

TRUST-CHOICE INCOMPATIBILITY AND THE ROLE OF AUTOMATIC  
ACTIVATION

A Thesis  
By  
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## FOREWORD

This thesis is written in accordance with the style of the *Publication Manual of the American Psychological Association (6th Edition)* as required by the Department of Psychology at Appalachian State University

## ACKNOWLEDGMENTS

I would like to thank my thesis chair, Todd McElroy, for his patience and advice through out this thesis process. I would also like to thank my dedicated thesis committee, Dr. Skip Beck and Dr. Chris Dickinson, for their patience and understanding. My family's and friends' support through this process will not be forgotten. Thanks to E.R. Mol, Kathy Mol, and Lance Mol. A special thanks to my friend, keeper, and ally Leonard MaCheeto.

Trust-Choice Incompatibility and the Role of Automatic Activation

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### Abstract

This study examines the influence of conscious and unconscious processes on trust and choice within an attribute framing task. Trust-choice incompatibility exists when a decision maker shows preference for one option, but trusts another option. For instance, a decision maker might prefer Butcher A, who advertises ground beef as 75% lean yet trust Butcher B, who advertises ground beef as 25% fat. McElroy and Conrad (2009) suggest that unconscious processing plays an important role in choice. A vigilance task was used to investigate unconscious processing and trust-choice incompatibility. Participants were primed with words to induce trust or doubt and then given the ground beef attribute framing task along with 7-point scales to indicate which butcher they prefer and trust.

### Trust-Choice Incompatibility and the Role of Automatic Activation

Decisions are often associated with substantial consequences and risk. Consider a person who has been diagnosed with a life threatening illness and forced to choose between a risky, yet potentially lifesaving surgery, or not undergoing surgery. Is the potential life saving benefit of the surgery worth the risk? Another example is an investor who has purchased a house and hopes to sell it for a profit, but the economy takes a downturn. Should the investor sell and cut the losses or wait for an economic rebound?

Expected utility theory (EU) is a normative model of rational decision making under risk. This theoretical approach serves as the basis for most modern accounts of rational decision making. Much of expected utility theory was developed by mathematician Daniel Bernoulli (1738) who put forth the idea that betting preferences with uncertain outcomes can be described using relationships between pay outs, probabilities, and risk.

For example, consider a gamble with an 85% chance to win \$1000 and a 15% chance to win nothing and an alternate choice that guarantees a win of \$800. Although there is a guarantee to win \$800, the gamble to win \$1000 yields a higher mathematical expectation. This can be seen by  $85\% \times \$1000 + 15\% \times \$0 = \$850$ , which is greater than \$800. EU represents the ideal decision making model for making rational decisions under risk. Calculations of probabilities, payouts, and risk allow the decision maker to arrive at a definite expected utility.

### **Prospect Theory**

Prospect theory (Kahneman & Tversky, 1979) offers an alternative to EU for describing risky decision making. A major difference from EU models is that prospect theory considers the psychological perceptions of gains and losses. Traditional EU models focus on ideal decision making processes and evaluations. These differences can be thought of as prospect theory

representing a descriptive approach and traditional expected utility models representing a normative approach (Kahneman & Tversky, 1979).

Prospect theory uses an S-shaped value function (see Figure 1) to describe gains and losses. Gains are represented by a concave curve while a convex curve represents losses. These curves reflect the finding that people tend to be risk averse when facing gains and risk seeking when facing losses (Kahneman & Tversky, 1979). Risk preferences can be influenced by the way decision options are described or framed. Framing refers to the positive or negative presentation of alternatives. Framing effects occur when people show a preference for choices even though their outcomes are numerically equivalent (Tversky & Kahneman, 1981).

The fact that gains and losses influence decision making differently can be seen in Tversky and Kahneman's Asian disease problem, one of the most studied examples of the framing effect. In this task Tversky and Kahneman (1981) presented participants with the following problem:

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

If Program A is adopted, 200 people will be saved.

If Program B is adopted, there is 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved.

Which of the two programs would you favor? (p. 453)

Both choices in this condition state that lives will be saved. Seventy-two percent of participants preferred the riskless choice, Program A, that guarantees 200 people will be

saved. In the other condition Tversky and Kahneman (1981) presented participants the same Asian disease problem, but in this condition the alternatives were presented negatively, in terms of losses:

If Program C is adopted 400 people will die.

