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Ethnocentrism and the Value of a Human Life

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Drawing on theories of intergroup prejudice and decision making, the authors examined how much participants valued lives of conationals and enemy civilians. Using decisions made under risk, Experiment 1 showed that Americans valued Iraqi and American lives equally when outcomes for those nations did not compete but valued American lives more under outcome competition. Experiments 2 and 3 extended this finding by illustrating ethnocentric valuation even when large numbers of lives were at stake: The number of lives at stake mattered less for enemy civilians than it did for conational combatants. Experiment 4 provided additional evidence of this ethnocentric indifference to magnitude, regardless of combatant status of the conationals' lives. In all experiments, individual difference measures associated with prejudice (e.g., group identification and prejudice, empathy, social dominance orientation, social attitudes) corresponded to ethnocentric valuation measured in decisions. Results demonstrate that categorization, competitive context, and individual propensities for prejudice influence how much one values lives.

Keywords: ethnocentrism, valuation of life, prospect theory, intergroup competition

How much is a human life worth?

This question is offensive in many ethical systems, particularly those that claim that all human lives have equal or incalculable value. Nonetheless, practically speaking, it is evident that people do not value all lives equally. Some categories of people appear to be more valued than others. For example, prosecutors seek the death penalty far more often for the murders of Euro-Americans than of African Americans (e.g., Paternoster, 1983). In principle, the value of protecting a given person's life can change with circumstances. For example, the Geneva Conventions prohibit attacking combatants who have laid down their arms but not those who have not. In practice, there are numerous examples in which people have apparently decided that some human lives are not worth protecting, such as those of the victims of Hurricane Katrina and the victims of the Janjaweed in Darfur. Moreover, deaths are *sought* in war and genocide, neither of which is uncommon. These examples suggest that people do make distinctions in whose lives they choose to value.

The present research considers two broad but separate psychological perspectives in examining the factors that influence how people determine the value of human life. First, group prejudice research explains *why* ethnocentric valuation might occur and also *when* it should be especially apparent. Second, decision-making research prescribes normatively *how* people value things, considering the magnitude and certainty of potential outcomes, such as the number of lives at stake and likelihood of survival. We therefore use prospect theory to understand the form that valuation should take, as well as to suggest methods for assessing valuation. We investigated whether ethnocentric valuation depends on standard intergroup relations factors, like group membership, intergroup competition, and prejudice. Because many intergroup conflicts involve large numbers of people rather than single individuals, we also examined whether the number of lives at stake would affect the valuation of human life.

We drew on the prejudice and decision-making perspectives because they both pertain to how people determine value, but they have largely independent traditions and some contradictory assumptions. The group prejudice literature has assumed that people's values, in the sense of their social attitudes and priorities concerning people, can be directly measured using self-report or implicit measures. Prejudice research also recognizes that individuals can differ stably in their values and can be influenced by their presumptions about the situation. To a large extent, social psychology assumes that social rather than egoistic motivations are typical (e.g., Caporael, Dawes, Orbel, & van de Kraght, 1989), that people normatively include others in their "scope of moral concern" (Bloom, 2004; Schwartz, 2007) and are motivated to include others in their sense of self (e.g., Aron et al., 2004), but they can also exclude others from their scope of moral concern (e.g., Opotow, 1990). In other words, the prejudice literature suggests that people care strongly about at least some others and that how people feel toward and identify with others and their other social priorities should have a strong influence on valuation. In contrast, the decision-making literature largely holds that each individual is interchangeable with the next, such that individual differences are random error, that values are not stable but rather are calculated in response to alternatives provided by experimenters (e.g., Kahneman & Tversky, 1979; Tversky & Simonson, 1993), and that people attempt to maximize self-interested utility (see Mellers, Schwartz, & Cooke, 1998, for a review). Nonetheless, both per-

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spectives offer theoretical predictions and methods that we thought could be usefully joined in understanding valuation, which might resolve or at least clarify some of their contradictions.

Group Prejudice and the Valuation of Human Life

Although ample evidence documents that people presume that members of stereotyped groups are the same as each other, express prejudice that demeans certain groups, and discriminate against particular groups in the allocation of social goods, research on stereotyping, prejudice, and discrimination has not directly measured how much people value the lives of others. Further, the fact that people may stereotype and express prejudice or discriminate for reasons having to do with their own motivations, such as to affirm the self (Fein & Spencer, 1997) or to reduce uncertainty (Mullin & Hogg, 1998), means that prejudice and discrimination may *not* stem from devaluing the lives of others. Nonetheless, this body of research suggests some of the processes that may influence valuation of lives. In particular, social categorization, competitive context, and individual differences in propensity for bias should all affect the valuation of human life.

People favor those in their own social categories, or ingroups, over people in other social categories, or outgroups, in their explicit prejudice (e.g., Sumner, 1906), implicit prejudice (e.g., Perdue, Dovidio, Gurtman, & Tyler, 1990), and allocation of resources (e.g., Brewer, 1979; Tajfel, Billig, Bundy, & Flament, 1971). A more severe form of ethnocentric bias is illustrated in the dehumanization of outgroup members (e.g., Haslam, 2006). As with prejudiced attitudes and resource discrimination, categorizing others as belonging to outgroups rather than to ingroups increases the likelihood that others are dehumanized. For example, Leyens et al. (2000) have demonstrated that people attribute more secondary emotions (e.g., love or guilt), an implicit measure of whether one assumes others are human, to their ingroup than they do to outgroups. People also disregard information that outgroup members experience secondary emotions (Gaunt, Leyens, & Sindic, 2004). However, because people do value nonhuman things, dehumanization metrics are not direct measures of prejudiced valuation. Hence, although the prejudice literature suggests that social categorization may lead to differential valuation of members of different groups, this has not been directly shown. Another question particularly important to the present work is whether this preference to favor members of one's own group persists when there are many rather than one or few lives at stake. Whereas a number of studies have investigated bias associated with group membership (e.g., the effect of perceived stereotypicality on death penalty verdicts, Eberhardt, Davies, Purdie-Vaughns, & Johnson, 2006; or the effect of group membership on monetary awards for wrongful death, Lenton, 2007), investigating whether group membership and the number of lives at stake influence valuation requires different methods (e.g., Fetherstonhaugh, Slovic, Johnson, & Friedrich, 1997; Levin & Chapman, 1990).

A second factor that increases prejudice or how much people prioritize some groups over others is intergroup competition. When benefits to the other group represent harms or losses to one's own group, people are especially likely to not only evaluate their own group more positively but also to denigrate and harm outgroups (e.g., Blake & Mouton, 1986; Campbell, 1965; Rabbie, Benoist, Oosterbaan, & Visser, 1974; Sherif & Sherif, 1953). The sense of threat that results from realistic group conflict or zero-sum competition produces hostility and active harm of outgroups (e.g., Levine & Campbell, 1972; Sherif, Harvey, White, Hood, & Sherif, 1961). Again, however, it is not known whether favoring ingroups under competition implies that outgroup lives themselves are assigned a lesser value.

Finally, certain individual psychological differences are reliable determinants of prejudice. For example, people low on empathy (e.g., Batson et al., 1997), high on ingroup identification (e.g., Sassenberg & Wieber, 2005; Struch & Schwartz, 1989), and high on the general preference for group dominance (e.g., Pratto, Sidanius, Stallworth, & Malle, 1994) are more likely to express prejudice against denigrated groups and group members. We might then expect people with these predispositions to differentiate in how much they value the lives of different group members.

In summary, research on the many processes involved in intergroup prejudice and discrimination implies that the lives of people in certain groups may be valued less than the lives of people in other groups are, especially when group outcomes are in competition, and especially by individuals with propensities for prejudice. However, relatively few studies have examined the valuation of human life, especially when large numbers of people rather than individuals are at stake. The present research examines these questions. To provide a framework of valuation and methods for measuring the valuation of life, we now turn to prospect theory.

Prospect Theory and the Valuation of Human Life

Prospect theory provides both conceptual and methodological contributions to the investigation of valuation of life. Conceptually, prospect theory suggests that people evaluate future possibilities or *prospects* relative to their current reference points (Kahneman & Tversky, 1979). In other words, how valuable possible outcomes seem depends partly on one's assessment of the current state of affairs. According to prospect theory, an S-shaped curvilinear value function describes how people weigh prospective outcomes in relation to the reference point. Prospective outcomes that are perceived as less favorable than the reference point are losses and prospective outcomes that are more favorable than the reference point are gains. Not surprisingly, people prefer gains to losses, prefer larger gains to smaller gains, and also want to avoid larger losses more than they do smaller losses. Overall, then, there is a monotonic relation between objective utility and subjective values.

Prospect theory, however, suggests that there is not a strictly linear relation between the magnitude of objective value (or utility) and the subjective value. The S-shaped value function describes two psychological biases in the valuation of prospective outcomes. First, the S-shaped slope is steeper for losses than it is for gains, which implies that losses are especially aversive. Thus, losing $5 brings more upset than finding $5 brings joy. Second, because the curves flatten out at high magnitudes of objective values, changes in objective values at large gains or losses change subjective valuation relatively little. For example, gaining $1,000 means substantially more if one is starting from nothing than if one is starting from $100,000. Hence, the value function is concave for gains but convex for losses and becomes flatter as gains and losses increase. Over 20 years of research on prospect theory has supported these basic arguments (Kahneman & Tversky, 2000). As

such, this S-shaped value function should be seen as typical for valuation, and deviations from this function imply that additional psychological biases are at work.

With respect to the valuation of life, the S-shaped value function postulated by prospect theory has two important implications. First, for both losses and gains, the curves flatten out as they move further away from the reference point, which implies that the psychological value of saving the first 5,000 lives at risk, for example, is greater than the value of saving the next 5,000 lives, and so forth, so that at large numbers, there is little additional psychological value to saving 5,000 lives. Similarly, the loss of the first 2,000 lives is more aversive than the loss of the next 2,000 is. Second, the steeper slope on the loss side compared to the gain side implies that it is more aversive to allow loss of life than it is desirable to save people's lives (Tversky & Kahneman, 1981). In the present article, we use the S-shaped value function as normative and therefore use this as a standard for comparison for how both ingroup and outgroup lives are valued. Thus, a finding that the S-shaped function fits for the ingroup but not for the outgroup could be viewed as a form of generalized ethnocentrism.

