Negative Affect and Political Sensitivity in Crossed Categorization: Self-Reports versus EMG
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We experimentally examined the effects of negative integral affect on preferences among the double in-group (ii), crossed (io and oi), and double out-group (oo) targets of the crossed categorization paradigm. We used insults from members of politically sensitive vs. non-sensitive out-group categories of a crossed target (Oi) to induce affect. Dependent measures included self-reports and a psycho-physiological measure of affect (facial electromyography, EMG). Under no insult, participants conformed to social desirability pressure and favorably evaluated targets with a politically sensitive out-group membership, whereas facial EMG measures indicated greater negativity toward those same targets. Negativity of self-report and facial EMG measures converged, however, when members of a politically sensitive out-group category had provided hostility-justifying insults.

**Keywords**: crossed categorization, EMG, insult, intergroup, negative affect, political sensitivity, self-reports

*Hans Christian Andersen*, a 19th century Danish author, is known for his folk tales containing shrewd insights into the human condition. One such story tells of an emperor who hired two tailors to weave a suit of magical fabric. The tailors said that the fabric was so unique that it could only be seen by those who were good and worthy members of the emperor’s court. Although the expensive fabric did not exist, all members of the emperor’s court reported not only seeing it, but also described in detail its supposed beauty and elegance. When the emperor put on the new suit and marched through the town, only a young child was willing to say that the emperor was naked.

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This story illustrates a pervasive feature of social interaction—socially desirable responding. Social desirability acts by inhibiting responses that counter accepted social norms and expectations, and is typically motivated by a desire to present oneself positively to others (see Rosenberg, 1969; Rosenthal & Rosnow, 1969; Stricker, 1963). Without careful experimental design, its effects regularly can impede the discovery of scientific truth by vitiating the construct validity of dependent measures.

Socially desirable responding has a strong impact on the expression of prejudice and discrimination (e.g. Crosby, Bromley, & Saxe, 1980; Plant & Devine, 1998, 2001). Plant and Devine (1998) found that reports of stereotype endorsement vary with the publicity of the setting, indicating that external pressure to reject the endorsement of anti-African-American stereotypes is often a salient factor in the expression of racial attitudes. Other research (e.g. Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997) indicates that explicit measures of prejudice (i.e. self-reports) are often at odds with implicit measures, such as evaluative associations (see Fazio, Jackson, Dunton, & Williams, 1995; Greenwald, McGhee, & Schwartz, 1998).

In an effort to reduce prejudice, contemporary society proscribes public expression of negative attitudes toward certain social groups such as racial or ethnic minorities and homosexuals (Dovidio & Fazio, 1992; Dovidio & Gaertner, 1986; Gaertner & Dovidio, 2000). These social groups can be labeled politically sensitive social categories because of the strong social pressure in contemporary American culture that motivates the expression of manifestly favorable or non-biased attitudes toward them. In general, people do not want to be perceived as being prejudiced. Such perceptions may have an array of negative consequences, including social disapproval, lowered self-esteem, retaliatory aggression, lawsuits, and loss of employment. Consequently, when a person displays social behavior that suggests tolerance or acceptance toward members of politically sensitive categories, it is difficult to know if the expressed feelings and attitudes are genuine. Instead, they may result from motivation (whether conscious or not) to be perceived as fair or tolerant (Dovidio & Gaertner, 1991; Fazio et al., 1995; Vanman, Paul, Ito, & Miller, 1997).

Here, we specifically focus on the social desirability effects elicited by African-Americans and homosexuals—two social categories that are politically sensitive categories in contemporary American society. We do so within the context of the crossed categorization paradigm. In real-world settings people characteristically provide complex and multiple cues about their social identity, and the crossed categorization paradigm is important because it considers circumstances in which there are conflicting cues about the in-group/out-group identity of some of the persons being evaluated (e.g. Crisp & Hewstone, 1999, 2000, 2001; Crisp, Hewstone & Rubin, 2001; Miller, Urban, & Vanman, 1998). Although it vastly oversimplifies real-world settings, nevertheless, the study of prejudice in the context of such conflicting information adds an important ingredient for its ecological validity.