If Program D is adopted there is 1/3 probability that nobody will die, and 2/3 probability that 600 people will die.

Which of the two programs would you favor? (p. 453)

Seventy-eight percent of the participants in this condition preferred option D, which is the risky choice that gives a 2/3 chance that 600 people will die. In both conditions the choices have numerically equivalent outcomes that can be seen with a comparison of choices A and C.

A comparison across conditions reveals that choice A guarantees 200 people will be saved and 400 people will die, while choice C guarantees 400 people will die and 200 people will be saved. So, in either condition, the same amount of people will live and die, but the alternatives differ in the way the choices are worded or framed in terms of saving or losing lives.

A core aspect of prospect theory is that it demonstrates how people violate the principle of invariance. The invariance principle states that choices should depend on the situation, not the way it is described (Baron, 2008). When people show a preference for choices based on how they are framed then invariance has been violated (i.e., the framing effect). A violation of the invariance principle can also be seen in a study by McNeil, Pauker, and Tversky (1988) which presented participants with options for a medical treatment:

Surgery: Of 100 people having surgery 90 live through the post-operative period, 68 are alive at the end of the first year, and 34 are alive at the end of five years.

Radiation therapy: Of 100 people having radiation therapy all live through treatment, 77 are alive at the end of one year, and 22 are alive at the end of five. (p. 563)

Both surgery and radiation therapy have probabilities that are described in terms of survival. McNeil et al. (1988) also offer an alternative way of presenting surgery and radiation therapy that is described in terms of mortality and dying. Participants were presented with the following:

Surgery: Of 100 people having surgery 10 die during surgery or the post-operative period, 32 die by the end of the first year, and 66 die by the end of five years.

Radiation therapy: Of 100 people having radiation therapy, none die during treatment, 23 die by the end of one year, and 78 die by the end of five years. (p. 563)

Even though both conditions offer the same probabilities of mortality and survival, participants violate the invariance principle by showing a preference for one option over the other. In the survival condition, 18% of participants preferred radiation therapy. In the mortality condition, 44% of participants showed a preference for radiation therapy. This is a violation of the invariance principle. That is, participants show a preference based on descriptions of the options even though their probabilities are equivalent.

Prospect theory has contributed to the field of judgment and decision making by explaining the psychology of choice and framing. So far, the Asian disease problem and the framing of medical problems have been discussed, but other means for framing decisions are available. A review of the framing literature by Levin, Schneider, and Gaeth (1998) produced three types of decision framing present in the literature.

The most common type of framing, risky-choice, is exemplified by the Asian disease problem. In addition to risky-choice framing, Levin et al. (1998) also identify goal framing tasks in which the goal of an action or behavior is framed. The issue under consideration is framed to focus attention on its potential to provide a benefit, or its potential to prevent a loss.

Consider a clinic that offers free cancer screenings. One way to encourage participation would be to emphasize the benefits of a screening, such as finding cancer while it is in its early stage and still treatable. Another way to encourage participation would be to emphasize the negative consequences of not undergoing the screening, which leads to decreased chances of finding cancer while it is still treatable. Meyerowitz and Chaiken (1987) offer the most well known example of goal framing. Their example pertains to women and breast self-examinations (BSE).

The positive consequences of performing a BSE are emphasized in the positive condition, and the harmful consequences of not performing a BSE are emphasized in the negative condition. Women who received the negatively framed message were more likely to perform a BSE in order to avoid the possible tumor. Meyerowitz and Chaiken (1987) explain that people tend to be motivated to avoid losses and negative consequences. In this case, a tumor would be viewed as a loss with potentially fatal consequences. Performing a BSE increases the chances of finding the tumor early and avoiding serious health problems. This would help explain why the negatively framed message proved to be more persuasive than the positive.

Another form of framing is known as attribute framing, in which some characteristic of an object serves as the focus of the framing manipulation. When the frame is presented, the object's positive or negative characteristics are emphasized (Levin et al., 1998). In most attribute framing tasks only one of the object's attributes is subjected to the framing manipulation.

For example, microprocessors might be described in terms of success and failure rates. A batch of processors could be positively described with a 70% success rate, or the same batch could be described negatively with a 30% failure rate. In either description only the success or failure rates are being emphasized, rather than the speed or other characteristics. Attribute framing measures ratings and evaluations along a continuous scale (e.g., rate the product on a scale from bad to good, or from completely unacceptable to completely acceptable).

