

Maner, Study 2

H

pg 63 (10) DOMAIN: A/1= race, B/2= ethnicity C/3 = gender-sex D/4 = food or drink
E/5 = other consumer F/6= political G/7 = drugs or tobacco
H/8 = self esteem I/9= personality/self K/10 = clinical
L/11= relationships M/12= other? (not a tony category)

pg 72 (11) BEHAVIOR: single=1, average=2

pg 72 (12) IAT TYPE: ~~attitude~~=1, belief=2, self=3, not reported = 4

71-72 ~~na?~~ (13) EM TYPE: attitude=1, belief=2, self=3, not reported = 4

pg 72 (14) OVERALL METHOD: not=0 observed=1

pg 72 (15) METHOD: RepPast=1, future=2, emotion=3, judge=4, obs=5, neuro=6, other=7

pg 72 (16) SCORE: millisecond=0, log=1, algorithm=2, NotReported=3

pg 72 (17) words=0, pictures=1, NotReported=2

pg 72 (18) number of IATs: 1

(19) IAT ORDER: NotReported=0, iatfirst=1, iatsecond=2, iatthird=3

(20) EXPLICIT ORDER: NotReported=0, explicitfirst=1, expsecond=2, explthird=3

pg 72 (21) BEHAVIOR ORDER: NotReported=0, behfirst=1, behsecond=2, behthird=3

(22) IAT vs. behavior: NotReported=0, before=1, after=2, counter=3

(23) EXPLICIT vs. beh: NotReported=0, explicitfirst=1, expsecond=2, counter=3

(24) IAT SESSION: same=0, different=1

(25) EXPLICIT SESSION: same=0, different=1

(26) IAT SOCIAL DESIRABILITY 1-7 7

(27) EXPLICIT SOCIAL DESIRABILITY 1-7 X

(28) BEHAVIOR CONTROLLABLE: 1-10 7

(29) IAT SPECIFIC 1-7 3

(30) EXPLICIT SPECIFIC 1-7 X

(31) OPPOSITION 1-5 2.5

pg 63 (32) RACIAL: ~~0=not~~ 1=racial

pg 72 (33) type of iat: single=1, dual=2, personalized=3

pleasant
vs.
threatening

desc: old score 2
error in old score: was no EM should be blank
desc: old score = 2
error in both: should be blank (no EM)

(Group 40-140)
DONE

Functional Projection: How Fundamental Social Motives Can Bias Interpersonal Perception

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Results from 2 experimental studies suggest that self-protection and mate-search goals lead to the perception of functionally relevant emotional expressions in goal-relevant social targets. Activating a self-protection goal led participants to perceive greater anger in Black male faces (Study 1) and Arab faces (Study 2), both out-groups heuristically associated with physical threat. In Study 2, participants' level of implicit Arab-threat associations moderated this bias. Activating a mate-search goal led male, but not female, participants to perceive more sexual arousal in attractive opposite-sex targets (Study 1). Activating these goals did not influence perceptions of goal-irrelevant targets. Additionally, participants with chronic self-protective and mate-search goals exhibited similar biases. Findings are consistent with a functionalist, motivation-based account of interpersonal perception.

Almost a century ago, Sigmund Freud proposed that people sometimes engage in a process he called *projection*: attributing their own unacceptable emotions and desires to someone other than themselves (Freud, 1915/1957; cf. Newman, Duff, & Baumeister, 1997). The concept of projection shows up in other conceptual guises as well. For instance, activating particular emotions and goals can lead people to overperceive similar emotions

and goals in others (e.g., Kawada, Oettingen, Gollwitzer, & Bargh, 2004; Niedenthal, Halberstadt, Margolin, & Innes-Ker, 2000). One common denominator in these existing approaches to projection is some presumed similarity between self and other. In the present research, we examined a qualitatively different form of emotional projection—one in which the arousal of specific motivational states leads people to perceive emotions in others that are not necessarily identical to their own (in fact, they often may be quite different) but that are nonetheless functionally related to their own motivational states. We refer to this phenomenon as *functional projection*.

