

KITTENS AND COUGARS:
THE EFFECT OF DISTINCT DEHUMANIZING METAPHORS FOR WOMEN
ON PERCEPTION AND BEHAVIOR

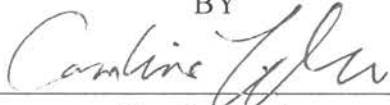
AN ABSTRACT

SUBMITTED ON THE EIGHTH DAY OF AUGUST 2013
TO THE DEPARTMENT OF PSYCHOLOGY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
OF THE SCHOOL OF SCIENCE AND ENGINEERING
OF TULANE UNIVERSITY
FOR THE DEGREE

OF

MASTER OF SCIENCE

BY




Caroline Tipler

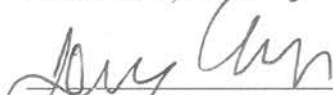
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Abstract

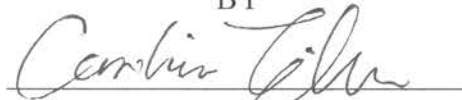
Metaphors are employed in order to improve communication and foster our understanding of other persons. Labeling outgroup members as something other than human, however, is dehumanizing and suggests that the targets lack human qualities. Past research operates under the assumption that all forms of animalistic dehumanization inform a single perception of a group of people. The present research, following a “metaphor-enriched” perspective of social cognition, instead suggests that there are two common animalistic metaphoric frameworks for women that inform distinct impressions of women: the aggressive predator and the submissive prey. Male and female participants primed with a “woman-as-predator,” “woman-as-prey,” or “woman-as-person” metaphoric framework revealed their impressions of and intentions toward several nondescript women engaging in ambiguous behaviors. Responses to open-ended questions revealed that, consistent with predictions, perceivers interpret women’s ambiguous behavior as more predator-like (aggressive, rude, or blunt) after exposure to a predator metaphor, and more prey-like (e.g., friendly, mild, forgetful) after exposure to a prey metaphor. Animalizing metaphors were also expected to inform behavioral intentions (predators require taming, while prey require paternalistic care), but results did not support predictions. Instead, gender alone influenced behavioral intentions (with women reporting greater intentions to assist) suggesting that social-role expectations may exert more influence on behavioral intentions than metaphoric framings do.

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Kittens and Cougars:

The Effect of Distinct Dehumanizing Metaphors for Women on Perception and Behavior

People habitually utilize figurative language to communicate their impressions of others. Metaphors, in which subjects are said to share certain characteristics with otherwise unrelated concepts, are commonly employed. The power of metaphor is most apparent in dehumanization: targets denied human qualities are beneath moral consideration. Recent theories of metaphoric dehumanization identify two complementary forms of dehumanization (Haslam, 2006). Individuals thought to lack essential human qualities (e.g., emotional depth) are likened to robots (mechanistic dehumanization), while individuals denied uniquely human qualities (e.g., civility) are likened to animals (animalistic dehumanization). Past research suggests that women are often victims of both forms of dehumanization (Rudman & Mescher, 2012). Unfortunately, studies that examine animalistic dehumanization of women assume that animal metaphors represent a singular perceptual framework (Rudman & Mescher, 2012; Vaes, Paladino, & Puvia, 2011).

The present research instead suggests that there are at least two different animal metaphors commonly utilized to describe women that represent fundamentally distinct conceptualizations of women (Figure 1 & 2). Women likened to predatory or wild animals (e.g., cougar, tigress) are seen as aggressive, lustful, and dangerous and they appear to behave in a hostile, rude, or sexual manner. Women likened to prey or pets (e.g., lamb, kitten) are seen as submissive, emotional, and dependent. Their behavior is

interpreted as passive, innocent, or needy. In addition to dictating perceptions of targets, a metaphor-enriched perspective of social cognition suggests that metaphoric framings prescribe distinct behavioral responses to targets (Thibodeau, McClelland, & Boroditsky, 2009). Wild animals need to be tamed; pets need to be protected. Likening women to predators may encourage behavior aimed at domination (e.g., punishing, refusing aid), while likening women to prey may encourage paternalistic behavior (e.g., comforting, assisting, controlling).

This research counters the assumption that animal metaphors represent a singular metaphoric framework for understanding women by demonstrating a distinction between predator and prey metaphors in the impressions of women that they evoke. Though they are both forms of animalistic dehumanization, predator and prey metaphors represent fundamentally different conceptualizations of women.

Metaphoric Frameworks and Perception

Growing research suggests that metaphors play a central role in cognition. Metaphors structure our understanding of abstract concepts, such as persons, by grounding them in the concrete (Landau, Meier, & Keefer, 2010). “Conceptual mappings” create a system of mental associations between corresponding elements of the source (the relatively more concrete concept) and target (the relatively more abstract concept). These associations include similarities as well as dissimilarities. Identifying the similarities between concepts allows one to make metaphoric inferences. Dissimilarities, in contrast, may be inhibited to enhance understanding (Glucksberg, Newsome, & Goldvarg, 2001).

As metaphors become familiar and conventional, they assume self-evident status (Galinsky & Glucksberg, 2000; Glucksberg, Gildea, & Bookin, 1982) and begin to escape conscious notice (Galinsky & Glucksberg, 2000; Glucksberg, Gildea, & Bookin, 1982; Lakoff & Johnson, 1980). Familiar metaphors are those in which the target and source have been repeatedly paired (e.g., “police” are repeatedly compared to “pigs”), while conventional metaphors are those in which the sources have been repeatedly associated with specific attributes (e.g., “pigs” are commonly associated with greed and gluttony; Gentner & Bowdle, 2001). Metaphors that are both familiar and conventional serve as the most appropriate vehicles for the transmission and perpetuation of particular target perceptions. For example, women are often likened to food items and desserts in particular. They are called “cupcake,” “sweetie,” or “pudding” (López Rodríguez, 2007). These terms all share certain characteristics: a sweet flavor, elaborate decoration, and fungibility. Thus, the metaphor conveys a particular impression of what a woman is: she has a sweet disposition, wears decoration (make-up, earrings, etc.) to improve her outward appearance, and is fundamentally interchangeable with others of her gender.

In addition to framing perception, metaphors may be utilized to sanction a particular behavioral response toward a group (Drew & Holt, 1998; Moon, 1998). While many theories of dehumanization assume that dehumanization is a precursor to aggression (e.g., Bandura, Underwood, & Fromson, 1975), recent research suggests that the particular metaphoric framework utilized may have a more specific effect on the behavioral response elicited. Metaphors of viral infection, for example, evoke behavioral scripts of extermination. Groups who commit genocide often portray their victims as disease-carrying pests and rodents (Russell, 1996). Terrorists are characterized as rats

who must be “smoked out” when they “scurry for cover” (Steuter & Wills, 2010). The only logical response to such an infestation is extermination (O’Brien, 2003). While no experimental study has yet investigated the specificity of behavioral responses as a result of the metaphoric dehumanization, one study has investigated the specificity of intended behavioral response due to the metaphoric framing of a social issue (Thibodeau, McClellans, & Boroditsky, 2009). When the issue of city crime was framed as a virus infecting the city, participants’ spontaneously proposed solutions to the problem emphasized prevention. Framing the issue of crime as a wild animal stalking the streets produced an emphasis on law enforcement and punishment. Dehumanizing metaphors for women should similarly impact behavioral intentions toward women. Behavioral intentions should be specific to the animalizing metaphor applied.

Metaphors of Dehumanization

Psychologists have only recently begun to examine how metaphoric framings of others might be related to dehumanization. Haslam and colleagues (Haslam, 2006; Haslam, Bain, Douge, Lee, & Bastian, 2005; Haslam, Loughnan, Kashima, & Bain, 2008) have proposed the existence two forms of dehumanization: mechanistic and animalistic. They argue that people define humanness in two complementary ways: by identifying the qualities fundamental to humans and by establishing qualities make humans unique.

Emphasizing a group’s uniquely human qualities (e.g., civility, rationality, maturity, etc.) and minimizing their human nature (e.g., curiosity, emotionality, depth) leads to mechanistic dehumanization. Groups attributed Human Uniqueness (HU) but denied Human Nature (HN) are likened to robots. They are seen as cold, rigid, passive,

and interchangeable (Haslam, 2006). While they may be seen as competent and rational, they are maligned for their lack of emotional warmth and depth. On the other hand, emphasizing a group's fundamentally human qualities (e.g., curiosity, emotionality, depth) while denying them any uniquely human qualities (e.g., civility, rationality, maturity, etc.) leads to animalistic dehumanization. Groups denied HU while attributed HN are likened to animals. They are seen as irrational, amoral, lacking culture, and motivated largely by instinct.

Mechanistic Metaphors for Women

The type of dehumanization of women most often investigated in psychological research is mechanistic dehumanization. Men and women alike objectify women, attending more to their bodies than to their intellect or personality (Fredrickson & Roberts, 1997; Rudmen & Borgida, 1995). Objectified women are denied components of HN and seen as objects or automata (Haslam, 2006; Loughnan & Haslam, 2007). In particular, they are perceived as lacking behavioral agency. Denying women behavioral agency leads to the perception of women as inert and interchangeable possessions to be utilized by the perceiver for the perceiver's own ends (Nussbaum, 1999). Because they are seen as lacking a subjective state, they are considered violable and not worthy of moral concern (Nussbaum, 1999).

Animalizing Metaphors for Women

Objectification is not the only form of dehumanization women experience, however. Animalization of women is common (Brennen, 2005; López Rodríguez, 2007, 2009). Within the "woman-as-animal" metaphors, women's human essence is emphasized at the expense of their human uniqueness. Women are seen as creatures of

emotion rather than reason (Ortner, 1974). Importantly, two distinct forms of animalization emerge from studies of gendered metaphors: predator and prey.