A typical demonstration of attribute framing pertains to consumer judgments about ground beef. Participants are asked to rate the quality of ground beef in an attribute framing task. In the positive condition ground beef is described as 75% lean whereas the negative condition describes the ground beef as 25% fat. Research found that participants rated the ground beef as better tasting and less greasy when it was labeled as 75% lean rather than 25% fat (Levin & Gaeth, 1988). Note that the only attribute that is emphasized is the ground beef's fat or lean content, which allows participants to evaluate the beef using a single attribute.

Attribute framing represents the simplest case of framing for understanding how descriptive valence influences evaluation processes (Levin et al., 1998). Several decades of research have shown that framing can influence information processing. Many avenues have been taken to better understand framing effects for the individual decision maker. Another approach involves considering how multiple sources may be playing out in the decision maker's processing of the task. One such avenue involves considering the competing effects of trust and choice on the decision making process.

### **Trust-Choice Incompatibility**

The information a speaker chooses to disclose to the listener plays a role in persuasiveness of the message, as well as trust associated with the speaker. For example, Eagly,

Wood, and Chaiken (1978) found that when speakers advocate positions that they were not expected to advocate (e.g., a businessman advocating a pro-environment position), they were rated as more persuasive than when advocating expected positions (e.g., a businessman advocating a pro-business position). Also, a speaker that discloses not just positive information, but also negative information, is often viewed as being more worthy of trust (McKenzie & Nelson, 2003).

These findings relate to trust and framing as frames often carry information beyond their literal content. Even when frames have equal mathematical outcomes, their descriptions are not neutral, and they lead people to arrive at different conclusions, preferences, or decisions (Teigen & Brun, 2003). A listener not only deciphers the specific meaning of words, but also what they convey in a given context (Hilton, 1995).

In the context of attribute framing, butchers describing their beef as 25% fat (negative) could be viewed as more trustworthy than butchers describing their beef as 75% lean (positive). When a speaker discloses negative undesired aspects, this suggests that the speaker is sincere, honest, and trustworthy (Eagly et al., 1978).

Later research has suggested that it is possible for a person to show preference for one choice while trusting the alternative more. In an experiment by Keren (2007), participants were presented with an attribute framing task where Butcher A advertised his ground beef as 25% fat and Butcher B advertised his ground beef as 75% lean. The majority of participants preferred Butcher B's ground beef yet trusted Butcher A more. That is to say, participants preferred the positive frame, but trusted the negative frame more. This discrepancy is known as trust-choice incompatibility.

An examination of the frames provides a better understanding of these results. The majority of participants preferred the positive frame, making it the dominant choice. This dominance is known as the positivity bias, and it has been observed in a variety of contexts, not just attribute framing (Levin et al., 1998). Positive formulations often form simple internal representations that come with unconditional optimism, thus making the option more attractive (Keren, 2007).

For instance, a political candidate might be selected because of his or her qualifications, experience, or other positive characteristics, but this does not mean that negative characteristics do not play a role. It could be that the candidate is not selected because of his or her negative characteristics. So, the negative characteristics could play a role in rejecting the candidate whereas positive characteristics play a role in choosing the candidate. As Keren states: “Admitting that an option has some weakness and is not perfect, presumably makes it less attractive yet, simultaneously, causes the information to be evaluated as more realistic and thus more trustful” (Keren, 2007, p. 252). That is how Keren describes the process for participants preferring Butcher B, but giving higher trust ratings for Butcher A.

While this research has examined how trust and choice may interact with framing, one area that remains largely uninvestigated is the conscious versus unconscious nature of this processing. Consider a series of studies by Fazio, Sanbonmatsu, Powell, and Kardes (1986) in which participants were primed with attitude objects and then asked to evaluate adjectives.

In this study, adjectives with similar valence to the object were evaluated more quickly than those with opposite valence. If a participant is presented with an object (e.g., *vodka*) and gives a positive evaluation, then the presentation of a positive adjective (e.g., *relaxing*) would be

evaluated more quickly than a negative adjective. So, *vodka/relaxing* would be evaluated more quickly than *vodka/agitating*.

The same is true when a negatively valued object is followed by a negative target adjective as in *cockroach/disgusting* (Fazio et al., 1986). The latency is faster in such cases than in a trial involving the same target word preceded by a letter string of neutral valence (e.g., BBB) (Fazio et al., 1986). This priming makes for quick evaluations when the object's valence matched that of the adjective. According to Fazio et al. (1986) "...such activation appears to be both spontaneous and inescapable" (p. 236).