Prospect theory also suggests useful methods for assessing the valuation of life, namely decisions that require participants to weigh trade-offs between two attractive or two aversive options. One prominent method for assessing the predictions of prospect theory has been the use of the "Asian disease" problem (Tversky & Kahneman, 1981). In this problem, participants are asked to choose between two health policies designed to treat an outbreak of an unusual disease that is expected to kill 600 people. Both policies have the same expected values in terms of the number of lives that would be saved and lost. Whereas the expected consequences of one policy are described as certain and fixed, the expected consequences of the other policy are described as uncertain. Between participants, the choices are framed as losses or gains (i.e., either that 400 of the 600 will die, or that 200 of the 600 will live). By varying both certainty and "frame" (either loss or gain), the problem allows for a test of some of the basic predictions of prospect theory. To be precise, because losses are expected to be more aversive than gains are attractive, people are expected to tolerate uncertainty for losses but not tolerate uncertainty for gains. In fact, in the original disease problem, 78% of participants chose uncertain loss over certain loss, but 72% of participants chose certain gain over the uncertain gain (Tversky & Kahneman, 1981). This effect is called the risk-preference reversal. Experiments using the disease problem have shown that people do discriminate between groups in their valuation of lives in that they do not show risk-preference reversals to the same degree for different groups (e.g., AIDS patients vs. leukemia patients; Levin & Chapman, 1990, 1993; Wang, Simons, & Brédart, 2001), but the reasons for such discrimination are unclear. As prospect theory has no predictions about valuation outside utility for oneself, we integrate its predictions with insights from prejudice research concerning how people value others to consider how people value human lives.

Overview of Experiments

The present research draws on the intergroup relations and prospect theory literature to explore the valuation of human life and factors associated with ethnocentric valuation by observing what decisions people make when lives of conationals and enemy nations are at stake. Experiment 1 used a variation of Tversky and Kahneman's (1981) "Asian disease" problem but examined how people value lives of ingroups and outgroups both independently and when in competition. Experiments 2– 4 investigated the extent to which the normative S-shaped value function fit the valuation of lives of the ingroup and for the outgroup. Varying the number of lives at stake, therefore, allows us to test whether people "count" or value the lives of ingroup and outgroup members differently, and if so, how.

Our summary of the intergroup relations literature identified three factors that would lead people to value the lives of those in certain groups more than the lives of those in other groups: social categorization, intergroup outcome competition, and prejudicial tendencies. From this we derived three hypotheses: (a) People will value lives of ingroup members more than they will the lives of outgroup members (generalized ethnocentrism hypothesis), (b) ethnocentric valuation will be especially apparent when group outcomes are in competition (competition hypothesis), and (c) explicitly expressed values will correspond to the degree of ethnocentric valuation of lives (individual differences hypothesis). Finally, prospect theory suggests an additional hypothesis: (d) Lives that may be lost have more psychological value than lives that may be saved do (asymmetric valuation hypothesis).

Experiment 1: Are the Lives of In-Group and Out-Group Members Weighed the Same?

Experiment 1 used a replication of Tversky and Kahneman's (1981) disease experiment to test the extent to which group membership, competition, and the potential to lose or gain (save) lives influence the valuation of life. All participants were put in the mind of public health officials, whose job it is to protect public health. Specifically, Americans were asked to weigh prospects for an outgroup (Iraq) and an ingroup (United States) either when outcomes were said to be in competition or when they were not. Finally, policy consequences were framed as either losses (deaths) or gains (lives saved). All participants chose between policies described as having certain or uncertain outcomes, each with an expected value of 400 deaths out of 600 lives at risk.

The asymmetric valuation hypothesis implies that losing lives is more aversive than saving lives is attractive, so the preference for certainty should be stronger in the gain-frame condition than in the loss-frame condition. One way that participants could exhibit generalized ethnocentrism is if they are more indifferent about risks for the outgroup than they are for the ingroup, or instead prefer certain losses over certain gains for the outgroup. In other words, showing the risk-preference reversal to a different degree for outgroups considered alone than for ingroups considered alone would show ethnocentrism and would be evidenced in the certainty by frame by nation interaction. Our third hypothesis was that ethnocentrism would be more pronounced in a competitive context compared to when group outcomes were described as independent (competition hypothesis). Thus, we expected that in the competitive context, participants would prefer certain loss of life for the outgroup to uncertain loss of life for the ingroup and would prefer uncertain saving of lives for the ingroup to certain saving of lives for the outgroup, in contradiction of the standard risk-preference reversal effect. Finally, we expected scores on an anti-Arab scale and prowar scale to correspond with ethnocentric decision-making (individual difference hypothesis).

Design

All participants were asked to decide between certain and uncertain policies concerning a public health crisis in which 600 lives were at stake. Participants were randomly assigned to the 2 (frame) by 3 (group context) between-participants design. Certain and uncertain choices were offered within the loss or gain frame. Group context determined the group(s) about whom participants made choices: Americans only (ingroup condition), Iraqis only (outgroup condition), or Americans and Iraqis whose outcomes were in competition (competition condition). In the ingroup condition, Tversky and Kahneman's (1981) instructions were modified to make the national reference explicit and read the following:

> Imagine that American public health officials are preparing for outbreak of an unusual Asian disease in the United States, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimates of the consequences are as follows.

In the policy descriptions, lives were described as "American." In the outgroup condition, instructions were modified to read that "Iraqi public health officials" were planning for the disease to strike "Iraq," and the estimates of losses and gains were described in terms of "Iraqi" lives. In the intergroup competition condition, "U.N. World Health Organization public health officials" were preparing for the outbreak of a disease in the United States and Iraq. In all conditions, 600 people were expected to die. For both the ingroup (American) and outgroup (Iraqi) conditions, respectively, the choices within the loss frame were between policies with the following consequences: (a) 400 Americans/Iraqis will die, or (b) there is a 1/3 probability that no Americans/Iraqis will die and a 2/3 probability that 600 Americans/Iraqis will die. Participants in the gain-frame condition chose between (c) 200 Americans/Iraqis will be saved, and (d) there is a 1/3 probability that 600 Americans/Iraqis will be saved and a 2/3 probability that no Americans/Iraqis will be saved.

In Tversky and Kahneman's (1981) experiment, about three quarters of participants in the loss-frame condition chose the uncertain outcome (people possibly dying), whereas about three quarters in the gain-frame condition chose the certain option (saving lives for sure). To test whether ethnocentrism modifies valuation processes specified by prospect theory, the prospects in the competition condition were described as certain for Iraqis and uncertain for the Americans. That is, in the competition condition, the loss-frame choices were (a) 400 Iraqis will die, and (b) there is a 1/3 probability that no Americans will die and a 2/3 probability that 600 Americans will die. In the gain frame, choices were (c) 200 Iraqis will be saved, and (d) there is a 1/3 probability that 600 Americans will be saved and a 2/3 probability that no Americans will be saved. Participants' choices of policies with certain or uncertain outcomes were measured within the frame (loss/gain) by group context (ingroup only/outgroup only/intergroup competition) between-participants design.

Method

Participants. Eighty-seven American undergraduates in advanced psychology courses participated during class time on February 27 and 28, 2003, 2 weeks prior to the U.S. invasion of Iraq. They were not compensated.

Procedure and measures. Participants checked which policy they preferred, then described themselves in demographic terms. They then rated (from 1 = *strongly agree* to 7 = *strongly disagree*) how strongly they disagreed or agreed with 11 statements concerning Arabs that had correlated with attitudes toward the 1991 Gulf War against Iraq in previous research (Pratto, Stallworth, & Conway-Lanz, 1998). In addition, 15 statements assessed their support for the impending war in Iraq. Items and reliabilities are shown in Appendix A. Support for the impending war correlated positively with scores on the anti-Arab scale ($r = .35$, $p = .001$).

Results

We examined participants' policy choices as a function of frame and group context. Because there are three categorical variables (frame and group context, the independent variables; policy choice, the dependent variable), the relations among them must be analyzed using hierarchical log-linear analysis (e.g., Feinberg, 1981). Hierarchical log-linear analysis showed a reliable three-way association among frame, group context, and the choice participants made, likelihood ratio $\chi^2(2, N = 86) = 16.09$, $p < .0005$. As Figure 1 shows, the standard prospect-theory finding, in which more people prefer uncertain losses (a possibility of loss of life) over certain losses (certain loss of life) and certain gains (certain lives saved) over uncertain gains (not saving life for sure), was evidenced in both conditions in which participants considered a single nation only, whether it was the United States or Iraq. Indeed, the frame by choice association in these two conditions alone was the only reliable effect, partial $\chi^2(1, N = 58) = 18.61$, $p < .0001$. However, in the competition condition there was a distinctly different pattern. In the loss condition, 85% of participants preferred certain loss of life for Iraq as opposed to possible (uncertain)

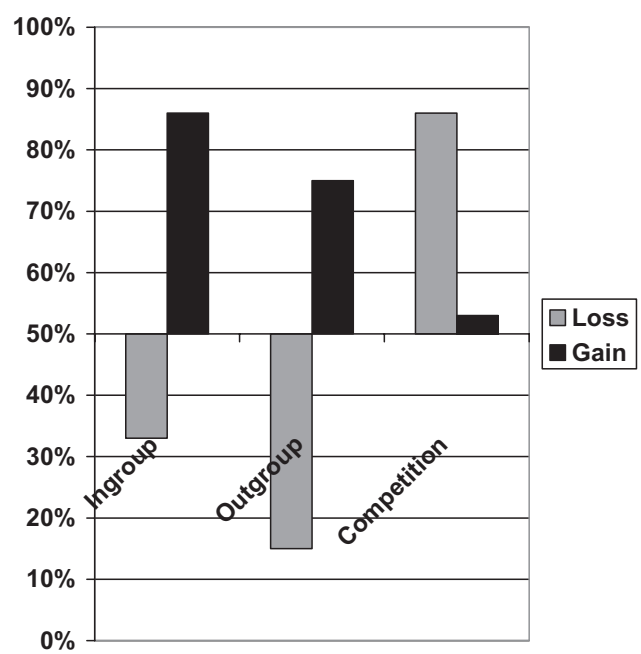

Figure 1. Percent of participants choosing certain outcomes by frame, group context, and nationality (Experiment 1).

loss of life for the United States, showing ethnocentrism rather than standard valuation of life, or what is commonly termed *risk-aversion*. In the gain condition, participants were virtually evenly divided between certain gains (save lives for sure) for Iraq (53%) and uncertain gains for the United States (possibility of saving lives), indicating an ethnocentric shift away from the usual preference for certain gains (saving lives for sure).