The “woman-as-predator” metaphor is used to encode aggressive behavior and describes powerful women (Kövecses 2002). Wild animals are independent, outside of man’s control, and dangerous (López Rodríguez, 2007). The metaphor suggests that the power enjoyed by these women is illegitimate: that men, who are more intelligent than women, should retain a higher social status. The corresponding fear, that women may leverage sexuality in order to gain dominance over men, is exhibited in the usage of names such as “tigress” and “vixen” to refer to female aggressiveness and sexuality (Nilsen, 1996). Relationships are often conceptualized as a hunt, with man in the role of the hunter and woman as the passive prey. When the woman takes an active role in a relationship and becomes the hunter, she is portrayed as a menacing predator, implying the inappropriateness of a woman taking the reins (López Rodríguez, 2007).

Thus, “women-as-predators” are seen as holding primitive lusts (affective component of humanness; Brennen, 2005) and the ability to do great harm (behavioral component of humanness; Brennen, 2005; López Rodríguez, 2007). Like all animals, they lack rational human intelligence (cognitive component of humanness; López Rodríguez, 2007, 2009). “Women-as-predator” are denied the cognitive component of humanness and ascribed the behavioral and affective components of humanness. Their behavior is seen as aggressive, desire driven, and dangerous, and they must be tamed, dominated, or “put down.”

Prey, on the other hand, pose little threat to man, being of generally small stature and easily domesticated. They exist to provide company (e.g., cats), to serve man (e.g.,

mules) or to be eaten (e.g., pigs; Brennan 2005; Martsa 1999, 2003; Nilsen, 1996). They are owned by man and depend on man for survival, thus eliciting a protective attitude. For these reasons, the prey metaphor contains positive connotations absent from the predator metaphor (Baider & Gesuato 2005; Halupka-Res̃etar 2003; Hines 1999). Prey metaphors also tend place an emphasis on ornamentation. When instructed to apply animal names to strangers, college students often referenced “birds” and “peacocks” when describing females (Nilsen, 1996). These metaphors predominantly discussed appearance, and indeed these animals are bred predominantly for aesthetic purposes. Because women likened to prey take their traditional position in the metaphor of “relationships-as-hunt,” they are not likely to experience retaliatory aggression (López Rodriguez, 2007).

Though “women-as-prey” lack intelligence (cognitive component; Brennan, 2005), they are seen as affectionate and loyal (affective component; López Rodriguez, 2007), and passive and subordinate (behavioral component; López Rodriguez, 2009). “Women-as-prey” are ascribed the affective component of humanness, but denied both the cognitive and behavioral components. Their behavior is seen as passive, innocent, and deriving from naiveté. They are owned by and depend on others, so the resulting behavioral script emphasizes caretaking, assistance, and paternalism.

Gender Differences in Behavioral Responses

Importantly, how animalizing metaphors for women shape behavioral responses to women may be impacted by gender. While the metaphor enriched theory of social cognition suggests that metaphors form frameworks for thinking about others, the way in which these frameworks may be influenced by existing motivational orientations is less

well understood. Glick and Fiske (1996) suggest that there are gender differences in the motivational significance of female targets. For example, males are more likely to view females as potential mates. If likening women to predators encourages an impression of ambiguous women as more sexually available, the taming motivation may take a slightly different form in males (for whom the woman-as-predator is a potential sexual partner) than in females (for whom the woman-as-predator is a potential threat to her romantic involvements).

Overview and Hypotheses

Male and female participants were randomly assigned to one of three conditions intended to prime the “woman-as-predator” metaphor, the “woman-as-prey” metaphor, and the “woman-as-person” control condition. The control condition allowed us to determine the degree to which perception and behavior are molded by each form of animalistic dehumanization. In other words, it served as a baseline against which the two different forms of animalistic dehumanization were compared. Because the female character was humanized in the control condition, I expected participants to neither deny the females human qualities nor ascribe them animalistic attributes. Behavioral responses to females were also expected to be absent of any ownership or taming motivations in this condition. Further discussion of the effects of the “woman-as-predator” and the “woman-as-prey” metaphors refer to their effects relative the control.

This experiment assessed participant impressions of animalized women on the two fronts: humanness and behavior. In particular, I determined the affective (e.g., emotional), behavioral (e.g., active), and cognitive components (e.g., intelligent) of humanness denied to women as a result of the metaphoric framework applied.

Participants indicated the degree to which they agreed that a number of adjectives described the “woman-as-predator,” “woman-as-prey,” or “woman-as-person.” I predicted that animalistic dehumanization of women would lead participants to deny women human qualities, however, the pattern of denial was expected to differ depending on the type of animalistic dehumanization applied (see Table 1). Priming the “woman-as-predator” metaphor was expected to lead to the perception of a female target as lacking in cognitive qualities (seen as unintelligent or simpleminded) but possessing the emotional and behavioral components of humanness (seen as passionate, active, and aggressive). Priming the “woman-as-prey” metaphor was expected to lead to a perception of a female target as lacking both cognitive and behavioral qualities (seen as simpleminded, passive, and submissive) but possessing the emotional component of humanness (seen as emotional).

I predicted that the behavior of women likened to animals (i.e., either predator or prey) would be seen as more basic or simplistic. How women’s behavior was interpreted, however, was expected to depend on the form of animalistic dehumanization used to describe them (see Table 1). A behavioral questionnaire consisting of both open-ended and forced-choice questions assessed impressions of women’s behavior. The “woman-as-predator” metaphor was expected to lead to the interpretation of a female target’s ambiguous behavior as aggressive, rude, or sexual. The “woman-as-prey” metaphor was predicted to lead to the interpretation of a female target’s ambiguous behavior as submissive, friendly, or dependent.

Finally, metaphors of animalistic dehumanization were expected to structure the kinds of behavioral responses participants intend to direct toward women. I anticipated

that participants in the “woman-as-predator” condition would report intentions to dominate or punish females while refusing aid (behaviors that reflect a motivation to tame the target). Participants exposed to the “woman-as-prey” metaphor, in contrast, were expected to offer assistance and comfort to females while still asserting dominance (reflecting protective ownership).

How gender differences in the motivational significance of females interact with the animalizing metaphors was assessed primarily through the open-ended questions. Due to questionnaire design and coding structure, gender differences were not expected on the humanness ratings or open-ended responses. Under the influence of a predator metaphor, men may be more likely than women to interpret a neutral woman as sexually aggressive, and women might be more likely than men to view a neutral woman as a relationship threat. However, as both aspects of the predator-metaphor were captured under predator-like dependent variables, a metaphor by gender interaction was not expected to emerge. Instead, gender differences were expected to emerge primarily in the forced choice questions concerning behavioral impressions and intentions. Because men may be more likely than women to interpret a woman’s neutral behavior as sexual and in turn be inclined to act on this notion, it was predicted that the male participants might choose more “predator-like” responses than the female participants (e.g., flirting).

Method

Participants

One hundred and seventy-five undergraduates enrolled in introductory psychology courses at Tulane University participated in this study in exchange for course credit. A maximum of four individuals participated per session. A total of seven subjects were eliminated from analyses, three for whom English was a second language and four due to experimenter error (e.g., forms indicating participants' consent to use data were not signed). The Attention to Manipulation Questionnaire (Appendix B1) was scored for correctness (1 point for each correct answer) and scores were summed (the highest score possible was a 4). All participants scored above chance level (i.e. all were attending to the manipulation). Thus, a total of one hundred and sixty-eight participants were run in subsequent analyses. Approximately equal numbers of men and women (Male=80, Female=88) participated, and similar numbers of participants read each metaphor (Predator=58; Prey=57; Control=53).

Procedure

This experiment utilized a 2 (Gender: Male, Female) X 3 (Metaphor: Predator, Prey, Humanized Control) between groups design. Male and female participants were randomly assigned to read a short article in which was embedded a woman-as-predator metaphor, a woman-as-prey metaphor, or a woman-as-person humanized control.

All experimenters were female and outfitted in a "neutral clothing" uniform consisting of a button-down or polo style shirt and long pants in a neutral color.

Experimenters removed ornamentation (e.g., earrings) and placed their hair in a ponytail before beginning the study. Experimenters first allowed participants to read and sign a consent form that included the study cover story. Experimenters informed the participants that they would be completing two unrelated studies from the same lab, one assessing recall (ostensibly an honors student's research) and the other assessing differences between appearance-based and behavior-based person impressions.

Once participants had signed the consent form, they received the questionnaire packet for the "honors student's study." The "honors student's study" actually consisted of the metaphor manipulation and the manipulation checks (Appendix A and B). Separate questionnaire packets and folders for both the "honors student's study" and the "impressions study" bolstered the cover story by cementing the impression that the political report and subsequent questionnaires were unrelated.

Participants next read their assigned political report (concerning the importance of independent voters during election seasons; Appendix A) and several follow-up questions (Appendix B). The political article was largely the same in the three conditions. The three conditions differed only in a few sentences in the narrative, which was used to embed the "woman-as-predator" metaphor (e.g., "As a rule, women pounce on misinformation"), the "woman-as-prey" metaphor (e.g., "As a rule, women lap up information"), and the "woman-as-person" humanized control ("As a rule, women identify misinformation") through repetition of the source-target pairing (Gentner & Bowdle, 2001). Experimenters were unaware of participant condition.

Measures

Participants then completed the Attention to Manipulation Questionnaire, a brief questionnaire containing questions about the political report (e.g., According to the above article, which group is of greatest concern to both political campaigns; Appendix B1). They also completed the Manipulation Check Questionnaire which consisted of several word completions assessing implicit activation of the manipulation (e.g., prov___ which could be completed as provoke or provide; Appendix B2). Completing these questions encouraged the impression that the political article was part of an unrelated study for an undergraduate thesis. The first set of questions allowed for the elimination of any individuals not attending to the political report (participants scoring below chance levels). For the second set of questions, participants were asked to fill in the blanks in order to make complete words. Participant responses were coded into the following categories: predator-consistent words and prey-consistent words. Word completions served as the manipulation check. Participants in the “woman-as-predator” condition were expected to show greater predator-consistent completions than either the “woman-as-prey” or “woman-as-person” control groups. Participants in the “woman-as-prey” condition were expected to show greater prey-consistent completions than either the “woman-as-predator” or “woman-as-person” control groups.