The Functional Projection of Emotion

The logic underlying this hypothesized phenomenon is rooted in theory and research pertaining to the functions, physiological concomitants, and cognitive consequences of human emotions. The capacity for specific emotional experiences evolved in humans and other animals because these specific emotional experiences helped their ancestors navigate the challenges of everyday existence. Thus, the experience of specific emotions has been functional to the survival of individuals and the reproduction of their genes (Buck, 1999; Darwin, 1872; Ekman, 1982; Panksepp, 1982; Plutchik, 1980; Tomkins, 1982). Emotional experiences are

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less apparent within "strong" social situations (Snyder & Ickes, 1985; see also Bargh, Lombardi, & Higgins, 1988).

With respect to individual differences in sociosexuality, there were three noteworthy findings. First, in the control condition, sexually unrestricted individuals perceived greater sexual arousal in attractive opposite-sex others, a finding consistent with previous theory and research on sociosexual orientation (Simpson & Gangestad, 1991). Second, this relationship existed only in the control condition and was not observed in either condition in which highly salient temporary motives were aroused. Third, the links between SOI and perceptions of sexual arousal emerged symmetrically for both male and female perceivers. Why was a sex difference observed for temporarily aroused mate-search motives but not for an individual difference variable that taps into a conceptually similar goal state? One answer lies in the natural confound between gender and sociosexuality (e.g., Simpson & Gangestad, 1991, 1992). On average, men tend to be more unrestricted than women, and so under conditions in which mate-search motives are salient, men are more likely than women to project greater sexual arousal onto desirable mating partners. Of course, this sex difference ignores variability within sex (cf. Gangestad & Simpson, 2000). Some women have unrestricted sociosexual orientations, and some men have restricted sociosexual orientations. Regardless of their sex, sexually unrestricted individuals are inclined to seek relatively large numbers of new sexual partners and therefore would be expected to project sexual arousal onto attractive members of the opposite sex.

Replicating the Self-Protection Effect

Before describing Study 2, which was designed to conceptually extend the self-protection findings from Study 1, we should note that we performed an additional study that replicated the experimental self-protection effects reported above. In the context of exploring some related issues, we conducted a separate data collection in which 51 participants (24 men, 27 women) judged an independent set of Black and White faces after viewing either the self-protection or control film clip (Kenrick et al., 2004). As in Study 1, participants reported the amount of anger, fear, happiness, and sexual arousal they saw expressed in each face. The findings of this experiment were consistent with those of Study 1. Compared with control participants, participants in whom a self-protection motive had been elicited reported seeing more anger in Black male faces, $F(1, 49) = 3.49, p < .04$ (one-tailed; $R^2 = .066$). Activating a self-protection motive, in contrast, did not lead participants to see more anger in White targets or Black female targets (all $ps > .20$). Nor did it lead participants to report more emotion in general in Black male faces: For perceptions of happiness, fear, and sexual arousal in Black men, all $ps > .29$. Finally, activating a self-protection motive did not lead participants to see more fear in target faces ($F < 1$). These findings, therefore, replicate the experimental self-protection findings from Study 1. They provide further evidence that the functional projection of anger is reliable, robust, and specific to targets that are heuristically associated with physical threat.

Study 2

In Study 2, we sought to methodologically improve on and conceptually extend the functional projection findings of Study 1.

Our primary goals were threefold. First, we sought to determine whether the self-protection effects found for perceptions of Black men would generalize to members of another heuristically threatening out-group (Arabs). Second, we wished to increase experimental control by using the same faces to portray both in-group and out-group members. Third, we examined the extent to which implicit attitudes toward the target group might moderate the projection of anger under fear-eliciting circumstances. If perceivers simply use out-group status as a crude heuristic cue signaling threat, then the arousal of a self-protective motive may lead them—regardless of their own personal beliefs—to project anger in the faces of Arabs. However, if perceivers draw on their own stereotypic prejudgments, then even self-protective perceivers may project anger onto Arab faces only to the extent that they personally have learned to associate Arabs with threat. If that is the case, one would therefore expect effects to be most pronounced among participants with strong Arab-threat associations.

