-Gallon = 30  
  Ride Quality = 65 [Target]

- Search for cars from other manufacturers
Please select one of the car manufacturers below to see which offers cars similar to those built by Compella and Varnia that you saw previously. You may also return to the two alternatives you already saw.

- Sarmach
- Inveco
- Laylend
- Return to the previous list

Sorry, it doesn't look like Sarmach manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Inveco, Laylend, or return to the original two options?

- Inveco
- Laylend
- Return to the previous list

Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Varnia: Miles-per-Gallon = 30, Ride Quality = 65 [Target]
- manufactured by Compella: Miles-per-Gallon = 24, Ride Quality = 80 [Competitor]
- manufactured by Inveco: Miles-per-Gallon = 30, Ride Quality = 60 [Decoy]

Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Compella: Miles-per-Gallon = 24, Ride Quality = 80 [Competitor]
- manufactured by Varnia: Miles-per-Gallon = 30, Ride Quality = 65 [Target]
- manufactured by Laylend: Miles-per-Gallon = 30, Ride Quality = 60 [Decoy]

Sorry, it doesn't look like Laylend manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Inveco, Sarmach, or return to the original two options?

- Inveco
- Sarmach
- Return to the previous list

Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Varnia: Miles-per-Gallon = 30, Ride Quality = 65 [Target]
- manufactured by Compella: Miles-per-Gallon = 24, Ride Quality = 80 [Competitor]
- manufactured by Inveco: Miles-per-Gallon = 30, Ride Quality = 60 [Decoy]

Good news, Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Compella: Miles-per-Gallon = 24, Ride Quality = 80 [Competitor]
- manufactured by Varnia: Miles-per-Gallon = 30, Ride Quality = 65 [Target]
- manufactured by Sarmach: Miles-per-Gallon = 30, Ride Quality = 60 [Decoy]
Sorry, it doesn't look like Inveco manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Laylend, Sarmach, or return to the original two options?
- Laylend
- Sarmach
- Return to the previous list

Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.
- manufactured by Varnia: Miles-per-Gallon = 30  Ride Quality = 65 [Target]
- manufactured by Compella: Miles-per-Gallon = 24  Ride Quality = 80 [Competitor]
- manufactured by Laylend: Miles-per-Gallon = 30  Ride Quality = 60 [Decoy]

Good news, Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.
- manufactured by Compella: Miles-per-Gallon = 24  Ride Quality = 80 [Competitor]
- manufactured by Varnia: Miles-per-Gallon = 30  Ride Quality = 65 [Target]
- manufactured by Sarmach: Miles-per-Gallon = 30  Ride Quality = 60 [Decoy]
Variation 8: Airplane Tickets Presented First; Forced Search; Target is superior in Price

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets. Please indicate below which ticket you would be most likely to purchase.

- Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]
- Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]

Thank you for choosing [airline selected above] Airlines. However, there are three other airlines that might also have flights from Toledo Express Airport to Ontario, Canada. Please select one of the airlines below to see which airline offers flights similar to those you saw previously.

- Britt Airlines
- Hilman Airlines
- Express Airlines

Sorry, it doesn't look like Hilman Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Britt Airlines or Express Airlines?

- Britt Airlines
- Express Airlines

Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]
- Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]
- Britt Airlines: Price = $529.00 Length of Layover (in minutes) = 105 [Decoy]

Good news, Express Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]
- Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]
- Express Airlines: Price = $529.00 Length of Layover (in minutes) = 105 [Decoy]

Sorry, it doesn't look like Britt Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Hilman Airlines or Express Airlines?

- Express Airlines
- Hilman Airlines

Good news, Hilman Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Hilman Airlines: Price = $529.00 Length of Layover (in minutes) = 105 [Decoy]
- Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]
- Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]
Good news, Express Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]
- Express Airlines: Price = $529.00 Length of Layover (in minutes) = 105 [Decoy]
- Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]

Sorry, it doesn't look like Express Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Britt Airlines or Hilman Airlines?
- Hilman Airlines
- Britt Airlines

Good news, Hilman Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]
- Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]
- Hilman Airlines: Price = $529.00 Length of Layover (in minutes) = 105 [Decoy]

Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]
- Britt Airlines: Price = $529.00 Length of Layover (in minutes) = 105 [Decoy]
- Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]

Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars. Please indicate below which car you would be most likely to purchase.

- Manufactured by Compella: Miles-per-Gallon = 24 Ride Quality = 80 [Competitor]
- Manufactured by Varnia: Miles-per-Gallon = 30 Ride Quality = 65 [Target]

Thank you for choosing [manufacturer selected above]. However, there are three other manufacturers that might also build cars similar to that built by [manufacturer selected above]. Please select one of the car manufacturers below to see which manufacturer offers cars similar to those you saw previously.

- Inveco
- Sarmach
- Laylend

Sorry, it doesn't look like Inveco manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Laylend or Sarmach?

