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Influence of Metaphoric Language on Juror Decision Making

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INFLUENCE OF METAPHORIC LANGUAGE ON JUROR DECISION MAKING

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ABSTRACT

This paper examines the effects of metaphoric language on judgment, assessment and juror verdict decision making. It further examines potential interactions between the use of figurative language and defendant race on juror verdict decisions. Research has potential implications on how the recent cultural climate has changed racial biases within the realm of juror decision making.

CHAPTER ONE

INTRODUCTION

The United States Jury is a powerful entity that makes collaborative decisions regarding the fate of many involved in the American Justice System. The multiple citizen jury is designed to produce a more precise and just judgment than a single judge. (Tindale & Davis, 1983; Hastie, Penrod, and Pennington, 1983). An abundance of literature supports the concept of the citizen jury; such research shows that judgments made by groups are more accurate and less biased than those made by individuals. (Tindale & Kluwe, in press; Larrick & Soll, 2006; Devine, 2012; Stawiski, Dykema-Engblade, & Tindale, 2012). This project investigates the biases jurors carry into deliberation and how those biases can be influenced by certain types of language.

Racial biases are not a new concept to be studied in psychological literature. Many researchers have attempted to examine how implicit associations regarding particular prejudices affect behavior (Allport, 1954; Fiske & Taylor, 1991; Ma & Correll, 2010). In recent years, racial prejudice looks a little different; the form of racism has changed (Dovidio, 2001; Dovidio & Gaertner, 2004; Gaertner & Dovidio, 1986; Kinder & Sears, 1981; McConahay, 1986; Sears & Henry, 2003; Bothwell et al. 2006). Racism in contemporary American society involves a disinclination among Caucasians to engage in obvious acts of discrimination against African Americans. When discrimination

against blacks occurs, whites attempt to justify it on grounds other than just race (Bothwell et al. 2006). There is no apparent evidence of this phenomenon existing in the reverse. This project furthers understanding of the biases engaged in verdict assignments for individuals of African American and Caucasian descent when controlled for crime.

Another goal of this project was to examine the processes that underlie individual juror's verdict assignments considering the cognitive narrative that they possess as the product of case presentation. Figurative language, specifically metaphoric in nature, is instrumental in framing arguments and providing highly descriptive language which is, in turn, persuasive. Metaphors are an effective communication strategy that creates less verbose, yet more vivid and memorable statements. Research done by Grasser and colleagues (1989) found that people use metaphors rather frequently: approximately once every 25 words. Recently, metaphoric language has been used to further understand how people represent crime in general (Thibodeau & Boroditsky, 2011). An example is the colloquialisms used in politics, "war on drugs," "get tough on crime" or "crime as a disease." Politicians use such phrases to describe crime and produce policies to address related concerns.

There are a multitude of methods that have been used in literature regarding the biases found in the decision making process of juries and individual jurors (Devine, 2012). The story model serves as a tool to reveal the cognitive processes that underlie the computation of evidence and case presentations into a final verdict decision. The story model allows jurors to recreate a cognitive narrative that can be studied. The idea is that jurors choose a verdict that most closely aligns with their respective cognitive narrative.

The deliberation of a jury then serves as an attempt to synthesize the cognitive narratives of all jurors into a single narrative that allows the group to assign a befitting verdict (Devine, 2012). Although not much empirical evidence can be found in the recent research, the story model can be used to examine many of the biases that juries and individual jurors possess. The present study uses the method of the story model, however, we use a similar coding method.

Metaphor and Cognition

Metaphoric language consists of three basic components: the topic or subject of the metaphor, the vehicle that the subject is being compared to, and the ground or implied topic. (Grasser, Long & Mio, 1989). However, some literature breaks metaphoric language down into two parts; the topic of the metaphor and the "vehicle." The topic is called the target or the specific subject of the metaphor. The "vehicle" or "source" is the concept or object that the target is being likened to. (Lakoff, 1993; Richards, 1936; Ottati, Renstrom, & Price, 2014).

The Metaphoric Framing model was constructed to describe the effects of metaphoric language. The model has two fundamental components; the activation and the application. The activation of the metaphor is the first stage where the metaphor "activates," this begins with priming of the vehicle. The activation is simply when the vehicle or source is primed. The application is when the vehicle is applied and linked to the target; for example, activating a stereotype (such as "disease"), to a specific subject (such as "crime"). An example is the suggestion that a "criminal is a beast" or the "officer is a bully." These types of statements are descriptions of a "root metaphor."

Subsequent phrases may draw on the root metaphor. Many times, metaphors imply a story or specific stereotype. For example, "bully" implies that there is a victim or target of the 'bullying.' The root metaphor applies the 'bully' script to the target, the officer. The second stage of the Metaphoric Framing Model is the application of the metaphor. This step involves drawing upon the implications regarding the root metaphor. "Officer is a bully" implies indirectly that the victim of such a bully needs to be rescued.

The linking of the target to the vehicle (application) can be done explicitly as well; phrases may be added to go on to describe the officer using verbiage that links to the stereotype, such as "[the officer] taunted the defendant" (Ottati, Renstrom, & Price, 2014). Incidental activation of the metaphor may occur when two schemas are presented and the viewer/reader spontaneously links the two. For example, an individual watching the news may view multiple breaking developments in a short amount of time. One story might discuss the most recent terrorist attack, and the next news story may be about a recent outbreak of E.coli. The metaphor, "terrorism is a disease" may be instantaneously activated. Some metaphoric phrases are used so regularly that they become chronically accessible and have automatic activation in the mind.

Current media regarding alleged police discrimination of African Americans frequently uses metaphorically charged words and phrases such as "bully." Such phrases imply that the 'bully' must be stopped and that they are causing others to feel uncomfortable or threatened in some way. Metaphoric phrases allow information to be implied and other missing information may be "filled in" when there are holes in the story (Ottati, Renstrom, & Price, 2014).

In case presentation, jurors who are given this metaphoric and affectively charged information are more likely to be persuaded into feelings that the "bully" must not win. They are, therefore, more prone to feel sympathy for the "victim" defendant and find him "not guilty." A similar outcome is expected if a defendant is described as a "beast." Such a phrase implies that the defendant is a "wild animal" which must be tamed or restrained in some way. The effect would presumably be most prevalent in cases where jurors have little contrary evidence or little evidence at all. The effect would strongly influence jurors who have been previously exposed to information that is consistent with the metaphor (Hansen, 2007).

Thus far, research on figurative language has not been studied in conjunction with individual jurors or deliberating juries. Because metaphors directly affect the mental representation of biases, the use of metaphoric language is appropriate to use in my examination of the development of biases that influence a particular verdict.

Race

Metaphor-Race Congruence hypothesis predicts that the metaphor assimilation effectise especially strong when the defendant's race is compatible with the metaphor. That is, the "beast" or "animal" metaphor should elicit especially severe ratings of guilt when the defendant is African American. This is because African Americans and animals are stereotyped as possessing congruent attributes (e.g., dangerous, violent). However, this assimilation effect is more likely to occur when there is a subtle metaphoric prime. Assimilation is the process by which the viewer/reader accepts the metaphoric content as true. Subjects may view explicit metaphoric primes as offensive

and thus they may attempt to correct (maybe even overcorrect) for such—which is referred to as a contrast effect (Ottati 2012).