Once the participants had indicated that they had finished reading the political report and completed the subsequent questionnaire, the experimenter removed the report from the room and presented the participants with the “impressions study” questionnaire packet (Appendix C and D). The experimenter informed the participants that these

questionnaires were part of the main study and aimed at assessing differences between appearance-based and behavior-based person impressions.

The first section of the study questionnaire, ostensibly assessing “appearance-based impressions,” contained a picture of a woman with a neutral expression and several questions pertaining to the participants’ impression of the woman (Appendix C). All subjects received the same image. Participants were asked to rate the degree to which they believed that a number of different adjectives (e.g., emotional, active, intelligent) described the woman.

The second section of the study questionnaire, ostensibly assessing “behavior-based impressions,” consisted of several ambiguous behavior measures (Appendix D). Participants were asked to read several scenarios involving ambiguous behavior and respond to several open-ended and forced-choice questions regarding their impression of the woman’s behavior and how they or a third party would respond to the woman’s behavior. The open-ended questions (e.g., Jessica borrowed your notebook last week and has yet to return it. Why has she not returned your notebook?) allowed space for responding, while the forced-choice questions (e.g., Jessica spilled the contents of her coffee mug on Amy. Jessica’s behavior was absentminded/intentional) required participants to select an answer from a bipolar scale with antonyms anchoring each pole. Forced-choice questions allowed for explicit testing of expected responses, while the open-ended questions allowed for the identification of any unanticipated effects of the metaphors on perceptions of women’s behavior.

Results

Manipulation Checks

As noted in the participants section, all participants scored above chance on the Attention to Manipulation Questionnaire, indicating that all attended to the manipulation. The effect of metaphor exposure on participant responses to the Manipulation Check Questionnaire was also assessed. Participant responses were coded as predator-consistent (e.g., provoke, muzzle, snarl) or prey-consistent (e.g., provide, kitten, demure). Predator-consistent and prey-consistent word tallies for each fill-in-the-blank question were then summed to create two measures of the manipulation check: predator-consistent and prey-consistent.

Two one-way analyses of variance (ANOVAs) indicated that metaphor exposure significantly predicted prey-consistent responses ($F(2, 165) = 3.09, p = 0.05$), but not predator-consistent responses ($F(2, 165) = 1.28, p > 0.05$). Consistent with hypotheses, follow-up analyses revealed that participants made significantly more prey-consistent responses after exposure to a prey metaphor ($M = 5.19, SD = 0.17$) than a predator metaphor ($M = 4.60, SD = 0.17, p = 0.04$). However, the number of prey-consistent responses did not differ significantly between participants exposed to a prey metaphor and those reading a humanized control ($M = 4.77, SD = 0.18; p = 0.22$). Predator and control also did not differ significantly on the number of prey-consistent responses ($p = 0.77$).

Preliminary Analyses of Humanness Items

Participant responses on the questionnaire assessing impressions of a neutral woman (Appendix C) were expected to demonstrate the impact of metaphor exposure on perceptions of a woman's human qualities of emotion, cognition, and behavioral agency. An exploratory factor analysis was run on the humanness items (see Table 2). The three extracted factors together accounted for 43.28% of the total variance. Items loading on Factor 1 (e.g., Pushy, Temperamental, Aggressive) reflect aggressive emotionality and behavior, items loading on Factor 2 (e.g., Intelligent, Gullible, Mindless) reflect cognitive abilities, and items loading on Factor 3 (e.g., Affectionate, Energetic, Unemotional) reflect affectionate emotionality and behavior. No items loaded below 0.40 on any factor. Two items cross loaded with Factor 3 (Sensitive on Factor 1 and Passionless on Factor 2) and were thus dropped from the factors. Items with negative loadings were reverse coded such that higher numbers reflect greater attribution of aggression, intelligence, and affection to the woman in the photo. The items were then aggregated into Aggressive Emotionality and Behavior, Intelligence, and Affectionate Emotionality and Behavior scales. Each scale showed good internal consistency ($\alpha = 0.77$, $\alpha = 0.77$, and $\alpha = 0.69$, respectively). The Intelligence scale was positively correlated with both the Aggressive Emotionality and Behavior scale ($r = 0.27$) and the Affectionate Emotionality and Behavior scale ($r = 0.24$; see Table 3). The Aggressive Emotionality and Behavior scale and the Affectionate Emotionality and Behavior scale did not show a significant correlation ($r = 0.07$). The intercorrelations suggest that these three scales capture distinct, but related aspects of humanness.

Metaphor's Influence on Ratings of Humanness

A 3 (Metaphor: Predator, Prey, Control) X 2 (Gender: Male, Female) multivariate analysis of variance (MANOVA) indicated a significant effect of metaphor on the three kinds of humanness ($F(6, 320) = 3.46, p < 0.01$). There was also a main effect of gender ($F(3, 160) = 2.62, p = 0.05$). The interaction between metaphor and participant gender was not significant ($F(6, 320) = 1.49, p = 0.18$).

Univariate analyses indicated that metaphor did not significantly predict ratings of Aggressive Emotionality and Behavior ($F(2, 162) = 1.88, p = 0.16$). However, metaphor significantly predicted ratings of Intelligence ($F(2, 162) = 6.82, p < 0.01$, Figure 3). Following initial analyses, specific comparisons were made using Tukey's test.¹ These analyses indicated that participants attributed greater Intelligence to the woman in the photograph after exposure to the predator metaphor ($M = 4.75, SD = 0.09$) than the humanizing description ($M = 4.28, SD = 0.10, p < 0.01$). Participants exposed to the prey metaphor ($M = 4.64, SD = 0.09$) also attributed greater Intelligence to the woman than participants exposed to the humanizing description ($p = 0.02$). Intelligence ratings were not significantly different between the two animalizing metaphors ($p = 0.65$). These results were in direct contrast to predictions that participants exposed to animalizing metaphors would rate the woman as less intelligent.

Univariate analyses also indicated that metaphor significantly predicted ratings of Affectionate Emotionality and Behavior ($F(2, 162) = 5.17, p < 0.01$, Figure 4). Follow-up analyses indicated that participants attributed greater Affectionate Emotionality and Behavior to the woman in the photograph after exposure to the predator metaphor ($M = 3.71, SD = 0.09$) than the humanized description ($M = 3.29, SD = 0.10, p < 0.01$). This

was in contrast to predictions that participants exposed to a predator metaphor, a prey metaphor, and a humanized description would not differentially attribute Affectionate Emotionality to women. Consistent with predictions, the effect of the prey metaphor on attributions of Affectionate Emotionality and Behavior ($M = 3.55$, $SD = 0.09$) was not significantly different from the effect of the predator metaphor ($p = 0.49$) or the humanized control ($p = 0.11$).

Univariate analyses indicated that gender also significantly predicted ratings of Affectionate Emotionality and Behavior ($F(1, 162) = 7.21$, $p < 0.01$), such that male participants ($M = 3.66$, $SD = 0.08$) attributed greater Affectionate Emotionality and Behavior to the woman in the photo than the female participants did ($M = 3.37$, $SD = 0.07$). Gender did not significantly predict ratings of Aggressive Emotionality and Behavior ($F(1, 162) = 0.01$, $p > 0.05$) or Intelligence ($F(1, 162) = 0.07$, $p > 0.05$).

Preliminary Analyses of Behavioral Impressions and Intentions

Three items in the behavioral questionnaire were significantly non-normal (see Table 4). The positive skew was corrected by trimming, a procedure in which all outliers are set to a specified percent of the data. A 90% trim resulted in all data above the 90th percentile being set to the 90th percentile. An aggregated scale of Behavioral Impressions was created from the forced choice items in the Behavioral Questionnaire, with higher scores indicating impressions consistent with the predator metaphor. An aggregated scale of Behavioral Intentions was also created from this questionnaire, with higher scores indicating impressions consistent with the predator metaphor. Internal consistency was low for each measure ($\alpha = 0.46$ and $\alpha = 0.39$, respectively). The Behavioral Impression and Behavioral Intentions scales were positively correlated ($r = 0.51$).

Metaphor's Influence on Behavioral Impressions and Intentions (Forced-choice)

Univariate analyses were run on the Behavioral Impressions scale. Analyses indicated that the main effect of metaphor was not significant ($F(2, 162) = 1.85, p = 0.16$), the main effect of participant gender was not significant ($F(1, 162) = 0.26, p > 0.05$), and the interaction between participant gender and metaphor was not significant ($F(2, 162) = 0.35, p > 0.05$).

Univariate analyses were run on the Behavioral Intentions scale. Analyses indicated that the main effect of metaphor was not significant ($F(2, 162) = 0.07, p > 0.05$), the main effect of participant gender was not significant ($F(1, 162) = 1.76, p = 0.19$), and the interaction between participant gender and metaphor was not significant ($F(2, 162) = 0.22, p > 0.05$).

Coding of Open Ended Responses

Two female coders blind to condition independently tallied the number of metaphor-consistent responses (predator or prey) made by participants in response to each question concerning reasons for target behavior and attribution of target characteristics (e.g., aggressive vs. friendly) and intended behavioral responses (e.g., assist vs. ignore). Inter-rater agreement was assessed using both the Interclass Correlation Coefficient (Two-way Random, Consistency, Average Measures) and Cohen's kappa. Because inter-rater reliability was high for Predator-like Target Characteristics ($ICC(2, 2) = 0.87, \text{kappa} = 0.73$), Prey-like Target Characteristics ($ICC(2, 2) = 0.87, \text{kappa} = 0.75$), Predator-Metaphor-Consistent Participant Intentions ($ICC(2, 2) = 0.77, \text{kappa} = 0.59$), and Prey-Metaphor-Consistent Participant Intentions ($ICC(2, 2) = 0.84, \text{kappa} = 0.66$), coder tallies for each variable were aggregated. Predator-like and

prey-like tallies for each question concerning target characteristics were then summed to create two measures of Target Characteristics: predator and prey. Tallies for each question concerning the participants' intended metaphor-consistent behavioral responses were also summed to create two measures of Participant Intention: predator and prey.

