

# Anxiety Reduces Empathy Toward Outgroup Members But Not Ingroup Members

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## Abstract

Substantial research concludes that favoritism toward members of people's ingroup, or ingroup bias, motivates people to oppose public programs that assist needy outgroup individuals. I argue that a gap in the empathic capacity for ingroup and outgroup members motivates and maintains ingroup bias in helping behavior and is sensitive to contextual cues that trigger anxiety. Using a novel experimental design, Study 1 demonstrates that anxiety exacerbates the outgroup empathy gap. Study 2 replicates these findings with an explicit measure of outgroup empathy. Study 3 shows that the outgroup empathy gap causes individuals to become less supportive of helping needy outgroup members. These studies suggest that opposition to welfare programs may go beyond simple prejudice.

**Keywords:** Ingroup bias, empathy, welfare attitudes, racial prejudice, evolutionary psychology

## INTRODUCTION

The bias toward ingroups and against outgroups is well established and likely a fundamental aspect of human nature (Brewer, 2007; Rawlins and Kessler, 1986; Tajfel et al., 1971). Although ingroup bias may serve as a glue that binds people together, it has an ugly side, motivating prejudice and ethnocentrism (Allport, 1954). In large-scale heterogeneous societies, ingroup bias undermines support for welfare programs (Wright et al., 2012), especially if people perceive that those programs primarily benefit outgroups (Gilens, 1999).

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This paper investigates the role that human empathy plays in people's decisions to help others. Empathy, deeply rooted in human nature, emerged in our primate ancestors (Premack and Woodruff, 1978) and inscribed in our neural architecture (de Waal, 2008). Despite its centrality in motivating people to help others (Dovidio et al., 2006), political psychologists have mostly just begun to theorize about the role human empathy plays in political attitude formation (for exceptions, see Feldman and Steenbergen, 2001; Feldman et al., 2013; Sirin et al., 2016). Scholarship in neuroscience demonstrates that people are more likely to take the perspective of individuals who are part of their ingroup than they are from those who come from outgroups (Adams et al., 2010; de Waal, 2008). I argue that while this gap in empathic capacity motivates and maintains ingroup bias in helping behavior, it need not be an ever-present feature of intergroup relations. Because the outgroup empathy gap likely emerged early in the course of human evolution as a way to regulate intergroup relations, it should be sensitive to contextual cues about the presence or absence of external threats (Gray, 1987; McDermott, 2004). In particular, evolved psychological mechanisms designed to alert individuals to threat, particularly anxiety, should trigger and exacerbate the outgroup empathy gap.

I empirically evaluate this thesis with three randomized experiments. Study 1 employs a novel experimental design to unobtrusively measure the outgroup empathy gap and demonstrates that anxiety triggers a gap in empathy between ingroup and outgroup members. I replicate these findings with an explicit measure of outgroup empathy in Study 2. In Study 3, I extend these findings to a political setting and show that anxiety reduces white participants' willingness to help alleviate homelessness among African Americans.

## THE OUTGROUP EMPATHY GAP

Empathy entails the ability to experience the mental states of others, and is something that most humans do automatically and effortlessly (Premack and Woodruff, 1978; Preston and De Waal, 2002). An empathic response allows individuals to see the world from another's perspective and motivates people to help strangers (de Waal, 2008). Like ingroup bias, the capacity for empathy in humans is universal across cultures and has deep roots in our evolutionary history. Being sensitive to the emotions of others helped early humans (and our primate ancestors) live in social arrangements. At its most basic, it impels parents to care for their helpless infants (MacLean, 1985), but the advantages of empathy go beyond motivating prosocial behavior toward kin. It also facilitates communication and cooperation within larger groups (Buck, 2002).