Finally, we also consider the moderating effects of integral negative affect (Bodenhausen, 1993). Although concerns about the social desirability of one’s behavior might ordinarily constrain expression of prejudice toward politically sensitive groups, insulting remarks by its members serve to justify the expression of prejudice and thereby reduce such restraint. Therefore, we examine the effects of insulting remarks that are made by members of politically sensitive or non-sensitive groups.

The crossed categorization paradigm

In the typical paradigm for experimentally studying crossed categorization there are four combinations of salient social category memberships among the persons who are targets of evaluation: a double in-group target (ii), two types of crossed targets (io and oi), and a double out-group target (oo). The double in-group target person shares both categories with the observer, and the double out-group target shares none. The crossed targets share
membership in one category with the observer, but are out-group members with respect to another. Typically, experimental studies of crossed categorization produces an additive pattern of evaluation across these four types of targets. Members of a double in-group receive the most favorable evaluation, those of a double out-group receive the least favorable evaluation, and the crossed targets are evaluated immediately (Hagendoorn & Henke, 1991; see Migdal, Hewstone, & Mullen, 1998, for a meta-analytic review).

Nevertheless, meta-analyses also show that in the context of this main-effect ordering of the four types of target persons, at least five other patterns reliably occur (Migdal et al., 1998; Urban & Miller, 1998). For example, in the category dominance pattern (e.g. Stangor, Lynch, Duan, & Glass, 1992; Urada & Miller, 2000), one category dimension is dominant (signified by a capitalized letter O or I), and categorization with respect to a second dimension has little (viz. ii > Io > Oi > Oo) or no (viz. ii = Io = Oi = Oo) effect on target evaluations. Other research shows reliable equivalence (ii = io = oi = oo: see Crisp & Hewstone, 2000; Deschamps & Doise, 1978; Ensari & Miller, 2001) and hierarchical acceptance patterns (ii > Io > Oi = Oo: Brewer, Ho, Lee, & Miller, 1987; Ensari & Miller, 1998).

The point in naming these examples is that despite some overall consistency, there is much variation in the outcomes of crossed categorization research that requires explanation. Thus, one purpose of the present study is to isolate factors that account for some of the variability of patterns of evaluations across the crossed categorization targets. In particular, we focus on the moderating effects of both the political sensitivity of a dimension of social categorization as well as integral negative affect.

Politically sensitive categories and social desirability

In part, a social category dimension becomes politically sensitive by virtue of its importance within the society. Ordinarily in the crossed category paradigm, when one category dimension is more important than the other it produces a category dominance pattern (e.g. Urada & Miller, 2000). In-group/out-group membership on the dominant dimension has more impact, whereas the potential evaluative impact of the subordinate or less important category dimension is ignored (viz. instead of io = oi, a dominant dimension produces Io > Oi). When one of the two category dimensions is a politically sensitive one, however, this expectation no longer holds. When Whites evaluate an out-group person who belongs to the politically sensitive category (e.g. an African-American person) it elicits socially desirable responding that precludes exhibition of bias. Thus, by contrast with the evaluative difference found when two non-sensitive category dimensions differ in importance (viz. Io > Oi), we expect the presence of a politically sensitive category dimension to create a false equivalence for the crossed targets (i.e. Io = Oi). Despite the greater importance of the politically sensitive dimension, the two crossed targets will be evaluated equally. We use the descriptive phrase false equivalence because social desirability will mask the stronger evaluative bias against the politically sensitive (and dominant) out-group category.

When responding favorably toward members of politically sensitive categories, some respondents may not even be aware of their true feelings toward members of such a group (Dovidio & Gaertner, 1991). Although they may believe that they have no bias against the politically sensitive out-group, they nevertheless express an attitude that reflects social desirability concerns rather than one that indicates their own feelings (Dovidio & Gaertner, 1991; Vanman et al., 1997). Consequently, if their attitudes and reactions to members of such sensitive categories are assessed with dependent measures that are able to separate automatic, uncontrolled reactions from the effects of social desirability, the outcomes on the two types of measures will differ. With measures that assess uncontrolled responding, the category dominance pattern will appear—reflecting the greater importance or dominance of the politically sensitive dimension.
Negative affect

Affect is one of several moderator variables that accounts for variation in obtained patterns of evaluation across the four targets (Urban & Miller, 1998). To provide experimental evidence for this meta-analytic finding, the current study focuses specifically on insult as a source of negative affect. Insult produces feelings of anger or frustration, which often leads to negative reactions and aggression toward others (Dill & Anderson, 1995; Stangor, Sullivan, & Ford, 1991).

