

# We Take Care of Our Own: Caregiving Salience Increases Out-Group Bias in Response to Out-Group Threat



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## Abstract

The parental caregiving motivational system leads people to behave selflessly. However, given that the purpose of this motivation is the protection of close kin, it might also lead to aggression toward distant, threatening others. In the present studies, we wished to investigate the effects of behaviorally activating the caregiving motivational system on out-group bias. On the basis of previous work in behavioral ecology, we predicted that activation of the caregiving system would enhance bias against out-groups whenever their members posed a salient threat. This prediction was confirmed in three studies (total  $N = 866$ ) across different populations, manipulations, and measures. We discuss the possible importance of continued research into the behavioral consequences of caregiving salience.

## Keywords

racial and ethnic attitudes and relations, evolutionary psychology, open data

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The importance and ubiquity of the parental caregiving motivation has long been acknowledged (e.g., Geary, 2000; Lorenz, 1950/1971; Trivers, 1974), and it has been argued that it is a member of a limited group of fundamental motivational systems governing behavior (e.g., Kenrick, Griskevicius, Neuberg, & Schaller, 2010). This motivational system is supposedly activated by stimuli that signal the presence of an offspring (e.g., crying, features of babies' faces, lactation) and prompts actions that are aimed at ensuring the offspring's survival (Hahn-Hollbrook, Hollbrook, & Haselton, 2011; Lienard, 2011). Parental caregiving is especially critical in humans and other primates, whose offspring remain dependent on their parents for an extended period of time.

A central caregiving-related task carried out by primate mothers is the protection of their young from the aggression of conspecifics. For example, female chimpanzees with dependent infants will tend to stay away from males, as well as increase their proximity to their offspring in the presence of males, supposedly in order to ensure the safety of their offspring (e.g., Otali & Gilchrist, 2006). Such precaution is especially warranted when encountering members of rival out-groups, because

primates typically live in cooperative groups that violently compete with each other over resources and territory (e.g., Goodall, 1986).

Cooperation within the in-group and competition with out-groups also characterize human hunter-gatherer societies as well as modern human societies (e.g., Pitman, 2011). In a related vein, extant social-psychological research shows that perceptions of threat posed by out-groups are associated with negative cognitions about members of those groups (see Riek, Mania, & Gaertner, 2006, for a review). Thus, in light of the adversarial nature of intergroup relations in primates, one could expect that activating the caregiving motivational system will increase bias against out-group members. From an evolutionary perspective, such biased perceptions are adaptive, in that they should prompt aggressive or avoidant behavior that facilitates the protection of offspring.

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However, it is important to note that even when the parental caregiving system takes center stage, other fundamental motivations (e.g., self-protection, mating) remain relevant and must be taken into account. Enhanced precaution and vigilance incurs high energetic costs (Neuberg, Kenrick, & Schaller, 2011) as well as opportunity costs (i.e., in discouraging mating and foraging). Therefore, although caregiving salience should upregulate precautionary behavior, it cannot do so in a rigid, context-independent manner. Rather, precaution is warranted, specifically in the presence of conspecifics from threatening out-groups. Members of nonthreatening out-groups, who may even serve as coalitional allies (Van Bavel & Cunningham, 2009), should not evoke fear or aggression following the activation of the caregiving system.

In light of these considerations, we wished to investigate whether behaviorally activating the caregiving motivational system would enhance biased cognitions toward ostensibly threatening out-groups. We tested this prediction in three studies. We manipulated the salience of the caregiving motivation by (a) asking participants to recollect the first week after the birth of their child (Study 1), (b) presenting pictures of cute babies to participants (Study 2), and (c) selecting participants who were in the presence of their own babies (Study 3). We measured out-group bias against Israeli Arabs in Israel (Study 1), American Arabs in the United States (Study 2), and African refugees in Israel (Study 3).

## Study 1

### Method

**Participants.** Participants were 300 Israeli Jewish mothers, members of an online-surveys panel, who received a small monetary compensation in return for their participation. Sample size was determined a priori to allow for 75 participants per experimental group and was based on the availability of Israeli Jewish mothers in the online-surveys panel used. Fourteen participants were excluded because they did not respond to the open-ended question that served as the caregiving-priming manipulation (some of these participants indicated that they found the question too intrusive; others noted that they were unable to remember the details of the events in question). The remaining 286 mothers had a mean age of 35.73 years ( $SD = 8.58$ , age range 20–68 years) and between one and nine children ( $M = 1.93$ ,  $SD = 0.99$ ).