Metaphor's Influence on Behavioral Impressions and Intentions (Open-ended)

A 3 (Metaphor: Predator, Prey, Control) X 2 (Gender: Male, Female) X 2 (Response Type: Predator-like, Prey-like) Repeated Measures ANOVA with Response Type as the within-subjects variable was then run on Target Characteristics. There was a main effect of Response Type ($F(1, 162) = 86.36, p < 0.001$), such that there were more prey-like responses ($M = 3.05, SD = 0.09$) than predator-like responses ($M = 1.78, SD = 0.07$). The Gender by Response Type interaction was not significant ($F(1, 162) = 1.25, p > 0.05$) and the three-way interaction was not significant ($F(2, 162) = 0.96, p > 0.05$). However, the predicted Metaphor by Response Type interaction was significant ($F(2, 162) = 3.70, p = 0.03$, see Figure 5). Follow-up analyses indicated that there were significantly more predator-like responses in the predator condition ($M = 2.09, SD = 0.12$) than the prey and control conditions combined ($M = 1.63, SD = 0.09, F(1, 166) = 9.62, p < 0.01$). The number of prey-like responses in the prey condition ($M = 3.25, SD = 0.15$) in comparison to the number of prey-like responses in the predator and control conditions was marginally significant ($M = 2.98, SD = 0.11, F(1, 166) = 1.97, p = 0.16$).

A 3 (Metaphor: Predator, Prey, Control) X 2 (Gender: Male, Female) X 2 (Response Type: Predator-like, Prey-like) Repeated Measures ANOVA with Response Type as the within-subjects variable was also run on Participant Intention. There was a main effect of Response Type ($F(1, 162) = 52.04, p < 0.001$), such that participants

reported a greater number of behavioral intentions consistent with the prey metaphor ($M = 1.98, SD = 0.08$) than the predator metaphor ($M = 1.11, SD = 0.06$). The predicted Metaphor by Response Type interaction was not significant ($F(2, 162) = 1.18, p > 0.05$). However, the Gender by Response Type interaction was marginally significant ($F(1, 162) = 3.73, p = 0.06$, see Figure 6). Follow-up analyses indicated that women ($M = 2.19, SD = 0.11$) expressed significantly more behavioral intentions consistent with the prey metaphor than men ($M = 1.76, SD = 0.11, F(1, 166) = 7.71, p < 0.01$). Finally, the three-way interaction was not significant ($F(2, 162) = 0.93, p > 0.05$).

Discussion

Past research operates under the assumption that all animalizing metaphors inform a single perception of a group of people. The present research, however, provided preliminary support for the hypothesis that there are two common animalistic metaphoric frameworks for women (predator and prey) that inform distinct impressions of women. Analyses confirmed that the metaphor manipulation was effective: metaphor exposure significantly predicted prey-consistent word choice-responses, such that participants made significantly more prey-consistent responses after exposure to a prey metaphor than a predator metaphor.

Support for hypotheses concerning humanness, behavioral impressions, and behavioral intentions was mixed, however. While participant responses to the humanness items did not differentiate between the animalizing metaphors, and the behavioral intention items did not show an effect of the metaphor manipulation, responses to the open-ended behavior-based target characteristics questions were consistent with hypotheses. Participants in the predator condition interpreted the women's behaviors as significantly more predator-like (aggressive, rude, or blunt) than participants in the prey and control conditions. Participants also interpreted the women's behavior as more prey-like (e.g., friendly, mild, forgetful) after exposure to a prey metaphor than after exposure to a predator metaphor or a humanized control.

Humanness Items: Dehumanizing or Individuating?

The results of the experiment show only partial support of hypotheses. Though participant responses on the questionnaire assessing impressions of a neutral woman were expected to differentiate into Affective, Behavioral, and Cognitive factors of Humanness, an exploratory factor analysis indicated that the items better reflected the attribution of aggression, intelligence, and affection to the woman in the photo. These results suggest that while perceivers identify cognition as a distinct aspect of humanness, they may be less inclined to distinguish between the affective and behavioral components of positive and negative traits. Instead, perceivers may concentrate on valence: aggressive and spiteful share a negative valence, while nurturing and energetic share a positive valence.

Alternatively, these factors may be viewed as assessing unique components of female stereotypes: the aggressive dominator, the affectionate submitter, and the dunderhead. Interestingly, the effect of metaphor exposure on assessment of female aggression, intelligence, and affection was not consistent with either the studies' hypotheses or past experiments. Consistent with research suggesting that women are attributed greater emotionality and nurturing qualities through their association with nature and animals (Ortner, 1974), the woman in the photograph was attributed greater affectionate emotionality and behavior after exposure to a predator metaphor. However, in contrast to past experiments suggesting that a target's Human Nature (e.g., nurturing qualities) is enhanced at the expense of their Human Uniqueness (e.g., cognitive abilities; Haslam, 2006), participants attributed greater intelligence to the woman in the photograph after exposure to either animalizing metaphor than the humanized control. In other words, exposure to an animalizing metaphor (particularly a predator metaphor) lead

to across the board greater attribution of individuating characteristics, suggesting that the animalizing metaphors may have simply made the neutral woman in the photograph less bland or more engaging.

Impressions of Target Characteristics and Behaviors

In contrast, the effect of metaphor on the attribution of target characteristics was predominantly consistent with study hypotheses. Open-ended responses indicated that, while participants tended to view the women's behavior as more prey-like than predator-like in general, exposure to a predator metaphor lead participants to interpret the women's behaviors as significantly more predator-like (aggressive, rude, or blunt), while exposure to a prey metaphor lead participants to interpreted the women's behavior as more prey-like (e.g., friendly, mild, forgetful). Results of the forced-choice responses, though not significant, match the open-ended responses: no main effect of gender and no metaphor by gender interaction, but a marginally significant effect of metaphor with exposure to a predator metaphor leading to more predator-like responses. These results suggest that, consistent with hypotheses, exposure to animalizing metaphors influences interpretations of the source of women's behavior. When exposed to a predator metaphor, participants view women's behavior as ruder and assume that it stems from aggression or spite. When exposed to a prey metaphor, participants view the woman's behavior as friendlier and assume that it stems from their need for assistance.

It is important to note, however, that this study cannot definitively claim that the differential attribution of aggression and friendliness to women is due to the metaphoric pairing of women with predator vs. prey and not simply a priming effect. The social targets in each scenario were all women. In order to rule out a priming effect, future

studies should include male targets and demonstrate a reduced (or absent) effect of the “woman-as-predator” and “woman-as-prey” metaphors on impressions of male targets.

Participant Behavioral Intentions: Do Metaphors Impact Behaviors Directly?

Finally, results for participant behavioral intentions did not match hypotheses. Open-ended responses showed only a significant effect of gender on participant intentions, with more women than men expressing intentions to treat the target as prey (e.g., assist). And again, data from the forced-choice responses, though not significant, matched the open-ended responses: there was no main effect of metaphor and no metaphor by gender interaction, but a marginally significant effect of gender with females showing a greater tendency towards assisting behaviors.

These results may indicate that dehumanizing metaphors exert less influence on actual behavioral intentions and responses than they do on desired behavioral responses. While metaphors may impact perceivers’ *desired* behavioral responses, societal constraints and social-role expectations may shape perceivers’ *actual* behavioral responses. Thus, while the metaphor manipulation did not impact participant expectations about their behavioral responses, gender did influence participant predictions. Consistent with research suggesting that gender norms prescribe greater communal helping behavior from women than from men (Eagly, 1987; Eagly & Crowley, 1986), female participants reported more assisting intentions than male participants.

Alternatively, animalizing metaphors may not directly impact behavioral responses to dehumanized women, but instead indirectly influence behaviors through the emotional responses they evoke. For example, a predator metaphor may lead to aggressive intentions through the activation of fear or anger, while the prey metaphor

may prompt efforts at assisting dehumanized women through the activation of pity and condescension. This idea is consistent with past research suggesting that emotions rather than stereotypes better predict behavioral responses (Cuddy, Fiske, & Glick, 2007; Zajonc, 1998), but contrary to assumptions that metaphors can directly frame behavioral responses (O'Brien, 2003; Landau, Meier, & Keefer, 2010). While the current research is unable to validate these hypotheses because emotional responses were not assessed, future studies aim to investigate them.

Limitations and Weaknesses of the Present Research

Importantly, however, study limitations may hamper interpretation of the results and qualify conclusions. First, it is important to note that this experiment did not utilize established measures. All measures were designed specifically for the study and had not been used previously. This may have limited the study's ability to accurately measure humanness attributions, behavioral impressions, and behavioral intentions. For example, the humanness items, designed to assess the three components of humanness, may have instead differentiated into three components of the female stereotype due to the measure's inability to adequately tap behavioral humanness. The items utilized in this study to assess behavioral humanness contained both behavioral and emotional components (e.g., aggressive, spiteful). A measure that better captures perceivers' beliefs about the ability of targets to act and distinguishes between mental states and actions should be utilized in future studies.

While past research concerning dehumanization does not offer scales appropriate for investigation of the hypotheses in this study (e.g., Haslam's measures do not differentiate between animalizing metaphors), scales utilized in research concerning

hostile and benevolent sexism may have been useful for framing questionnaires. This is because there are elements of hostile sexism that are consistent with the predator metaphor and elements of benevolent sexism that are consistent with the prey metaphor.

For example, because the predator metaphor is typically used to describe powerful women outside of men's control that enjoy illegitimate power (Kövecses 2002; López Rodríguez, 2007), the metaphor should evoke the dominative paternalism, competitive gender differentiation, and hostile heterosexuality associated with hostile sexism (Glick & Fiske, 1997; Glick & Flake, 1996). Similarly, the prey metaphor, used to describe females that depend on men and require caretaking (Martsa 1999, 2003), should elicit protective paternalism, complementary gender differentiation, and intimate heterosexuality. Thus, future research should utilize the Ambivalent Sexism Inventory to determine the effect of the two distinct animalizing metaphors on impressions of and attitudes toward women.²

The use of bipolar forced-choice measures to assess behavioral impressions and intentions may also have impaired the study's ability to demonstrate the effect of the animalizing metaphors. The marginal effects, consistent with open-ended responses, suggest that single-pole scales might have better revealed effect of metaphor.