Almost all humans possess empathic capacity.<sup>1</sup> Nonetheless, individuals differ from each other, with some individuals who are highly in tune with the emotions

<sup>1</sup>Individuals who exhibit Alexithymia, which overlaps with autism, lack empathic ability (Cook et al. 2013).

of others, some individuals who are almost oblivious to others' feelings, and many who fall in between (Baron Cohen, 2004). The same individual's empathic responses also vary across evaluative targets. Of particular interest here, people tend to exhibit more empathy toward those who are more similar to them than they do toward those who are dissimilar (Adams et al., 2010; de Waal, 2008; Preston and de Waal, 2002). The gap in empathy between ingroup and outgroup members (henceforth, the *outgroup empathy gap*) facilitates ingroup favoritism, because individuals are more likely to take the perspective of ingroup members (see Leyens et al., 2000). It may have arisen in the course of human evolution as a way to regulate cooperation with outgroups by making it easier for people to punish outgroup members who fail to reciprocate (Batson and Ahmad, 2001; Orbell et al., 2004). Because empathy motivates helping behavior, the outgroup empathy gap decreases the likelihood that individuals offer aid to members of outgroups when they are in distress (Cuddy et al., 2007; Dovidio and Gaertner, 2004).

However, it is unclear that people should *always* exhibit less empathy toward outgroup members. The archeological record is replete with evidence that intergroup interactions fluctuated between peaceful coexistence (e.g., trade) and violent conflict (e.g., war) (Petersen, 2015), suggesting that the outgroup empathy gap may be contextually sensitive. In particular, it may serve as a protective measure during times of threat. It turns out that extant evidence supports the contention that the social and political context influences the level of outgroup hostility. External threats — or at least a perceived ones — trigger ingroup favoritism (Hopkins, 2010; Kam and Kinder, 2007; Sniderman et al., 2004). At the psychological level, emotions channel contextual influences (Cosmides and Tooby, 2004). Anxiety alerts individuals to threats in the environment, and redirects cognitive resources toward avoiding those threats (Gray, 1987; McDermott, 2004). These threats could come directly from outgroups or some other vexing phenomenon, such as food shortages or pervasive pestilence (see Cosmides and Tooby, 2004). Moreover, even if outgroups do not propose a direct threat, people may remain wary of outgroup members in the face of threatening conditions, such as those that require competition over scarce resources. Accordingly, previous research demonstrates that anxiety — whether directly from an outgroup or some other cause — triggers outgroup bias as a protective measure (Brader et al., 2008; Cottrell and Neuberg, 2005; Hatemi et al., 2013).<sup>2</sup>

The implications of the outgroup empathy gap and its sensitivity to cues of external threat go beyond interpersonal relations. The politics of welfare provides an example. Despite the large-scale nature of the welfare state, individuals evaluate welfare policies, particularly the beneficiaries of those policies, in the same way they evaluate interpersonal requests for help (Lopez and McDermott, 2012; Petersen,

<sup>2</sup>I am agnostic on whether the effects of anxiety on outgroup bias are an adaptive aspect of anxiety (i.e., one of the functions of anxiety is to detect outgroup threat) or a by-product (i.e., anxiety manifests in the presence of external threats, broadly conceived and outgroup bias is one of many protective measures that anxiety can trigger; see Cottrell and Neuberg, 2005).

2012). Accordingly, support for welfare programs draws on prosocial orientations rooted in human empathy (Feldman and Steenbergen, 2001; Johnson et al., 2009). Because the outgroup empathy gap shapes helping behavior in interpersonal settings, it should also influence how people evaluate public programs aimed (or perceived to be aimed) at largely helping outgroups. We know that many white Americans oppose welfare programs because they perceive these programs mostly benefit African Americans who refuse to work as hard as other groups (e.g., Gilens, 1999; Kuklinski et al., 2000)<sup>3</sup> and that Americans' welfare attitudes reflect a preference for helping ingroup members (Winter, 2006; see also Kinder and Drake, 2009), rather than simply a cultural preference for rugged individualism (cf. Sniderman and Hagen, 1985). The psychology of the outgroup empathy gap may offer some insight into the dynamics of welfare attitudes.