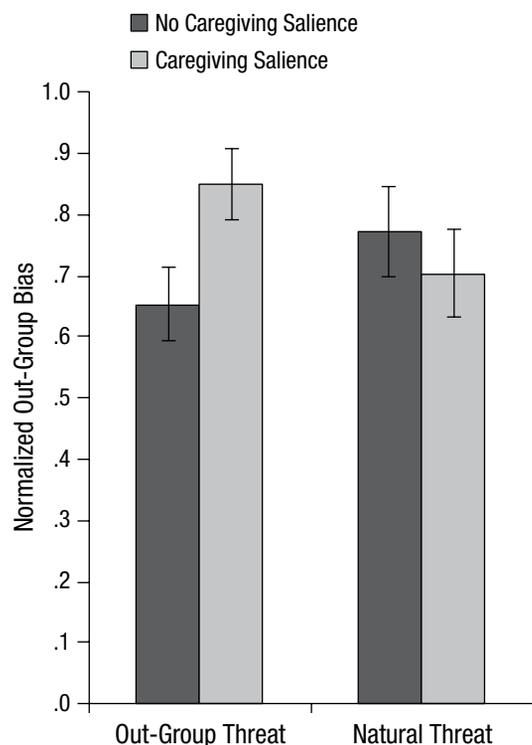
### Materials

**Caregiving-salience manipulation.** Participants were given the following instructions: “In the next questionnaire you will be asked to describe a few memories.

Please try to relive the relevant event and describe it in as much detail as possible.” For both the caregiving-salience and the control (no-caregiving-salience) groups, the first two questions, which were introduced to conceal the purpose of the study, asked participants to relive and describe the first few days of the last trip they had gone on and the last program they had seen on television. In the third question, participants in the no-caregiving-salience group were asked to vividly remember and describe a happy moment from their childhood, whereas participants in the caregiving-salience group were asked to remember and describe the first few days after giving birth to their first child.

**Out-group-threat manipulation.** Participants then completed a so-called “Life in Israel” questionnaire. They were asked to indicate, using scales from 1 (*not at all likely*) to 4 (*very likely*), the probability that each of four events would take place in Israel in the next 2 years. The first, second, and fourth questions served to conceal the purpose of the study and referred to social and economic issues (e.g., “housing prices will go down”). These were identical for all participants. The third question differed between conditions. In the out-group-threat condition, it was “rioting of the Arab-Israeli population, leading to many fatal casualties”; in the natural-threat condition, it was “a massive earthquake, leading to many fatal casualties.” A separate study validated that this manipulation indeed enhances perceived out-group threat (see Additional Analyses and Results in the Supplemental Material available online).

**Out-group-bias measure.** To measure in-group favoritism, we used a questionnaire modeled after Shah, Kruglanski, and Thompson (1998). Using scales from 0 (*very cold and unfavorable*) to 100 (*very warm and favorable*), participants indicated how favorably they viewed various (nonexclusive) Israeli social groups: secular Jews, orthodox Jews, Israeli Arabs, Israeli Jews, men, women, native Israelis, Russian immigrants, left-wing Israelis, and right-wing Israelis. To contrast participants’ assessment of their in-group (Israeli Jews) and the target out-group (Israeli Arabs), we first calculated each participant’s normalized in-group-favorability score as the favorability rating given to the Jewish group divided by the average of favorability ratings given to all social groups. Similarly, we calculated each participant’s normalized out-group-favorability score as the rating given to the Arab group divided by the average of ratings given to all social groups. Finally, each participant’s normalized out-group-bias score was calculated as his or her in-group-favorability score minus his or her out-group-favorability score, such that a higher out-group-bias score reflected a higher favorability of Jews compared with Arabs.



**Fig. 1.** Results from Study 1: normalized out-group bias as a function of caregiving salience and threat condition. Error bars represent standard errors of the mean.