Participants seemed overwhelmingly inclined to choose prey-consistent terminology (perhaps in an effort to appear pleasant). Separate measures for prey-like and predator-like responses may have allowed for more movement on measures in response to the metaphor.

Finally, the use of a neutral target for the humanness questionnaire and the use of an ambiguous target for the behavioral impressions and intentions questionnaires may

account for differences in the effect of the metaphor manipulation on these measures. Results for the humanness items were not consistent with hypotheses (the animalizing metaphors appeared to simply lessen the blandness of the neutral woman), but results for the measures using the second questionnaire largely matched hypotheses (participants in the predator condition saw the women's ambiguous behaviors as more aggressive, while participants in the prey condition viewed the women's ambiguous behaviors as friendlier). It is possible, then, that animalizing metaphors influence impressions of ambiguous targets (targets whose behaviors or characteristics can be interpreted as either hostile or benevolent), but not neutral targets.

Future Directions

As discussed above, future studies should investigate the degree to which the two animalizing metaphors discussed in this paper relate to two components of ambivalent sexism. Determining the relationship between ambivalent sexism and animalistic dehumanization would not only aid in the development of measures, but may also shed light on the process by which metaphors structure cognitions. While target characteristics (e.g., aggressive) may directly elicit categorization of a target with a source concept (e.g., wild animal), perceiver's a-priori attitudes toward the target may also impact how the perceiver dehumanizes the target. For example, researchers have demonstrated that men high in hostile sexism, but not benevolent sexism, exhibited reduced activity in brain regions associated with mental state attribution when viewing sexualized women (Cikara, Eberhardt, & Fiske, 2010). In other words, only men higher in hostile sexism dehumanized women, and only when viewing sexualized women.

A similar effect of a-priori attitudes may occur when dehumanizing metaphors are utilized. The influence of a dehumanizing metaphor on perceiver cognition, emotion, and behavior may be strongest when the perceiver's attitude matches the available metaphor. For example, aggressive behaviors toward females may be galvanized by exposure to a wild animal metaphor only in those individuals high in hostile sexism. Similarly, a prey metaphor may encourage chivalrous behavior only in those individuals high in benevolent sexism. If perceiver intention restricts the effects of animalizing metaphors in this way, the null results found in this study may not reflect an inability of metaphor to directly structure behavior. Instead, future studies may be needed in order to identify the conditions under which metaphoric framings structure perceiver intentions.

While the above might help explain why behavioral intentions were not influenced by animalizing metaphors in the current study, it may also be fruitful to examine the influence of emotion on ability of metaphors to structure behavioral responses. As mentioned earlier, research concerning outgroup stereotyping proposes that emotions, in comparison to person perceptions, are more directly related to behavior (Zajonc, 1998). Previous research suggests that emotion, in comparison to stereotypes, better predicts discrimination (Dovidio, Brigham, Johnson, & Gaertner, 1996). Emotions elicited by one's appraisal of other individuals are thought to engender behavioral responses adapted to defense against threats and approach towards benefits (Roseman, Wiest, & Swartz, 1994). For example, fear emotions are thought to be elicited by threats to physical safety (Cottrell & Neuberg, 2005). Behaviors aimed at minimizing such threats (including escape or attack) are thought to be evoked by fear. Thus, a predator metaphor may lead to aggressive action through the activation of fear or anger, while the

prey metaphor may prompt efforts at assisting through the activation of pity and condescension. Future studies should take a closer look at the myriad ways in which metaphors may structure behaviors.

Finally, it is important to note that animalizing metaphors are utilized to describe a number of different social groups, not just women. Just as hostile and benevolent attitudes are not solely directed towards women, the predator and prey metaphors appear to inform attitudes towards a number of other groups. The predator metaphor, for example, has been employed to describe the western powers' "hunt" for terrorists in Iraq and soldiers' attempts to "snare" the terrorists in their "dens" (Steuter & Wills, 2010). Future studies should determine which pairings are most familiar (i.e., which groups are repeatedly paired with the predator and prey metaphors).

Conclusions

A closer look at the dehumanizing metaphors for women identified the need to distinguish between predator and prey animal metaphors, as they represent fundamentally distinct representations of women. Exposure to a predator metaphor lead participants to interpret a woman's neutral behavior as rude and stemming from aggression and spite. Participants exposed to a prey metaphor interpreted the same behavior as friendly and stemming from the need for assistance. While this study did not offer support for the hypothesis that metaphors directly structure behavioral responses, future studies outlined above should offer a better understanding of the way in which metaphors frame cognitions, emotions, and behaviors. While past research concerning animalistic dehumanization has held the assumption that animal metaphors represent a singular

perceptual framework, this research suggests that there are two animal (predator and prey) that represent and foster fundamentally distinct conceptualizations of women.

Tables

Table 1

Hypotheses

Dependent Variable	Predator	Prey	Humanized Control
Affective Humanness	Yes	Yes	Yes
Behavioral Humanness	Yes	No	Yes
Cognitive Humanness	No	No	Yes
Behavior Impressions	Aggressive, Sexual	Submissive, Dependent	Neutral
Behavioral Intentions	Tame, Deny Aid	Protect, Assist	Neutral

Table 2

Factor Loadings of Humanness Items on Three Extracted Factors: Aggressive Emotionality, Intelligence, and Affectionate Emotionality

Factor	Item	Loading	Total Variance Explained by Factor
Aggressive Emotionality and Behavior	Pushy	0.743	15.64%
	Temperamental	0.658	
	Aggressive	0.650	
	Passive	-0.615	
	Docile	-0.581	
	Irrational	0.563	
	Submissive	-0.512	
	Spiteful	0.504	
Intelligence	Intelligent	0.710	14.18%
	Gullible	-0.662	
	Mindless	-0.659	
	Clever	0.659	
	Intuitive	0.651	
	Cunning	0.530	
	Simpleminded	-0.476	
Affectionate Emotionality and Behavior	Affectionate	0.721	13.46%
	Energetic	0.641	
	Unemotional	-0.582	
	Nurturing	0.563	
	Active	0.514	
	Lustful	0.486	
	Inert	-0.441	

Table 3
Bivariate Correlations

	I	II	III	IV	V
I Aggressive Emotionality and Behavior	1				
II Intelligence	0.266**	1			
III Affectionate Emotionality and Behavior	0.069	0.244**	1		
IV Behavioral Impressions	0.045	0.092	0.102	1	
V Behavioral Intentions	0.036	-0.079	0.118	0.506**	1

* $p \leq 0.05$; ** $p \leq 0.01$

Table 4
Skewness, Kurtosis, and 90th Percentile Score of Non-normal Items

	Skewness	Kurtosis	90 th Percentile
B1b	2.397	9.629	3
B3a	1.838	3.826	4
B4b	1.859	4.568	3

Figures

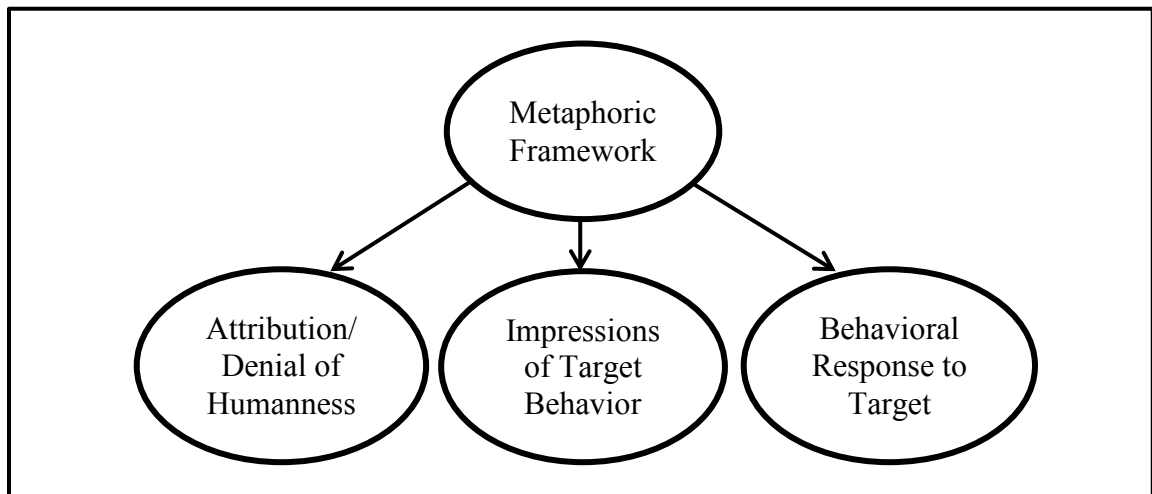


Figure 1. Hypothesized model with latent variables.