This reasoning establishes the idea that unconscious processing plays a role in evaluation. Following this line of research, McElroy and Conrad (2009) examined the role of conscious and unconscious factors in attribute framing. In this investigation, they used priming, time constraints, and distraction tasks to determine the role of automatic processing within an attribute framing task.

When cognitive resources were limited (i.e., time constraint and distraction), attribute framing effects were not affected, which suggests that framing effects are carried out by unconscious processing. Further, subliminally priming participants with attribute frames also produced the standard framing effect, again suggesting that unconscious processing of valence information can have effects on attribute framing tasks (McElroy & Conrad, 2009).

In summary, it is documented that framing influences decision making processes. This has been demonstrated across framing typologies including risky choice framing, goal framing, and attribute framing (Kahneman & Tversky, 1979; Kuhberger, 1998; Levin et al., 1998). Recent research has provided evidence that the attribute framing effect can be an unconscious process

(McElroy & Conrad, 2009). Research has also shown that trust-choice incompatibility exists wherein decision makers' preferences are at odds with their reported trust (Keren, 2007).

### **Predictions**

McElroy and Conrad (2009) did not examine the conscious/unconscious nature of trust processing. One interpretation of the trust-choice incompatibility found by Keren (2007) is that choice is driven by unconscious processing whereas trust/doubt is a function of conscious processing.

Keren (2007), using an attribute framing task, found a trust-choice incompatibility, but did not examine the conscious/unconscious nature of the participants' responses. McElroy and Conrad (2009) used the same attribute framing task and found that choice was influenced by unconscious processing. However, McElroy and Conrad did not examine the effects of conscious/unconscious processes on trust.

The findings of Keren (2007) can be integrated with those of McElroy and Conrad (2009) if it is assumed that choice is driven by unconscious processes and trust is driven by conscious processes. This hypothesis was tested using a 2 (frame: positive, negative) x 3 (prime: trust, doubt, neutral) design in which frame is a within and prime is a between-subjects variable. The dependent measures are items assessing preferences and trust.

This investigation was carried out through the software program E-prime. Participants were seated at a computer terminal and primed for 30 milliseconds (ms) with words to induce either trust or doubt followed by a 50 ms backwards mask. The control condition featured non-words (i.e., eolaw) instead of trust/doubt primes.

For the first prediction, positivity bias was taken into consideration. Multiple studies have shown that people tend to prefer objects or situations when they are described in positive

terms rather than negative terms (Keren, 2007; Levin et al., 1998; Teigen & Brun, 2003). In attribute framing like the lean/fat framing, positive descriptions are more appealing than negative ones (Levin et al., 1998). Based upon this research, a main effect is predicted in which preference is greater for a positively than a negatively phrased statement. Participants showed a bias for the butcher describing his beef as 75% lean when collapsing across the prime they receive. Thus, there would be an overall main effect, such that the attribute frame of 75% lean should be evaluated more positively than the 25% fat frame.

Next, predictions for the influence of trust/doubt primes on preference are made. According to Bargh, Chaiken, Govender, and Pratto (1992), the automatic activation effect is a pervasive and relatively unconditional phenomenon. Bargh et al. also posit that most evaluations stored in memory, for social and nonsocial objects alike, become active automatically with the mere presence or mention of them in the environment. Therefore, it is predicted that if trust/doubt is an unconscious process, then priming trust associated words (e.g., honest, certain) should elicit these concepts. Under these conditions, participants should exhibit increased trust ratings for both Butcher A (25% fat) and Butcher B (75% lean). Similarly, priming doubt related words (i.e., false, lie) should elicit decreased trust ratings for both butchers. Also, as an attempt to measure whether our priming manipulation might be activating more global positive or negative schema, we included four items used to measure positive or negative beliefs about the beef. I predict that if trust primes are having “global” positive activation effects, then the beef should be rated higher whereas if doubt is having negative activation effects, the beef should be rated lower.

If trust and doubt are conscious processes, then priming with trust and doubt should have little or no influence on the evaluations of Butcher A (25% fat) or Butcher B (75% lean). In essence, a null effect would point toward trust being a conscious process.