**Procedure.** Participants were randomly assigned to four conditions, created by crossing the two caregiving-salience conditions with the two out-group-threat conditions, and the dependent measure was out-group bias. Each participant completed three questionnaires. The first questionnaire manipulated caregiving salience (caregiving salience vs. no caregiving salience), the second questionnaire manipulated out-group threat (out-group threat vs. natural threat), and the third questionnaire measured out-group bias. Finally, participants' affective state was measured using the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988) and a single item on general mood.

## Results

We conducted a factorial analysis of variance (ANOVA) with caregiving (caregiving salience vs. no caregiving salience) and threat (out-group threat vs. natural threat) as independent variables and out-group bias as the dependent variable. The results showed a significant interaction between caregiving and threat,  $F(1, 282) = 4.220, p = .041, \eta_p^2 = .014$  (Fig. 1). Simple-effects analysis revealed that in the out-group-threat condition, participants who were primed for caregiving salience showed significantly higher levels of out-group bias ( $M = 0.851,$

$SD = 0.528$ ) than did the no-caregiving-salience group ( $M = 0.654, SD = 0.488, F(1, 282), p = .027, \text{Cohen's } d = 0.387$ ). In the natural-threat condition, there was no difference between participants in the caregiving-salience ( $M = 0.703, SD = 0.594$ ) and no-caregiving-salience ( $M = 0.773, SD = 0.583$ ) groups,  $F < 1$ . No further effects attained significance.

## Study 2

In Study 2, we wished to provide a conceptual replication of Study 1 in a different social context (i.e., attitudes toward Arab Americans in the United States) and using a different manipulation of caregiving salience.

## Method

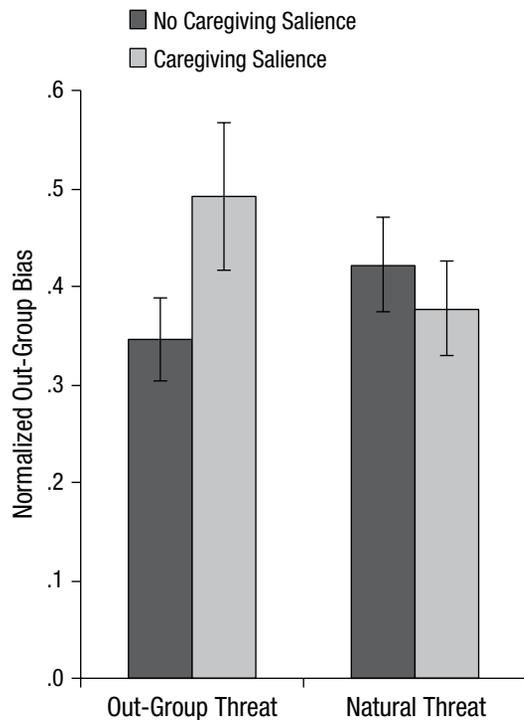
**Participants.** Participants were 450 residents of the United States (253 men, 197 women) who performed the study via Amazon's Mechanical Turk. Sample size was determined on the basis of an estimation that relied on the effect sizes in Study 1, in which a similar experimental manipulation was employed. Participants' had a mean age of 32.99 years ( $SD = 11.50, \text{age range} = 18\text{--}71$  years). Twenty-one additional participants' did not indicate their ethnic group and were discarded from data analysis; one additional participant indicated that he belonged to the target out-group (Arab Americans) and was therefore also discarded from the analysis. Three hundred of the participants did not have children, and the remaining 150 had between one and ten children ( $M = 0.71, SD = 1.28$ ).

## Materials

**Caregiving-salience priming.** Participants were shown a presentation of five pleasant pictures from the International Affective Picture System (IAPS) database (Lang, Bradley, & Cuthbert, 2008) and were asked to look at them attentively. The experimental group saw five pictures of young infants; the control group saw five scenic outdoor pictures. Pictures in the two conditions were matched for valence and arousal on the basis of IAPS ratings.

**Out-group-threat priming.** The threat manipulation was similar to that of Study 1, with the exception that the threatening scenario pertained to a situation whereby "a major terrorist attack by radical Muslims will take place, killing many people," and the natural threat pertained to a situation whereby "a major natural disaster will take place, killing many people."