- Laylend
- Sarmach
Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Laylend: Miles-per-Gallon = 30  Ride Quality = 60 \[Decoy\]
- manufactured by Varnia: Miles-per-Gallon = 30  Ride Quality = 65 \[Target\]
- manufactured by Compella: Miles-per-Gallon = 24  Ride Quality = 80 \[Competitor\]

Good news, Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Compella: Miles-per-Gallon = 24  Ride Quality = 80 \[Competitor\]
- manufactured by Varnia: Miles-per-Gallon = 30  Ride Quality = 65 \[Target\]
- manufactured by Sarmach: Miles-per-Gallon = 30  Ride Quality = 60 \[Decoy\]

Sorry, it doesn't look like Laylend manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Inveco or Sarmach?

- Sarmach
- Inveco

Good news, Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Compella: Miles-per-Gallon = 24  Ride Quality = 80 \[Competitor\]
- manufactured by Sarmach: Miles-per-Gallon = 30  Ride Quality = 60 \[Decoy\]
- manufactured by Varnia: Miles-per-Gallon = 30  Ride Quality = 65 \[Target\]

Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Inveco: Miles-per-Gallon = 30  Ride Quality = 60 \[Decoy\]
- manufactured by Compella: Miles-per-Gallon = 24  Ride Quality = 80 \[Competitor\]
- manufactured by Varnia: Miles-per-Gallon = 30  Ride Quality = 65 \[Target\]

Sorry, it doesn't look like Sarmach manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Laylend or Inveco?

- Laylend
- Inveco

Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Varnia: Miles-per-Gallon = 30  Ride Quality = 65 \[Target\]
- manufactured by Compella: Miles-per-Gallon = 24  Ride Quality = 80 \[Competitor\]
- manufactured by Inveco: Miles-per-Gallon = 30  Ride Quality = 60 \[Decoy\]

Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Compella: Miles-per-Gallon = 24  Ride Quality = 80 \[Competitor\]
- manufactured by Varnia: Miles-per-Gallon = 30  Ride Quality = 65 \[Target\]
- manufactured by Laylend: Miles-per-Gallon = 30  Ride Quality = 60 \[Decoy\]
Variation 9: Automobiles Presented First; 2 Alternatives; Target is superior in Ride Quality

Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars. Please indicate below which car you would be most likely to purchase.

- manufactured by Compella: Miles-per-Gallon = 30 Ride Quality = 65 [Competitor]
- manufactured by Varnia: Miles-per-Gallon = 24 Ride Quality = 80 [Target]

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto, Ontario. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets. Please indicate below which ticket you would be most likely to purchase.

- Connect Airlines: Price = $486.00 Length of Layover (in minutes) = 150 [Competitor]
- Travel Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Target]
Variation 10: Automobiles Presented First; 3 Alternatives; Target is superior in Ride Quality

Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars. Please indicate below which car you would be most likely to purchase.

- Manufactured by Daihatson: Miles-per-Gallon = 22, Ride Quality = 80 [Decoy]
- Manufactured by Varnia: Miles-per-Gallon = 24, Ride Quality = 80 [Target]
- Manufactured by Compella: Miles-per-Gallon = 30, Ride Quality = 65 [Competitor]

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto, Ontario. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets. Please indicate below which ticket you would be most likely to purchase.

- Red Jet Airlines: Price = $590.00, Length of Layover (in minutes) = 105 [Decoy]
- Travel Airlines: Price = $590.00, Length of Layover (in minutes) = 60 [Target]
- Connect Airlines: Price = $486.00, Length of Layover (in minutes) = 150 [Competitor]
Variation 11: Automobiles Presented First; Voluntary Search; Target is superior in Ride Quality

Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars.

You may either select one of these two cars, or you can search for a car from a third manufacturer that builds cars with similar features.

- manufactured by Compella: Miles-per-Gallon = 30  Ride Quality = 65 [*Competitor*]
- manufactured by Varnia: Miles-per-Gallon = 24  Ride Quality = 80 [*Target*]
- Search for cars from other manufacturers

Please select one of the car manufacturers below to see which offers cars similar to those built by Compella and Varnia that you saw previously. You may also return to the two alternatives you already saw.

- Sarmach
- Inveco
- Laylend
- Return to previous list

Sorry, it doesn't look like Inveco manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Laylend, Sarmach, or return to the original two options?

- Laylend
- Sarmach
- Return to the previous list

Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Varnia: Miles-per-Gallon = 24  Ride Quality = 80 [*Target*]
- manufactured by Laylend: Miles-per-Gallon = 22  Ride Quality = 80 [*Decoy*]
- manufactured by Compella: Miles-per-Gallon = 30  Ride Quality = 65 [*Competitor*]

Good news, Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Compella: Miles-per-Gallon = 30  Ride Quality = 65 [*Competitor*]
- manufactured by Sarmach: Miles-per-Gallon = 22  Ride Quality = 80 [*Decoy*]
- manufactured by Varnia: Miles-per-Gallon = 24  Ride Quality = 80 [*Target*]

Sorry, it doesn't look like Laylend manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Inveco, Sarmach, or return to the original two options?