The above predictions lead us to our central point of investigation; whether the trust-choice incompatibility occurs because trust and choice are occurring at different levels of processing. If it is the case that the incompatibility arises because choice is unconscious and trust/doubt is conscious, then we can predict that priming trust/doubt should have little influence on the trust-choice incompatibility, and the typical findings (e.g., Keren, 2007) should be observed. However, if it is the case that both choice and trust/doubt are largely unconscious, then priming trust/doubt should be discernable. Specifically, it should be the case that when trust or doubt is primed, participants' respective trust/doubt evaluations should be exacerbated. As a consequence, the trust/choice incompatibility should be enhanced.

## **Method**

### **Participants**

A total of 161 undergraduates, 89 females and 72 males, at Appalachian State University took part in this study.

### **Measures**

All procedures and stimuli have been approved by the Internal Review Board at Appalachian State University (see Appendix A). Participants answered questions about an attribute framing task similar to that used by Keren (2007) (see Appendix B).

This task described Butcher A's ground beef as 25% fat and Butcher B's ground beef as 75% lean. Participants used a 7-point scale to indicate both their likelihood of purchasing from each butcher as well as their level of trust. Thus, higher ratings indicated greater likelihood of

purchasing and stronger trust. Directly after these ratings, participants were presented with assessment measures of the beef, which were included to test for any valence effects associated with the prime. Similar to Levin and Gaeth (1988), participants were provided with a series of questions on a 7-point scale (i.e., 1 being low quality and 7 being high quality) and asked to indicate their opinions about the beef's quality, grease content, and taste (see Appendix B). Higher numerical ratings indicated that the beef has higher quality, less grease content, and better taste.

### **Design and Procedure**

Predictions were investigated using a 2 (frame: positive, negative) x 3 (prime: trust, doubt, neutral) design in which frame was a within and prime was a between-subjects variable. After consent, participants were seated at a computer terminal and told they would be participating in a vigilance task.

Next, participants were asked to focus on the center of the monitor which displayed unfilled circles on a white background (see Appendix C). Participants were then presented with letter strings that contain a *D* (e.g., asgDrfg). The *D* was the target letter that participants detected by pressing the space bar.

During this vigilance task, participants were subliminally primed for 30 ms with five words to induce "doubt" or five words to induce "trust" (see Table 1). Each participant received one cycle of priming. A 50 ms backwards masking procedure (i.e., XXXX) followed the primes. All priming procedures were executed through the software program E-Prime. E-Prime is a proprietary software suite that allows for creation of and execution of computerized psychological experiments.

In the control condition, participants received the same attribute framing task, scales, and questions about the ground beef; non-words appeared in place of the primes followed by the mask. After completion of the task, participants were debriefed through a funneling method (see Appendix D). Funnel debriefing started with abstract and open-ended questions (e.g., “Do you have any questions about the study?”), and then funneled down to more specific and closed-ended questions (e.g., “Do you know what we were trying to get at in this study?”). After all experimental procedures were completed, participants were given the opportunity to ask questions about the study. This entire task took approximately 15 minutes to complete.

## Results

### Preference for Purchasing

Preference for purchasing was examined using an alpha level of .05 to see if participants' preference for Butcher A (25% fat) differed from Butcher B (75% lean; see Table 2). In the control condition, participants reported a preference for Butcher B that was statistically significant,  $t(52) = -4.4, p = .001$ . Similar preferences for Butcher B were revealed in the trust/prime condition,  $t(53) = -3.4, p = .001$ , as well as the doubt/prime condition,  $t(53) = -4.1, p = .001$ . The same preference for Butcher B was noted after collapsing across the priming conditions,  $t(160) = -6.9, p = .001$ .

A one-way ANOVA was performed with priming condition acting as the independent variable and participants purchase ratings acting as the dependent variable. This analysis showed no evidence that priming had an effect on purchase preferences for either Butcher A,  $F(2, 158) = 1.3, p = .29$ , or Butcher B,  $F(2, 158) = .26, p = .77$ .

### Preferences for Trust

A similar series of analyses were performed with an alpha level of .05 for participants' ratings of trust. As can be seen in Table 2, there was little difference between participants' trust ratings for Butchers A and B, and they varied little across the priming conditions. Analysis of the trust ratings revealed no significant difference between trust ratings for Butchers A and B in the control condition,  $t(52) = -.3, p = .76$ . A similar analysis for the priming conditions revealed no statistically significant difference between participants' trust evaluations of Butchers A and B in the trust/prime condition,  $t(53) = -.634, p = .52$ , or the doubt/prime condition,  $t(53) = -.07, p = .94$ . A subsequent analysis that collapsed across all three priming conditions and tested for a difference between participants trust ratings of Butchers A and B revealed no significant effect,  $t(160) = .22, p = .82$ .