**Out-group-bias measure.** The out-group-bias measurement was similar to that used in Study 1 with the exception that it pertained to ethnic groups in the United States: European Americans, African Americans, Hispanic



**Fig. 2.** Results from Study 2: normalized out-group bias as a function of caregiving salience and threat condition. Error bars represent standard errors of the mean.

or Latino Americans, Arab Americans, East Asian Americans, and Indian Americans. Participants' normalized in-group-favorability scores were the ratings they had given to their own ethnic group divided by the average of the favorability ratings they had given to all ethnic groups; their out-group-favorability scores were the ratings they had given to the Arab-American group divided by the average of the favorability ratings they had given to all ethnic groups.

**Procedure.** Participants first answered a demographic questionnaire and then observed the series of pleasant pictures that served as the caregiving-salience manipulation. Afterward, they underwent the out-group-threat priming, filled out the out-group-bias questionnaire, and completed a shortened affect questionnaire.

## Results

We conducted a factorial ANOVA with caregiving (caregiving salience vs. no caregiving salience), threat (out-group threat vs. natural threat), gender (male vs. female), and parenthood (parent vs. nonparent) as independent variables and out-group bias as the dependent variable. There was a marginally significant main effect of caregiving, whereby caregiving salience (regardless of threat condition) resulted in higher levels of out-group bias

( $M = 0.435$ ,  $SD = 0.678$ ) compared with no caregiving salience ( $M = 0.382$ ,  $SD = 0.472$ ),  $F(1, 434) = 3.156$ ,  $p = .076$ . Furthermore, there was a marginally significant main effect of parenthood, whereby parents had higher levels of out-group bias ( $M = 0.472$ ,  $SD = 0.579$ ) compared with nonparents ( $M = 0.378$ ,  $SD = 0.591$ ),  $F(1, 434) = 3.020$ ,  $p = .083$ . These main effects, however, were qualified by the predicted interaction between caregiving and threat,  $F(1, 434) = 3.345$ ,  $p = .034$ ,  $\eta_p^2 = .007$  (Fig. 2).

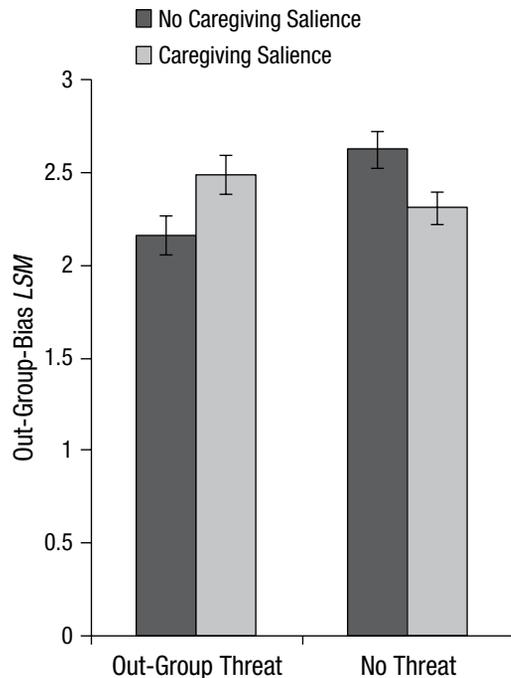
Simple-effects analysis revealed that in the out-group-threat condition, participants who were primed for caregiving salience showed significantly higher levels of out-group bias ( $M = 0.493$ ,  $SD = 0.807$ ) than did those primed with no caregiving salience ( $M = 0.346$ ,  $SD = 0.449$ ),  $F(1, 434) = 6.535$ ,  $p = .010$ , Cohen's  $d = 0.225$ . In the natural-threat condition, there was no difference between participants in the caregiving-salience ( $M = 0.378$ ,  $SD = 0.519$ ) and no-caregiving-salience ( $M = 0.422$ ,  $SD = 0.494$ ) groups,  $F < 1$ . There was no significant Gender  $\times$  Caregiving  $\times$  Threat interaction and no Parenthood  $\times$  Caregiving  $\times$  Threat interaction. There was an unexpected three-way interaction of gender, parenthood, and caregiving,  $F(1, 434) = 4.434$ ,  $p = .027$ ,  $\eta_p^2 = .011$ , which stemmed from the fact that among men (but not women), parents (but not nonparents) who were primed with caregiving salience showed greater out-group bias (see Additional Analyses and Results in the Supplemental Material). There were no other significant effects.