The current state of the social and political climate is highly in tune with the topic of police brutality. Recent events such as the State of Missouri v. Darren Wilson regarding the shooting of Michael Brown highlights the current social sensitivity to the idea that people (particularly African Americans) are subject to being victims of "bullying" in the criminal justice system. The prevalence of news stories featuring a black victim and a white police officer as a "bully" have occurred such high frequency that the linkage of "police" and "bully" is chronically accessible to the public. Similarly, there have been numerous instances where racism became a main topic of conversation in the media and, consequently, trickled into the justice system. These recent events have made salient the role of African Americans as victims of police bullying. This makes the metaphor-congruence equally applicable for the "bullied" or "victim" metaphor for African Americans in a legal setting. Aside from the political discord surrounding these cases, the topic of racism is historically controversial in American culture.

Story Model

Pennington and Hastie (1986; 1993) were the first researchers to propose the use of the Story Model in jury research. The goal of the model is to uncover the cognitive processes that jurors use to synthesize the evidence presented and the case presentations from both sides. Presumably, jurors is then proceed to choose a verdict that is most congruent with their reported cognitive narrative (Devine, 2012).

Jurors do not limit their interpretation of a case to strictly the information that is presented. During the usual course of a jury trial, case presentation is broken up by testimony and witness examination. Jurors are motivated to understand the case as much as possible because they are reminded several times by attorneys and judges on the importance of their role. As active information processors, they engage in an intensive cognitive process as information is presented. Jurors rely on previous knowledge to fill in gaps of missing information as consequence of the segmented nature of trial presentation. The previous knowledge and experience that individual jurors bring into a jury carry respective individual bias and prejudice. The story model relies on these assumptions.

The hypothesis is that jurors are able to accurately recreate their cognitive process in such a way that it reflects the actual information process they experienced while interpreting the evidence of the case. Jurors then choose a verdict that is most aligned with their cognitive "story." Furthermore, the theory asserts that the better a story matches the criteria for a specific verdict, the more confident that a juror feels in their verdict decision.

The current research was interested in the juror's recall of metaphoric statements or innuendoes. Do jurors recall the metaphoric "vehicle?" Do jurors use any similar words or phrases which may be metaphorically linked or similar to the vehicle used in the story? If so, it would imply a strong effect of the metaphoric content. One general question this research hoped to address is whether metaphoric language has an influential impact on jury verdict assignments. Also, we were interested to find out whether or not

this effect is influenced by the race of the defendant or of the individual jurors. Although this study does not test the coherence of the story narrative, this can be explored in future research on the effect of metaphoric language on the story model.

CHAPTER TWO

OVERVIEW

Research

Participants occupied the role of jurors who examined trial evidence in the form

of a trial transcript regarding an alleged carjacking. The defendant's race was briefly

mentioned prior to the case presentation and it was randomly generated to be either

African American or Caucasian. Metaphoric content was also manipulated. In one

condition, statements were inserted into the defense's trial presentation that implied the

defendant was the "victim of bullying" (officer bullying metaphor) while implying that

the system, or arresting officer, bullied him. In another condition, statements were

inserted into the prosecution's case that imply a "beast" (animal) metaphor to describe the

defendant. We investigated our hypotheses by presenting participants with two sets of

arguments; one set was the prosecution's arguments and the other was the defense's

arguments. We examined the effect of metaphoric utterances by (a) inserting or omitting

the "beast" metaphor into the prosecution argument, and (b) inserting or omitting the

"bully" metaphor into the defense argument.

Participants then wrote a short story describing what they thought happened in the

case. This was how we tested whether or not participants recalled the metaphoric content.

Participants were asked to give their verdict, "guilty" or "not guilty", then to give a rating

of their confidence level on a scale of 1-10 (ten being most confident). We refer to this

rating as the "Probability of guilt rating." Subjects then rated the arguments of both the prosecution and the defense for "effectiveness." We predicted that participants would recreate metaphoric content in their case narrative more often when they gave a higher confidence rating in their verdict.

Hypothesis

Our central hypothesis predicted an effect of metaphoric language on verdict assignment and confidence in that verdict. We predicted a greater amount of guilt in the "metaphor in prosecution argument" ("beast") condition and a greater amount of "not guilty" verdicts in the "metaphors in defense argument" ("bully") condition. We expected a higher number of "guilty" verdicts in conditions where the "beast" metaphor was used to describe a black defendant. However, we expected some participants to correct for the bias this metaphoric content presented. Consequently, we predicted a higher rate of "not guilty" verdicts in conditions where the bully metaphor was used in accordance with a black defendant.

CHAPTER THREE

METHODS

Participation

The surveys were taken online by introductory psychology students who received course credit for their participation. We collected responses from 194 subjects. Participants mean age was 19 years. The population we used consisted of 29% males and 71% females. The sample contained 52.5% of participants who identified as Caucasian, and 3% who identified as African American. The second largest (16.5%) racial group identified as Asian.

Design

The present study was designed as a 2 (defendant race) by 2 (presence or absence of pro-prosecution metaphor ("beast" metaphor) or pro-defense metaphor ("officer was a bully")) by 2 (presence or absence of a defense metaphor ("bully metaphor")) experiment.

Participants were recruited through an online recruiting system where participants were able to select which cases they participate in. Participants who selected the "Juror decision making" study were told they would read a hypothetical case about a carjacking. The entire study was conducted online and participants were awarded one point of class credit for completing the study.

The case was written in the format of a case transcript that mimics what attorneys might actually say during a trial regarding a carjacking. Both defense and prosecution stories were written as to provide a coherent story, but it should be unclear which verdict is most appropriate given the facts. The facts of the case remain constant among all conditions. Metaphoric content was added to the prosecution or defenses case in order to bolster the arguments of each side.

There were four content conditions; no metaphoric language, metaphoric language in only the prosecution's case (the "beast" metaphor), metaphoric language in only the defense's case (the "bully" metaphor), and metaphoric language in both the prosecution and defense arguments. Race was randomly generated in each case for a total of eight conditions.

The officer and the other characters in the case had racially neutral names (neither black nor white. i.e. Rogers, Tabor and Worthy) to disassociate them with traditional racial stereotypes. The control conditions had either both metaphors or no metaphorical content.

We predicted the manipulation of metaphoric language in case presentation and the defendant race manipulation would cause an effect on juror judgments of case presentation (found in the story model), verdict assignments, reported probability of guilt, and recreation of metaphoric words or phrases.

Materials

This study was conducted using an online survey method. The survey was created on Qualtrics, an online survey software. Participants were randomly assigned to one of

eight conditions. All participants read a trial transcript describing a carjacking case (see appendix). The prosecution claims the defendant hit the victim in a parking garage in order to take his car. The defense claims the defendant was never in the parking garage, but was incidentally driving the car that was stolen by another person.

Some participants received metaphoric content in the defense's case, some in the prosecution's case, some in both the prosecution's and defense's cases (control), and some in neither case (control). Defendant race was randomly assigned within conditions. Conditions were randomly assigned by the survey software and the software ensured that each condition would have close to the same number of participants.