In sum, I advance the thesis that the outgroup empathy gap triggers outgroup bias and motivates some individuals to oppose helping outgroup members. Because situational context influences empathic responses, I anticipate that when individuals experience anxiety state, they will exhibit less empathy toward outgroup members than they do toward members of their ingroup and, as a result less, willing help outgroup members relative to those that help ingroup members.

## STUDY 1: THE INFLUENCE OF ANXIETY ON THE OUTGROUP EMPATHY GAP

### Procedures

In spring 2011, I recruited 238 white participants living in the United States through *Amazon Mechanical Turk* (see Supporting Materials, Sections A1 and A2, for details about recruitment and sample). I measure empathic capacity toward ingroup and outgroup members using seven images drawn from the Reading the Mind in the Eyes Test (RMET), which is an unobtrusive measure of mindreading ability, a central element of empathic capacity (Baron-Cohen et al., 2001). The test focuses on people's ability to read people's mental states from the expression around their eyes, which provide a wealth of information about mental states, and correlates with empathic ability (Baron-Cohen, 2004; Rule et al., 2008; Vinette et al., 2004).

The survey that participants completed included a  $2 \times 2$  experimental design in which (1) participants were induced to feel anxiety or happiness and (2) the skin tone of the faces in the RMET was randomly manipulated to be white or non-white.<sup>4</sup> After answering demographic questions, participants were asked to

<sup>3</sup>Beyond the narrow confines of the American experience, support for the welfare state declines as the racial heterogeneity of countries increases (e. g., Alesina and Glaeser, 2004).

<sup>4</sup>See Supporting Materials, Section A5, for information about covariate balance across experimental conditions.

provide descriptive tags for three validated affect-inducing images (Lang et al. 2008) — one group ( $n = 111$ ) saw anxiety-inducing images and the other ( $n = 127$ ) saw happiness-inducing images (see Supporting Materials, Section A4, for details). After viewing the emotion-inducing images, participants completed the modified RMET.<sup>5</sup> For each RMET image, participants were randomly assigned to view either a white face or a non-white face and identify the person's emotional state (see Figure 1 for an example and Supporting Materials, Section A3, for details).<sup>6</sup>

## Results

Because all of the subjects in Study 1 are white, an outgroup empathy gap implies that the mental states of white faces are more likely to be correctly identified relative to non-white faces. The evidence supports the thesis that anxiety exacerbates the outgroup empathy gap. Relative to participants assigned to the happy condition, participants in the anxiety condition exhibited less empathic capacity on outgroup photos (non-whites) than on ingroup photos (whites). Individuals in the anxiety condition offered less accurate responses on the outgroup photos by 7.7 percentage points ( $M_{\text{ingroup}} = 0.696$ ,  $M_{\text{outgroup}} = 0.619$ ,  $SE_{\text{difference}} = 0.047$ ,  $p = 0.05$ , one-tailed).<sup>7</sup> In contrast, subjects assigned to the happy condition were less accurate on the emotional states of outgroup photos by only 1 percentage points ( $M_{\text{ingroup}} = 0.668$ ,  $M_{\text{outgroup}} = 0.658$ ,  $SE_{\text{difference}} = 0.032$ ,  $p = 0.763$ ). The difference between the effects observed in the anxiety condition and the happy condition (i.e., the interaction between the skin-tone and anxiety manipulations) is statistically significant ( $p = 0.05$ , one-tailed). See Supporting Material, Section A6, for full statistical results.