## Study 3

In Studies 1 and 2, we measured participants' attitudes toward in-group and out-group members. In Study 3, we wished to find out whether caregiving salience and out-group threat can also affect support for public policies directed against the out-group in question.

## Method

**Participants.** Participants were 130 native Israeli women who were approached on the streets of Tel Aviv and asked to volunteer for a short survey. We hypothesized that because the experimental manipulation employed in this study—actually holding one's baby—should be much stronger than a subtle priming manipulation, the effect size should be much larger. We set a minimum of 30 participants per experimental condition; we recruited the maximal number of participants during a 3-week time frame that had been determined a priori, on the basis of personnel availability. The caregiving-salience group consisted of 66 women (mean age = 34.25 years,  $SD = 5.18$ , age range = 21–47 years) who were accompanied by infants that appeared to the experimenter to be younger than 5 years of age. All but 3 of the



**Fig. 3.** Results from Study 3: normalized out-group-bias least squares mean (*LSM*) as a function of caregiving salience and threat condition. Error bars represent standard errors of the mean.

women were the mothers of the infant they were accompanying. (Two were the infants' aunts, and one was the infant's grandmother.) The no-caregiving-salience group consisted of 64 women (mean age = 33.25 years,  $SD = 7.64$ , age range = 20–48 years) who appeared to be the same age as the women in the caregiving-salience group but were not accompanied by children. Participants' average number of children was 1.63 ( $SD = 0.94$ ) in the caregiving-salience group and 0.71 ( $SD = 1.14$ ) in the no-caregiving-salience group.

### Materials and procedure

**Out-group-threat priming.** To prime out-group-threat participants, we gave them one page that depicted cutouts from news stories about Eritrean refugees in Israel. The news items had been published on Israeli news Web sites in the preceding 2 years. Seven articles reported cases of rape, murder, or burglary perpetrated by Eritreans against local Israelis. Two of these articles contained pictures of Eritrean men. Three additional articles served to conceal our manipulation and reported on the difficult living conditions and violence Eritreans emigrants are subjected to in their home country and in Egypt, on their way to Israel. Participants were asked to examine the page for about 1 min, ostensibly to remind themselves of issues that are publicly discussed in connection to Eritrean refugees.

**Refugee-acceptance measure.** Participants were presented with three increasingly pro-refugee policies: "The

government should deport all Eritrean refugees"; "The government should prevent the entrance of further refugees, but allow the ones that are already here to stay"; and "The government should allow into its border many new refugees each year." Participants indicated their support for each policy on a scale from 1 (*highly disagree*) to 7 (*highly agree*).

We calculated for each participant a standardized index of refugee rejection: Participants who gave the highest rating to the pro-refugee policy (the last item listed above) received a score of 1; those who agreed most with the moderate policy (the second item listed above) received a score of 2; and those who agreed most with the anti-refugee policy (the first item listed above) received a score of 3. Whenever the ratings for the moderate and extreme policies were tied, we used the average score between the two policies. One participant gave inconsistent scores (higher scores to both the pro- and the anti-refugee policy and a lower score to the moderate policy) and was omitted from the analysis.

**Procedure.** We approached participants on the street and asked them to take part in a survey. Participants' assignment to either the out-group-threat or the no-threat condition was according to a predetermined random order; however, in contrast to Studies 1 and 2, in which we randomly assigned participants to conditions and manipulated caregiving salience, in this study, the caregiving-salience and no-caregiving-salience groups were defined as participants who had been seen on a street accompanied by a young child and participants who had not been accompanied by a young child, respectively. Only participants in the out-group-threat condition were exposed to the out-group-threat manipulation. Participants in the no-threat condition were not primed with any material. All participants answered a policy-recommendation questionnaire. Finally, we collected information regarding participant's religiousness, education, and political orientation.