- Inveco
- Sarmach
- Return to the previous list

Good news, it looks like Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Sarmach: Miles-per-Gallon = 22  Ride Quality = 80 [*Decoy*]
- manufactured by Compella: Miles-per-Gallon = 30  Ride Quality = 65 [*Competitor*]
- manufactured by Varnia: Miles-per-Gallon = 24  Ride Quality = 80 [*Target*]
Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- o manufactured by Varnia: Miles-per-Gallon = 24, Ride Quality = 80 \([\text{Target}]\)
- o manufactured by Compella: Miles-per-Gallon = 30, Ride Quality = 65 \([\text{Competitor}]\)
- o manufactured by Inveco: Miles-per-Gallon = 22, Ride Quality = 80 \([\text{Decoy}]\)

Sorry, it doesn't look like Sarmach manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Laylend, Inveco, or return to the original two options?

- o Laylend
- o Inveco
- o Return to the previous list

Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- o manufactured by Varnia: Miles-per-Gallon = 24, Ride Quality = 80 \([\text{Target}]\)
- o manufactured by Inveco: Miles-per-Gallon = 22, Ride Quality = 80 \([\text{Decoy}]\)
- o manufactured by Compella: Miles-per-Gallon = 30, Ride Quality = 65 \([\text{Competitor}]\)

Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- o manufactured by Varnia: Miles-per-Gallon = 24, Ride Quality = 80 \([\text{Target}]\)
- o manufactured by Laylend: Miles-per-Gallon = 22, Ride Quality = 80 \([\text{Decoy}]\)
- o manufactured by Compella: Miles-per-Gallon = 30, Ride Quality = 65 \([\text{Competitor}]\)

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets.

You may either select one of these two airlines, or you can search for a third airline that offers flights with the same route.

- o Travel Airlines: Price = $590.00, Length of Layover (in minutes) = 60 \([\text{Target}]\)
- o Connect Airlines: Price = $486.00, Length of Layover (in minutes) = 150 \([\text{Competitor}]\)
- o Search for tickets from other airlines

Please select one of the airlines below to see which airlines also offer flights between Toledo Express Airport and Toronto, Ontario. You may also return to the two alternatives you already saw.

- o Hilman Airlines
- o Britt Airlines
- o Express Airlines
- o Return to previous list
Sorry, it doesn't look like Hilman Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Britt Airlines, Express Airlines, or return to the original two options?
  o Britt Airlines
  o Express Airlines
  o Return to previous list

Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.
  o Connect Airlines:  Price = $486.00  Length of Layover (in minutes) = 150 [Competitor]
  o Britt Airlines:  Price = $590.00  Length of Layover (in minutes) = 105 [Decoy]
  o Travel Airlines:  Price = $590.00  Length of Layover (in minutes) = 60 [Target]

Good news, Express Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.
  o Express Airlines:  Price = $590.00  Length of Layover (in minutes) = 105 [Decoy]
  o Travel Airlines:  Price = $590.00  Length of Layover (in minutes) = 60 [Target]
  o Connect Airlines:  Price = $486.00  Length of Layover (in minutes) = 150 [Competitor]

Sorry, it doesn't look like Britt Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Hilman Airlines, Express Airlines, or return to the original two options?
  o Hilman Airlines
  o Express Airlines
  o Return to previous list

Good news, Hilman Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.
  o Travel Airlines:  Price = $590.00  Length of Layover (in minutes) = 60 [Target]
  o Hilman Airlines:  Price = $590.00  Length of Layover (in minutes) = 105 [Decoy]
  o Connect Airlines:  Price = $486.00  Length of Layover (in minutes) = 150 [Competitor]

Good news, Express Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.
  o Express Airlines:  Price = $590.00  Length of Layover (in minutes) = 105 [Decoy]
  o Connect Airlines:  Price = $486.00  Length of Layover (in minutes) = 150 [Competitor]
  o Travel Airlines:  Price = $590.00  Length of Layover (in minutes) = 60 [Target]

Sorry, it doesn't look like Express Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Britt Airlines, Hilman Airlines, or return to the original two options?
  o Britt Airlines
  o Hilman Airlines
  o Return to previous list
Good news, Hilman Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- **Connect Airlines**: Price = $486.00  Length of Layover (in minutes) = 150 [*Competitor*]
- **Travel Airlines**: Price = $590.00  Length of Layover (in minutes) = 60 [*Target*]
- **Hilman Airlines**: Price = $590.00  Length of Layover (in minutes) = 105 [*Decoy*]

Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- **Travel Airlines**: Price = $590.00  Length of Layover (in minutes) = 60 [*Target*]
- **Britt Airlines**: Price = $590.00  Length of Layover (in minutes) = 105 [*Decoy*]
- **Connect Airlines**: Price = $486.00  Length of Layover (in minutes) = 150 [*Competitor*]
Variation 12: Automobiles Presented First; Forced Search; Target is superior in Ride Quality

Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars. Please indicate below which car you would be most likely to purchase.