Participants were not generally ethnocentric in that they apparently evaluated Iraqi lives considered alone in the same way they valued U.S. lives considered alone. However, these results show that one of prospect theory's most robust findings, the risk-preference reversal indicating asymmetric valuation for losses and gains, was limited to conditions in which groups' prospects did not compete. Under competition, and especially when considering losses, most participants were ethnocentric. Hence, these results are consistent with the competition hypothesis.

To test whether the individual-difference measures corresponded to the ethnocentric valuation shown in decisions, we examined the association between the war and anti-Arab scales with loss or gain frame, group context, and choice using repeated-measures analysis of variance (ANOVA). Measure (support for the war or anti-Arab scale) did not interact with any effects, and the pattern of means for the prowar and anti-Arab scales was similar (see Table 1). There was a group context main effect, $F(2, 74) = 4.97$, $p < .009$, partial $\eta^2 = .12$. Prejudice averaged across both measures was lowest in the ingroup context, suggesting that both conditions in which participants considered the prospects of Iraqis increased explicit group prejudice. There was more prejudice among those making certain rather than uncertain choices, $F(1, 74) = 4.05$, $p < .05$, partial $\eta^2 = .05$. This is possibly because more prejudiced people generally prefer certainty to ambiguity (e.g., Jost, Glaser, Kruglanski, & Sulloway, 2003; Wilson, 1973).

In addition, there was a reliable three-way interaction, $F(2, 74) = 5.91$, $p < .04$, partial $\eta^2 = .14$. In the ingroup context, the participants who chose uncertain gains for the United States rather than certain gains for Iraq were less prejudiced than participants in all other conditions were (see post hoc comparisons in Table 1). Rather than saving certain American lives, these participants preferred to try to save all the lives at stake. This may indicate that their antiprejudicial orientation extends to including any life at risk. In the outgroup context, those who chose certain losses, that is, certain deaths for Iraqis, were more prejudiced than were those in all other conditions. In the competition condition, those who chose uncertain losses for Americans rather than certain losses for Iraqis were reliably lower in prejudice than participants in the other conditions were. Under competition, then, only the least prejudiced individuals would risk losses to their ingroup. These results are consistent with the individual differences hypothesis.

Discussion

The results of Experiment 1 reveal the causal role of intergroup competition on the valuation of human life. When there was no overt intergroup competition, people valued the lives of the ingroups and outgroups equally. Given that the United States and Britain were openly preparing to make war on Iraq as this experiment was conducted, the fact that participants similarly evaluated the prospects of Iraqis considered alone and American lives considered alone shows that ethnocentric valuation is not a given. In the single-nation conditions, participants valued ingroup and outgroup lives equally and had the same reference point of zero deaths for each (so they did not presume that outgroup deaths would occur). The correspondence of explicit values to decisions in these conditions further suggests that nonethnocentric valuation may be due to individual differences. The results from the intergroup-competition condition, however, indicate that people's presumptions about the intergroup situation must be considered in how people value human lives. Consistent with other findings in the intergroup relations literature, intergroup competition produced the most ethnocentrism.

As Experiment 1 used a simple replication of a well-known decision problem, the results are informative when compared against previous effects. However, there are problems interpreting results from Tversky and Kahneman's (1981) standard disease problem, such as using two data points to model the S-shaped

Table 1
Mean Ratings of Attitudes Toward War on Iraq and Anti-Arab Attitudes by Frame and Group Context (Experiment 1)

		Group context		
Frame	Choice	Ingroup (U.S.)	Outgroup (Iraq)	Intergroup competition (Iraq vs. U.S.)
Support for war against Iraq				
Loss	Certain	3.76_a	5.22_b	4.44_a
	Uncertain	3.91_a	4.08_a	3.03_b
Gain	Certain	3.63_a	3.73_a	3.95_a
	Uncertain	2.25_b	4.56_a	4.20_a
Total		3.41	3.89	3.95
Anti-Arab attitudes				
Loss	Certain	3.47_a	4.41_b	3.77_a
	Uncertain	3.79_a	3.87_a	3.00_b
Gain	Certain	3.99_a	3.61_a	3.76_a
	Uncertain	3.14_b	3.98_a	3.55_a
Total		3.77	3.82	3.66

Note. Attitude items were rated from 1 (*strongly disagree*) to 7 (*strongly agree*). Items and reliabilities are shown in Appendix A. Within a group context, means with different subscripts differ at $p < .05$.

function postulated by prospect theory (Kühberger, 1995; Mandel, 2001). Although we find it difficult to interpret the results of the competition context as anything other than ethnocentric, the generality of such an effect for other magnitudes of lives is unknown because we did not examine a range of lives at stake. The remaining experiments employed a new method to consider ethnocentric valuations that avoids the drawbacks of the standard disease problem. More importantly, the new method allows us to consider the importance of the number of lives at stake in valuation. Varying the number of lives at stake is significant not only for mapping the predicted valuation stipulated by prospect theory but also because it is often overlooked in studies of intergroup bias.

Experiment 2: Preference Curves for Lives of Ingroups and Outgroups

Experiment 2 was designed to provide a stronger test of ethnocentrism by mapping valuation of life onto the S-shaped value function postulated by prospect theory. We followed Mandel's (2001, p. 73) admonition that to discern the shape of any value function, "one must plot subjective values for a range of utility values." As such, Experiment 2 used a new method for assessing whether people value lives of the ingroup and outgroup differently under intergroup competition. To test whether the asymmetric S-shaped preference curve postulated by prospect theory is equally applicable for both ingroups and outgroups, we had participants indicate their preferences concerning decisions that varied the number of lives at stake for each group, across four magnitudes of lives. Decision scenarios pitted lives for one nation against a material outcome for the other nation as a kind of "taboo trade-off" (Fiske & Tetlock, 1997). The repeated-measures design provides a more sensitive measure of each participant's values than single dichotomous decisions do.

Experiment 2 again tested whether relevant individual-difference measures were related to participants' valuation of life in their decisions. We assessed three extremely robust general predictors of prejudice: right-wing authoritarianism (e.g., Altemeyer, 1981), social dominance orientation (Pratto et al., 1994) and political-economic conservatism (e.g., Jost et al., 2003). In addition, we assessed strength of religious identification. We also measured items assessing approval of war tactics that violate or do not violate international humanitarian law. We expected those higher on these orientations to show stronger preferences for protecting ingroup rather than outgroup lives.

Method

Design. Within participants, the design was a 2 (group: ingroup vs. outgroup) by 2 (loss-gain: loss or gain) by 4 (number of lives) factorial, resulting in 16 decisions for each participant. Experiment 2 also used a different outgroup, Afghanistan, to compare to the relevant ingroup, the United States. The violent international context in which these experiments were conducted enabled us to plausibly postulate that lives ranging from 20 to 200,000 could be lost or saved by the policies chosen. We varied the lives at stake among four levels: 20 lives, 1,000 lives, 10,000 lives, and 200,000 lives. Each decision pitted a policy concerning some number of lives for one nation (the United States or Afghanistan) against a policy with some material consequence for the other nation. To make clear that the intergroup competition was not directly an aspect of military battles, the Afghan lives were specified to be civilians. Loss and gain also varied between decisions. Thus, for example, one loss question asked participants to choose between "a loss of 20 American lives" (lives lost for the United States) and an "increase in grocery prices in Afghanistan" (a material loss for Afghanistan). One of the gain questions asked participants to choose between "saving 1000 Afghan civilian lives" (protecting Afghan lives) and "a decrease in grocery prices in the U.S." (material gain for the United States). Participants were asked which policy option they would prefer. Four different forms of the questions counterbalanced each material outcome against each number of lives between participants and the order of loss and gain questions. Neither the specific material good nor question order influenced the results.

Participants and procedure. Fifty-five American undergraduates completed individual anonymous questionnaires in May of 2002, while their nation was at war in Afghanistan. They received credit toward an introductory psychology course in exchange for participating. Participants indicated their decisions before completing demographic, values, and attitudes questions.

Materials. Given that the United States and Afghanistan have profoundly different standards of living, the material goods for the two nations were not identical. However, the material goods for the two nations were chosen to be as comparable and consequential as plausible. The material goods for the United States included the following: decrease or increase in gasoline prices, economic growth or recession, lower or higher grocery prices, and jobs created or lost. The material goods for Afghanistan included a gain or loss of shelter for the majority of Afghani civilians, economic growth or further damage to Afghanistan's economy, gain or loss of adequate healthcare for a majority of Afghani civilians, and adequate food supplied or malnutrition for an additional 500,000 Afghanis. Two material goods were similar for each nation: general economic conditions and food availability.

Individual difference measures. Participants completed 6 items describing the strength of their religious identification (e.g., "How strongly do you identify with other members of your religious community?," "How important is your religion to your identity?"; $\alpha = .93$), 10 items from the 30-item Right-Wing Authoritarianism Scale ($\alpha = .67$; Altemeyer, 1981), the 16-item Social Dominance Orientation Scale (Pratto et al., 1994; $\alpha = .85$), and provided self-ratings, on a scale from 1 (*very liberal*) to 7 (*very conservative*), on "general issues," "economic issues," "foreign policy issues," "domestic political issues," and "religious issues," which were averaged to form a liberal-conservatism scale ($\alpha = .74$). Authoritarianism correlated with religious identification ($r = .32$, $p = .03$) and with conservatism ($r = .43$, $p = .001$), but social dominance orientation correlated with none. Participants also rated how legitimate they felt eight activities were during the conduct of war. Principal components analysis yielded two factors accounting for 34% and 26% of the variance, respectively. The first component included conventional war tactics; the second component included illegal war tactics (e.g., torture; see items and loadings in Appendix B). The four conventional-tactics items made a reliable scale ($\alpha = .79$), as did the four illegal tactics items ($\alpha = .74$).

Results

Figure 2 shows the percent of participants who chose to either save lives or to allow deaths as a function of how many lives were

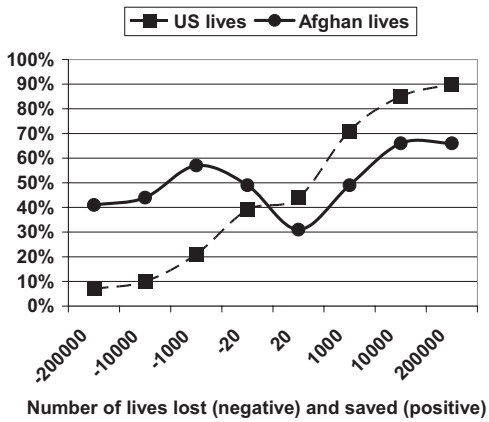

Figure 2. Percent of participants choosing the option to protect lives by nation and number of lives at stake (Experiment 2).

at stake and the nationality of the lives at stake. The preferences are consistent with the predicted S-shaped curve hypothesized by prospect theory. However, the curves distinctly differ for the lives of the Americans versus Afghanis. Indeed, the number of lives at stake was far more consequential for decisions concerning ingroup lives than it was for outgroup lives.