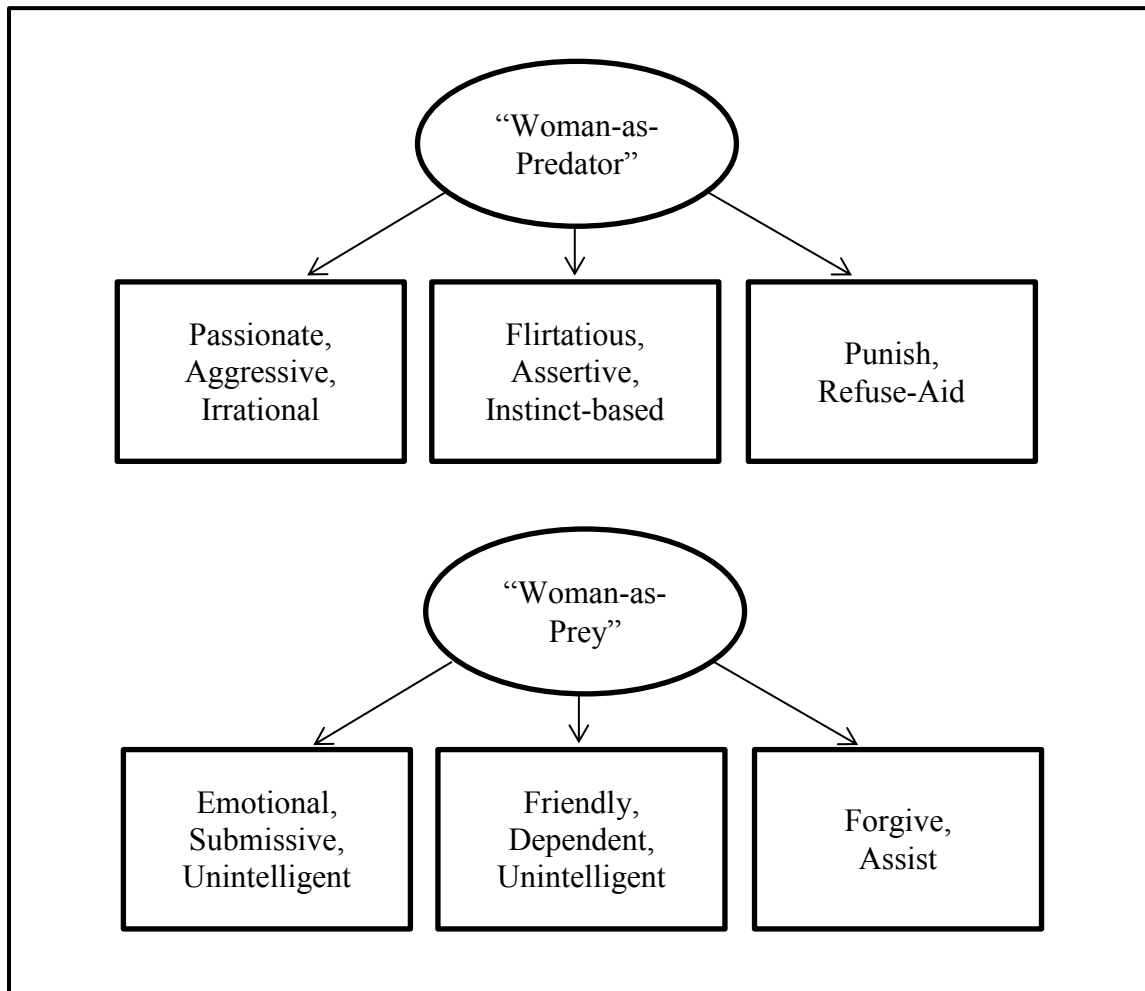


Figure 2. Hypothesized models for each distinct animalizing metaphor.

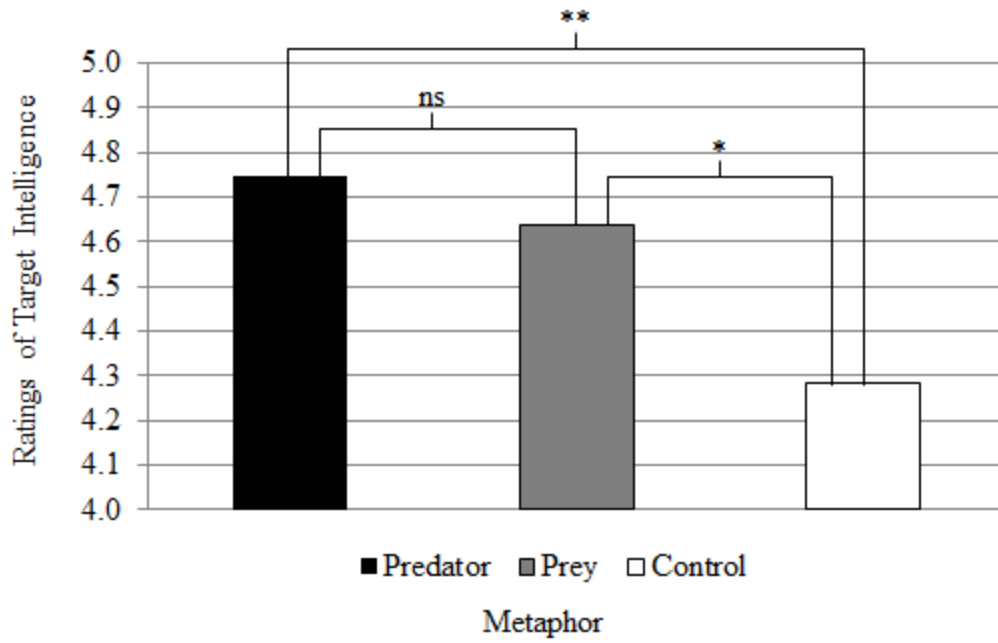


Figure 3. The effect of metaphoric frameworks on intelligence ratings ($F(2, 162) = 6.82, p < 0.01$).
Note: * $p < 0.05$, ** $p < 0.01$

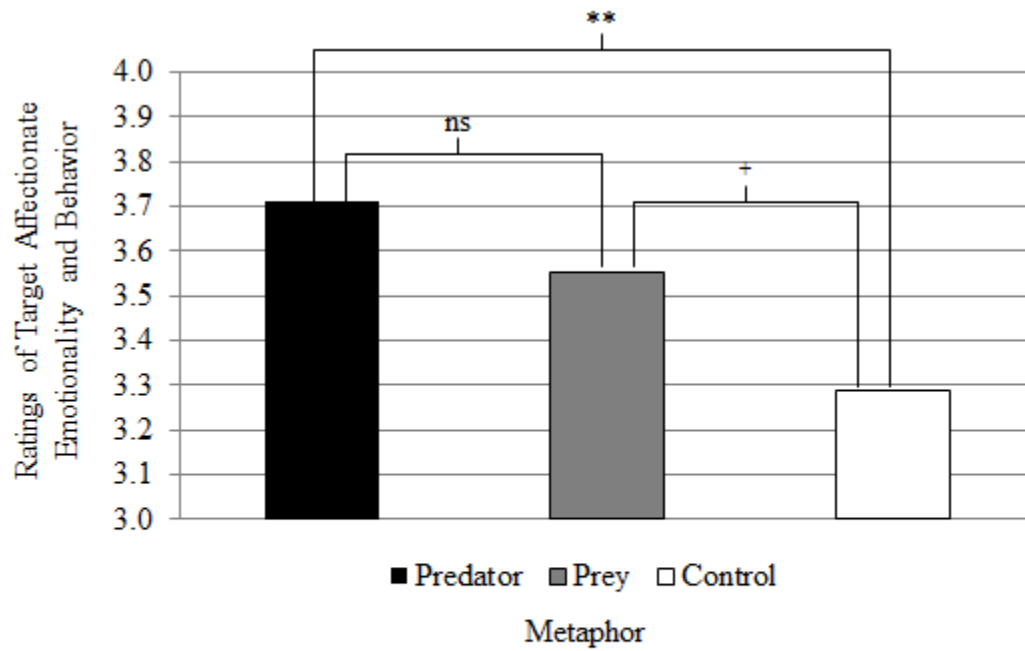


Figure 4. The effect of metaphoric frameworks on affectionate emotionality and behavior ($F(2, 162) = 5.17, p < 0.01$).

Note: + $p < 0.20$, ** $p < 0.01$

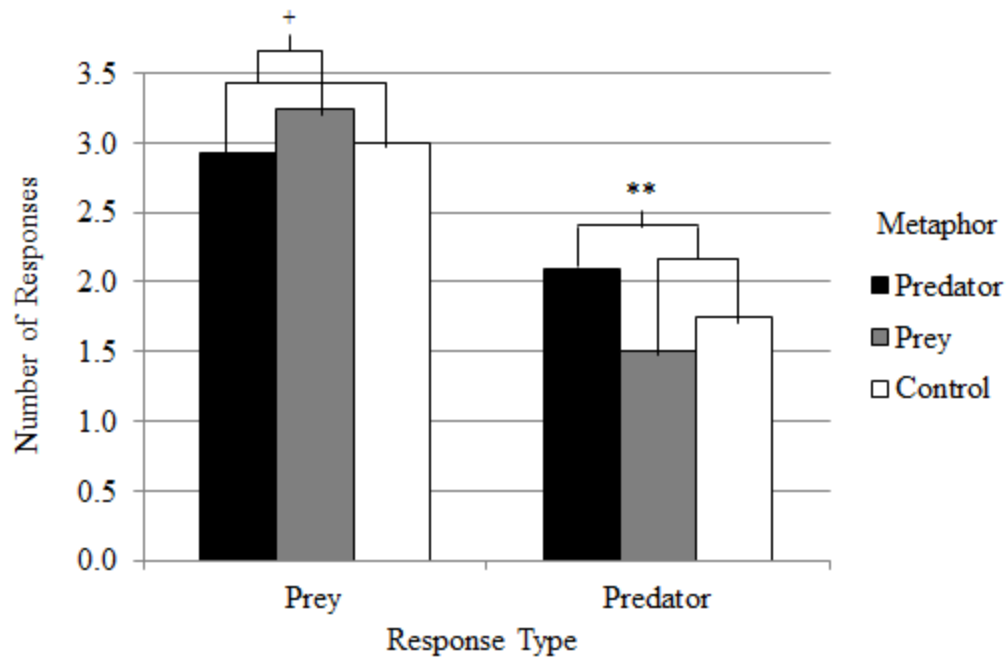
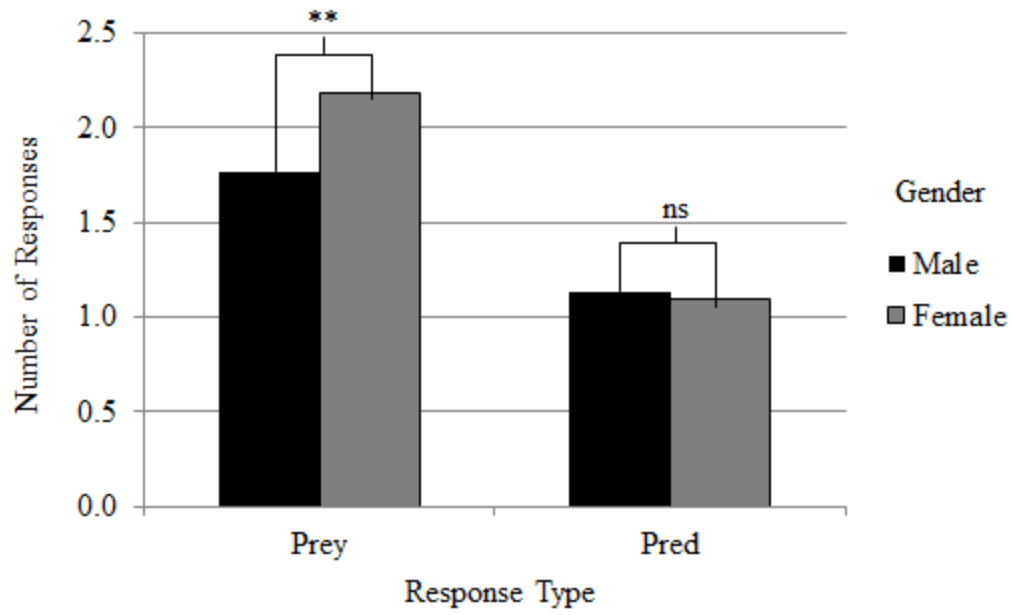


Figure 5. The effect of metaphor by response type on target characteristics ($F(2, 162) = 3.70, p = 0.03$).