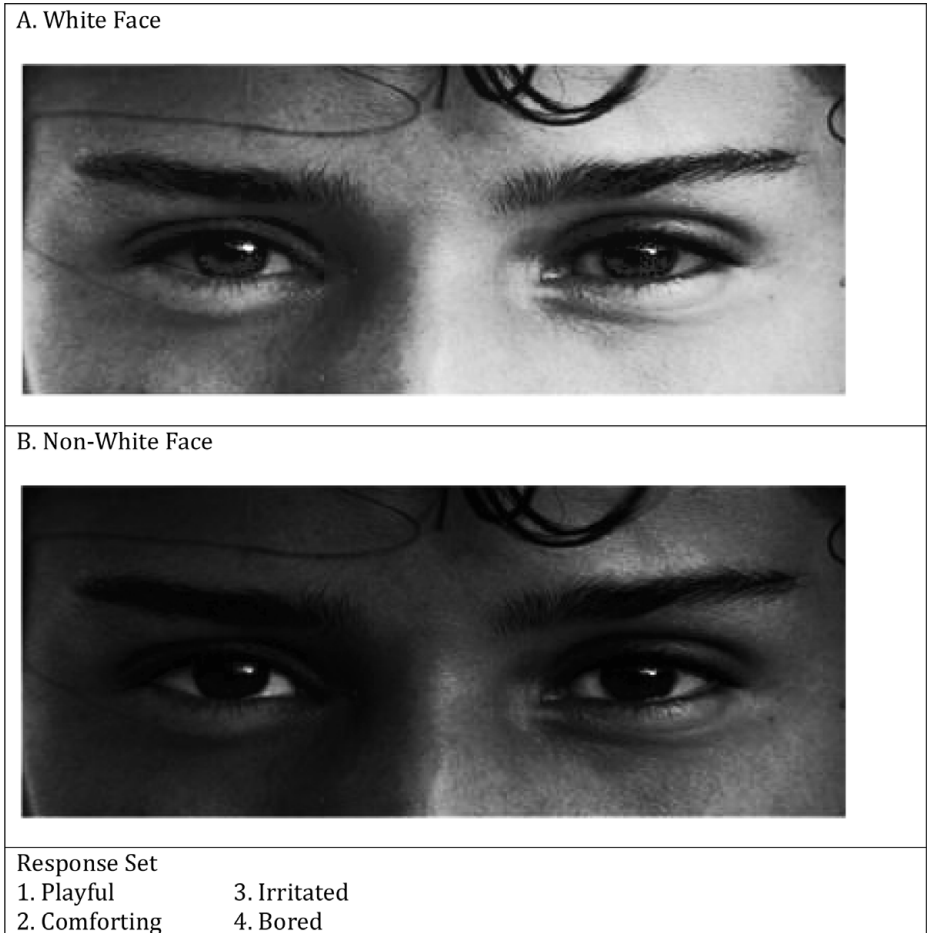
## STUDY 2: REPLICATION OF OUTGROUP EMPATHY GAP USING EXPLICIT MEASURES

Study 1 supports the paper's central thesis. Mindreading forms the basis of human empathy, and when people are anxious, they are less adroit at reading the mental state of outgroup members than they are of ingroup members. Like all studies, it has limitations. Empathic capacity includes a cognitive component, which mindreading

<sup>5</sup>To check the anxiety manipulation, after viewing the emotion-inducing images, participants were asked to complete an emotional terms battery (Nervous, Frightened, Afraid, Jittery; see Watson and Clark, 1994) on a 100-point scale using a slider widget ( $\alpha = 0.91$ ,  $M = 13.8$ ,  $SD = 18.6$ ). As expected, participants assigned to the anxiety-inducing condition experience more anxiety than those assigned to the happy-inducing condition ( $M_{\text{happy}} = 11.1$ ,  $M_{\text{anxiety}} = 16.7$ ,  $SE_{\text{difference}} = 2.41$ ,  $p = 0.02$ ).

<sup>6</sup>As a manipulation check, subjects were asked to identify the race of the person in each of the pictures. Subjects identified the person as white in the white-modified photos 92.5% of the time compared to 44.6% of the time for the non-white-modified photos ( $p < 0.001$ ). Because only the skin tone of the faces were altered and not their phenotypic features, this subtle manipulation may underestimate the effects of outgroup status on empathic capacity.

<sup>7</sup>Because the outgroup empathy gap thesis offers directional hypotheses regarding the effects of anxiety and outgroup status, I report one-tailed tests.