Model-testing for decisions. To test our hypotheses, we used multiple regression to predict the percent of participants choosing the life outcome (rather than the material option) as a function of the nationality of the lives and the number of lives at stake. Thus, the outcome was the decision to save lives, irrespective of loss–gain contrast (save lives in gain-frame conditions and avoid loss of life in loss-frame conditions). Using the 16 decisions for each of the four forms of questionnaires yielded 64 percentages to predict. One reason for using the new method for Experiment 2 was to better model the S-shaped function postulated by prospect theory. To model the S-shaped curve, preferences should be a function of both the linear and cubic number of lives at stake in the decision.[1] The regression weight for the linear lives component essentially tests whether preferences depend linearly on number of lives when each life counts the same as the next; its *t*-test indicates whether the slope differs from zero. The regression weight for the cubic function tests prospect theory's presumption that large numbers of lives would not change preferences as much as small numbers of lives would.

To test whether the same S-shaped value function holds equally well for both nations, we added interaction terms of nation by lives and nation by lives cubed. The strength of ethnocentrism could be shown in at least two patterns of decision preferences, both of which would be indicated by reliable interactions. First, if participants show a weaker preference to save lives and to avoid loss of life for the outgroup compared to the ingroup, weak ethnocentrism in the form of indifference would be found. Second, if participants do prefer protecting lives for the ingroup, but also prefer *not* protecting lives for the outgroup, strong ethnocentrism would be found.

Prospect theory suggests that lives lost should be more aversive than lives saved. To test whether the value function was steeper for lives lost than it was for lives saved, we also created interaction terms that contrast gains (lives saved) and losses (lives lost) for lives and lives cubed (the terms used to model the S-shaped function). These interaction terms indicate whether the S-shaped function slopes are steeper for losses (lives lost) than they are for gains (lives saved), as predicted by prospect theory. We tested for generalized ethnocentrism by testing the interactions of lives and lives cubed (S-shaped model terms) and nation. Reliable effects for such terms would indicate that the normative S-shaped function specified by prospect theory was not equivalent when the lives were American versus Afghan. Because some of the predictor terms are products of other terms, we used hierarchical regression, entering the simplest terms first, such that the terms entered later would produce regression weights independent of their simpler components. Ultimately, though, we were interested in the results from the final step of the regression, which tests the following: (a) how much preferences relate to the number of lives at stake, (b) whether the value function depends on whether the lives were gained or lost, and (c) whether this value function depends on the nationality of the lives.

In the first step of the regression, we entered loss–gain contrast, which differentiates saving lives from losing lives categorically. Not surprisingly, it was reliable ($B = 12.6$), $t(62) = 4.26$, $p < .001$, with the sign indicating a preference for saving lives. On the second step, we entered nation, which was not reliable ($p = .24$). On the third step, we entered the number of lives at stake and the number of lives cubed; both were reliable at $p < .001$ and in the directions expected. In other words, not only whether lives were lost or gained (saved) but the *number* of lives at stake influenced participants' preferences, approximating the S-curve. Moreover, once number of lives and lives cubed were included, the loss–gain contrast was not reliable ($p = .83$). This indicates that it is not simply whether lives were lost or saved but how many lives were at stake that influenced participants' decisions. On the fourth step, we tested for asymmetric valuation by entering interactions contrasting loss–gain for lives and lives cubed. Neither of these interactions was reliable (ps $= .20$). On the fifth step, we entered the interactions of nation with lives and nation with lives cubed to test whether the steepness of the curves differed by nation. As expected, both terms were reliable (ps $< .003$), indicating participants' valuation of lives depended on whose lives were at stake. The directions of the curves and the steeper slopes for U.S. than for Afghan lives indicate that the number of lives at stake influenced preferences more for U.S. lives than it did for Afghan lives. On the sixth step, we entered the three-way interactions of nation, loss–gain contrast, and lives, as well as nation, loss–gain contrast, and lives cubed, which tested whether ethnocentrism was more pronounced for losses or gains. Neither was reliable (ps $= .85$).

Table 2 shows the regression results using the reliable predictors. The regression accounted for 56% of the variance ($R = .747$). In sum, as Figure 2 shows, participants' preferences showed an S-shaped value curve, but more so for American than for Afghan lives. The size of the regression weights for each nation (see

[1] Other researchers have assumed that the prospect theory curve can be described as $y = v^a$ for gains and by $y = -l(-v)^b$ for losses, but they typically do not statistically model the fit of such curves. We felt it was simpler and a more rigorous test of the hypothesis to use regression as described in the text. We regressed the linear effect out of cubic terms so that the linear and cubic effects would be independent. Including lives-squared terms would not make the function monotonic as quadratic terms are parabolic.

Table 2
Reliable Results From Regression on Percent of Participants Choosing Outcomes Affecting Lives as a Function of Number of Lives, Number of Lives Cubed, and Their Interactions With Nation (Experiment 2)

Effect	*B*	β	*t*	*p*
Constant	48.45		21.05	.001
Lives	.002	9.39	5.39	.001
Lives cubed	-5.87×10^{-14}	−8.87	−5.09	.001
Nation × Lives	.001	5.58	3.20	.002
Nation × Lives Cubed	-3.52×10^{-14}	−5.31	−3.05	.003
Predicted percent participants for U.S. lives	$48.45\% + .003 \times (\text{lives}) - 9.39 \times 10^{-14} \times (\text{lives}^3)$			
Predicted percent participants for Afghan lives	$48.45\% + .001 \times (\text{lives}) - 2.35 \times 10^{-14} \times (\text{lives}^3)$			

Note. Nation was coded as 1 = U.S., −1 = Afghanistan. The loss–gain contrast had no reliable effect and did not reliably interact with the other variables. $df = 59$.

bottom of Table 2) demonstrates that preferences concerning American lives were much more strongly related to the number of lives at stake than preferences concerning Afghan lives were. Thus, when outcomes for the outgroup and ingroup were in competition, the hypothesized S-shaped value function, which prospect theory posits is normative, applied more for ingroup lives than it did for outgroup lives.

Individual differences. To construct a metric for assessing differences among participants in decisions, we totaled the number of choices (out of four) that each participant made to save lives and to allow deaths for each nation.[2] We then correlated these four decision indices with self-reported political values. Authoritarianism, conservatism, and religious identification did not correlate with ethnocentric valuation. However, social dominance orientation correlated positively with the number of decisions to allow Afghans to die ($r = .44$), negatively with the number of decisions to save Afghans' lives ($r = -.36$), and negatively with the number of decisions to allow Americans to die ($r = -.36$, all ps $< .01$).

Scores on the conventional war tactics factor correlated negatively with the number of decisions made to allow Americans to die ($r = -.32$, $p < .05$). Scores on the illegal war tactics factor correlated with all four decisions: positively with allowing Afghans to die ($r = .30$) and saving American lives ($r = .28$) and negatively with saving Afghan lives ($r = -.36$) and allowing Americans to die ($r = -.33$, ps $< .05$). Social dominance orientation was uncorrelated with scores on the conventional factor ($r = -.08$) but correlated with scores on the illegal factor ($r = .38$, $p < .01$). When controlling for social dominance orientation, only one of the correlations between decisions and factor scores held, whereas all correlations between social dominance orientation and decisions held when controlling for scores on the unconventional tactics factor.

Discussion

Experiment 2 extends the results of Experiment 1 by examining a range of lives at stake. Experiment 2 showed an ethnocentric indifference to magnitude in that participants were relatively indifferent to the magnitude of lives lost or saved for the outgroup compared to the ingroup. There was no substantial change in the proportion of participants protecting Afghan lives when between 10,000 and 200,000 lives were at stake. It is as though participants counted Afghans with a large or crude unit in which the number of "many" was immaterial. In contrast, when considering American lives, preferences changed between 10,000 lives at stake and 200,000 lives at stake. Although people have difficulty responding to large orders of magnitude and might even grow indifferent to problems affecting large numbers of people (Fetherstonhaugh et al., 1997), our participants discriminated among large magnitudes when considering the ingroup but did not do so for the outgroup.

Though it used a very different method than Experiment 1, Experiment 2 replicated the results of Experiment 1. Within a competitive context, participants showed a strong ethnocentric valuation of lives, and in particular, more indifference to the number of lives lost or saved for the outgroup. We again found evidence that prejudice-related psychological orientations were associated with the valuation of life. People who favored group dominance and people who were more tolerant of illegal war tactics were more ethnocentric in the valuation of life. Contrary to the asymmetric valuation hypothesis predicted by prospect theory, the curves were not steeper for losses (lives lost) than they were for gains (lives saved). Across a broad range of numbers of human lives, the results of the first two experiments provide evidence that a competitive context, as well as individual propensities for prejudice, affect the valuation of life. Moreover, of particular importance to the present work, Experiment 2 provides initial evidence that ethnocentric valuation occurs even when a large number of lives is at stake. Experiment 3 sought to replicate these effects.

Experiment 3: Preference Curves for U.S. and Iraqi Lives in Competitive Contexts

Experiment 3 was conducted to test the robustness of the ethnocentric indifference to magnitude effect. To allow for a more sensitive measure of individual preferences, we had participants in Experiment 3 rate how much they preferred one policy over another. In Experiment 3, we also assessed ingroup identification, which has been shown to be associated with both favoritism

[2] We also calculated the number of American and Afghan lives each participant chose to save and to allow to die, but this number highly weights the decisions about 200,000 lives and so the number of decisions seems the preferred metric.

toward ingroups (e.g., Brewer, 1979) and with denigration of outgroups (e.g., Kessler & Mummendey, 2001).

Method

Design. The design was identical to that of Experiment 2 except that Iraqi civilians instead of Afghani civilians were used for the outgroup. Participants rated preferences between an outcome for lives for one nation and a material outcome for the other nation on a scale from 1 (*strongly prefer one option*) to 6 (*strongly prefer other option*). As in Experiment 2, for each pair of decisions (lives and material outcome), both options were either losses or gains. Once again, the particular material outcome that was paired with each life option was counterbalanced between participants. The results did not differ by material outcome.