The source of negative affect, however, is likely to further moderate its effect. Negative mood may reflect incidental affect—a generalized affective state not perceived as originating from an intergroup source or context (Bodenhausen, 1993; see also Crisp & Hewstone, 2000; Kenworthy, Canales, Weaver, & Miller, 2003; Urada & Miller, 2000). When instead the evaluator perceives his/her affective reaction as having been directly elicited by the group members in a given setting, the negative mood is said to reflect integral affect (Bodenhausen, 1993). In this latter instance, a person may have been insulted by a member of a particular outgroup category, leading perhaps to feelings of anger that not only are perceived as due to that outgroup person, but also are associated with that category. Consequently, more negative evaluations are directed toward any target person characterizeable as belonging to that insulting out-group category (signified by a capital O). In turn, this will make a crossed target with a membership in the insulting out-group as aversive as a double out-group target. Ensari and Miller (1998) experimentally confirmed these expectations, showing that experimentally induced integral affect elicited by members of one out-group generalized to the evaluations of other crossed categorization targets who were members of that out-group category.

Here we attempt to extend these latter findings (Ensari & Miller, 1998) in several ways. First, we examine the interaction between negative affect and whether its source is a politically sensitive or non-sensitive out-group category. We expected the hierarchical acceptance pattern (ii > io > Oi = oo) evidenced in Ensari and Miller (1998) to be confirmed irrespective of whether insulting comments came from out-group members of politically sensitive social categories (such as African-Americans or homosexuals) or from non-sensitive categories. Although social desirability typically is a strong motivator for constraining the expression of prejudice, there are situations in which people may feel justified in expressing negative reactions toward out-group members of politically sensitive groups. Such situations likely involve negative or undesirable actions by an out-group member of that category, with an ensuing perception by the evaluator that a public negative evaluation of that out-group is appropriate or justified. Consequently, the positive evaluations of members of such a politically sensitive group that are typically elicited by concerns about political correctness will disappear.

Second, we have included a psycho-physiological measure of out-group bias in the present experiment in order to show whether the predicted interaction between negative affect and political sensitivity is indeed due to socially desirable responding. Thus, by orthogonally manipulating negative affect and political sensitivity within a single experiment, the present study is the first direct empirical examination of their interactive effects within the crossed categorization paradigm.

Measures of automatic reactions

As is implicit in the preceding discussion, dependent measures such as self-reports of one form or another can cue experimental participants that the experimenter is interested in their attitude toward a particular group. Work that we cited in the opening section of this article (e.g. Crosby et al., 1980; Dovidio et al., 1997; Fazio et al., 1995; Greenwald et al., 1998; Plant & Devine, 1998, 2001) shows how such cueing effects can distort the meaning of self-reported attitudes toward members of politically sensitive social categories. At the same time, these studies emphasize the need for researchers interested in discovering and
studying socially unacceptable behaviors and biases to develop tools of measurement that do not introduce social desirability response bias. Although some researchers have used reaction-time measures of involuntary cognitive processes to assess automatic reactions toward a particular social group (e.g. Devine, 1989; Dovidio & Gaertner, 1991; Fazio, Sanbonmatsu, Powell, & Kardes, 1986; Judd, Park, Ryan, Brauer, & Kraus, 1995), examination of this literature (e.g. Vanman et al., 1997) shows that their use does not yield consistent effects. For instance, in accord with our own view, the reaction-time evidence of Fazio et al. (1995) showed that interracial bias between Whites and Blacks continues to persist in contemporary America and that social desirability constrains negative reactions to African-Americans. By contrast, Judd et al. (1995) concluded from their use of this same methodology that Whites now have positive attitudes toward Blacks.