*Figure 1*

**Example of skin-tone manipulation in the Modified Reading the Mind in the Eyes Test. Note: See Supporting Materials, Figure S1, for all photos.**

captures, and an affective component (e.g., sympathy and compassion) (Davis, 1983). Study 1 does not tap the affective component of empathy, making it unclear whether anxiety reduces people's willingness to help outgroup members, on average. After all, if anxiety only diminishes the perspective-taking ability of individuals who do not sympathize with outgroup members even when they accurately intuit outgroup members' emotional state, then the results in Study 1 may not have important social implications. Another limitation is that happiness may induce individuals to be *more* empathetic toward outgroups (Johnson and Fredrickson, 2005). Consequently, the results above may not show the effects of anxiety, but the effects of happiness.

## Procedures

In fall 2016, I recruited 588 white participants from Survey Sampling International's Internet panel (see Supporting Materials, Sections A1 and A2, for details about recruitment and sample). To address the limitations above, participants completed a nearly identical emotion induction task as participants in Study 1. Those assigned to the anxiety condition saw the same images ( $n = 303$ ), but participants assigned to the control condition saw three neutral images (e.g., a spoon) drawn from the same validated source ( $n = 285$ ; see Supporting Materials, Section A4, for details). This experimental design enables estimating the effects of anxiety relative to people's resting emotional state.<sup>8</sup> After completing the emotion-induction task, participants answered the 14-item Group Empathy Index developed by Sirin et al. (2016). This index measures people's empathic capacity (both affective and cognitive dimensions) toward outgroups with questions like "I often have tender, concerned feelings for people from another racial or ethnic group who are less fortunate than me." The responses were combined into a single index where higher values indicate higher levels of outgroup empathy using factor analysis (see Supporting Materials, Section A3, for details).<sup>9</sup> Using an explicit measure of group empathy presented a harder test for the paper's thesis because it introduces the issue of social desirability bias. If people are motivated to appear open-minded toward outgroups, they may provide a more rosy assessment of their empathy toward other groups, which would bias the effects of the anxiety manipulation downward.

## Results

Participants assigned to the anxiety condition expressed lower levels of empathy toward outgroups than those assigned to the neutral condition ( $M_{\text{anxiety}} = -0.065$ ,  $M_{\text{neutral}} = 0.071$ ,  $SE_{\text{difference}} = 0.079$ ,  $p = 0.04$ , one-tailed). The anxiety treatment had similar effects on the affective component of group empathy ( $M_{\text{anxiety}} = -0.06$ ,  $M_{\text{neutral}} = 0.058$ ,  $SE_{\text{difference}} = 0.078$ ,  $p = 0.06$ , one-tailed) and the cognitive component ( $M_{\text{anxiety}} = -0.039$ ,  $M_{\text{neutral}} = 0.04$ ,  $SE_{\text{difference}} = 0.046$ ,  $p = 0.04$ , one-tailed). It is worth noting that while the effect of anxiety on self-reported outgroup empathy is modest, it is comparable in magnitude to gender and socioeconomic status. See Supporting Material, Section A6, for full statistical results.

## STUDY 3: THE OUTGROUP EMPATHY GAP AND WILLINGNESS TO HELP

Studies 1 and 2 provide compelling evidence that anxiety diminishes people's empathic capacity toward outgroup members, on average. Study 3 investigates

<sup>8</sup>Study 3 employs a manipulation check to validate that the anxiety-related images increase feelings of anxiety relative to these neutral images.

<sup>9</sup>The responses were also combined into an affective index and a cognitive index using confirmatory factor analysis (see Supporting Materials, Section A3, for details).



whether this anxiety-induced outgroup empathy gap shapes political attitudes — particularly attitudes toward helping social groups in need.