- Manufactured by Compella: Miles-per-Gallon = 30      Ride Quality = 65 [Competitor]
- Manufactured by Varnia:    Miles-per-Gallon = 24      Ride Quality = 80 [Target]

Thank you for choosing [manufacturer selected above]. However, there are three other manufacturers that might also build cars similar to that built by [manufacturer selected above]. Please select one of the car manufacturers below to see which manufacturer offers cars similar to those you saw previously.

- Inveco
- Sarmach
- Laylend

Sorry, it doesn’t look like Inveco manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Laylend or Sarmach?

- Laylend
- Sarmach

Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- Manufactured by Varnia: Miles-per-Gallon = 24      Ride Quality = 80 [Target]
- Manufactured by Compella: Miles-per-Gallon = 30      Ride Quality = 65 [Competitor]
- Manufactured by Laylend: Miles-per-Gallon = 22      Ride Quality = 80 [Decoy]

Good news, Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- Manufactured by Sarmach: Miles-per-Gallon = 22      Ride Quality = 80 [Decoy]
- Manufactured by Compella: Miles-per-Gallon = 30      Ride Quality = 65 [Competitor]
- Manufactured by Varnia: Miles-per-Gallon = 24      Ride Quality = 80 [Target]

Sorry, it doesn't look like Laylend manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Inveco or Sarmach?

- Inveco
- Sarmach

Good news, it looks like Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- Manufactured by Varnia: Miles-per-Gallon = 24      Ride Quality = 80 [Target]
- Manufactured by Sarmach: Miles-per-Gallon = 22      Ride Quality = 80 [Decoy]
- Manufactured by Compella: Miles-per-Gallon = 30      Ride Quality = 65 [Competitor]

Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- Manufactured by Compella: Miles-per-Gallon = 30      Ride Quality = 65 [Competitor]
- Manufactured by Inveco: Miles-per-Gallon = 22      Ride Quality = 80 [Decoy]
- Manufactured by Varnia: Miles-per-Gallon = 24      Ride Quality = 80 [Target]
Sorry, it doesn't look like Sarmach manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Laylend or Inveco?
- Laylend
- Inveco

Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.
- manufactured by Inveco: Miles-per-Gallon = 22, Ride Quality = 80 [Decoy]
- manufactured by Varnia: Miles-per-Gallon = 24, Ride Quality = 80 [Target]
- manufactured by Compella: Miles-per-Gallon = 30, Ride Quality = 65 [Competitor]

Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.
- manufactured by Varnia: Miles-per-Gallon = 24, Ride Quality = 80 [Target]
- manufactured by Compella: Miles-per-Gallon = 30, Ride Quality = 65 [Competitor]
- manufactured by Laylend: Miles-per-Gallon = 22, Ride Quality = 80 [Decoy]

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets. Please indicate below which ticket you would be most likely to purchase.
- Travel Airlines: Price = $590.00, Length of Layover (in minutes) = 60 [Target]
- Connect Airlines: Price = $486.00, Length of Layover (in minutes) = 150 [Competitor]

Thank you for choosing [airline selected above] Airlines. However, there are three other airlines that might also have flights from Toledo Express Airport to Ontario, Canada. Please select one of the airlines below to see which airline offers flights similar to those you saw previously.
- Britt Airlines
- Hilman Airlines
- Express Airlines

Sorry, it doesn't look like Hilman Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Britt Airlines or Express Airlines?
- Britt Airlines
- Express Airlines

Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.
- Britt Airlines: Price = $590.00, Length of Layover (in minutes) = 105 [Decoy]
- Connect Airlines: Price = $486.00, Length of Layover (in minutes) = 150 [Competitor]
- Travel Airlines: Price = $590.00, Length of Layover (in minutes) = 60 [Target]
Good news, Express Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Connect Airlines: Price = $486.00, Length of Layover (in minutes) = 150 [Competitor]
- Express Airlines: Price = $590.00, Length of Layover (in minutes) = 105 [Decoy]
- Travel Airlines: Price = $590.00, Length of Layover (in minutes) = 60 [Target]

Sorry, it doesn't look like Britt Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Hilman Airlines or Express Airlines?