Note: $^+p < 0.20$, $^{**}p < 0.01$



*Figure 6: The effect of gender by response type on participant intention ($F(1, 162) = 3.73, p = 0.06$).
Note: ** $p < 0.01$*

Appendix A

Predator/Prey/Humanized Metaphors
Honors Student Study: Political Report

Group 1: Predator

Instructions: Below is an excerpt from a political report taken from the internet. You may begin reading the report now. Be prepared to answer questions concerning the information presented below.

Independent voters, who could sway the outcome of the presidential race, are making up an increasingly larger share of North Carolina's registration rolls. Since 2000, the number of unaffiliated voters has grown by 77 percent in Cumberland County and 112 percent statewide, according to an analysis of voter records by The Fayetteville Observer.

Women (58%) make up a larger share of independent likely voters than men (42%), while men (59%) make up a larger share of Democratic likely voters than women (41%). Both political parties, focusing on independent voters, are looking to sway women's votes this election season. **And with women prowling the campaign trail, this election season promises to be an interesting one. As a rule, women pounce on misinformation. Both campaigns should exercise caution, or they'll risk being snatched up like unsuspecting prey.**

With a large number of independent voters, North Carolina is seen as a battleground that could determine who will occupy the White House next year. That's why the Democrats are holding their convention in Charlotte on Sept. 4-6 and the presumptive Republican presidential nominee made a campaign swing through North Carolina on Sunday. Both presidential campaigns will attempt to sway independent-minded voters, **with special focus placed on those strange beasts known as women.**

Group 2: Prey

Instructions: Below is an excerpt from a political report taken from the internet. You may begin reading the report now. Be prepared to answer questions concerning the information presented below.

Independent voters, who could sway the outcome of the presidential race, are making up an increasingly larger share of North Carolina's registration rolls. Since 2000, the number of unaffiliated voters has grown by 77 percent in Cumberland County and 112 percent statewide, according to an analysis of voter records by The Fayetteville Observer.

Women (58%) make up a larger share of independent likely voters than men (42%), while men (59%) make up a larger share of Democratic likely voters than women (41%). Both political parties, focusing on independent voters, are looking to sway women's votes this election season. **And with women being hunted on the campaign trail, this election season promises to be an interesting one. As a rule, women lap up information. If fed the right tidbits, they should begin purring in no time.**

With a large number of independent voters, North Carolina is seen as a battleground that could determine who will occupy the White House next year. That's why the Democrats are holding their convention in Charlotte on Sept. 4-6 and the presumptive Republican presidential nominee made a campaign swing through North Carolina on Sunday. Both presidential campaigns will attempt to sway independent-minded voters, **with special focus placed on the strange creatures known as women.**

Group 3: Humanized Control

Instructions: Below is an excerpt from a political report taken from the internet. You may begin reading the report now. Be prepared to answer questions concerning the information presented below.

Independent voters, who could sway the outcome of the presidential race, are making up an increasingly larger share of North Carolina's registration rolls. Since 2000, the number of unaffiliated voters has grown by 77 percent in Cumberland County and 112 percent statewide, according to an analysis of voter records by The Fayetteville Observer.

Women (58%) make up a larger share of independent likely voters than men (42%), while men (59%) make up a larger share of Democratic likely voters than women (41%). Both political parties, focusing on independent voters, are looking to sway women's votes this election season. **And with women following the campaign trail, this election season promises to be an interesting one. As a rule, women identify misinformation. If approached with the facts, women will be sure to examine all positions.**

With a large number of independent voters, North Carolina is seen as a battleground that could determine who will occupy the White House next year. That's why the Democrats are holding their convention in Charlotte on Sept. 4-6 and the presumptive Republican presidential nominee made a campaign swing through North Carolina on Sunday. Both presidential campaigns will attempt to sway independent-minded voters, **with special focus placed on those unique individuals known as women.**

Appendix B1
Attention to Manipulation Questionnaire
Honors Student Study: Questionnaire 1

Instructions: Please answer the following questions to the best of your ability.

1. What was the main topic of the above questionnaire?
 - a. The growing influence of the libertarian party.
 - b. The composition of the independent voter block and political parties' interest in swaying their opinions.
 - c. The U.S. embargo of Cuba and how this topic will factor in the coming election cycle.

2. Which group makes up the larger share of Democratic likely voters?
 - a. men
 - b. women

3. What state is being discussed in the above paragraph?
 - a. New Mexico
 - b. New York
 - d. North Carolina
 - c. California

4. According to the above article, which group is of greatest concern to both political campaigns?
 - a. men
 - b. women

Appendix B2
Manipulation Check Questionnaire
Honors Student Study: Questionnaire 2

Instructions: Below are several words with missing letters. Please fill in the blanks in order to complete the words. You will have 5 minutes to complete this worksheet.

1. p r o v _ _ e (provide, provoke)
2. s n a r _ (snare, snarl, snark)
3. _ i t t e n (kitten, bitten)
4. m o _ e s t (modest, molest)
5. k i _ _ (kind, kids, kiss, kill, kick)
6. _ u z z l e (nuzzle, muzzle, puzzle)
7. s h r _ _ _ (shrink, shrewd, shroud)
8. d e _ _ r e (demure, desire)
9. s m a _ _ (small, smack, smarm, smash, smart)
10. t _ _ t h (teeth, truth)
11. o b _ _ (obey, oboe)
12. a t t a _ _ e d (attached, attacked)
13. _ a r m (warm, harm)

Appendix C
Humanness Scale
 Appearance-based Impressions

Instructions: Rate the women in the photo below on the following adjectives using the Likert scale.



	Strongly Agree	Slightly Agree	Neither nor Disagree	Agree	Slightly Disagree	Disagree	Strongly Disagree
1. Submissive	1	2	3	4	5	6	7
2. Unemotional	1	2	3	4	5	6	7
3. Intelligent	1	2	3	4	5	6	7
4. Adorable	1	2	3	4	5	6	7
5. Aggressive	1	2	3	4	5	6	7
6. Lustful	1	2	3	4	5	6	7
7. Intuitive	1	2	3	4	5	6	7
8. Simpleminded	1	2	3	4	5	6	7
9. Sexy	1	2	3	4	5	6	7



	Strongly Agree	Agree	Slightly Agree	Neither Agree nor Disagree	Slightly Disagree	Disagree	Strongly Disagree
10. Nurturing	1	2	3	4	5	6	7
11. Passive	1	2	3	4	5	6	7
12. Temperamental	1	2	3	4	5	6	7
13. Gullible	1	2	3	4	5	6	7
14. Energetic	1	2	3	4	5	6	7
15. Alluring	1	2	3	4	5	6	7
16. Docile	1	2	3	4	5	6	7
17. Passionless	1	2	3	4	5	6	7
18. Mindless	1	2	3	4	5	6	7
19. Sensitive	1	2	3	4	5	6	7



	Strongly Agree	Agree	Slightly Agree	Neither Agree nor Disagree	Slightly Disagree	Disagree	Strongly Disagree
20. Active	1	2	3	4	5	6	7
21. Clever	1	2	3	4	5	6	7
22. Pushy	1	2	3	4	5	6	7
23. Irrational	1	2	3	4	5	6	7
24. Cunning	1	2	3	4	5	6	7
25. Cute	1	2	3	4	5	6	7
26. Affectionate	1	2	3	4	5	6	7
27. Spiteful	1	2	3	4	5	6	7
28. Inert	1	2	3	4	5	6	7
29. Likable	1	2	3	4	5	6	7
30. Beautiful	1	2	3	4	5	6	7

Appendix D
Behavioral Questionnaire
Behavior-based Impressions

Instructions: Please answer these questions to the best of your ability. There are no wrong answers.

- 1) Jessica borrowed your notebook last week and has yet to return it.
a. Why has she not returned your notebook?

- b. How do you respond?

- 2) You are at a restaurant with your friend Ann. Ann asks if you know what you want to order.
a. Why is she asking?

- b. How do you respond?

- 3) On the way to class your roommate informs you that “you don’t look so good”.
a. What does she mean by this and why is she telling you?

- b. How do you respond?

4) You and your friend Sara are in the same Calculus class. Sara asks if you've done the homework.

a. Why is she asking?

b. How do you respond?

5) Recently your friends Jenny and Taylor have been falling silent whenever you enter the room.

a. Why do they stop talking when you appear?

b. How do you handle this situation?

Instructions: Please indicate your choice using the Likert scales below. Each pole of the scale represents one interpretation of the individual's behavior or one way to respond to his/her behavior.