Procedure and participants. Participants completed measures in groups and worked at their own pace, anonymously. One hundred seventeen American undergraduates received partial credit toward a psychology course requirement in exchange for participating in November, 2002.

Individual-difference measures. After indicating their policy preferences, participants completed the 16-item Social Dominance Orientation Scale (Pratto et al., 1994; $\alpha = .86$). Ingroup identification was assessed using three items ($\alpha = .87$) rated from 1 (*not at all* or *very dissimilar*) to 7 (*very strongly* or *very similar*): "How strongly do you identify with the U.S.?" "How close do you feel toward the U.S.?" and "How similar or dissimilar are you compared with Americans in general?" Scores on these items factored into one scale, which did not correlate with social dominance orientation ($r = .11$, *ns*).

Results

We coded the continuous preference measure such that higher numbers reflected preference for the policy concerning lives. Thus, like Experiment 2, the outcome was the decision to protect lives.

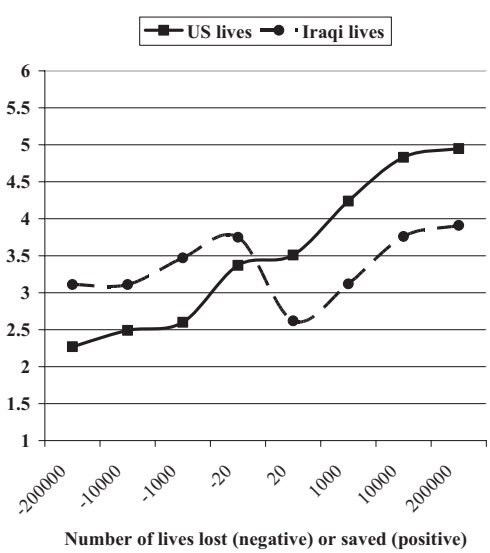

Figure 3. Mean preference to protect lives as a function of nation and number of lives at stake (Experiment 3).

Figure 3 shows the mean preferences to protect lives as a function of the nation and number of lives at stake. Clearly, participants' preference to save lives was stronger for Americans and weaker for Iraqis, and their preference not to lose lives was also stronger for Americans than it was for Iraqis.

To control for shared variance within participants, we conducted regressions on each participant's 16 preferences separately. This produced a set of regression weights for each participant indicating how much each independent variable (e.g., lives, lives cubed) influenced that participant's preferences. For each participant then, the regressions indicate how much the number of lives and nation influenced his or her preferences. To test for the robustness of the effects in the sample, we tested whether the average regression weight across participants for a given effect differed from zero. We also examined whether self-reported individual differences corresponded to how much their decisions differentiated valuation of American and Iraqi lives. This was done by correlating participants' individual difference scores with participants' ethnocentric regression weights (lives by nation, lives cubed by nation).

Model specification for preferences. As in Experiment 2, we expected participants to prefer saving lives to losing them, resulting in a loss–gain contrast effect. The first step of the regression showed a reliable loss–gain contrast (average $B = .423$), $t(116) = 7.35$, $p < .001$, and also an effect for nation (average $B = .086$), $t(116) = 2.33$, $p < .05$, implying a stronger preference to save ingroup lives over outgroup lives.

On the second step, we entered the lives and lives cubed variables, which model the S-shaped function (Table 3 shows the regression results averaged over all participants). The positive slope for number of lives indicates that participants' preference to protect lives was stronger when more lives were at stake. The negative slope for lives cubed indicates that the linear function flattened out at large numbers of lives. Asymmetric valuation was tested by entering interactions between loss–gain and lives and between loss–gain and lives cubed on the third step. Both interactions were reliable on average, with signs indicating steeper slopes for gains than for losses. The results reveal that participants' preference to save lives rather than to lose them was stronger when more lives were at stake, but this effect, overall, flattened out at large numbers of lives (see predicted preference equations at the bottom of Table 3).

Ethnocentrism was tested at the fourth step by entering interactions that included nation with the two terms used to model the S-shaped model: nation by lives and nation by lives cubed terms. As expected and as shown in Figure 3, both these interactions were reliable on average, indicating that the S-shaped curve was more evident for U.S. lives than it was for Iraqi lives. The magnitudes of these differences are shown in the predicted preference equations at the bottom of Table 3. Consistent with Experiment 2, the valuation curve for ingroup lives strongly mimicked the normative S-shaped curve postulated by prospect theory. However, the valuation curve for outgroup lives was markedly flatter, indicating relative indifference to the number of outgroup lives at stake. Between 10,000 and 200,000 Iraqi lives lost or gained, the average preference hardly deviated from indifference (3.5), ranging from 3 to 4 on the scale. Finally, the three-way interactions were not reliable.

Individual differences and decision preferences. We expected that higher levels of social dominance orientation and higher levels

Table 3
Results From Regressions for Each Participant on Preference Rating as a Function of Loss–Gain Contrast, Nation, Number of Lives at Stake, Number of Lives Cubed, Nation, and Their Interactions (Experiment 3)

Effect	Average *B*	Average β	*t*(116)
Constant	3.32		64.14***
Nation	0.086	.050	2.33*
Loss–gain contrast	−0.015	−.009	−0.20
Number of lives	4.61×10^{-6}	.268	10.83***
Lives cubed	-1.86×10^{-15}	−.216	−9.26***
Lives × Loss–Gain Contrast	1.25×10^{-6}	.062	3.74***
Lives Cubed × Loss–Gain Contrast	-5.29×10^{-16}	−.052	−3.18**
Lives × Nation	2.45×10^{-6}	.142	5.92***
Lives Cubed × Nation	-1.11×10^{-15}	−.129	−5.25***
Lives × Loss–Gain Contrast × Nation	-2.24×10^{-7}	−.013	−0.65
Lives Cubed × Loss–Gain Contrast × Nation	-3.30×10^{-17}	−.004	−0.17

Nation	Loss–gain condition	Predicted preference
U.S.	Gain	$3.41 + 8.31 \times 10^{-6} \times (\text{lives}) - 3.03 \times 10^{-15} \times (\text{lives}^3)$
Iraq	Gain	$3.23 + 3.41 \times 10^{-6} \times (\text{lives}) - 0.80 \times 10^{-15} \times (\text{lives}^3)$
U.S.	Loss	$3.41 + 5.81 \times 10^{-6} \times (\text{lives}) - 2.92 \times 10^{-15} \times (\text{lives}^3)$
Iraq	Loss	$3.23 + 0.91 \times 10^{-5} \times (\text{lives}) - 0.70 \times 10^{-15} \times (\text{lives}^3)$

Note. Preferences were rated 1 to 6. Nation was coded as U.S. = 1, Iraq = −1. Loss–gain contrast was coded as gain = 1 and loss = −1, *df* = 116. In the regression, loss–gain contrast and nation were entered on the first step, at which loss–gain contrast was a reliable effect ($B = 0.423$, $t = 7.35$, $p < .001$).
* $p < .05$. ** $p < .01$. *** $p < .001$.

of identification with the ingroup would correspond with more ethnocentrism in the valuation of life. To test this hypothesis, we regressed each participant's ethnocentric decision indicators (their regression weights for the lives by nation interaction and for the lives cubed by nation interaction) on participants' social dominance orientation scores and ingroup identification scores entered together. Social dominance orientation reliably predicted the size of ethnocentric valuation or preference to favor ingroup lives over outgroup lives, as indicated by the lives by nation ($\beta = .24$), $t(116) = 2.83$, $p < .01$, and the lives cubed by nation ($\beta = -.17$), $t(116) = -1.95$, $p < .05$, regression weights, respectively. In other words, the higher a participant's social dominance orientation level, the more that participant differentiated between U.S. and Iraqi lives. Likewise, ingroup identification simultaneously predicted the size of the lives by nation regression weight ($\beta = .31$), $t(116) = 3.63$, $p < .001$, and the lives cubed by nation regression weight ($\beta = -.29$), $t(116) = 3.23$, $p < .001$. As expected, none of the other decision regression weights were related to participants' levels of social dominance orientation and American identification.

The magnitude of differences between those low and high on social dominance orientation on ethnocentric valuation can be shown by comparing the predicted preferences of a high-prejudiced person (a participant 1 standard deviation above the means on social dominance orientation and on ingroup identification) with a low-prejudiced person (a participant 1 standard deviation below the means on social dominance orientation and ingroup identification; Aiken & West, 1991). As Figure 4 illustrates, the predicted preferences for a high-prejudiced participant indicate that there was a strong preference to save lives and avoid a loss of life for U.S. lives, but a slight negative valuation for Iraqi lives (preferences for loss of life and avoidance of preference to save lives). However, low-prejudiced participants differentiated much less between American and Iraqi lives.

Discussion

Using a different outgroup and a different method for expressing preferences, Experiment 3 replicated the findings of Experiment 2. The normative S-shaped valuation curve was far more evident for lives of the ingroup than it was for lives of the outgroup. Preference curves for Iraqi lives in Experiment 3, like Afghan lives in Experiment 2, showed ethnocentric indifference to the magnitude of lives at stake. Thus, Experiment 3 provides further evidence that individuals are less sensitive to the number of outgroup lives at

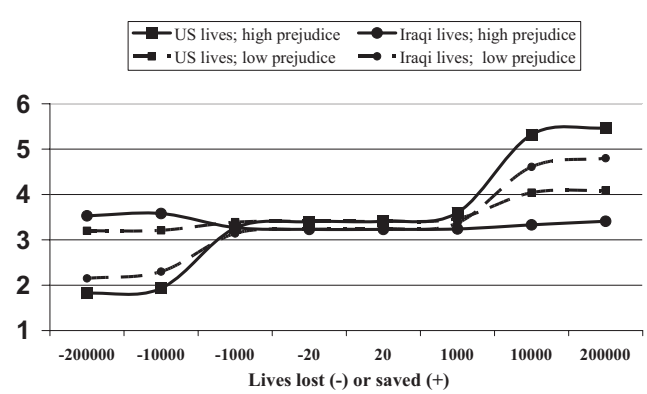

Figure 4. Predicted preferences to protect lives as a function of nation, number of lives at stake, and participants' prejudice level (Experiment 3).

stake than they are to the number of ingroup lives at stake. In both experiments, participants' social dominance orientation corresponded reliably to their degree of ethnocentric valuation. Moreover, providing additional support of the individual difference hypothesis, Experiment 3 found that ingroup identification independently corresponded to ethnocentrism in decisions.