A particularly useful alternative to the use of reaction-time procedures for assessing the valence and intensity of an emotional reaction to a stimulus is facial electromyography (EMG). EMG examines the electrical activity of a muscle region to assess activation of that particular muscle. It is useful for studying affective reactions, because research has shown a reliable relationship between activity in specific facial muscles and the valence of affect (Cacioppo, Petty, Losch, & Kim, 1986; Dimberg, 1990; Ekman, Davidson, & Friesen, 1990). For example, certain muscles of the face are more likely to be activated during an incipient frown than during an incipient smile. By measuring such non-voluntary muscular activity, facial EMG allows assessment of the affective feelings that accompany such muscular activation. Specifically, increased activity of the corrugator supercilii muscle above the eye, which pulls the eyebrows together to create a frown, is indicative of negative feelings. Increased activity of the zygomaticus major muscle, which pulls the corner of the lip upward to create a smile, is indicative of positive feelings (Cacioppo et al., 1986; Fridlund, Schwartz, & Fowler, 1984; McHugo, Smith, & Lanzetta, 1982). The muscular activity that is analyzed is very subtle, ordinarily being both non-visible and not under voluntary control. The use of other electrode placements in addition to those described above can further disguise their purpose (McHugo et al., 1982).

In sum, then, by using EMG not only can one assess automatic reactions, but also, by comparing them with self-reports one can examine the effects of social desirability on the expression of attitudes toward members of politically sensitive social categories.

Methodological overview and predictions

Within the context of the crossed categorization paradigm, we examined the effects of negative integral affect (insults from out-groups) when it is elicited by members of either politically sensitive or non-sensitive out-groups. We assessed their effects with dependent measures that can assess automatic, uncontrollable reactions (EMG scores) toward members of politically sensitive out-groups, as well as with self-report measures.

Negative integral affect was induced by having participants read either an article containing a series of insulting passages or a neutral article. The source of the insults was an out-group, which was either politically sensitive (viz. African-Americans or homosexuals) or not (viz. business majors or graduate students). Participants were led to believe that they would be choosing a partner for a discussion task from among an array of four other participants. These (bogus) targets varied according to the crossed categorization paradigm, resulting in ii, io, oi, and oo targets. The key element in this design, from the perspective of our hypotheses, is the Oi target. (Although in the experiment the crossed target who was the source of insults was either the iO or the Oi target, counter-balanced between subjects, we will hereafter refer to the Oi target as the source of insults and political sensitivity, to minimize confusion.) The Oi target was always the target whose out-group category matched the source of negative affect, and it was always the locus of the political sensitivity factor. Thus, for each
participant, integral negative affect and political sensitivity varied only with respect to the Oi target.

Based on the ideas presented in the preceding sections, we expected that, first, in the absence of negative affect (viz. no insult condition), self-reported evaluations of politically sensitive Oi targets will be more favorable than the evaluations of non-sensitive oi targets (Sensitivity-Control Hypothesis).

Our second hypothesis was that in the presence of negative affect (viz. insult condition), self-reported evaluations of politically sensitive Oi and non-sensitive oi targets will not differ (Sensitivity-Insult Hypothesis) in their respective negativity.

Third, when self-report and EMG measures are compared within the insult condition, both measures will converge in their relative unfavorability of the politically sensitive Oi target (Measures Convergence-Insult Hypothesis). In the no insult condition, however, these two measures will differ. There, in the self-report measure, the Oi target will be evaluated more favorably in the politically sensitive than in the non-sensitive condition. On the other hand, the EMG measures will indicate that the Oi target is evaluated less favorably in the politically sensitive than in the non-sensitive condition (EMG-No Insult Hypothesis).

Finally, replicating Ensari and Miller’s (1998) findings, in the non-sensitive categories condition we anticipated that on self-report measures, evaluations of crossed targets possessing an out-group membership in the category that is the source of insults (viz. Oi) will be less favorable than those of the crossed targets in the no insult condition (viz. oi) (Non-Sensitivity-Insult Hypothesis). In the insult condition, we expected the target evaluations of these non-sensitive categories to exhibit a hierarchical acceptance pattern (ii > io > Oi = oo) (Hierarchical Acceptance Hypothesis). By contrast, in the no insult condition we expected the non-sensitive categories to exhibit the typical additivity pattern (ii > io = oi > oo) (Additivity Hypothesis).