- Express Airlines
- Hilman Airlines

Good news, Hilman Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Travel Airlines: Price = $590.00, Length of Layover (in minutes) = 60 [Target]
- Hilman Airlines: Price = $590.00, Length of Layover (in minutes) = 105 [Decoy]
- Connect Airlines: Price = $486.00, Length of Layover (in minutes) = 150 [Competitor]

Good news, Express Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Connect Airlines: Price = $486.00, Length of Layover (in minutes) = 150 [Competitor]
- Travel Airlines: Price = $590.00, Length of Layover (in minutes) = 60 [Target]
- Express Airlines: Price = $590.00, Length of Layover (in minutes) = 105 [Decoy]

Sorry, it doesn't look like Express Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Britt Airlines or Hilman Airlines?

- Hilman Airlines
- Britt Airlines

Good news, Hilman Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Connect Airlines: Price = $486.00, Length of Layover (in minutes) = 150 [Competitor]
- Hilman Airlines: Price = $590.00, Length of Layover (in minutes) = 105 [Decoy]
- Travel Airlines: Price = $590.00, Length of Layover (in minutes) = 60 [Target]

Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Britt Airlines: Price = $590.00, Length of Layover (in minutes) = 105 [Decoy]
- Connect Airlines: Price = $486.00, Length of Layover (in minutes) = 150 [Competitor]
- Travel Airlines: Price = $590.00, Length of Layover (in minutes) = 60 [Target]
Variation 13: Automobiles Presented First; 2 Alternatives; Target is superior in MPG

Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars. Please indicate below which car you would be most likely to purchase.

- manufactured by Compella:  
  - Miles-per-Gallon = 24  
  - Ride Quality = 80 [Competitor]

- manufactured by Varnia:  
  - Miles-per-Gallon = 30  
  - Ride Quality = 65 [Target]

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets. Please indicate below which ticket you would be most likely to purchase.

- Travel Airlines:  
  - Price = $486.00  
  - Length of Layover (in minutes) = 105 [Target]

- Connect Airlines:  
  - Price = $590.00  
  - Length of Layover (in minutes) = 60 [Competitor]
Variation 14: Automobiles Presented First; 3 Alternatives; Target is superior in MPG

Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars. Please indicate below which car you would be most likely to purchase.

- manufactured by Varnia:  
  Miles-per-Gallon = 30  
  Ride Quality = 65  

- manufactured by Compella:  
  Miles-per-Gallon = 24  
  Ride Quality = 80  

- manufactured by Daihatson:  
  Miles-per-Gallon = 30  
  Ride Quality = 60

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets. Please indicate below which ticket you would be most likely to purchase.

- Travel Airlines:  
  Price = $486.00  
  Length of Layover (in minutes) = 105  

- Connect Airlines:  
  Price = $590.00  
  Length of Layover (in minutes) = 60

- Red Jet Airlines:  
  Price = $529.00  
  Length of Layover (in minutes) = 105
Variation 15: Automobiles Presented First; Voluntary Search; Target is superior in MPG

Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars.

You may either select one of these two cars, or you can search for a car from a third manufacturer that builds cars with similar features.

- manufactured by Compella: Miles-per-Gallon = 24
  Ride Quality = 80 [Competitor]
- manufactured by Varnia: Miles-per-Gallon = 30
  Ride Quality = 65 [Target]
- Search for cars from other manufacturers

Please select one of the car manufacturers below to see which offers cars similar to those built by Compella and Varnia that you saw previously. You may also return to the two alternatives you already saw.

- Sarmach
- Inveco
- Laylend
- Return to the previous list

Sorry, it doesn't look like Inveco manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Laylend, Sarmach, or return to the original two options?

- Laylend
- Sarmach
- Return to the previous list

Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Varnia: Miles-per-Gallon = 30
  Ride Quality = 65 [Target]
- manufactured by Compella: Miles-per-Gallon = 24
  Ride Quality = 80 [Competitor]
- manufactured by Laylend: Miles-per-Gallon = 30
  Ride Quality = 60 [Decoy]

Good news, Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Compella: Miles-per-Gallon = 24
  Ride Quality = 80 [Competitor]
- manufactured by Varnia: Miles-per-Gallon = 30
  Ride Quality = 65 [Target]
- manufactured by Sarmach: Miles-per-Gallon = 30
  Ride Quality = 60 [Decoy]

Sorry, it doesn't look like Laylend manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Inveco, Sarmach, or return to the original two options?

- Sarmach
- Inveco
- Return to the previous list

Good news, Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Sarmach: Miles-per-Gallon = 30
  Ride Quality = 60 [Decoy]
- manufactured by Varnia: Miles-per-Gallon = 30
  Ride Quality = 65 [Target]
- manufactured by Compella: Miles-per-Gallon = 24
  Ride Quality = 80 [Competitor]
Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- o manufactured by Varnia: Miles-per-Gallon = 30 Ride Quality = 65 [Target]
- o manufactured by Inveco: Miles-per-Gallon = 30 Ride Quality = 60 [Decoy]
- o manufactured by Compella: Miles-per-Gallon = 24 Ride Quality = 80 [Competitor]

Sorry, it doesn't look like Sarmach manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Laylend, Inveco, or return to the original two options?