Thus far, all our results have supported the competition hypothesis, generalized ethnocentrism, and the individual differences hypothesis. On average, participants preferred decisions protecting ingroup lives over outgroup lives so long as ingroup lives and outgroup lives were in competition. Moreover, this effect was found using both the preference curve method (Experiments 2 and 3), and the standard disease problem decisions under risk method (Experiment 1). For two different outgroups, when outcomes were framed in competition, participants showed an ethnocentric indifference to magnitude of the number of lives at stake (Experiments 2–3). Finally, in all three experiments, well-known correlates of group prejudice corresponded to ethnocentric valuation in decisions.

Three questions about these findings remain. First, the ethnocentrism observed in valuation of lives in Experiments 2 and 3 may have been due to differences in evaluation of material outcomes for each nation. That is, if participants valued the material outcomes for their own nation more than they valued the material outcomes for the outgroup nation, this could flatten their preference curve for outgroup lives. Therefore, the design of Experiment 4 contrasted preferences about both ingroup and outgroup lives against the same material goods. A second question is whether the divergence of valuation curves is due to competition per se. As the outcomes between ingroup and outgroup were always in competition in Experiments 2 and 3, they do not demonstrate a causal role for competitive context in producing ethnocentric indifference to magnitude. To definitively test whether competition is necessary to produce ethnocentrism in valuation of lives, Experiment 4 included conditions in which national outcomes were not in competition, as well as conditions in which outcomes were in competition. Third, the role of combatant status in the valuation of lives is unclear. The previous experiments used U.S. lives for the ingroup. To further test whether ethnocentric preference for ingroup lives extended beyond prescriptive international law, we manipulated whether ingroup members were combatants or civilians. If participants employ the principle of noncombatant immunity, then it might be expected that outgroup civilians would be prioritized over ingroup combatants.

Experiment 4: The Role of Combatant Status and Intergroup Competition in Ethnocentric Valuation of Lives

Experiment 4 had three purposes. First, Experiment 4 ruled out an alternative hypothesis by testing whether participants showed ethnocentric valuation of lives when ingroup and outgroup lives were pitted against the same material outcomes. Second, Experiment 4 explicitly tested for the causal role of competitive context in ethnocentric indifference to magnitude by investigating the valuation of lives in noncompetition contexts compared to competitive contexts (competition hypothesis). Third, Experiment 4 tested whether civilian versus combatant status influenced the valuation of life, as might be suggested by humanitarian principles. Finally, we tested whether empathy, social dominance orientation, identification with the ingroup, and perceived legitimacy of various war tactics would be associated with ethnocentric valuation (individual differences hypothesis).

Method

Participants. Seven hundred and twenty American undergraduates participated in exchange for partial course credit during the fall of 2004. The sample was 64% women and 82% White, and the mean age was 18.7 years.

Design and materials. We used a $2 \times 2 \times 2 \times 2 \times 4$ design with U.S. combatant status (combatant or noncombatant) and competition (competition or noncompetition) as between-participants factors and nation (United States or Iraq), loss–gain contrast, and number of lives at stake (20, 1,000, 10,000, or 200,000) as within-participants factors. Participants rated strength of policy preferences from 1 = *strongly prefer Policy C* (200 Iraqis will be saved) to 6 = *strongly prefer Policy D* (1/3 probability that 600 Americans will be saved and 2/3 probability that no Americans will be saved).

As in Experiments 2 and 3, the competition conditions pitted some number of lives for one nation against a material consequence for the other nation. In the noncompetition condition, decisions pitted some number of lives against a material consequence for the same nation. In the U.S. combatant condition, U.S. lives were described as "U.S. soldiers," whereas in the U.S. noncombatant condition, U.S. lives were described as "U.S. civilians." Iraqis were always described as "Iraqi civilians."

Individual-difference measures. After indicating their policy preferences, participants completed the 16-item Social Dominance Orientation Scale (Pratto et al., 1994; $\alpha = .88$), 5 items assessing attitudes toward the war in Iraq ($\alpha = .75$), 3 items assessing identification with the United States ($\alpha = .82$), and the 7-item Concern for Others subscale of Davis's (1983) Empathy scale ($\alpha = .83$). All items were rated from 1 (*strongly disagree*) to 7 (*strongly agree*) with appropriate reverse-coding so that higher numbers indicated higher social dominance orientation levels, more support for the war in Iraq, and more empathy toward others. Participants then rated how legitimate they felt each of 11 tactics were during the conduct of war from 1 (*totally illegitimate*) to 7 (*totally legitimate*). Principal components analysis produced two factors accounting for 14% and 27% of the variance, respectively. The first included legal and illegal military war tactics ($\alpha = .75$) and the second included only illegal war tactics ($\alpha = .75$). Appendix B reports the items and factor loadings.

Results

By enabling a comparison of the extent to which participants valued American versus Iraqi lives contrasted against the same material consequence, the design of Experiment 4 allows us to rule out the alternative hypothesis that ethnocentrism in valuation of lives is due to bias in valuation of material goods. For example, the single-nation condition for U.S. lives contrasted against the competition condition for Iraqi lives compares valuation of U.S. and Iraqi lives against the same U.S. material consequences. To test this alternative explanation for ethnocentrism, we averaged each participant's preferences for lives and subjected mean preferences

to an ANOVA in a 2 (loss, gain) × 2 (United States, Iraq) × 2 (noncompetition, competition) design. We expected to observe ethnocentrism in the three-way interaction such that for gains (lives saved), participants would value saving American over Iraqi lives, and for losses (lives lost), participants would prefer losing Iraqi lives versus losing U.S. lives, compared against the same material consequences. Results confirmed this hypothesis (see mean preferences in Figure 5). The reliable three-way interaction, $F(1, 716) = 74.09$, $p < .001$, was followed up by contrasts between preferences concerning American versus Iraqi lives for each of the four material consequence conditions, loss–gain crossed with nation. As shown in Figure 5, participants showed an ethnocentric preference for ingroup lives over outgroup lives, compared against the same material consequences. Specifically, there was a preference to save U.S. lives over Iraqi lives, compared against both U.S. and Iraqi material gains (ps $< .05$). Participants also reliably preferred losing Iraqi lives over losing American lives when compared against both American and Iraqi material losses (ps $< .05$). These results demonstrate that ethnocentrism in valuation of lives cannot be due to differences in the valuation of the alternative material consequences.

Model specification for preferences. For the within-subjects factors, the same analytic procedure that was used in Experiment 3 was used in Experiment 4. Each participant's preference ratings were subjected to hierarchical regression and their averages tested. Nation and the loss–gain contrast were entered first and yielded the expected loss–gain effect (average $B = .362$), $t(11, 500) = 25.05$, $p < .001$, and a nation effect (average $B = .087$), $t(11, 500) = 6.01$, $p < .001$, such that there was a preference to protect U.S. lives over Iraqi lives. On the second step, the loss–gain contrast became unreliable, but the number of lives and number of lives cubed (the terms used to model the S-shaped function) were reliable on average. On the third step, the interactions between the loss–gain contrast and lives and between the loss–gain contrast and lives cubed were reliable on average, with signs indicating that slopes were steeper for gains (lives saved) than they were for losses (lives lost). The nation by lives and nation by lives cubed terms, used to assess differences in the S-shaped function by nation, were entered in the fourth step. Consistent with the results of Experiment 3, the nation by lives and nation by lives cubed terms were reliable on average and indicated ethnocentric valuation, with the more pronounced normative S-shaped curve evident for ingroup lives and a more flattened curve evident for outgroup lives. Finally, the three-way interactions among the loss–gain contrast, lives, and nation and among the loss–gain contrast, lives cubed, and nation were entered, which on average were not reliable. Table 4 presents the average results of the last step of the regressions on preferences and the predicted preference equations.

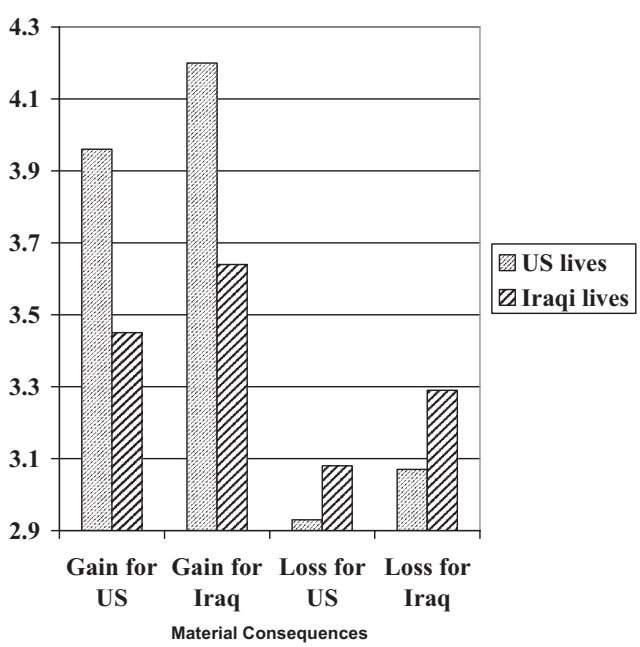

Figure 5. Mean preference to protect lives by nation and material consequence (Experiment 4).

Between-Participants Effects

To test whether the terms indicating ethnocentric valuation in the S-shaped function (nation by lives and nation by lives cubed) differed as a function of the competition condition and the type of lives at stake, we subjected each participant's regression weights to an ANOVA, using competition and combatant status as between-subjects factors.[3] To simplify presentation, we report reliable results for the main effects of competition and combatant status and examine the interaction between the two separately.

Noncompetition versus competition. As expected, and consistent with the competition hypothesis, valuation in the competition conditions was more ethnocentric than valuation in the noncompetition condition was. There was a stronger nation effect, indicating a preference for U.S. lives over Iraqi lives in the competition condition (average $B = .22$) versus in the noncompetition condition (average $B = .12$), $F(1, 715) = 4.43$, $p = .04$. The Bs for nation by lives were larger in the competition condition (average $B = 2.30 \times 10^{-5}$) than they were in the noncompetition condition (average $B = 9.23 \times 10^{-6}$), $F(1, 715) = 5.32$, $p < .05$.[4] Likewise, the Bs for nation by lives cubed were larger in the competition condition (average $B = -5.33 \times 10^{-16}$) than they were in the noncompetition condition (average $B = -2.20 \times 10^{-16}$), $F(1, 715) = 4.53$, $p < .05$. These effects are illustrated in Figure 6, which shows mean preferences by lives, nation, and competition condition and demonstrates the effect of competition on ethnocentric valuation.