To create the "bully" metaphor conditions, statements were inserted into the defense's presentation that imply or directly state "the defendant is a victim of police bullying" or discrimination. Such techniques have been used successfully in past research regarding blatant metaphoric influence (Ottati, Graesser, & Rhoads, 1999; Thibodeau & Boroditsky, 2011). The "beast" condition consisted of statements that allude to animalistic behaviors (e.g. preyed, pounced, fixated, grizzly). Importantly, the inserted metaphoric statements provided no additional evidence to the case, they were simply presented as opinion statements by each respective side of the case (see appendix).

The content and length of the trial summaries were similar regardless of condition. Metaphoric statements used all had explicitly stated metaphors. Although a more subtle infusion of the root metaphor may be explored in future experiments, we

were interested if we could elicit effects with an explicitly stated metaphor (i.e. "the defendant is a beast!")

Procedure

Participants read a trial transcript that was fairly typical for a trial regarding carjacking. For the sake of time, participants did not read any direct testimony or witness examination. Instead, jurors read the case as if it were presented by both the prosecution and defense attorneys. Participants read one of four trial transcripts as randomly generated by the survey software. One had metaphoric phrases (containing the "bully" metaphor) inserted into the Defense's argument. An example of a metaphoric phrase in the defense's case was "**The confession was brutally coerced"** which was replaced with "*The confession was not legitimate"* in the neutral conditions. The second condition had metaphoric phrases (containing the "beast" metaphor) inserted into the Prosecution's argument. An example of a metaphoric phrase in the prosecution's case was "**This is a beastly crime"** which was replaced with "*This is a serious crime***"** in the neutral conditions.

One control condition had the metaphoric phrases inserted into both arguments, and the other control condition had no metaphoric content (all neutral statements). Race of the defendant was randomly manipulated (50% generate African American, 50% generate Caucasian) within each condition. This created eight conditions in total. Metaphoric content and race of the defendant served as the independent variables.

Following the case transcript, participants were asked to select a verdict that they felt was appropriate (Guilty/Not Guilty). They were then asked to rate on a scale of one

to ten how confident they felt the verdict they selected was true. The dependent variable
of verdict (coded -1 for guilty and +1 for not guilty) multiplied by confidence rating (1-
10) created our "likelihood of guilt" variable. This coded value multiplied by the
confidence rating created an overall "probability of guilt" variable.

After reading the trial transcript, participants were asked to write a short narrative
about what they believed actually happened in the scenario. This format was used to see
whether or not subjects remembered and regenerated the metaphoric phrases. This was
coded dichotomously; a 0 if there were no metaphoric phrases included, and a 1 if there
was a metaphoric phrase used. A single research assistant coded all of the narratives
using the following guidelines: Use of words for the "victim," "bullied,"
"forced/coerced," "bribed," "target(ed)," "brutality," "aggressive/vicious," "bludgeoned,"
"reckless," or words synonymous to any of the above were coded '1'. Very neutral
words, use of more hypotheticals "if" "allegedly" rather than definitive terms "stole,"
"hit," "confessed" "claims," "accused," etc., were coded '0' for no metaphors used.

Participants also were asked to rate the strength of the argument presented by the
prosecution and the defense (see appendix). The quality scale was scored from 1-7 (with
7 being an "extremely effective argument"). Subjects were asked to recall the race of the
defendant from a list of several different races—this was our manipulation check to make
sure they indeed read the survey. Those who answered incorrectly were omitted from the
survey. Also, participants who wrote nonsensical or irrelevant stories were also omitted
from analysis.

The case and specific evidence for and against the defendant were held constant while the presence or absence of the metaphors were manipulated. Because the current cultural climate in the U.S. semantically links both the "beast" and the "[victim of] bully" metaphors to African Americans, we expected that conditions with this metaphoric content would be more likely to produce verdicts which correspond with the metaphoric content (more guilty verdicts when the prosecution contains the "beast" metaphor and more 'not guilty' verdicts in when the defense argument contains the "[victim of] bullying" metaphor) when there was a black defendant as opposed to a white defendant. We expected to see more "guilty" verdicts in the "beast" condition overall, especially when the defendant was black.

CHAPTER FOUR

RESULTS

Overall, 45.9% of all participants (N=194) chose a not guilty verdict for the

defendant in this case, while 54.1% chose a guilty verdict for the defendant regardless of

race. The percentage of participants who used some sort of metaphoric language when

writing their version of what happened in the case was 28.8%. The overall mean

likelihood of guilt, which was calculated by multiplying the verdict by the level of

confidence, across all conditions was (M=1.149, SD=6.704. This was slightly in the

guilty direction, but was very close to zero, which would be indicative of a fairly equal

distribution of guilt vs. not guilty ratings multiplied by confidence scores.

A 2 (prosecutor metaphors) x 2 (defense metaphors) x 2 (defendant's race)

analysis of variance (ANOVA) was calculated on several dependent variables, including

likelihood of guilt, verdict, quality of defense, quality of prosecution, metaphor code, and

confidence. The results of all ANOVAs are listed in Appendix C.

Contrary to our central hypothesis which predicted an effect of metaphoric

language on verdict assignment and confidence in that verdict, we did not get a

significant main effect for likelihood of guilt for the presence/absence of defense

metaphors F= (1, 186) =2.361, p=0.126, or prosecutor metaphors F= (1, 186) =0.123,

p=0.726. In addition, none of the higher order interactions were statistically significant.

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We also did not find a significant main effects of prosecution metaphor presence on verdict judgments, $F= (1, 186) =0.426$, $p=0.515$. However, the main effect for the defense metaphors produced a marginally significant difference, $F= (1, 186) =3.047$, $p=0.083$. Overall, there were 51.5% 'not guilty' verdicts given for conditions that had the defense metaphors present, while there were 40.0% 'not guilty' verdicts given for conditions thatdid not have the defense metaphors present. Again, none of the higher order interactions were statistically significant.

The results for the analyses of variance for Confidence and Quality of Prosecution Arguments showed no significant main effects or interactions. This suggests the prosecution argument was not particularly influential by itself, or perhaps jurors did not notice the metaphors, or they were not pervasive.