Additionally, an analysis to independently test whether Butcher A or B was influenced by the prime yielded no evidence that the level of priming influenced trust ratings for Butcher A,  $F(2, 158) = .19, p = .82$ , or Butcher B,  $F(2, 158) = .663, p = .51$ .

### Target Evaluation

Next, the influence of trust/doubt priming on the evaluation of the target (beef) was examined using a one way ANOVA. For each of the analyses, an alpha level of .05 was used, and priming acted as the independent variable. Analyses revealed that priming did not have a significant effect on fat/lean evaluations,  $F(2, 158) = .99, p = .37$ , grease content evaluations,  $F(2, 158) = .23, p = .79$ , quality ratings,  $F(2, 158) = 2.33, p = .11$ , or taste ratings,  $F(2, 158) = 1.2, p = .31$  (see Table 2 for means).

## Discussion

The present study investigates the influence of automatic activation on trust and choice within an attribute framing task. The proposition put forth from prior research suggests that framing choices in a positive light tends to make them the dominant choice was supported with data from this study. This finding is consistent with previous research (Keren, 2007; Levin et al., 1998; Teigen & Brun, 2003) in which the positivity bias was observed.

This study also examined the conscious/unconscious nature of trust and choice. To this end, there was no evidence that priming to induce trust or doubt influenced either preference ratings or trust evaluations for Butcher A or Butcher B. This finding was further complicated by a lack of support for the trust-choice incompatibility reported in prior research by Keren (2007). Trust ratings were not affected by the primes or the frames, and the means were virtually the same (see Table 2). These findings do not conform to prior research (Keren, 2007; McKenzie & Nelson 2003) which found that negatively framed messages (e.g., Butcher A advertising beef as 25% fat) elicit more trust than positively framed messages. Why these findings are inconsistent with previous research should be explored in future studies. Throughout these results, the primes had no effect on preferences or trust. One explanation for this could lie within the strength or weakness of the primes. Fazio et al. (1986) suggest that associations with objects (i.e., Butcher A, Butcher B) can vary in strength, ranging from a weak association, that is unlikely to be capable of automatic activation, to a strong association, that can be activated automatically. Additionally, Keren (2007) suggests that in most social situations, when risk is negligible, trust is in a dormant state unless primed in one way or another (e.g., shopping at a store where beef is advertised as 25% fat).

The association of the primes with the butchers could have been too weak to create any significant differences among the conditions. Participants in this study sat through one cycle of priming before answering questions about purchasing preferences and trust. Perhaps adding another priming cycle before the trust questions could have produced different results. Ideally this would strengthen the association between the primes and the butchers.

The present study attempted to investigate the nature of trust processing through priming with words that induced trust or doubt. This study was limited to the use of word primes. Other methods to investigate the unconscious/conscious nature of trust processing exist and should be explored.

For example, McElroy and Conrad (2009) found that when cognitive resources were limited by time constraints and distraction, task attribute framing occurred. This same methodology could be used to investigate the unconscious/conscious nature of trust processing. If participants faced with time constraints and distraction tasks show higher trust ratings for Butcher A (25% fat) than Butcher B (75% lean) this would provide evidence that trust is an unconscious process.

In conclusion, this investigation found no support for the hypothesis that priming trust/doubt influenced participants trust ratings. Therefore, this finding does not provide evidence that trust/doubt is an unconscious process. Further interpretation of the conscious/unconscious aspects of trust and choice is complicated by the lack of support for the trust/choice incompatibility reported by Keren (2007). However, this study was limited to one methodology and other methods of investigation (e.g., time constraints, distraction task) could yield more insight into this process and trust-choice incompatibility.

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## Appendix A



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Study Title: Whom to Trust and Which to Choose

Submission Type: Initial

Expedited Category: (7) Research on Group Characteristics or Behavior, or Surveys, Interviews, etc.

Approval Date: 12/07/2009

Expiration Date of Approval: 12/06/2010

This submission has been approved by the Institutional Review Board for the period indicated. It has been determined that the risk involved in this research is no more than minimal.