U.S. combatant status. The ANOVAs also tested for the main effect of U.S. combatant status. There were no reliable main effects on the regression weights for nation, nation by lives, or nation by lives cubed. This finding implies that the combatant status of the U.S. lives did not affect ethnocentrism. Thus, regardless of combatant status, participants preferred ingroup lives over outgroup lives. However, the B value for the loss–gain contrast by nation by lives and the B value for the loss-gain contrast by nation by lives cubed were affected by the type of U.S. lives, Fs$(1, 715) = 5.50, 9.03$, respectively, ps $< .02$. Both these main effects

[3] As the regression weights are independent, these are independent tests.

[4] These regression weights have the proper exponent to convert 200,000 lives to the preference scale of 1–7, namely the order of 10^5.

Table 4
Results From Final Step of Regressions for Each Participant on Preference Rating as a Function of Loss or Gain, Nation, Number of Lives at Stake, Number of Lives Cubed, Nation, and Their Interactions (Experiment 4)

Effect	Average *B*	Average β	*t*(11,500)
Constant	3.57		4.22***
Nation	.161	.10	8.03***
Loss–gain contrast	−.005	−.003	−.222
Number of lives	6.42×10^{-5}	4.03	19.41***
Lives cubed	-1.49×10^{-15}	−3.74	−18.85***
Lives × Loss–Gain Contrast	1.12×10^{-5}	.602	3.40**
Lives Cubed × Loss–Gain Contrast	-2.56×10^{-16}	−.558	−3.15**
Lives × Nation	1.49×10^{-5}	.936	5.29***
Lives Cubed × Nation	-3.49×10^{-16}	−.877	−4.98***
Lives × Loss–Gain Contrast × Nation	-4.74×10^{-6}	−.298	−1.65
Lives Cubed × Loss–Gain Contrast × Nation	1.13×10^{-16}	.284	1.60

Nation	Loss−gain condition	Predicted preference
U.S.	Gain	$3.74 + 9.85 \times 10^{-5} \times (\text{lives}) - 2.30 \times 10^{-15} \times (\text{lives}^3)$
Iraq	Gain	$3.42 + 8.05 \times 10^{-5} \times (\text{lives}) - 1.89 \times 10^{-15} \times (\text{lives}^3)$
U.S.	Loss	$3.78 + 7.49 \times 10^{-5} \times (\text{lives}) - 1.76 \times 10^{-15} \times (\text{lives}^3)$
Iraq	Loss	$3.46 + 3.49 \times 10^{-5} \times (\text{lives}) - 8.15 \times 10^{-16} \times (\text{lives}^3)$

Note. $N = 11{,}502$. Reliability for the constant was tested against the scale midpoint of 3.5.
** $p < .01$. *** $p < .001$.

were modified by interactions with competition condition and are described below.

Competition × U.S. combatant status. The two-way interaction between competition and U.S. combatant status was found to be reliable for the following terms: nation, $F(1, 715) = 4.59$, $p < .05$, lives, $F(1, 715) = 4.08$, $p < .05$, lives cubed, $F(1, 715) = 4.20$, $p < .05$, loss–gain contrast by nation by lives, $F(1, 715) = 7.20$, $p < .01$, and loss–gain contrast by nation by lives cubed, $F(1, 715) = 6.94$, $p < .01$.

The combined effects are best illustrated by plotting mean preferences as a function of experimental conditions. In the noncompetition conditions, there was some divergence in the valuation curves for Iraqis and Americans but little divergence for combatants versus noncombatants. In contrast, in the competition condition, these distinctions mattered, especially for valuation of losses (see Figure 7). There was much more indifference to losses of large numbers of Iraqi civilians when contrasted with American combatants than there was when these losses were contrasted with American civilians. Once again, and of particular importance to the present investigation, we found ethnocentric indifference to magnitude. Participants were indifferent to losses of large numbers of the outgroup.

Individual differences. Table 5 reports the correlations between all individual difference measures. Following the results of the previous experiments, we expected that social dominance orientation, empathy, and perceived legitimacy of illegal war tac-

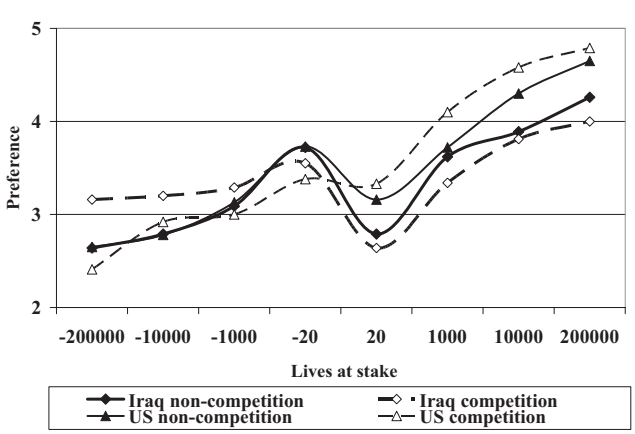

Figure 6. Mean preference to protect lives as a function of nation, number of lives at stake, and competition condition (Experiment 4).

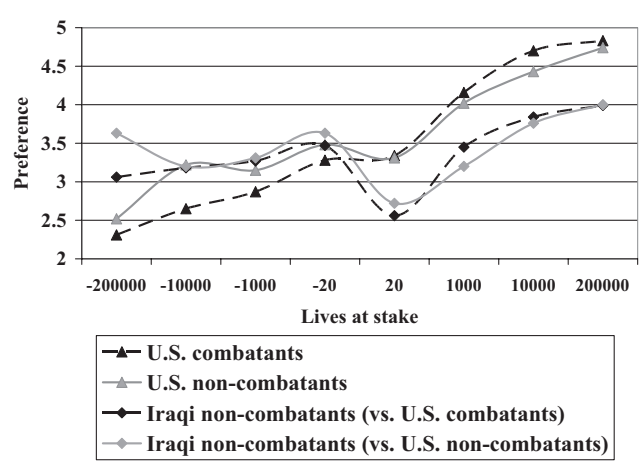

Figure 7. Mean preference to protect lives in decisions as a function of nation, number of lives at stake, and American combatant status for competition condition (Experiment 4).

Table 5
Correlations Among Individual Values (Experiment 4)

Measure	SDO	Empathy	U.S. Id.	Illegal tactics	Conventional tactics
Empathy	−.54*				
U.S. id.	.06	.07			
Illegal tactics	.50*	−.38*	.16*		
Conventional tactics	−.23*	.11*	.02	−.24*	
War support	.27*	−.11*	.29*	.34*	−.14*

Note. SDO = social dominance orientation; U.S. id. = identification with the U.S.
* $p < .01$.

tics would correlate with ethnocentric decisions (as indicated by the nation by lives and nation by lives cubed terms generated for each participant) but more strongly in the competition than in the noncompetition condition. As expected, social dominance orientation, empathy, and acceptance of illegal and militaristic war tactics correlated more strongly with the ethnocentric valuation in the competition condition as compared to the noncompetition condition (ts > 1.93, ps $< .05$; see Table 6).

Discussion

Similar to Experiments 2 and 3, Experiment 4 showed ethnocentric valuation, as indicated by a more pronounced S-shaped value function for ingroup lives compared to outgroup lives. Moreover, using a different method, Experiment 4 replicated Experiment 1 as well as other research (Pratto, Glasford, & Hegarty, 2006) in showing that ethnocentric valuation is more likely under intergroup competition. Experiment 4 also more definitively showed that ethnocentrism was the cause of differences in the valuation of lives by ruling out the possibility that ethnocentrism was due to bias in the valuation of material goods for different nations. Like Experiments 2 and 3, Experiment 4 found little prioritization of noncombatant lives over combatants on average. These findings illustrate the extent of ethnocentric bias. Indeed, participants were especially averse to losing ingroup combatants compared with outgroup civilians. Finally, as in Experiments 1, 2, and 3, participants' psychological orientations corresponded to ethnocentric decisions, especially in the competition condition. That is, valuation decisions reflected the psychological orientations of the principles (e.g., humanitarianism or ingroup bias) each participant endorsed.

General Discussion

At the outset, we suggested the need to consider both the prejudice literature, which has examined the social conditions and social priorities that privilege some groups over others, and the decision literature, which provides methods and a process theory of valuation, to understand how people determine the value of human life. Prejudice research suggests that social categorization, intergroup competition, and psychological orientations could all influence how people value human life. Prospect theory predicts loss aversion in weighing decisions about lives. Considering research on intergroup prejudice, we expected that people might generally value the lives of ingroup members more than those of outgroup members, especially if group outcomes were said to be in competition. Finally, we expected individual-difference measures that correspond with prejudice would correspond with ethnocentric valuation. The results of four experiments provided considerable support for each hypothesis.

Our results revealed a tendency to value the lives of ingroup members more than the lives of outgroup members (Experiments 1–4), demonstrated in Experiment 1 by the finding that intergroup competition reverses the very robust and standard finding of risk aversion. Experiments 2–4 were the first tests of the extent to which ethnocentric biases in valuation of life occur when large numbers of lives are at stake. There was strong and consistent evidence for ethnocentric indifference to magnitude, such that participants were relatively indifferent to the large numbers of outgroup lives at stake (Experiments 2–4). Manipulations of context, using both the standard prospect theory disease problem and decisions pitting lives against material outcomes, revealed the causal role of competitive context in ethnocentric valuation (Experiments 1 and 4). This ethnocentric valuation even held when the ingroup lives were combatants and outgroup lives were civilians (Experiment 4), for which international law and humanitarian principles might suggest a different preference.

Drawing on prospect theory, we also expected lives that may be lost to have more psychological value than lives to be saved. The evidence regarding the asymmetric valuation hypothesis was inconclusive. In the noncompetition contexts of Experiments 1 and 4, there was a general preference to prevent the loss of life compared to saving lives. However, the results of the competition contexts of all four experiments demonstrate that this is not a general preference but is contingent on whose lives are lost or saved. Further, Experiments 3 and 4 showed reliably steeper valuation slopes for saving lives than for preventing loss of life. This research shows that additional work is needed to examine why there may be more value in saving lives than there is in preventing loss of life (see Kühberger, 1995; Mandel, 2001).