## Procedures

In early 2013, I recruited 1,264 white participants living in the United States via *Amazon Mechanical Turk* (see Supporting Materials, Sections A1 and A2, for details about recruitment and sample). This study asked participants to express their opinions about a large-scale social problem — homelessness among youth. It featured a  $2 \times 2$  experimental design that (1) used the same emotion induction protocol described in Study 2 to vary feelings of anxiety ( $n_{\text{anxiety}} = 623$ ;  $n_{\text{neutral}} = 641$ )<sup>10</sup> and (2) manipulated whether the homeless problem had an African American face ( $n = 642$ ) or not ( $n = 622$ ). After completing the emotion-induction protocol, participants in the control condition read the following statement: “According to the *New York Times*, homelessness has been on the rise among young adults.” Participants in the outgroup condition read a nearly identical statement; save for the rise in homelessness was attributed to “young African American adults.” Because young adults are expected to work irrespective of their ingroup status (Petersen et al. 2010), this example neutralizes differential considerations about the deservingness of groups as potential welfare beneficiaries.<sup>11</sup>

After participants read the statement about youth homelessness, they answered two questions. One was designed to measure participants’ empathic response by asking them to agree or disagree with the statement, “My heart goes out to young adults who live on the street.” The second measured participants’ willingness to help by asking them to agree or disagree with the statement, “We should do more to help the homeless.” Participants placed their answers on a seven-point scale.

## Results

Figure 2 displays the effects of the race of beneficiary manipulation by affect induction conditions. In the neutral condition, the race of the beneficiary had no substantive effects on empathic response or willingness to help the homeless ( $p = 0.93$  and  $p = 0.84$ , respectively). In contrast, participants in the anxiety condition exhibited less empathy toward young African Americans who live on the street ( $p = 0.03$ , one-tailed), and were less likely to express a willingness to help the homeless if target beneficiaries were explicitly described as African Americans ( $p < 0.01$ ). The effects of the race prime on empathic response and willingness

<sup>10</sup>Using the same measure of anxiety as in Study 1 ( $\alpha = 0.90$ ), a manipulation check showed that the anxiety-inducing photos elevated participants’ self-reported level of anxiety ( $M_{\text{neutral}} = 10.6$ ,  $M_{\text{Anxiety}} = 17.9$ ,  $SE_{\text{Difference}} = 1.03$ ,  $p < 0.001$ ).

<sup>11</sup>For example, if the target beneficiaries were older, negative racial stereotypes may lead some whites to assume that older whites put in more effort over their lifetime (e.g., through continuous employment) than African Americans, making older whites more deserving of public assistance than older African Americans.