### Results

We conducted an analysis of covariance with caregiving (caregiving salience vs. no caregiving salience) and threat (out-group threat vs. no threat) as independent variables; out-group bias as the dependent variable; and degree of religiousness, political orientation, and age as covariates.<sup>1,2</sup> Consistent with our prior hypothesis, the results showed a significant interaction between caregiving and threat,  $F(1, 114) = 9.821$ ,  $p = .001$ ,  $\eta_p^2 = .079$  (Fig. 3). Simple-effects analysis revealed that in the out-group-threat condition, caregiving-salience participants showed significantly higher levels of out-group bias (least squares mean,  $LSM = 2.486$ ,  $SD = 0.545$ ) than did

no-caregiving-salience participants ( $LSM = 2.168$ ,  $SD = 0.556$ ),  $F(1, 114) = 4.617$ ,  $p = .014$ , Cohen's  $d = 0.577$ . In the no-threat condition, participants who were primed for caregiving salience showed significantly lower levels of out-group bias ( $LSM = 2.309$ ,  $SD = 0.548$ ) than did participants in the no-caregiving-salience condition ( $LSM = 2.627$ ,  $SD = 0.546$ ),  $F(1, 114) = 5.471$ ,  $p = .021$ , Cohen's  $d = 0.581$ . No further effects attained significance.

## Discussion

In three studies, we activated participants' parental caregiving motivational system, manipulated the salience of the threat posed by out-group members, and measured the level of participants' bias in favor of their own group and against the threatening group. Across all studies, caregiving salience resulted in an increased tendency to derogate threatening out-groups relative to the in-group in the presence of salient out-group threat. When this threat was absent, caregiving salience either decreased negative attitudes toward out-groups (Study 3) or did not affect them (Studies 1 and 2).

This pattern of results remained markedly similar regardless of whether the study was conducted in Israel (Studies 1 and 3) or the United States (Study 2) and whether the threatening out-group was Arab Israelis (Study 1), Arab Americans (Study 2), or African refugees (Study 3). This pattern of results also remained impervious to gender and parenthood status (Study 2) and was obtained with three manipulations of caregiving salience (eliciting memories of the first week after the birth of one's child in Study 1; viewing pictures of cute babies in Study 2; having one's infant present in Study 3), two threat manipulations (contemplating the possibility of intergroup violence in Studies 1 and 2; reading threatening news stories in Study 3), and two measures of out-group bias (measures of attitudes toward out-groups in Study 1 and 2; measures of support for policies regarding the out-group in Study 3).

The behavioral-ecology perspective suggests that the study of human psychology could be informed by considering the existence of evolutionarily preserved motivational systems (e.g., Cosmides & Tooby, 1994). For example, recent evidence has shown that phenomena such as risk aversion and intertemporal choice are greatly affected by the activation of such evolutionarily based motivational systems as mate seeking (Li, Kenrick, Giskevicius, & Neuberg, 2012) and territoriality (Stake, 2004). Furthermore, given that the roots of human intergroup hostility seem to run deep through our phylogenetic ancestry (e.g., Pitman, 2011), it has been suggested that adopting an evolutionary perspective can provide us with insights that could be helpful in alleviating conflict and aggression between groups (i.e., "peace ethology"; Verbeek, 2008).

The idea that human parental behavior is associated with protective aggressive instincts is prevalent in our culture, yet it has not received much empirical investigation. One recent study showed that lactating mothers (compared with nonlactating mothers) behaved more aggressively toward fellow participants in a competitive game (Hahn-Holbrook, Holt-Lunstad, Holbrook, Coyne, & Lawson, 2011). However, this study could not rule out the possibility that mothers who chose to breastfeed had different a priori levels of aggression or protectiveness. The present work showed that experimentally manipulating caregiving salience can increase derogation of threatening out-groups. It also showed that this increased protectiveness occurs only when the out-group is presented as threatening, and that it pertains to real-world intergroup conflicts.

Furthermore, we observed in Study 2 that the caregiving-related bias against threatening out-groups appeared for both men and women and for both parents and non-parents. These results suggest that parental protectiveness may be similarly attributable to males and females; furthermore, they may suggest that, as a result of the deep-rooted nature of this motivation, it also affects individuals who (at least as of yet) are childless. However, such a conclusion may be premature, especially in light of the finding whereby fathers (but not nonfathers) who were primed with baby pictures expressed higher out-group bias (regardless of threat).