The results of Study 1 reveal that the functional projection of anger was limited to the perception of Black men. Might one expect the effects of Study 2 to be similarly limited to Arab male targets? Following the reasoning outlined at the outset of Study 1, the answer depends on the extent to which threat-relevant prejudicial expectations are specific to Arab men or general across Arab men and women. Some data suggest the former, indicating that men are generally regarded as more threatening than women (Daly & Wilson, 1988) and that anger is more quickly identified in male faces than in female faces (Becker, Kenrick, Neuberg, & Smith, 2004). These findings suggest that the functional projection of anger would be most pronounced for Arab male targets.

Several other sources of information, however, indicate that threat-linked expectations of American participants might not be specific to Arab men. One source of information is provided by the cultural context: Data were collected at an American university during a time when U.S. relations in the Middle East were strained—the United States had just begun its military campaign against Iraq—and in media outlets, Arab peoples of both sexes were portrayed as dangerous and fanatically anti-American (e.g., in April 2002, *Newsweek* magazine ran a cover story on an 18-year-old Palestinian female terrorist, with the banner headline "Suicide Mission: A Human Bomb and Her Victim"; Hammer, 2002). This line of reasoning is buttressed by a second source of information: Additional data collected from an independent sample of undergraduates. These data suggest that stereotypic expectations of Arabs—at least along the pertinent dimension of threat—are similar for male and female targets (these data are reported in greater detail in the *Results* section). Consequently, in Study 2, there is a conceptual basis for anticipating that the functional projection of anger might occur for both Arab men and women.

Method

Participants. One hundred two undergraduate psychology students (38 women, 64 men) participated in the study. They were awarded course credit for their participation.

Design. Each participant was randomly assigned to view a film clip designed to elicit either self-protective motivation or no particular motivation (control). Each participant then viewed a series of male and female target faces that were portrayed as being either White American university students or Arab nationals. The overall experimental design of the study

(13) (in whole sent 71-79)

2 (motivational state: self-protection, control; between subjects) \times 2 (participant sex; between subjects) \times 2 (target sex; within subjects) \times 2 (target group: American, Arab; within subjects) design. Participants' level of implicit Arab-threat associations served as a continuous between-subjects independent variable.

Materials. As in Study 1, scenes from *Silence of the Lambs* were used to elicit self-protective motivation, and scenes from *Koyaanisqatsi* were used in the control condition. To achieve greater uniformity of facial expression across target race, we used the same faces to portray both Americans and Arabs. Photos of six male and six female ethnically ambiguous undergraduate students were used. Target race was manipulated by (a) slightly lightening or darkening their skin and (b) including either a baseball cap or Middle Eastern headgear on their heads (gender-appropriate headgear was used). These photographic manipulations were performed using Adobe Photoshop. Each participant saw a total of 12 target faces: 3 of each gender-race combination (e.g., American woman, Arab man). No participant saw the same face depicted as both American and Arab. We randomized across participants which faces were presented as Arab and which were presented as American, and each face was presented an equal number of times as Arab versus American. Pretesting indicated that all targets maintained relatively neutral facial expressions (below 4.0 on a 9-point scale of emotional expressiveness).

Procedure. The procedure was similar to the one used in Study 1. Participants were told that the study investigated people's ability to perceive subtle emotional microexpressions in other people's faces. Participants were told that the study was being conducted in collaboration with Middle Eastern researchers and that some of the photos they would be viewing were of Arab nationals whereas others would be of students at their own university. Participants were told that although some of the faces they would see expressed little emotion, other faces might be hiding certain emotions (but that those emotions could be identified via subtle microexpressions). Participants then watched either the fear-inducing or the control film clip and were asked to empathize with the characters in the clip. After viewing the clip, participants viewed and evaluated the expressions of the 12 target faces, which were presented on the computer in blocked and counterbalanced order. Each face was viewed for 1 s.