However, in regard to ratings of the quality of defense argument, the analysis of variance results showed a marginally significant main effect for use of defense metaphor ($F(1, 186) =3.792$, $p=0.053$, and a significant 3-way interaction, $F= (1, 186) =6.593$, $p=0.011$. Participants rated the quality of the defense arguments higher when the bully metaphor was present ($M=4.677$, $SD=1.49$), as opposed to when it was absent ($M=4.305$, $SD=1.488$). Table 1 reports the means for the eight conditions on quality of defense arguments. To explore the three-way interaction, we ran t-tests comparing the presence vs. absence of the defense metaphor in all four of the experimental conditions defined by the other independent variables. We found a significant effect for defense metaphor when the defendant was black and the prosecution also used their metaphor (beast), $t(194)= -4.31$, $p=.000$ (see table 2). Participants saw the quality of the defense as

Dependent Variable	Overall	Prosecutor Metaphors		Defense Metaphors		Defendant Race	
		Mean/SD		Mean/SD		Mean/SD	
		No Beast	Beast	No Bully	Bully	Black	White
	N=194	N=95	N=99	N=95	N=99	N=97	N=97
Likelihood of guilt	1.15/6.70	1.18/6.68	1.11/6.75	1.78/6.55	0.53/6.81	0.25/6.70	2.05/6.63
Verdict	Not Guilty=45.9%, Guilty=54.1%	Not Guilty=44.2%, Guilty=55.8%	Not Guilty=47.5%, Guilty=52.5%	Not Guilty=40.0%, Guilty=60.0%	Not Guilty=51.5%, Guilty=50.5%	Not Guilty=50.5%, Guilty=49.5%	Not Guilty=41.2%, Guilty=58.8%
Quality of Defense	4.50/1.50	4.43/1.50	4.55/1.49	4.30/1.48	4.67/1.49	4.41/1.50	4.58/1.50
Quality of Prosecution	4.92/1.35	4.82/1.44	5.01/1.25	4.92/1.35	4.90/1.35	4.83/1.40	5.01/1.30
Use of Metaphor in story model	0.30/0.46	0.28/0.45	0.32/0.47	0.25/0.43	0.35/0.48	0.37/0.49	0.24/.430
Confidence	6.50/1.95	6.49/1.88	6.50/2.02	6.50/1.86	6.49/2.03	6.40/1.90	6.61/2.00

Table 1. Descriptive Statistics

significantly higher when they used the metaphoric language. However, the effects of the

defense metaphor failed to reach significance in any of the other three conditions (See

appendix D for t values, etc.).

Ratings of the Quality of Defense's Argument				
Mean/SD				
	Prosecution Metaphors		No Prosecution Metaphors	
Race of Defendant	Black	White	Black	White
Defense Metaphors	5.45/1.00	4.52/1.55	4.36/1.50	4.68/1.67
No Defense Metaphors	3.77/1.50	4.73/1.34	4.31/1.49	4.44/1.47

Table 2. Significant 3-way interaction means and standard deviations.

Finally, the stories produced by the participants were coded for metaphor content

(mentions of bully, beast, or related terms). Surprisingly, there were no significant result

suggesting that using metaphoric language to create the stories was not influenced by the

metaphoric content presented in the case material.

CHAPTER FIVE

DISCUSSION

Our criminal justice system relies on the citizen jury to fulfill the role of "triers of facts" (Hastie, Penrod, & Pennington, 1983). Thus, they should come to the same conclusion based on those facts regardless of how those facts are presented. However, there is now a fair amount of evidence that linguistic tools, such as metaphors, can change how people interpret other related information (Ottati, 2010). Our main hypothesis was that there would be an effect of metaphoric language on juror verdicts and their associated level of confidence in those verdicts. However, our results failed to support this hypothesis, indicating that perhaps explicit metaphoric language does not have a strong influence on juror verdict decisions, confidence in verdict decisions or metaphoric recall or generation. Participants tended to choose the same verdicts regardless of whether the defense or the prosecution added metaphors to their case. We found a marginally significant difference between condiditons with and without the use of metaphors. This would indicate that the [victim of] "bullying" metaphor was more pervasive than the "beast" metaphor. This is perhaps due to the fact that this comparison has been discussed more frequently in the media as of lately. Jurors, at least in our sample population, are potentially more likely to sympathasize with the defendant and likely to

accept the suggestion that the defendant was 'bullied' by the arresting officer or the criminal justice system.

Metaphoric language does appear to be important for participants' ratings of the quality of defense argument, where a higher quality of defense was associated with using bullying metaphors, compared to when no metaphors were used. The only significant interaction we found occurred for ratings of the quality of defense argument. This, however, only occurred in instances where both the "beast" and "bully" metaphors were used in the case. Further, this effect only occurred when the defendant was black. We found this effect did not occur for white defendants. In other words, participants were not significantly influenced by the metaphor in a way that it altered their ratings of the white defendant. This was the only race effect that was observed and it was only significant for black defendants. We hypothesized that the use of metaphoric language would result in a higher probability of guilt for African American individuals, specifically when the "beast" metaphor is used, but the probability of guilt did not appear to be influenced by defendant race. Finally, there was no evidence in our results suggesting that metaphoric recall was influenced by whether or not there was metaphoric content.

We based our argument of the importance of metaphoric language on previous research indicating that some metaphoric phrases are used so regularly that they become chronically accessible and have automatic activation in the mind (Ottati, Renstrom, & Price, 2014). So once activated, they might have the potential to influence verdicts. We also based our argument on the fact that race bias could influence verdict assignment, as

it has been shown in previous studies that strong racial biases do indeed exist (Bothwell et al. 2006).

One reason for our finding could be the possibility that the use of metaphors does not have the effect we hypothesized. Previous research indicated that both defense and prosecution should be careful in regards to "toying" with a jury's emotions, because that is something that they cannot control or predict (Feigenson & Park, 2006). Similarly, not everyone would see the metaphors the same way. If a jury member has been bullied in the past, he or she might see it as a negative metaphor, evoking negative schemata.

Evidence suggests the metaphoric phrases were not impactful when there was a white defendant, however, it seems they were slightly effective with a black defendant, but only in the evaluation of the defense's argument when the "beast" and "bully" metaphor were both present.

Perhaps, in future studies, varied levels of metaphoric language could be explored also, we may want to access different and perhaps varied types of metaphors. The case used in this research was relatively short in order to mind completion rates. We used the metaphors multiple times within this short story, which may have alerted participants and they may have attempted to counter its effects. It might be interesting to investigate more subtle forms of metaphor over a longer case. More realistic cases would be much longer and have more information to process. This could divert attention away from the metaphors and they may prove to be more pervasive. Previous research suggests that blatant use of metaphor can be rejected and compensated for. It would be interesting to repeat this study with subtler use of the metaphors.

Further, we did not find any evidence of the importance of the story model, once again indicating that metaphoric language might not have as strong an impact on jurors' cognitive narrative (Devine, 2012) as we initially thought. Our most interesting finding was that the use of metaphors was associated with better quality of defense, which supports previous research indicating that the way language is used in court could shape the perception of the defense's performance.

We did not find significant effects of race, which might indicate the jurors might have been aware of the potential racial bias and tried to minimize it, especially because the majority of study participants were white. Curiously, we found some significant interactions for the quality of defense and use of metaphors, but only for the white defendants. These results could be due to the predominantly white participant pool. Based on the results of this experiment, it appears the jurors still acted as triers of fact, but were influenced by the metaphors when asked about the strength of argument.