Our results are also consistent with extant literature that shows that intranasal administration of the neuropeptide oxytocin in humans increases in-group favoritism and out-group derogation, especially when out-groups pose a threat to the in-group (e.g., De Dreu, Greer, Van Kleef, Shalvi, & Handgraaf, 2011; De Dreu et al., 2010). The interpretation of these findings has been that the function of oxytocin is in motivating in-group trust and cooperation, coupled with suspicion toward out-groups, which is manifested in competitiveness when threat is present. Across many species, oxytocin was also found to be associated with various caregiving-related behaviors (e.g., Wang, Ferris, & De Vries, 1994), such as regulating the human milk-let-down reflex (Nishimori et al., 1996). Thus, whereas this previous research suggested that parental caregiving and in-group bias are highly related at the physiological level, the current research extends this relation to the behavioral realm. An interesting (albeit speculative) possibility that should be addressed in future research is that the parental altruism system served as an evolutionary scaffold upon which some behaviors of parochial (in-group) altruism were constituted.

An intriguing finding that consistently emerged across all three studies (as well as in the manipulation-check study; see Additional Analyses and Results in the Supplemental Material) is that for participants who were not exposed to caregiving salience, out-group threat did

not enhance in-group bias. In fact, in all studies, out-group threat descriptively decreased in-group bias, and in Study 3 (in which the out-group-threat manipulation included information about the suffering of out-group members), this effect attained statistical significance. To some extent, this pattern of results is at odds with extant correlational evidence showing that out-group threat is associated with in-group bias (see Riek et al., 2006, for a meta-analysis). However, this same literature shows that most studies involving an experimental manipulation of realistic out-group threat did not find a main effect of out-group threat on in-group bias (e.g., Costello & Hodson, 2011; Stephan, Renfro, Esses, Stephan, & Martin, 2005), and in some conditions found the opposite effect (e.g., Asbrock & Fritsche, 2013; Legault & Green-Demers, 2012).

How can this experimental evidence be reconciled with correlational evidence showing that out-group threat and out-group derogation are closely linked? Past research (e.g., Cohrs & Asbrock, 2009; Legault & Green-Demers, 2012) has suggested that one possible answer to this question may be that in an experimental settings, individuals often become aware of possible biases and attempt to avoid or correct them (e.g., Mendes & Koslov, 2013). Interestingly, our results suggest that when push comes to shove—that is, when one's caregiving motivational system is activated—a less enlightened side of human nature may reappear.

It is important to note that in the current research, we measured participants' responses to (threatening) out-groups only. It is possible, however, that caregiving salience would upregulate any threat-related precautions. For example, it is possible that under conditions of caregiving salience, threats of natural disasters would increase compulsive checking, houseproofing, and food accumulation, whereas a contamination threat would lead to compulsive cleaning (see Lienard, 2011; Neuberg et al., 2011, for similar reasoning).

Despite the centrality of the caregiving instinct in altricial animals such as humans, research into its effects on cognition and behavior has been fairly scarce. This is especially true in comparison with other basic motivations, which have received much more attention (e.g., social status and power: Galinsky, Gruenfeld, & Magee, 2003; self-preservation: Greenberg et al., 1990; affiliation: Twenge, Catanese, & Baumeister, 2003). For example, much work within terror management theory has documented how mortality salience affects such diverse aspects of behavior as moral judgment (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989), financial behavior (Kasser & Sheldon, 2000), and creativity (Routledge & Juhl, 2012). Continued research into the effects of human caregiving motivation has the potential to reveal its role in similarly diverse aspects of behavior. The current research is only a modest first step in that direction.

## Author Contributions

M. Gilead and N. Liberman designed research and wrote the manuscript; M. Gilead performed research and analyzed the data.

## Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

## Supplemental Material

Additional supporting information may be found at <http://pss.sagepub.com/content/by/supplemental-data>

## Open Practices



All data have been made publicly available and can be accessed at <https://osf.io/3nkeh/>. The complete Open Practices Disclosure for this article can be found at <http://pss.sagepub.com/content/by/supplemental-data>. This article has received the badge for Open Data. More information about the Open Practices badges can be found at <https://osf.io/tvyxz/wiki/view/> and <http://pss.sagepub.com/content/25/1/3.full>.

## Notes

1. Including these covariates did not violate the assumptions of homogeneity of slopes and multicollinearity.
2. The same pattern of results emerged when no covariates were included in an ANOVA,  $F(1, 125) = 3.978, p = .024$ .

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