Method

Participants

Forty-eight students, enrolled in psychology classes at the University of Southern California, participated in this study. Each received extra credit in their course for participating. Three participants were removed from analysis due to suspicion about the purpose of the experiment.

Design

The design was a 4 (Type of Target: ii, io, oi, oo) × 2 (Insult: insult from one out-group category vs. no insult) × 2 (Political Sensitivity: out-group membership of oi target was or was not a politically sensitive category) mixed design. The first factor was manipulated within subjects, and the last two factors were manipulated between subjects. The participants were randomly assigned to the insult/no insult and politically sensitive/non-sensitive conditions, with the single exception that when the participant was African-American or homosexual (as indicated on the Participant Information Form, see procedure), she or he was not assigned to the politically sensitive categories condition. There were five such instances, and their results do not differ from those who were randomly assigned.

In the insult condition, the out-group category of the Oi target was identical to the out-group category that was the source of insult. For each participant, political sensitivity varied only for the Oi target, whose out-group membership was made to be the source of the insult.

Procedure

General cover story

Upon arrival, the participant was told that four others were simultaneously participating. To convince the participant that others were in separate experimental rooms, five (all bogus except the real participant’s) student ID numbers were listed on the door with instructions for each to report to the experimental room number next to his/her student ID number. Real participants were always assigned to the same room.

The participant was led to believe that the
The study was concerned with the physiological and psychological processes related to memory ability as well as with the effects of cooperation on a subsequent group discussion. The participant learned that she or he would later be given a chance to choose a partner for the discussion task, but that she would only be given a limited amount of information about the others. This latter requirement of limited information was given as the reason that the participants initially were separated into different rooms.

Next, the experimenter told the participant that she or he would be asked to memorize a text and complete a discussion task while physiological measurements were recorded. The procedure for attaching the electrodes was thoroughly explained and the participant was given the opportunity to examine the cleansing materials and electrodes. In order to ease the participant’s potential anxiety about having electrodes placed on her face, the word ‘sensor’ was used in lieu of ‘electrode’. After the experimenter cleaned the participant’s face, attached the electrodes, and verified proper impedance levels, she then pushed the ‘enter’ button on a keypad to indicate that the participant was logged on to the computer. At this time, the computer indicated that only four participants were logged on. The experimenter told the participant that they were waiting for one more participant (of the five alleged participants) to finish preparations. While waiting, the participant drew a number from a jar filled with numbered (allegedly between 0 and 8) slips of paper. The number drawn ostensibly determined the number of pieces of information to be given to her about each of the other four participants. Actually, all of the slips of paper were marked with the number 2 (corresponding to the two social category dimensions per target, of the crossed categorization paradigm), and the participant was told that each of the five participants would receive the amount of information for each partner that was determined by her or his own random drawing.

The experimenter then asked the participant to categorize herself along eight dimensions on a Participant Information Form. The participant was told that the other participants were also being given the same form at the same time by other experimenters, and that the information about the other participants would be exchanged later. This form was used to assess the participants’ category memberships and thereby select four appropriate target descriptions for each individual participant. The form asked participants to categorize themselves on the dimensions of age, year in school, ethnicity, academic major, university affiliation (viz. USC or UCLA), sexual orientation, graduate status (viz. graduate or undergraduate), and citizenship. Then, for each dimension, they indicated how important each of the groups were in terms of ‘your sense of who you are’ and ‘your self-identity’.

In an independent pilot survey of students from the Introduction to Psychology course at the University of Southern California (Fall, 1995), among a total of 20 social category dimensions, six of the eight social category dimensions listed above (age, year in school, major, university affiliation, graduate status, and citizenship) had been judged as approximately equal in social importance. Based on a separate survey (N = 230), homosexuality and race were chosen both as the politically sensitive categories and as the source of insult in the insult conditions. This assessment included both a social importance rating as well as a rating of sensitivity to political pressure, both on 7-point scales. The mean ratings for both race and sexual orientation on the ‘sensitivity to political pressure’ scale were 5.31 and 5.34, respectively (t(229) = .39, ns), though their mean importance ratings were 2.27 and 2.77, respectively (t(229) = 4.20, p < .05). This shows that although participants say these two social categories are only of low to medium importance, they respond as if there is pressure to be politically correct when dealing with people in these categories. These two categories were among 22 additional categories (e.g. political affiliation, smoker status, etc.) ranging from 1.44 to 4.41 in importance, and from 1.67 to 5.44 in political sensitivity. For the non-sensitive categories, degree major and graduate/undergraduate status were used. Their importance means were 2.59 and 2.36,
respectively, and their means for sensitivity to political pressure were 3.48 and 2.81, respectively. These categories are both of low to medium importance and low with respect to political sensitivity. The chosen sensitive (pooled, \( M = 2.52 \)) and non-sensitive (pooled, \( M = 2.47 \)) categories do not differ with respect to importance \((t(229) = .43, \ ns)\), but do differ with respect to political sensitivity \((M = 5.33 \) vs. \( 3.13, \) for sensitive (pooled) and non-sensitive (pooled) categories, respectively; \( t(229) = 15.39, \ p < .01 \)).