APPENDIX A

TRIAL TRANSCRIPT

Car Jacking Story

>*Bold statements are inserted into the metaphoric conditions, italicized statements are inserted as equivalent neutral statements in conditions without metaphors. In cases where there is no italicized phrase following a bold phrase, the bold statement are omitted in neutral conditions.*

Prosecution: Your Honor and ladies and gentlemen of the jury; the defendant has been charged with the crime of Carjacking – using a firearm to steal, through force, violence, or intimidation, a motor vehicle. P.T. Rogers. Mr. Rogers had started his 2004 Cadillac Escalade in a parking garage in Murray, Kentucky, on the morning of April 6th, when Jack Williams approached him wearing a black hooded sweatshirt. Mr. Williams held a gun to Mr. Rogers head and Mr. Williams told him to step out of the vehicle. After complying, **Jack Williams then bludgeoned Mr. Rogers with the gun.** *Mr. Rogers was then struck over the head with the gun.* Jack Williams then jumped into the car and drove away. Mr. Rogers reported the incident. Additional evidence showed that Jack Williams was arrested in Ellsworth, Kansas for speeding while driving a 2004 Cadillac Escalade; bearing the same vehicle identification number as the one reported stolen in Murray, Kentucky. Jack Williams preyed upon Mr. Rogers in a time of vulnerability. **This is a beastly crime** *this is a serious crime* and the evidence I present is prove to you that the defendant is guilty as charged.

Defense: Your Honor and ladies and gentlemen of the jury; under the law my client is presumed innocent until proven guilty. During this trial, you is hear no valid evidence

against my client implicating him in the crime of Carjacking or any crime at all. You is come to know the truth: that Jack Williams was driving a car that was stolen by someone else. After finding out that the car was stolen, Jack Williams was just trying to do the right thing by returning the car to its owner, whom he presumed was the girlfriend of his friend. He was not the perpetrator of this crime. **He was simply targeted by a corrupt and biased system and then bullied into a confession by his arresting officer – an official of the same biased and corrupt system.** The confession that the prosecution is claim incriminates my client, was not legitimate and was coerced. Therefore my client is not guilty.

Prosecution: The defendant, Mr. Williams, was in the same parking garage on April 6th. Footage from the parking garage cameras show Mr. Williams on the first floor of the garage five hours before he pulled a gun on Mr. Rogers. After sizing up all of the cars in the parking garage, **he fixated on the 2004 Cadillac Escalade.** , *he chose the 2004 Cadillac Escalade.* He waited until Mr. Rogers started the vehicle and then he attacked. Mr. Williams chose the 2004 Cadillac Escalade. Once Mr. Rogers started his vehicle, he saw the opportunity to threaten him. Mr. Rogers reported the incident and the car was marked as stolen. The next day, Williams was pulled over driving aggressively in Ellsworth, Kansas for speeding. After a routine check, it was learned that the car had been reported stolen from Murray, Kentucky. Williams was then arrested.

Defense: Mr. Williams was not at the parking garage on April 6th, the day the prosecution claims the vehicle was stolen. The surveillance footage was very blurry and the prosecution is assuming that Mr. Williams was at the scene. The crime occurred on the 5th floor of the parking garage 5 hours after Mr. Rogers was supposedly spotted at the garage. The perpetrator of this crime was reported to be wearing a hooded sweatshirt. There is no way to identify my client as the perpetrator. That surveillance tape shows a figure that could be anyone. Mr. Williams first saw the vehicle when a friend of his, Mr. L.L. Worthy, came to his residence in Murray, Kentucky. He told Mr. Williams that the car belonged to his (Worthy's) girlfriend. Worthy asked Williams to accompany him to Colorado so that he (Worthy) could look for a job, which Williams agreed to do. The two went to Colorado together. Once arriving in Colorado, Mr. Worthy asked Mr. Williams to take the car back to his girlfriend in Kentucky. Williams agreed to help his friend. He was in a hurry to get back to Kentucky to visit his sick mother**, so he was driving quickly when he was targeted in a speed trap. He pulled over and was arrested.** *, so he was driving quickly when he was pulled over and arrested.* Williams had, at this time, no reason to believe that the car was stolen since he assumed that the car belonged to Worthy's girlfriend and that Worthy had permission to drive it.

Prosecution: Officer Tabor, the arresting officer, identified Williams as the driver of the stolen Escalade and he says that Williams never mentioned anything about the car belonging to the girlfriend of Mr. Worthy. **Mr. Rogers later identified Jack Williams as the grizzly man who had attacked him in the parking garage in his car on the**

morning in question. *Mr. Rogers identified Jack Williams as the man who had stolen the vehicle from the parking garage on the morning in question.*

Defense: Under cross-examination, Mr. Rogers, who had admitted to being very frazzled due to the incident could not make a positive identification of Mr. Williams being the one who drove the car out of the parking lot.

Prosecution: Mr. Williams confessed to being in the parking garage on April 6th after his arrest.

Defense: **My client is the victim of police brutality!** *My client confessed due to pressure during the interview.* **The confession was brutally coerced.** *The confession was not legitimate.* The police falsely claimed to have incriminating evidence and they promised Mr. Williams a lesser sentence if he confessed. **They informed my client that the maximum penalty for Carjacking was life imprisonment and if he confessed he would at most get a year or two in jail.** *They told my client that confessing would be the best approach for mercy from the court.* **The police bullied Mr. Williams to intimidate him and force him to confess.** *The police said that the parking garage surveillance was clearly incriminating, my client had no choice but to comply with the authorities.* The confession should be removed from the evidence.

Prosecution: Even if that were true, the evidence still clearly demonstrates Mr. Williams's guilt. He preyed upon Mr. Rogers and took the Cadillac Escalade. Furthermore, a Mr. L.L. Worthy could not be located in Colorado at the address at which Mr. Williams claimed to have dropped him off.

Defense: It was confirmed that there was a Mr. L.L. Worthy living in Kentucky and, according to phone records, him and Mr. Williams had a phone conversation on the morning of April 6th. Mr. Worthy could have left the address where he was dropped off. That is not clear evidence.

Prosecution: True, but Mr. Worthy's girlfriend claims that her and Mr. Worthy have recently split up and that she has not seen him since. Therefore, it would not make sense that the car is hers.

Jury Instructions:

To prove the crime charged against the defendant, the prosecution must prove five things to you:

1) The defendant stole a motor vehicle from the owner or current occupant;

2) The vehicle was taken from the immediate presence of a person who possessed the vehicle or was its passenger

3) The vehicle was taken against that person's is with the use of a firearm;

4) The defendant used force or fear to take the vehicle or to prevent that person from resisting;

5) When the defendant used force or fear to take the vehicle, (he/she) intended to deprive the other person of possession of the vehicle either temporarily or permanently.

If each of you believes that the prosecution proved all five of these things beyond a reasonable doubt, then you should find the defendant guilty. But if you believe the prosecution did not prove any one of these things beyond a reasonable doubt, then you must find the defendant not guilty. Proof beyond a reasonable doubt does not mean beyond all possible doubt. It means that you must consider all of the evidence and that you are very sure that the charge is true.

Prosecution: The judge has told you that we must prove five things. There is absolutely no doubt about these 5 things. First, the defendant was arrested driving a car belonging to Mr. Rogers. Mr. Williams took the vehicle after Mr. Rogers started his vehicle in the parking garage. The car was forced away from Mr. Rogers. Mr. Rogers was assaulted by Mr. Williams **and brutally attacked for his vehicle. Mr. Rogers was held at gunpoint and ruthlessly battered by Jack Williams.** *Mr. Rogers was threatened with a gun and struck over the head with the gun,* so force was clearly used to take the vehicle from Mr. Roger's possession. **Mr. Williams clearly had malicious and predatory intent to take a vehicle which was not his.** According to what the judge just told you, that is all we have to prove. Based on the evidence, you must find the defendant guilty.