**Investigator's Responsibilities:**

Federal regulations require that all research be reviewed at least annually. It is the Principal Investigator's responsibility to submit for renewal and obtain approval before the expiration date. You may not continue any research activity beyond the expiration date without IRB approval. Failure to receive approval for continuation before the expiration date will result in automatic termination of the approval for this study on the expiration date.

You are required to obtain IRB approval for any changes to any aspect of this study before they can be implemented. Should any adverse event or unanticipated problem involving risks to subjects occur it must be reported immediately to the IRB.

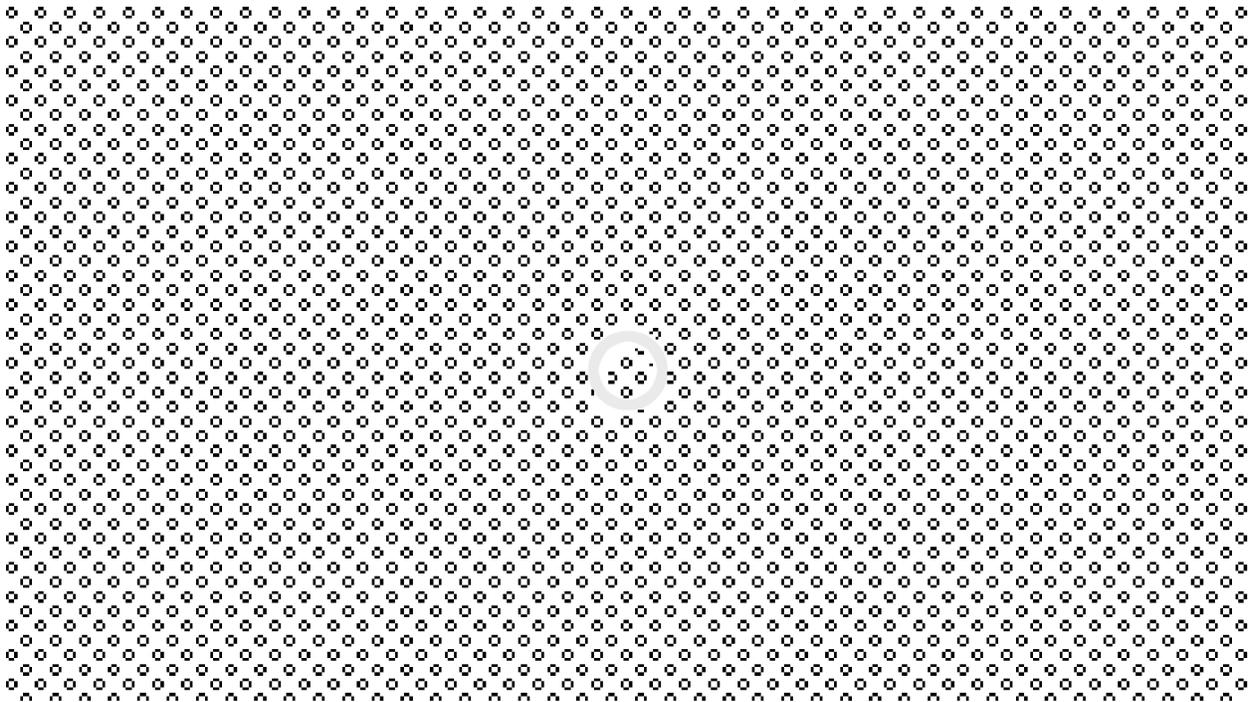
CC:  
Gary McElroy, Psychology





Appendix C

Focus Point for Participants



Appendix D

Funnel Debriefing Procedure

Did you notice anything special in this study? (Yes or No)

What do you think this study was about?

Did you notice anything special just before the options were presented to you? (Yes or No)

Did you notice that presentation of alternatives was interrupted? (Yes or No)

Do you have any idea of what the interruptions consisted? (Yes or No)

In fact there was a brief presentation of words. Were you able to detect these words? (Yes or No)

Please type any words that you detected.