1) **When moving into a new apartment, Maria asked Anthony to bring in her suitcases.**

a. **Maria:**

Needs Help from Others							Takes Advantage of Others
1	2	3	4	5	6		7

b. **Imagine you are Anthony. How would you respond to Maria's behavior?**

Assist							Ignore
1	2	3	4	5	6		7

2) **Alice often asked Mike to carry her backpack between classes.**

a. **Alice was:**

Requesting Assistance							Flirting
1	2	3	4	5	6		7

b. **Imagine you are Mike. How would you respond to Alice's behavior?**

Assist							Ignore
1	2	3	4	5	6		7

3) **Jessica spilled the contents of her coffee mug on Amy.**

a. **Jessica's behavior was:**

Absentminded							Intentional
1	2	3	4	5	6		7

b. **Imagine you are Amy. How would you respond to Jessica's behavior?**

Forgive							Reprimand
1	2	3	4	5	6		7

4) **Emily asks David if he wants to study with her for the upcoming exam.**

a. **Emily is asking because she:**

Needs Help Studying						Is Interested In David
1	2	3	4	5	6	7

b. **Imagine you are David. How would you respond to Emily's offer?**

Accept						Reject
1	2	3	4	5	6	7

5) **Henry is Malissa's boyfriend. Malissa notices that her friend Allison often laughs at Henry's jokes.**

a. **Allison laughs at Henry's jokes because she:**

Enjoys His Jokes						Is Flirting with Henry
1	2	3	4	5	6	7

b. **Imagine you are Malissa. How would you respond to Allison's behavior?**

Laugh Along						Confront Allison
1	2	3	4	5	6	7

Footnotes

¹ Because the original hypotheses were not met, posttests for the humanness items assessed all possible comparisons for exploratory purposes.

² The Ambivalent Sexism Inventory was included as the last dependent variable for exploratory purposes. Results provided preliminary support for the notion that the two animalizing metaphors uniquely impact sexist attitudes toward women. Metaphor exposure predicted responses on the Hostile Sexism subscale ($F(2, 162) = 3.07, p = 0.05$), with the predator metaphor ($M = 4.12, SD = 0.12$) leading to more hostile attitudes than the prey metaphor ($M = 3.714, SD = 0.12, p = 0.05$).

References

- Baider, F., & Gesuato, S. (2005). *Masculinist metaphors, feminist research*. Retrieved on September 22, 2012 from <http://www.metaphorik.de/05/baidergesuato.html>
- Bandura, A., Underwood, B., & Fromson, M. E. (1975). Disinhibition of aggression through diffusion of responsibility and dehumanization of victims. *Journal of Research in Personality*, 9, 253–269.
- Brennan, W. (2005). *Female objects of semantic dehumanization and violence*. Retrieved on July 11, 2012 from <http://www.fnsa.org/v1n3/brennan1.html>
- Cottrell, C.A. & Neuberg, S.L. (2005). Different emotional reactions to different groups: A sociofunctional threat-based approach to “prejudice.” *Journal of Personality and Social Psychology*, 88(5), 770-789.
- Cuddy, A. J., Fiske, S. T., & Glick, P. (2007). The BIAS map: Behaviors from intergroup affect and stereotypes. *Journal of Personality and Social Psychology*, 92(4), 631.
- Dovidio, J.F., Brigham, J.C., Johnson, B.T., & Gaertner, S.L. (1996). Stereotyping, prejudice, and discrimination: Another look. In C.N. Macrae, C. Stanfor, & M. Hewstone (Eds.), *Stereotypes and stereotyping* (pp.276-319). New York: Guilford Press.
- Drew, P. & Holt, E. (1998). Figures of speech: Figurative expressions and the management of topic transition in conversation. *Language in Society*, 27(4), 495-523.
- Eagly, A.H. (1987). *Sex differences in social behavior: A social-role interpretation*. Hillsdale, NJ: Erlbaum.
- Eagly, A.H., & Crowley, M. (1986). Gender and helping behavior. A meta-analytic review of the social-psychological literature. *Psychological Bulletin*, 100, 283-308.
- Fredrickson, B. L., & Roberts, T. A. (1997). Objectification theory: Toward understanding women’s lived experiences and mental health risks. *Psychology of Women Quarterly*, 21, 173-206.
- Galinsky, A. D., & Glucksberg, S. (2000). Inhibition of the literal: metaphors and idioms as judgmental primes. *Social Cognition*, 18(1), 35-54.

- Gentner, D., & Bowdle, B. F. (2001). Convention, form, and figurative language processing. *Metaphor and Symbol*, 16, 223-247.
- Glick, P., & Fiske, S.T. (1996). The Ambivalent Sexism Inventory: Differentiating hostile and benevolent sexism. *Journal of Personality and Social Psychology*, 70, 3, 491-512.
- Glick, P., & Fiske, S. T. (1997). Hostile and benevolent sexism measuring ambivalent sexist attitudes toward women. *Psychology of Women Quarterly*, 21(1), 119-135.
- Glucksberg, S., Gildea, P., & Bookin, H.B. (1982). On understanding nonliteral speech: Can people ignore metaphors? *Journal of Verbal Learning and Verbal Behavior*, 21, 85-98.
- Glucksberg, S., Newsome, M. R., & Goldvarg, Y. (2001). Inhibition of the literal: Filtering metaphor-irrelevant material during metaphor comprehension. *Metaphor and Symbol*, 16, 277-293.
- Halupka-Res̃etar, S. (2003). Animal names used in addressing people in Serbian. *Journal of Pragmatics*, 35, 1891-1902.
- Haslam, N. (2006). Dehumanization: An integrative review. *Personality and Social Psychology Review*, 10(3) 252-264.
- Haslam, N., Bain, P., Douge, L., Lee, M., & Bastian, B. (2005). More human than you: Attributing humanness to self and others. *Journal of Personality and Social Psychology*, 89, 973-950.
- Haslam, N., Loughnan, S., Kashima, Y., & Bain, P. (2008). Attributing and denying humanness to others. *European Review of Social Psychology*, 19, 55-85.
- Hines, C. (1999). Foxy chicks and Playboy bunnies: A case study in metaphorical lexicalization. In Hiraga, Masako et al., (Eds.), *Cultural, typological and psychological perspectives on cognitive linguistics*. Amsterdam: Benjamins, 9-23.
- Kövecses, Z. (2002). *Metaphor: A practical introduction*. Oxford: Oxford University Press.
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago, IL: University of Chicago Press.
- Landau, M. J., Meier, B. P., and Keefer, L. A. (2010). A metaphor-enriched social cognition. *Psychological Bulletin*, 136, 1045 – 1067.
- López Rodríguez, I. (2007). The representation of women in teenage and women's magazines: Recurring metaphors in English. *Estudios Ingleses de la Universidad Complutense*, 15, 15-42.

- López Rodríguez, I. (2009). Of women, bitches, chickens and vixens: Animal metaphors for women in English and Spanish. *Cultura, Lenguaje y Representación / Culture, Language and Representation*, 7, 77-100.
- Loughnan, S., & Haslam, N. (2007). Animals and androids: Implicit associations between social categories and nonhumans. *Psychological Science*, 18, 116-121.
- Loughnan, S., Haslam, N., & Kashima, Y. (2009). Understanding the relationship between attribute-based and metaphor-based dehumanization. *Group Processes and Intergroup Relations*, 12, 6, 747-762.
- Martsa, S. (1999). On exploring conceptual structure of folk knowledge: The case of animal terms. *Linguistica e Filologia* 9: 73-88.
- Martsa, S. (2003). *Conceptual mappings in the ethnobiological categorization of animals*. Massachusetts: MIT Press.
- Moon, R. (1998). *Fixed expressions and idioms in English: a corpus-based approach*. Oxford: Clarendon Press.
- Nilsen, A. P. (1996). Of ladybugs and billy goats: What animal species names tell about human perceptions of gender. *Metaphor and Symbolic Activity*, 11(4), 257-271.
- Nussbaum, M. C. (1999). *Sex and social justice*. Oxford, UK: Oxford University Press.
- O'Brien, G. V. (2003). Indigestible food, conquering hordes, and waste materials: Metaphors of immigrants and the early immigration restriction debate in the United States. *Metaphor and Symbol*, 18, 33-47.
- Ortner, S. (1974). Is female to male as nature is to culture? In M. Z. Rosaldo & L. Lamphere (Eds.), *Woman, culture, and society* (pp. 68-87). Stanford, CA: Stanford University Press.
- Roseman, I., Wiest, C., & Swartz, T. (1994). Phenomenology, behaviors, and goals differentiate discrete emotions. *Journal of Personality and Social Psychology*, 67, 206-221.
- Rudman, L. A., & Borgida, E. (1995). The afterglow of construct accessibility: The behavioral consequences of priming men to view women as sexual objects. *Journal of Experimental Social Psychology*, 31, 493-517.
- Rudman, L. A., & Mescher, K. (2012). Of animals and objects: Men's implicit dehumanization of women and likelihood of sexual aggression. *Personality and Social Psychology Bulletin*, 20(10) 1-13.
- Russell, E. P. (1996). Speaking of annihilation: Mobilizing for war against human and insect enemies. *The Journal of American History*, 82(4), 1505-1529.

- Steuter, E., & Wills, D. (2010). The vermin have struck again: Dehumanizing the enemy in post 9/11 media representations. *Media, War, & Conflict*, 3(2), 152-167.
- Thibodeau, P.H., McClelland, J. L., & Boroditsky, L. (2009). When a bad metaphor may not be a victimless crime: The role of metaphor in social policy. In N. A. Taatgen & H. van Rijn (Eds.), *Proceedings of the 31st Annual Conference of the Cognitive Science Society* (pp. 809-814). Austin, TX: Cognitive Science Society.
- Vaes, J., Paladino, P., & Puvia, E. (2011). Are sexualized female complete human beings? Why males and female dehumanize sexually objectified women. *European Journal of Social Psychology*, 41, 774-785.
- Zajonc, R. B. (1998). Emotions. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology*, (4th ed., pp. 591–634). New York: McGraw-Hill.

Biography

Caroline Tipler graduated from Tulane University in 2011 with a Bachelors of Science in Psychology and a Bachelors of Arts in Philosophy. She entered the graduate program at Tulane University in 2011.