Once participants finished responding to each of the target faces, they performed a modified version of the Implicit Association Test (IAT; Greenwald et al., 2002). The IAT was used to assess the strength of participants' implicit associations between Arabs and threat. For this task, participants categorized target words into one of two ethnicity-attribute pairs—each pair consisted of an ethnicity (Arab or American) and an attribute (pleasant or threatening). In a "compatible" block of trials, one pair consisted of Arab and threatening and the other consisted of American and pleasant. That is, if a target word related to either Arab or threatening, the participant was to categorize it as being associated with the first pair. If, instead, the target word related to either American or pleasant, the participant was to categorize it as being associated with the second pair. In an "incompatible" block of trials, Arab and pleasant were paired, and American and threatening were paired (compatible and incompatible blocks were counterbalanced). Individual target words, which fell into one of these four categories, appeared in succession on the computer screen. Example words include *Baghdad* (Arab), *Washington* (American), *happy* (pleasant), and *murder* (threatening). When each word appeared, participants categorized it as quickly as possible (using a computer keyboard) into one of the two ethnicity-attribute pairs. Categorization response times were recorded. A participant with strong Arab-threat associations would be expected to more quickly categorize words on compatible trials than on incompatible trials, for he or she should more closely associate threatening words with being Arab than with being American. After completing the IAT, participants completed the BDW. Then they were probed for suspicion, debriefed, and dismissed.⁵

Measures. After viewing each target face, participants were asked to rate the extent to which they believed the target was (a) sexually aroused,

(b) angry, (c) frightened, and (d) happy. Responses were recorded using 9-point Likert scales with endpoints 1 (*not at all*) and 9 (*very much*). These measures served as the primary dependent variables. A BDW score was assigned to each participant by averaging responses to all items on the scale (after reverse scoring appropriate items; $\alpha = .78$).

An IAT score was assigned to each participant on the basis of his or her performance on the IAT. IAT scores were calculated using only reaction times to correct responses, and any reaction time longer than 3,000 ms was truncated to that value. For each participant, we calculated the mean of the resultant reaction times for the compatible (Arab-threatening vs. American-pleasant) and incompatible (Arab-pleasant vs. American-threatening) blocks. We then subtracted the mean reaction time for the compatible blocks from the mean reaction time for the incompatible blocks, yielding an index of Arab-threat association, with higher values indicating a greater degree of association between Arabs and threat.

Results

Assessing baseline levels of anger. One goal of this study was to eliminate baseline differences in perceived anger across target ethnicity by using the same faces to portray both American and Arab faces. We conducted a repeated-measures ANOVA, which confirmed that target faces were viewed as equally angry in the control condition, $F(3, 48) = 1.40, p = .25$.

Effects of activating a self-protection motive. To test hypotheses about the functional projection of anger, we performed a multiple regression analysis in which we predicted perceptions of anger in Arab targets from participants' motivation condition, IAT scores, participant sex, and the interactions among these variables (after centering each independent variable; nonsignificant interactions were dropped from the model).

The results of this analysis were consistent with expectations. There was a significant interaction between the motivation manipulation and participants' level of implicit Arab-threat associations ($\beta = -.30, p < .002$). To probe the moderating effect of IAT scores, we assessed the simple effect of the motivation manipulation at high and low points on the IAT scale (Aiken & West, 1991). We tested the simple effect of activating a self-protection motive at 1 standard deviation above and below the mean of participants' IAT scores ($SD = 102.82$; Aiken & West, 1991) and did so separately for perceptions of anger in the faces of Arab men and Arab women. Results indicate that for participants with strong Arab-threat associations, activating a self-protection motive significantly increased perceptions of anger in Arab men ($\beta = .28, p = .05$; partial $R^2 = .040$). The same effect was found for Arab women ($\beta = .33, p < .03$; partial $R^2 = .053$). No such effects were found among participants with weak Arab-threat associations. For these participants, there was no evidence that a self-protection motive increased perceptions of anger in either Arab men ($\beta = -.18, p = .19$) or Arab women ($\beta = -.16, p = .27$).

The tendency for participants with strong Arab-threat associations to see Arab targets as angry was not due simply to a tendency for them to see them as more emotional in general. Activating a self-protection motive did not lead these participants to see Arabs as happier ($\beta = .13, p = .19$), more sexually aroused ($\beta = .10$,

⁵ None of the individual difference measures reported in this article (BDW and SOI in Study 1; BDW and IAT in Study 2) varied across experimental condition, suggesting that responses to these measures were unaffected by the experimental primes.