- o Laylend
- o Inveco
- o Return to the previous list

Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- o manufactured by Varnia: Miles-per-Gallon = 30 Ride Quality = 65 [Target]
- o manufactured by Inveco: Miles-per-Gallon = 30 Ride Quality = 60 [Decoy]
- o manufactured by Compella: Miles-per-Gallon = 24 Ride Quality = 80 [Competitor]

Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- o manufactured by Varnia: Miles-per-Gallon = 30 Ride Quality = 65 [Target]
- o manufactured by Laylend: Miles-per-Gallon = 30 Ride Quality = 60 [Decoy]
- o manufactured by Compella: Miles-per-Gallon = 24 Ride Quality = 80 [Competitor]

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets.

You may either select one of these two airlines, or you can search for a third airline that offers flights with the same route.

- o Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]
- o Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]
- o Search for tickets from other airlines

Please select one of the airlines below to see which airlines also offer flights between Toledo Express Airport and Toronto, Ontario. You may also return to the two alternatives you already saw.

- o Hilman Airlines
- o Britt Airlines
- o Express Airlines
- o Return to previous list
Sorry, it doesn't look like Hilman Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Britt Airlines, Express Airlines, or return to the original two options?
  o Express Airlines
  o Britt Airlines
  o Return to previous list

Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.
  o Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]
  o Britt Airlines: Price = $529.00 Length of Layover (in minutes) = 105 [Decoy]
  o Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]

Sorry, it doesn't look like Britt Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Hilman Airlines, Express Airlines, or return to the original two options?
  o Express Airlines
  o Hilman Airlines
  o Return to the previous list

Good news, Hilman Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.
  o Hilman Airlines: Price = $529.00 Length of Layover (in minutes) = 105 [Decoy]
  o Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]
  o Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]

Sorry, it doesn't look like Express Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Britt Airlines, Hilman Airlines, or return to the original two options?
  o Hilman Airlines
  o Britt Airlines
  o Return to the previous list
Good news, Hilman Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- **Hilman Airlines**: Price = $529.00  
  Length of Layover (in minutes) = 105 [Decay]

- **Travel Airlines**: Price = $486.00  
  Length of Layover (in minutes) = 105 [Target]

- **Connect Airlines**: Price = $590.00  
  Length of Layover (in minutes) = 60 [Competitor]

Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- **Britt Airlines**: Price = $529.00  
  Length of Layover (in minutes) = 105 [Decay]

- **Connect Airlines**: Price = $590.00  
  Length of Layover (in minutes) = 60 [Competitor]

- **Travel Airlines**: Price = $486.00  
  Length of Layover (in minutes) = 105 [Target]
Variation 16: Automobiles Presented First; Forced Search; Target is superior in MPG

Listed below are the prices per adult ticket and the anticipated length of the layover for several flights from the Toledo Express Airport to Toronto. Each ticket is sold by a different airline and other than the price and the length of the layover, there are no other differences between the tickets. Please indicate below which ticket you would be most likely to purchase.

- Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]
- Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]

Thank you for choosing [airline selected above] Airlines. However, there are three other airlines that might also have flights from Toledo Express Airport to Ontario, Canada. Please select one of the airlines below to see which airline offers flights similar to those you saw previously.

- Britt Airlines
- Hilman Airlines
- Express Airlines

Sorry, it doesn't look like Hilman Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Britt Airlines or Express Airlines?

- Britt Airlines
- Express Airlines

Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Britt Airlines: Price = $529.00 Length of Layover (in minutes) = 105 [Decoy]
- Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]
- Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]

Good news, Express Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Express Airlines: Price = $529.00 Length of Layover (in minutes) = 105 [Decoy]
- Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]
- Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]

Sorry, it doesn't look like Britt Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Hilman Airlines or Express Airlines?

- Express Airlines
- Hilman Airlines

Good news, Hilman Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

- Hilman Airlines: Price = $529.00 Length of Layover (in minutes) = 105 [Decoy]
- Travel Airlines: Price = $486.00 Length of Layover (in minutes) = 105 [Target]
- Connect Airlines: Price = $590.00 Length of Layover (in minutes) = 60 [Competitor]
Good news, Express Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

<table>
<thead>
<tr>
<th>Airline</th>
<th>Price (in $)</th>
<th>Layover (in minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Express Airlines</td>
<td>$529.00</td>
<td>105 [Decoy]</td>
</tr>
<tr>
<td>Connect Airlines</td>
<td>$590.00</td>
<td>60 [Competitor]</td>
</tr>
<tr>
<td>Travel Airlines</td>
<td>$486.00</td>
<td>105 [Target]</td>
</tr>
</tbody>
</table>

Sorry, it doesn't look like Express Airlines offers any flights from Toledo Express Airport to Toronto, Ontario. Would you like to search for flights offered by Britt Airlines or Hilman Airlines?