Defense: Mr. Williams was unlucky to get into a car with a man who had stolen that car. He got into the car because he had agreed to help his friend find a job in Colorado. If he had knowingly gotten into a stolen vehicle, this would be a different case. Mr. William's confession was not legitimate and should not be considered in your deliberation. **This man is a victim of bullying in interrogation by corrupt police officers.** Remember that under the law my client is presumed to be innocent. The prosecution must prove every part of its case beyond a reasonable doubt – that means that you must be very sure that there is no possible circumstance beyond what the prosecution is describing. **Mr. Williams is a victim of a corrupted criminal justice system.** *Mr. Williams is not the perpetrator in this case*. One of the things they must prove is that my client is the one who drove the car out of the parking garage. The prosecution has presented no real evidence to you to show that this is true. That means that there is a reasonable doubt and, therefore, you must find Mr. Williams not guilty.

APPENDIX B

RESEARCH SURVEY

Q1. Please describe what you think happened in the case outlined on the previous page.

Please include important facts and description of the defendant.

_____

_____

_____

_____

_____

Q2. Please indicate which verdict you would choose for the defendant.

❏   Guilty (1)

❏   Not Guilty (2)

Q3. How confident are you that your verdict decision is true?

	Not Confide n t (1)	2 (2)	3 (3)	4 (4)	Moderate l y Confiden t (5)	6 (6)	7 (7)	8 (8)	9 (9)	Very Confide n t (10)
Confiden c e (1)	❏	❏	❏	❏	❏	❏	❏	❏	❏	❏

Q4. Please indicate how difficult you felt it was to make your verdict decision.

	Very	Difficult	Somewhat	Neutral	Somewhat	Easy	Very

	Difficult (1)	(2)	Difficult (3)	(4)	Easy (5)	(6)	Easy (7)
Difficulty (1)	❏	❏	❏	❏	❏	❏	❏

Q5. Please rate your overall assessment of the Prosecution's case.

	Very Ineffective (1)	Ineffective (2)	Somewhat Ineffective (3)	Neither Effective nor Ineffective (4)	Somewhat Effective (5)	Effective (6)	Very Effective (7)
Quality (1)	❏	❏	❏	❏	❏	❏	❏

Q6. Please rate your overall assessment of the Defense's case.

	Very Ineffective (1)	Ineffective (2)	Somewhat Ineffective (3)	Neither Effective nor Ineffective (4)	Somewhat Effective (5)	Effective (6)	Very Effective (7)
Quality	❏	❏	❏	❏	❏	❏	❏

Q7. What was the race of the Defendant?

❏ Caucasian (1)

❏ African American (2)

❏ Hispanic (3)

❏ Asian (4)

❏ Indian (5)

❏ Multiple/Mixed Race (6)

Q8. Please indicate your sex.

❏ Male (1)

❏ Female (2)

Q9. Please indicate your age._____

Q10. Please indicate your race.

❏   Caucasian (1)

❏   African American (2)

❏   Hispanic (3)

❏   Asian (4)

❏   Indian (5)

❏   Multiple/Mixed Race (6)

APPENDIX C

UNIVARIATE ANOVA RESULTS

Tests of Between-Subjects Effects

Dependent Variable:	liklihoodGuilt				
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	418.222ᵃ	7	59.746	1.346	.231
Intercept	228.420	1	228.420	5.146	.024
ProsecutionMetaphors	5.472	1	5.472	.123	.726
DefenseMetaphors	104.785	1	104.785	2.361	.126
DefendantRaceCondition	164.654	1	164.654	3.709	.056
ProsecutionMetaphors * DefenseMetaphors	13.950	1	13.950	.314	.576
ProsecutionMetaphors * DefendantRaceCondition	112.818	1	112.818	2.542	.113
DefenseMetaphors * DefendantRaceCondition	54.093	1	54.093	1.219	.271
ProsecutionMetaphors * DefenseMetaphors * DefendantRaceCondition	.967	1	.967	.022	.883
Error	8256.443	186	44.389		
Total	8931.000	194			
Corrected Total	8674.665	193			
a. R Squared = .048 (Adjusted R Squared = .012)					

Tests of Between-Subjects Effects

Dependent Variable:	QualityDefense				
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	35.261ᵃ	7	5.037	2.347	.026
Intercept	3881.548	1	3881.548	1808.383	.000
ProsecutionMetaphors	1.303	1	1.303	.607	.437
DefenseMetaphors	8.140	1	8.140	3.792	.053
DefendantRaceCondition	.664	1	.664	.310	.579
ProsecutionMetaphors * DefenseMetaphors	4.827	1	4.827	2.249	.135
ProsecutionMetaphors * DefendantRaceCondition	.536	1	.536	.250	.618

	Type III Sum of Squares	df	Mean Square	F	Sig.
DefenseMetaphors * DefendantRaceCondition	7.505	1	7.505	3.496	.063
ProsecutionMetaphors * DefenseMetaphors * DefendantRaceCondition	14.151	1	14.151	6.593	.011
Error	399.234	186	2.146		
Total	4354.000	194			
Corrected Total	434.495	193			
a. R Squared = .081 (Adjusted R Squared = .047)					

Tests of Between-Subjects Effects					
Dependent Variable:	Metaphor Code				
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.869ᵃ	7	.267	1.267	.269
Intercept	17.532	1	17.532	83.213	.000
ProsecutionMetaphors	.097	1	.097	.461	.498
DefenseMetaphors	.479	1	.479	2.274	.133
DefendantRaceCondition	.796	1	.796	3.778	.053
ProsecutionMetaphors * DefenseMetaphors	.199	1	.199	.947	.332
ProsecutionMetaphors * DefendantRaceCondition	.069	1	.069	.328	.567
DefenseMetaphors * DefendantRaceCondition	.032	1	.032	.151	.698
ProsecutionMetaphors * DefenseMetaphors * DefendantRaceCondition	.092	1	.092	.436	.510
Error	39.188	186	.211		
Total	59.000	194			
Corrected Total	41.057	193			
a. R Squared = .046 (Adjusted R Squared = .010)					

Tests of Between-Subjects Effects					
Dependent Variable:	Verdict				
Source	Type III Sum of Squares	df	Mean Square	F	Sig.