Table 1

*Word Primes for Trust, Doubt, and Non-words*

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Trust	Doubt	Non-words
Sure	Hesitate	Falaq
Dependable	False	Bidek
Faithful	Delay	Aituf
Certain	Lie	Aihar
Honest	Confuse	Eolaw

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Table 2

*Means for Trust, Choice, and Beef Evaluations*


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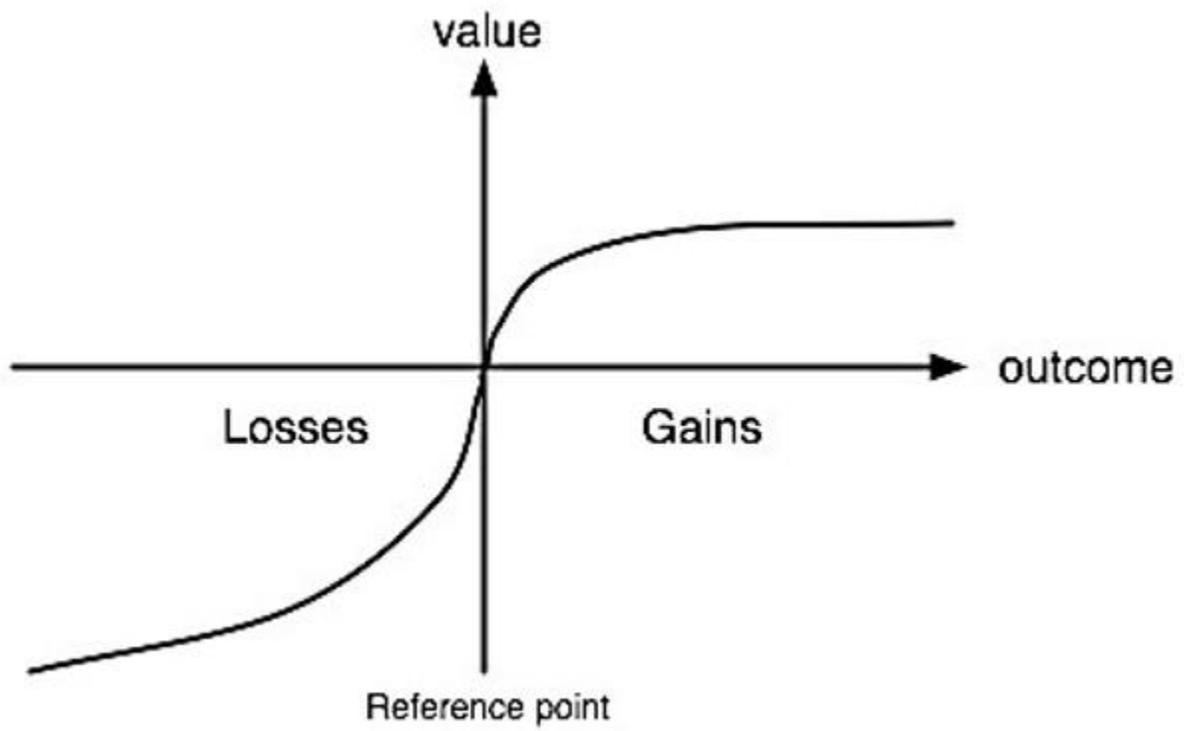
Average Trust and Choice Ratings									
<u>Condition</u>	<u>N</u>	<u>Buy from A and B</u>				<u>Trust for A and B</u>			
		<u>Butcher A</u>	<u>SD</u>	<u>Butcher B</u>	<u>SD</u>	<u>Butcher A</u>	<u>SD</u>	<u>Butcher B</u>	<u>SD</u>
Control	53	3.3	2.1	5.1*	1.8	4.6	1.5	4.6	1.5
Doubt	54	3.2	1.7	4.9*	1.8	4.7	1.7	4.9	1.5
Trust	54	3.8	2.2	5.2*	2.1	4.8	1.6	4.9	1.9

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Average Beef Evaluation									
<u>Condition</u>	<u>N</u>	<u>Fat/Lean</u>	<u>SD</u>	<u>Grease</u>	<u>SD</u>	<u>Quality</u>	<u>SD</u>	<u>Taste</u>	<u>SD</u>
Control	53	4.9	1.2	4.4	1.2	4.9	1.1	4.8	1.1
Doubt	54	4.9	1.4	4.2	1.3	4.5	1.1	4.5	1.2
Trust	54	5.2	1.2	4.2	1.5	4.4	1.4	4.5	1.4

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\*p < .05, unpaired *t*-test.



*Figure 1.* A hypothetical value function representing a concave curve for gains and a convex curve for losses.

## Vita

Jacob Nathan Conrad was born in Pinnacle, North Carolina. He attended Christiansburg High School in Virginia where he graduated in 1999. From there he went to Appalachian State University and earned a Bachelor of Science degree in Psychology in 2006. Conrad continued with graduate work at Appalachian State University. He graduated in August 2011.