- Britt Airlines
- Hilman Airlines

Good news, Hilman Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

<table>
<thead>
<tr>
<th>Airline</th>
<th>Price (in $)</th>
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</thead>
<tbody>
<tr>
<td>Hilman Airlines</td>
<td>$529.00</td>
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</tr>
<tr>
<td>Travel Airlines</td>
<td>$486.00</td>
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Good news, Britt Airlines offers a flight from Toledo Express Airport to Toronto, Ontario. Please select the flight that you would be most likely to choose.

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<th>Airline</th>
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<td>$590.00</td>
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<tr>
<td>Travel Airlines</td>
<td>$486.00</td>
<td>105 [Target]</td>
</tr>
<tr>
<td>Britt Airlines</td>
<td>$529.00</td>
<td>105 [Decoy]</td>
</tr>
</tbody>
</table>

Listed below are the estimated highway miles per gallon and ride quality ratings for several cars. Each car is manufactured by a different company and other than the estimated miles per gallon and the ride quality rating, there are no other meaningful differences between the cars. Please indicate below which car you would be most likely to purchase.

<table>
<thead>
<tr>
<th>Company</th>
<th>Miles-per-Gallon</th>
<th>Ride Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compella</td>
<td>24</td>
<td>80 [Competitor]</td>
</tr>
<tr>
<td>Varnia</td>
<td>30</td>
<td>65 [Target]</td>
</tr>
</tbody>
</table>

Thank you for choosing [manufacturer selected above]. However, there are three other manufacturers that might also build cars similar to that built by [manufacturer selected above]. Please select one of the car manufacturers below to see which manufacturer offers cars similar to those you saw previously.

- Inveco
- Sarmach
- Laylend

Sorry, it doesn't look like Inveco manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Laylend or Sarmach?

- Laylend
- Sarmach

Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

<table>
<thead>
<tr>
<th>Company</th>
<th>Miles-per-Gallon</th>
<th>Ride Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laylend</td>
<td>30</td>
<td>80 [Competitor]</td>
</tr>
<tr>
<td>Varnia</td>
<td>30</td>
<td>65 [Target]</td>
</tr>
<tr>
<td>Compella</td>
<td>24</td>
<td>80 [Competitor]</td>
</tr>
</tbody>
</table>
Good news, Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Sarmach: Miles-per-Gallon = 30, Ride Quality = 60 [Decoy]
- manufactured by Compella: Miles-per-Gallon = 24, Ride Quality = 80 [Competitor]
- manufactured by Varnia: Miles-per-Gallon = 30, Ride Quality = 65 [Target]

Sorry, it doesn't look like Laylend manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Inveco or Sarmach?

- Sarmach
- Inveco

Good news, Sarmach manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Sarmach: Miles-per-Gallon = 30, Ride Quality = 60 [Decoy]
- manufactured by Varnia: Miles-per-Gallon = 30, Ride Quality = 65 [Target]
- manufactured by Compella: Miles-per-Gallon = 24, Ride Quality = 80 [Competitor]

Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Inveco: Miles-per-Gallon = 30, Ride Quality = 60 [Decoy]
- manufactured by Compella: Miles-per-Gallon = 24, Ride Quality = 80 [Competitor]
- manufactured by Varnia: Miles-per-Gallon = 30, Ride Quality = 65 [Target]

Sorry, it doesn't look like Sarmach manufactures any cars similar to those you saw previously. Would you like to search for cars manufactured by Laylend or Inveco?

- Laylend
- Inveco

Good news, Inveco manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Inveco: Miles-per-Gallon = 30, Ride Quality = 60 [Decoy]
- manufactured by Varnia: Miles-per-Gallon = 30, Ride Quality = 65 [Target]
- manufactured by Compella: Miles-per-Gallon = 24, Ride Quality = 80 [Competitor]

Good news, Laylend manufactures a car similar to those you saw previously. Please select the car below that you would be most likely to choose.

- manufactured by Laylend: Miles-per-Gallon = 30, Ride Quality = 60 [Decoy]
- manufactured by Compella: Miles-per-Gallon = 24, Ride Quality = 80 [Competitor]
- manufactured by Varnia: Miles-per-Gallon = 30, Ride Quality = 65 [Target]
Appendix F: Demographic Survey for Pilot Study

Thank you for indicating which products and alternatives you would be most likely to choose. On this page, please answer the demographic questions below and you will then be asked to respond to two brief surveys on the following pages.

Please enter your age (in years): ______

Please indicate your gender:
- Male
- Female
- Prefer not to answer

Please mark the option that best describes your academic status:
- undergraduate student (full-time)
- undergraduate student (part-time)
- graduate student
- other

In what college is your academic major?
- College of Arts & Sciences
- College of Business Administration
- College of Education & Human Development
- College of Health & Human Services
- College of Musical Arts
- College of Technology
- uncertain

This question is intended to determine whether people are marking answers without reading the questions. Please leave this question unanswered and do not select any of the answers below.
- GPS / Navigation Systems
- Desktop / Laptop / Tablet Computers
- Televisions
- Digital Cameras
- Gaming Systems (e.g., PS3, Wii, etc)
- MP3 Players
- Apartments
Did you try to seriously consider which of the listed products or options you would be most likely to purchase, if you were interested in purchasing such a product?