Finally, there was considerable evidence that individual differences in social orientations are a strong determinant of ethnocentric valuation. Those who supported the impending war in Iraq and held more negative beliefs about Arabs (Experiment 1), who endorsed illegal antihumanitarian war tactics (e.g., torture; Experiments 2 and 4), who were higher in support of group dominance (Experiments 2, 3, and 4), who were more identified with their

Table 6
Correlations of Participants' Values and Principles With Their Nation × Lives Regression Weight by Competition Condition and t-tests of Whether the Correlations Differ by Condition (Experiment 4)

Value or principle	Competition condition	Noncompetition condition	$t(715)$
Social dominance orientation	.31**	.07	2.91**
Identification with U.S.	.14*	.04	0.92
Empathy	−.34***	−.03	−4.11***
Conventional tactics	−.24***	−.11*	−1.93*
Illegal tactics	.39***	.17***	3.16**
War support	.10	.10*	−0.28

* $p < .05$. ** $p < .01$. *** $p < .001$.

nation (Experiments 3 and 4), and who were low on empathy (Experiment 4) were especially likely to value ingroup lives over outgroup lives in their decisions. Thus, we found that a variety of measures shown to be associated with group prejudice were able to play a predictable and significant role in the ethnocentric valuation of life.

Although the individual-difference measures were assessed after decisions were made, it is unlikely that these measures were significantly influenced by the decisions. Several of the self-reported individual-difference measures, including social dominance orientation (e.g., Pratto, Tatar, & Conway-Lanz, 1999), empathy (e.g., Rushton, Russell, & Wells, 1985), and ingroup identification (e.g., Ethier & Deaux, 1994), are known to be stable over time and to predict future decisions. In addition, there were no effects of experimental conditions on the self-reported values except that in Experiment 1, decisions involving Iraqis increased anti-Arab sentiment. It is more likely that the values people hold influenced their decisions concerning lives. The present results therefore suggest that individual differences may well influence decisions, a sentiment that is contrary to the normative assumptions of decision theory (see Fischhoff, 1991, for a discussion).

A Framework for How Human Lives Are Valued

A more elaborated framework of the processes underlying the valuation of life, and particularly when large number of lives are at stake (e.g., during war), emerges from our reasoning and results. We suggest that how individuals value the life of another can be described by how people implicitly answer two questions in turn. The first question is, "Is the life in question included in my scope of moral concern?" To the extent the lives are labeled as part of the ingroup and as a result included in one's scope of moral concern, they have more value to the decision maker. For example, people have no strong preference between the lives of conational combatants versus ally combatants, presumably because both are within the scope of concern (Pratto et al., 2006). The second question is, "Does the life in question compete with the interests of others in my scope of concern? That is, does the life compete against the interests of those I care about?" If the life has no influence on the well-being of valued others, it is counted against a reference point of being alive, and the life is positively valued. However, if the life negatively affects, or competes with, the interests of valued others, then the value of the life decreases. This discounting especially occurs for people who tend to differentiate between groups because the competitive framing reminds them of their differential values for different kinds of people. The above two questions are moderated by the extent the person is low in prejudicial tendencies, high in empathy, or generally inclusive in defining his or her scope of moral concern. This framework describes the variety of results obtained in the present work and previous research (Levin & Chapman, 1990, 1993; Pratto et al., 2006; Wang et al., 2001) and provides a psychological heuristic for understanding whether a given person will value the life of another.

Limitations and Future Directions

In several ways, the present results were consistent with existing theories of prejudice and of decision making, so we might expect the results to be replicated. In fact, most of the present results were consistent across time, methods, and stimulus outgroups. Nonetheless, we deem it important that future researchers expand the breadth, age, and culture of the participants and their intergroup situation to test how generalizable the biases exhibited here, as well as the framework we have postulated, are. It would be important to know, for example, whether the ethnocentric valuation exhibited in the present work extends to noncombative intergroup relations, whether ethnocentric valuation is as prevalent when participants' nation is not at war, when current war enemies are not the outgroup, and when people from lower-powered nations are making the decisions. Using a more diverse sample, as well as expanding the method used, would help to reveal whether, for example, the stronger ethnocentric preference for combatant ingroup lives (versus civilian lives) is a function of the greater generalizability of the combatant context to the actual lives at stake in the war. Additional work would also help to generalize the robustness of the framework postulated, as well as the ethnocentric insensitivity to magnitude effect, in which participants were more insensitive to the number of lives at stake for the outgroup than they were to the lives of the ingroup members.

Despite these limitations, the present research expands the agenda and augments methods for prejudice research. One intriguing area for future investigation is examining the role of affect in ethnocentric valuation. Hsee and Rottenstreich (2004; see also Rottenstreich & Hsee, 2001) have proposed that when people weigh prospects affectively, through how they feel, they are insensitive to magnitudes, unlike when people weigh prospects through calculations. Recall that here we observed a very consistent ethnocentric insensitivity to magnitude, especially for those higher on prejudice. Our findings are compatible with the Hsee and Rottenstreich model if one assumes that participants feel more affect for outgroups than they do for ingroups, for whom they "count" each life. If this is the case, then the present results suggest that outgroups elicit more affect (presumably negative prejudice) than ingroups do. This point has been argued by some prejudice researchers (e.g., Mummendey & Otten, 1998) and disputed by others (e.g., Brewer, 1979). Thus, it may be the case that increased negative affect may mediate the relation between competitive context and ethnocentric indifference to magnitude. However, this hypothesis awaits empirical testing.

Another area of research prompted by the present work is to examine whether ethnocentric valuation and insensitivity to magnitude of losses, as a form of prejudice, manifests itself in the evaluation of other resources. Ethnocentric valuation may be present for a variety of domains or social goods and even influence subsequent behavior. Future research should explore these possibilities. In support of this goal, the present work provides a useful method for empirically testing the fit of value functions, one which may usefully be paired with other methods.

Finally, the present work may provide insights into how to increase concern for the lives of outgroup members. Our finding of ethnocentric indifference to magnitude implies that a method that might seem logically appealing as a way to induce humanitarian concern, namely, publicizing the high numbers of others at stake, is unlikely to be effective. People, especially if already high on prejudice, appear insensitive to the potentials to save and lose the lives of hundreds of thousands of civilians in outgroups. Methods derived from prejudice theories of how to humanize others in the eyes of decision makers, such as through individuating them,

highlighting their similarity or common identity to decision makers, or revealing signals of their humanity, or priming humanitarian values, may change how others are valued.

Many moral and legal systems prescribe that each human life has equal value. The present research, however, found evidence of two robust forms of valuation in decisions under competition. First, participants were far more tolerant of the risk of death to outgroup members than they were of the risk to ingroup members (see also Pratto et al., 2006; Wang et al., 2001). Second, we found a very robust ethnocentric indifference to the magnitude of lives at stake in decisions. However, ethnocentrism was not observed in every condition nor, predictably, for every participant. The framework we derived accounts for how people value life, including individual differences, and thus may be useful for practitioners where egalitarian evaluation is prescribed but not necessarily followed, such as the legal system. On the whole, examining social priorities, group prejudice, and whether others are included in the scope of moral concern, and not just generic decision processes, must be considered in understanding valuation processes.

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Appendix A

Items on Attitude Scales and Internal Reliabilities (Experiment 1)

Anti-Arab Scale (α = .83):

If Arabs resent the West, they should embrace our values and habits instead of attacking them.

People of Middle Eastern descent should have to carry special identification.

Most of the terrorists in the world today are Arabs.

Historically, Arabs have made important contributions to world culture.*

Arabs in general have little appreciation for democratic values.

Arabic societies have good reason to be proud.*

Western culture dominates in the world because it has more to offer than traditional Muslim culture.

Muslims value peace and love.*

The Islamic religion has truths to offer.*

People of the Muslim religion tend to be fanatical.

We must face the fact that there is something sick at the root of Arab culture.

Support for war against Iraq (α = .92):

The U.S. should not engage in any military action that will kill civilians, no matter how few.*

President Bush should be given whatever power he needs to conduct war.

The U.S. should wage war against Iraq as soon as it is militarily feasible.

The U.S. is justified in waging war against Iraq.

I oppose the U.S. making war on Iraq because of the harm that would result to Iraqi civilians.*

I favor the U.S. making war on Iraq because Iraq may sponsor terrorism against the U.S.

I oppose the U.S. making war on Iraq because such an attack would be unprovoked.*

I favor the U.S. making war on Iraq because Saddam Hussein oppresses the Iraqi people.

I oppose the U.S. making war on Iraq because most world opinion is opposed to such a war.*

I favor the U.S. making war on Iraq because it would make the world safer for Americans.

I oppose the U.S. making war on Iraq because it is not clear who would rule Iraq afterwards.*

I favor the U.S. making war on Iraq because it would make most people in the world safer.

I feel the U.S. should go to war against Iraq regardless of international opinion or the U.N.'s position on this war.

Disarming Iraq will reduce threats to American security.

If the U.S. attacks Iraq, it will make more enemies for the U.S.*

Note. Participants rated each item from 1 (*strongly disagree*) to 7 (*strongly agree*). * indicates item was reverse-coded.

(*Appendixes continue*)

Appendix B

Items and Varimax Factor Loadings of Participants' Legitimacy Judgments About Particular War Actions (Experiments 2 and 4)

Actions for Experiment 2	Factor 1	Factor 2
Attacking enemy soldiers.	.60	.27
Attacking enemy politicians.	.88	.06
Attacking enemy government workers.	.77	.23
Attacking enemy government property.	.74	.17
Attacking enemy civilians, including noncombatants, women & children.*	.30	.45
Risking civilian casualties when attacking enemy targets.*	.53	.44
Torturing enemies.*	.09	.91
Public executions of enemies.*	.19	.85
Actions for Experiment 4	**Factor 1**	**Factor 2**
Attacking enemy soldiers.	.76	−.14
Attacking enemy government buildings while inhabited.	.73	.12
Risking civilian casualties when attacking enemy soldiers.*	.63	.27
Taking enemy hostages.*	.67	.07
Cutting off food supplies to cities where resistors are hiding.*	.58	.35
Public executions of enemies.*	.22	.61
Torturing prisoners of war.*	.19	.67
Attacking enemy civilians, including noncombatants, women & children.*	.04	.59
Taking, using, or destroying civilian property in conquered areas.*	.31	.48
Torturing civilians who may have information.*	.20	.65
Killing enemy combatants even if they are wounded or have laid down their arms.*	.22	.54

Note. Question stem read, "How legitimate is it for the U.S. to use the activities below as a legitimate form of warfare?" * indicates action violates the Geneva Conventions.

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