Corrected Model	7.738ᵃ	7	1.105	1.112	.357
Intercept	1.261	1	1.261	1.268	.262
ProsecutionMetaphors	.424	1	.424	.426	.515
DefenseMetaphors	3.030	1	3.030	3.047	.083
DefendantRaceCondition	2.000	1	2.000	2.012	.158
ProsecutionMetaphors * DefenseMetaphors	.665	1	.665	.668	.415
ProsecutionMetaphors * DefendantRaceCondition	1.633	1	1.633	1.643	.202
DefenseMetaphors * DefendantRaceCondition	.910	1	.910	.915	.340
ProsecutionMetaphors * DefenseMetaphors * DefendantRaceCondition	.054	1	.054	.054	.816
Error	184.942	186	.994		
Total	194.000	194			
Corrected Total	192.680	193			
a. R Squared = .040 (Adjusted R Squared = .004)					

Tests of Between-Subjects Effects					
Dependent Variable:	QualityProsecution				
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	8.704ᵃ	7	1.243	.672	.695
Intercept	4580.576	1	4580.576	2476.875	.000
ProsecutionMetaphors	1.081	1	1.081	.585	.445
DefenseMetaphors	.010	1	.010	.005	.943
DefendantRaceCondition	2.030	1	2.030	1.098	.296
ProsecutionMetaphors * DefenseMetaphors	3.011	1	3.011	1.628	.204
ProsecutionMetaphors * DefendantRaceCondition	.134	1	.134	.072	.788
DefenseMetaphors * DefendantRaceCondition	1.927	1	1.927	1.042	.309

ProsecutionMetaphors * DefenseMetaphors * DefendantRaceCondition	.802	1	.802	.434	.511
Error	343.977	186	1.849		
Total	5044.000	194			
Corrected Total	352.680	193			
a. R Squared = .025 (Adjusted R Squared = -.012)					

Tests of Between-Subjects Effects					
Dependent Variable:	Confidence				
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	22.328[a]	7	3.190	.833	.561
Intercept	8018.343	1	8018.343	2094.174	.000
ProsecutionMetaphors	.141	1	.141	.037	.848
DefenseMetaphors	.057	1	.057	.015	.903
DefendantRaceCondition	1.198	1	1.198	.313	.577
ProsecutionMetaphors * DefenseMetaphors	8.843	1	8.843	2.310	.130
ProsecutionMetaphors * DefendantRaceCondition	5.665	1	5.665	1.480	.225
DefenseMetaphors * DefendantRaceCondition	4.486	1	4.486	1.172	.280
ProsecutionMetaphors * DefenseMetaphors * DefendantRaceCondition	.296	1	.296	.077	.781
Error	712.172	186	3.829		
Total	8931.000	194			
Corrected Total	734.500	193			
a. R Squared = .030 (Adjusted R Squared = -.006)					

APPENDIX D

T TEST RESULTS

T-Test

Group Statistics

DefenseMetaphors		N	Mean	Std. Deviation	Std. Error Mean
QualityDefense	nobullymetaphors	26	3.769	1.5049	.2951
	bullymetaphor	20	5.450	.9987	.2233

Independent Samples Test

		Levene's Test For Equality		t-test for Equality					95% Confidence Interval	
		F	Sig	t	d	Sig (2-Tail)	Mean Diff-erence	Std Error of Diff	Lower	Upper
QualityDefense	Equal Variances Assumed	3.837	.056	-4.312	44.00	.000	1 680⁻	.3898	2.4⁻	.8952⁻
	Equal variances not assumed			-4.541	43.192	.000	1 680⁻	.3701	2.4⁻	.9345⁻

`*/Whitedefendant`

T-Test

Group Statistics

ProsecutionMetaphor		N	Mean	Std Deviation	Std. Error Mean
Quality Defense	nobeastmetioned	19	4.684	1.6681	.3828
	beastmetaphor	31	4.510	1.5464	.2777

Independent Samples Test

		Levene's Test For Equality		t-test for Equality					95% Confidence Interval	
		F	Sig	t	d	Sig (2-Tail)	Mean Diff-erence	Std Error of Diff	Lower	Upper
QualityDefense	Equal variances assumed	.000	.985	.362	48.00	.719	.1681	.4642	.7653⁻	1.114
	Equal variances not assumed			.355	35.963	.724	.1681	.4729	.7911⁻	1.127

REFERENCES

Allport, G. W. The Nature of Prejudice. Reading, Mass.: Addison-Wesley, 1954.

Bothwell, R., Pigott, M., Foley, L., & Mcfatter, R. (2006). Racial Bias in Juridic Judgment at Private and Public Levels. *Journal of Applied Social Psychology,* 2134-2149.

Devine, D. J. (2012). Jury decision making – The state of the science. NY: New York University Press.

Dovidio, J. F., & Gaertner, S. L. (2004). Aversive racism. In M. P. Zanna (Ed.), Advances in experimental social psychology (Vol. 36, pp. 1–51). San Diego, CA: Academic Press.

Dovidio, J., Kawakami, K., & Beach, K. (2001). Implicit and explicit attitudes: Examination of the relationship between measures of intergroup bias. In R. Brown & S. L. Gaertner (Eds.), Blackwell handbook of social psychology (Vol. 4: Intergroup relations, pp. 175–197). Oxford, UK: Blackwell.

Feigenson, N. R., & Park, J. (2006). Emotions and attributions of legal responsibility and blame: A research review. *Law and Human Behavior, 30*, 143-161.

Fiske, S.T., & Taylor, S.E. (1991). *Social cognition (2nd ed.).* New York: McGraw-Hill

Fussell & R. J. Kreuz (Eds.), *Social and cognitive approaches to interpersonal communication* (pp. 113-141). Mahwah, NJ: Erlbaum.

Fussell, S. R., & Moss, M. M. (1998). Figurative language in emotional communication. In S. R.

Gaertner, S. L., & Dovidio, J. F. (1986). The aversive form of racism. In J. F. Dovidio & S. L. Gaertner (Eds.), Prejudice, discrimination, and racism (pp. 61–89). Orlando, FL: Academic Press

Graesser, A. C., Long, D., & Mio, J. (1989). What are the cognitive and conceptual components of humorous texts? *Poetics*, *18,* 143-164.

Graesser, A. C., Singer, M., & Trabasso, T. (1994). Constructing inferences during narrative text comprehension. *Psychological Review, 101*, 371-395.

Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. Psychological Review, 108, 814 – 834.

Hansen, K. M. (2007). The sophisticated public: The effect of competing frames on public opinion. Scandinavian Political Studies, 30, 377-396.

Hastie, R. (1993). *Inside the juror*. Cambridge, England: Cambridge University Press.

Hastie, R., Penrod, S.D. and Pennington, N. (1983) Inside the Jury. Cambridge, Mass.: Harvard University Press

Hunt, S. D., & Menon, A. (1995). Metaphors and competitive advantage: Evaluating the use of metaphors in theories of competitive strategy. *Journal of Business Research, 33*, 81-90.

Iyengar, S. (1991). *Is anyone responsible? How television frames political issues*. Chicago: University of Chicago Press.

Johnson, J. T., & Taylor, S. E. (1981). The effect of metaphor on political attitudes. *Basic and Applied Social Psychology, 2*, 305-316.

Kalven, H., & Zeisel, H. (1966). The *American jury*. Chicago: University of Chicago Press.

Kerr, N. L., Niedermeier, K. E., & Kaplan, M. F. (1999). Bias in jurors vs. bias in juries: New evidence from the SDS perspective. *Organizational Behavior and Human Decision Processes, 80*, 70 – 86.

Kintsch, W. (2001). Predication. *Cognitive Science, 25*, 173-202.