- Yes
- No
Appendix G: Demographics Survey for the Experiment

Thank you for indicating which flight and car you would be most likely to purchase. Please answer the demographic questions below and you will then be asked to respond to two brief surveys starting on the next page.

Please enter your age (in years): _______

Please indicate your gender:
- Male
- Female
- Prefer not to answer

Please mark the option that best describes your academic status:
- undergraduate student (full-time)
- undergraduate student (part-time)
- graduate student
- other

In what college is your academic major?
- College of Arts & Sciences
- College of Business Administration
- College of Education & Human Development
- College of Health & Human Services
- College of Musical Arts
- College of Technology
- uncertain

This question is intended to determine whether people are marking answers without reading the questions. Please leave this question unanswered and do not select any of the answers below.
- Plane Tickets
- Desktop / Laptop / Tablet Computers
- MP3 Players
- Gaming Systems (e.g., PS3, Wii, etc)
- Digital Cameras
- Cars / Trucks / SUVs
Did you try to seriously consider which of the listed alternatives, among the flights and cars, you would be most likely to purchase assuming you were interested in purchasing such a product?

- Yes
- No
Appendix H: Consumer Styles Inventory

For the following statements, think about the decisions you make when purchasing durable goods, such as clothing and electronics. Please respond to the statements below indicating the degree to which you agree with each statement as an accurate description of yourself as a consumer.

1. I make special effort to choose the very best quality products.
2. I go to the same stores each time I shop.
3. Getting very good quality is very important to me.
4. The more expensive brands are usually my choices.
5. I am loyal to certain stores and brands.
6. The lower price products are usually my choice.
7. The well-known national brands are best for me.
8. The higher the price of a product, the better its quality.
9. I do not spend much time shopping for the best prices.
10. I have favorite brands I buy over and over.
11. I look carefully to find the best value for money.
12. When it comes to purchasing products, I try to get the very best or perfect choice.
13. In general, I usually try to buy the best overall quality.
14. I am impulsive when purchasing.
15. I should plan my shopping more carefully than I do.
16. Often I make careless purchases that I later wish I had not.
17. I buy as much as possible at sale prices.
18. Nice department and specialty stores offer me the best products.
19. Once I find a product or brand that I like, I stick with it.
20. I compare prices to find the lower-priced products.
Appendix I: Maximization Scale

For the following statements, think about the decisions you make in your everyday life. Please respond to the statements below indicating the degree to which you agree with each statement as an accurate description of yourself and your typical preferences.

1. When I watch TV, I channel surf, often scanning through the available options even while attempting to watch one program.
2. When I am in the car listening to the radio, I often check other stations to see if something better is playing, even if I'm relatively satisfied with what I'm listening to.
3. I treat relationships like clothing: I expect to try a lot on before I get the perfect fit.
4. No matter how satisfied I am with my job, it is only right for me to be on the lookout for better opportunities.
5. I often fantasize about living in ways that are quite different from my actual life.
6. I'm a big fan of lists that attempt to rank things (e.g., the best movies, the best singers, the best athletes, the best novels, etc).
7. I often find it difficult to shop for a gift for a friend.
8. When shopping, I have a hard time finding clothing that I really love.
9. Renting videos is really difficult; I am always struggling to pick the best one.
10. I find that writing is very difficult, even if it is just writing a letter to a friend, because it is so hard to word things just right. I often do several drafts of even simple things.
11. No matter what I do, I have the highest standards for myself.
12. I never settle for second best.
13. Whenever I'm faced with a choice, I try to imagine what all the other possibilities are, even ones that are not present at the moment.
Appendix J: Debriefing Statement for Pilot Study

Thank you for your participation in this study. Your time and responses are appreciated. The experiment you just completed was designed to study how consumers consider different alternatives when planning to purchase an expensive product, such as a digital camera. All participants were shown the purchase price and average user rating of two or more similar alternative products and were asked which product they would be most likely to purchase. Previous research has found that comparing different product alternatives can lead consumers to make different choices about which product they would be most likely to purchase.
Appendix K: Debriefing Statement for Experiment

Thank you for your participation. Your time and responses are appreciated. The credit you have earned will be applied to your Sona account soon, typically within 72 hours. The experiment you just completed was designed to study how consumers consider different alternatives when planning to purchase an expensive product or service. All participants were shown the details of two traits for several similar alternatives and were asked which alternative they would be most likely to choose. Previous research has found that comparing different alternatives can lead participants to make different choices about which alternative they would be most likely to purchase.
REFERENCES