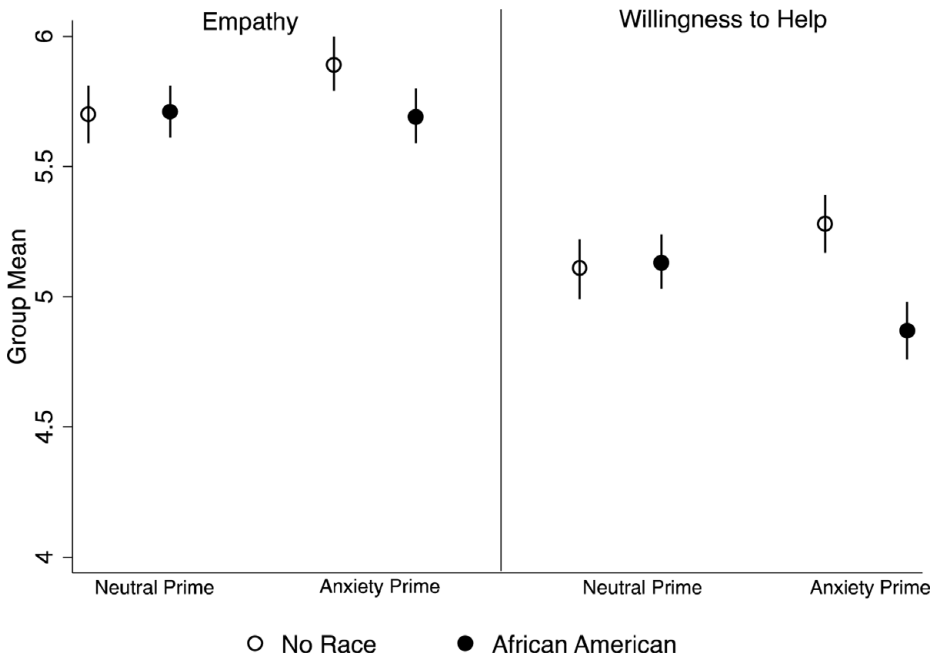


Figure 2

**The Effects of Anxiety on Ingroup Bias in Empathy and Willingness to Help, Study 2. Note: The dots represent group means and the vertical lines represent the 84% confidence interval. The more common 95% confidence intervals of two means drawn from different distributions overlap more than 5% of the time and produces a Type I error rate at approximately the 0.006 level and not the often incorrectly presumed 0.05 level. If one wishes to infer the two-tailed level of statistical significance at the 0.05 alpha level from the overlap of confidence intervals, it is more appropriate to specify 84% confidence intervals (Goldstein and Healy, 1995).**

to help in the anxiety condition were significantly different from the null effects observed in the neutral condition ( $p = 0.08$ , one-tailed and  $p < 0.01$ , respectively).<sup>12</sup> In substantive terms, if we categorize responses above the scale midpoint as support for helping the homeless and responses at or below the midpoint as opposition, the anxiety prime reduces willingness to help homeless African American youth by nearly 8 percentage points ( $p = 0.02$ , one-tailed). See Supporting Material, Section A6, for full statistical results.

## DISCUSSION

Ingroup bias is a pervasive aspect of human relations. The evidence presented here supports the notion that ingroup bias is partially rooted in differences

<sup>12</sup>Section A7 of Supporting Materials provides an analysis of whether empathy mediates the effects of outgroup status on willingness to help individuals.

in empathic capacity for ingroup and outgroup members and illustrates the analytical value of evolutionary informed theories of political psychology (cf. Lopez and McDermott, 2012). The need to form boundaries around ingroups also creates a need to regulate to whom we extend trust and aid. The outgroup empathy gap provides a psychological mechanism that enables people to withhold aid from outgroup members while giving it to ingroup members *who find themselves in the same predicament*. At the same time, humans evolved to be sensitive to the external environment. In threatening environments, ingroup bias offers individuals protective benefits. Consistent with the sociofunctional perspective (Cottrell and Neuberg, 2005) that discrete emotions help activate evolved mechanisms (Cosmides and Tooby, 2004), I find that anxiety can cause individuals to be less understanding of individuals different from them, and exacerbate ingroup bias in people's willingness to help those who are different from them.<sup>13</sup>

These results suggest that opposition to public assistance for members of outgroups need not spring solely from prejudice. The outgroup empathy gap may lead some people to be less likely to *understand* outgroup members and their motivations. Nonetheless, just because people's diminished willingness to help others arises from something other than animus is not a reason to celebrate. From a normative perspective, it may be more troubling that a deep-seated psychological mechanism underlies opposition to welfare programs, since it could be more difficult to condition automatic psychological processes than to combat socially instilled prejudice.

If we extrapolate a bit further, these findings may explain why anxiety-inducing social phenomena, such as wars or economic downturns, often lead to jingoism (Brewer, 1999) or why people more likely to express a preference for draconian punishments, such as the death penalty, when individuals from outgroups commit crimes (Peffley and Hurwitz, 2007). It also provides some insight into how seemingly "normal" people can participate in mass scale atrocities, such as ethnic cleansing, toward outgroup individuals and why such appalling behavior is most likely to occur in high anxiety contexts (Staub, 2003).

## SUPPLEMENTARY MATERIAL

To view supplementary material for this article, please visit <https://doi.org/10.1017/XPS.2017.12>

<sup>13</sup>Different contexts may activate ingroup bias via psychological mechanisms. Anger may activate ingroup biases when individuals perceive that their group has been treated unfairly relative to other groups (cf. Banks and Valentino, 2012). Concerns about infections through contact with unfamiliar others may induce feelings of disgust (Faulkner et al. 2004).

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