Kramer, G. P., Kerr, N. L., & Carroll, J. S. (1990). Pretrial publicity, judicial remedies, and jury bias. *Law and Human Behavior, 14,* 409-438.

Krumdick, N. D., Renstrom, R. A, Aalai, A., & Ottati, V. C. (2007). Metaphor and persuasion: Effects of cognitive coherence. Poster presented at the annual meeting of the Midwest Psychological Association, Chicago, IL.

Lakoff, G. (1987). *Women, fire and dangerous things: What categories reveal about the mind.* Chicago: University of Chicago Press.

Lakoff, G. (1993). The contemporary theory of metaphor. In A. Ortony (Ed.), *Metaphor and thought* (pp. 202-251). Cambridge: Cambridge University Press.

Lakoff, G. (2004). *Don't think of an elephant: Know your values and frame the debate.* White River Junction, VT: Chelsea Green Publishing.

Lakoff, G., & Johnson, M. (1980). *Metaphors we live by.* Chicago: University of Chicago Press.

Landau, M. J., Meier, B.P., Keefer, L. A. (2010). A metaphor-enriched social cognition. *Psychological Bulletin*, 136, 1045-1067.

Landau, M. J., Sullivan, D., & Greenberg, J. (2009). Evidence that self-relevant motivations and metaphoric framing interact to influence political and social issues. *Psychological Science, 20*, 1421-1427.

Larrick, R. P., & Soll, J. B. (2006). Intuitions about combining opinions: Misappreciation of the averaging principle. Management Science, 52, 111-127

Ma, D., & Correll, J. (2010). Target Prototypicality Moderates Racial Bias In The Decision To Shoot. *Journal of Experimental Social Psychology,* 391-396.

McConahay, J. B. (1986). Modern racism, ambivalence, and the Modern Racism Scale. In J. F. Dovidio & S. L. Gaertner (Eds.), Prejudice, discrimination, and racism (pp. 99–125). Orlando, FL: Academic Press

Mio, J. S. (1993). Responding to metaphors in the context of political debate. Paper presented at the 101st Annual Convention of the APA, Toronto, Ontario, Canada.

Mio, J. S. (1996). Metaphor, politics, and persuasion. In J. S. Mio & A. N. Katz (Eds.), *Metaphor: Implications and Applications* (pp. 127–145). Mahwah, NJ: Erlbaum.

Mio, J. S. (1997). Metaphor and politics. *Metaphor and Symbol, 12*, 113-133.

Mio, J. S., & Katz, A. N. (Eds.). (1996). *Metaphor: Implications and applications.* Mahwah, NJ: Lawrence Erlbaum Associates.

Mio, J. S., & Lovrich, N. P. (1998). Men of zeal: Memory for metaphors in the Iran-Contra hearings. *Metaphor and Symbol, 13*, 49-68.

Mio, J. S., Riggio, R. E., Levin, S., & Reese, R. (2005). Presidential leadership and charisma: The effects of metaphor. *Leadership Quarterly, 16*, 287–294.

Ottati, V., Renstrom, R. & Price, E.D. (2014). The Metaphorical Framing Model: Political Communication and Public Opinion. In M. Landau, M. Robinson, & B. Meier. (Eds). The Power of Metaphor: Examining Its Influence on Social Life (pp. 176-198). Washington, D.C.: American Psychological Association Press.

Ottati, V., Rhoads, S., & Graesser, A. (1999). The effect of metaphor on processing style in a persuasion task: A motivational resonance model. *Journal of Personality and Social Psychology, 77*, 688-697.

Ottati, V.C. (2001). The psychological determinants of political judgment. In A. Tesser & N. Schwarz (Eds.), *Blackwell handbook of social psychology: Intraindividual processes* (pp. 615-632). Oxford: Blackwell.

Ottati, V.C., & Renstrom, R.A. (2010). Metaphor and persuasive communication: A multi-functional approach. *Social and Personality Psychology Compass*, *4/9*, 783-794.

Pennington, N. (1981). Causal *reasoning and decision making: The case of juror decisions.* Unpublished doctoral dissertation, Harvard University.

Pennington, N., & Hastie, R. (1993). The story model for juror decision-making. In R. Hastie (Ed.) *Inside the juror* (pp. 192 – 224). New York: Cambridge University Press.

Pennington, N., & Hastie, R. (1986). Evidence evaluation in complex decision making. *Journal of Personality and Social Psychology*, *51*, 242-258. doi:1037/0022-3514.51.2.242

Pennington, N., & Hastie, R. (1988). Explanation-based decision making: Effects of memory structure on judgment. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *14*, 521-533. doi:10.1037/0278-7393.14.3.521

Pennington, N., & Hastie, R. (1990). Practical implications of psychological research on juror and jury decision making. *Personality and Social Psychology Bulletin*, *16*, 90-105. doi:10.1177/0146167290161007

Pennington, N., & Hastie, R. (1992). Explaining the evidence: Tests of the story model for juror decision making. *Journal of Personality and Social Psychology, 62,* 189-206. doi:10.1037/0022-3514.62.2.189

Renstrom, R. A., Krumdick, N. D., & Ottati, V. C. (2008). Metaphorical communication: The effects of figurative language on impression formation. Paper presented at the 58th annual meeting of the International Communication Association, Montreal, Quebec, Canada.

Richards, I. A. (1936). *The philosophy of rhetoric*. London: Oxford University Press.

Schwarz, N., Bless, H. (2007). Mental construal processes: The inclusion/exclusion model. In D. A. Stapel & J. Suls (Eds.), *Assimilation and contrast in social psychology* (pp. 119-141), Philadelphia, PA: Psychology Press.

Sears, D. O., Henry, P. J., & Kosterman, R. (2000). Egalitarian values and the origins of contemporary American racism. In D. O. Sears, J. Sidanius & L. Bobo (Eds.), Racialized Politics: The Debate about Racism in America (pp. 75–117). Chicago, IL: University of Chicago Press.

Stawiski, S., Dykema-Engblade, A., & Tindale, R. S. (2012): The Roles of Shared Stereotypes and Shared Processing Goals on Mock Jury Decision Making. *Basic and Applied Social Psychology, 34*, 88-97. http://dx.doi.org/10.1080/01973533.2011.637467

Thibodeau, P. H., & Boroditsky, L. (2011). Metaphors we think with: The role of metaphor in reasoning. *PLoS ONE, 6*(2), e16782.

Tindale, R. S. (1993). Decision errors made by individuals and groups. In N. Castellan, Jr., (Ed.) *Individual and group decision making: Current issues* (pp. 109-124). Hillsdale, NJ: Lawrence Erlbaum Associates.

Tindale, R. S. & Davis, J. H. (1983). Group decision making and jury verdicts. In H. H. Blumberg, A. P. Hare, V. Kent, & M. F. Davies (Eds.) *Small groups and social interaction* (Vol. 2, pp. 9-38). Chichester, U.K.: Wiley & Sons.

Tindale, R. S., & Kluwe, K. (in press). Decision making in groups and organizations. In G. Keren & G. Wu (Eds.) *The Wiley-Blackwell handbook of judgment and decision making*. New York: John Wiley and Sons.

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