Idiographic selection of the target descriptions

In the present study, instead of crossing the same two specific dimensions to create four targets of crossed categorization paradigm for all experimental participants, we applied an idiographic selection procedure to create four targets with no overlapping category memberships among them. That is, each of the four potential discussion partners was presented as having group memberships in a distinct pair of two categories from among the subjectively important dimensions. For example, if the four idiographically selected dimensions of equal importance for a particular participant were citizenship, age, university affiliation, and graduate status, then for each potential discussion partner description two of those four dimensions were crossed randomly (within the constraint that, in the insult condition, the out-group category of the Oi target was made identical to the category that was the source of insults).

Manipulation of insult

After the participant completed the Participant Information Form, the experimenter explained the alleged memory aspect of the experiment. The participant was told that her or his task was to read a newspaper interview article carefully and remember its content as thoroughly as possible because she would later be asked to recall its content. An assistant, blind to conditions, gave the article (in a folder) to the participant.

In the insult condition, the article consisted of derogatory interviews with several persons from either politically sensitive or non-sensitive out-groups, as described earlier. These insulting articles consisted of 25 short interviews with various out-group members of the relevant category. Each insulting article allegedly had been photocopied from the university newspaper, but were actually created by the authors and copied onto a page containing the format and logo of the university newspaper. In each article, the interviewed out-group members of the selected category consistently stated negative, derogatory remarks about the participant’s in-group. The content of insults varied, but focused most often on academic and social performance, and appearance. For instance, some of the ideas contained in the alleged interviews with graduate students were the following: ‘Undergraduates need to adopt a more adult attitude that will enable them to gain respect from us’; ‘Most undergraduates are purposeless’; etc. To avoid arousing concerns about credibility, 3 of the 25 remarks were essentially neutral in valence (e.g. ‘I have neutral feelings toward undergraduates’).

In the no insult condition, the participant was given a neutral article about Disneyland. This article was of low to moderate affective intensity. It had been pretested in a previous experiment (Ensari & Miller, 1998) as being neutral with respect to pro/con affect and was devoid of any category information relevant to the social categories used in this study. We chose to use a control condition without any category information because of evidence suggesting that the mere presence of an out-group cue can elicit negative affect (Vanman et al., 1997).

Next, the experimenter left the room while the participant read the article. At this point, four target descriptions of the bogus participants (ii, io, oi, oo) were prepared via a computer program, using the information given by the participant on the Participant Information Form. For the insult condition, the four computer generated targets were used, but the ‘O’ in the Oi target was replaced with the category that was the source of insult. The Oi target was the only one, from among the four, to contain a sensitive and/or insulting category.
Manipulation of political sensitivity  In the non-sensitive conditions, one of the two (bogus) newspaper articles (interviews with an out-group category of the participant, namely, business majors or graduate students) was used to induce negative affect. In the politically sensitive category conditions, the insults came from either African-Americans or homosexuals. In the no insult conditions, the same procedure was used to select either a politically sensitive or non-sensitive out-group category for the Oi target, but participants read the Disneyland article rather than one containing insults. Once the four appropriate targets were determined, they were then entered into the experimental program (LabVIEW) on another computer, for later display on the monitor in the participant’s room.

Manipulation check  Along with the interviews, the participant was given a separate folder and told to answer the two brief questionnaires contained inside it once she had completed reading the article. To assess the effectiveness of the manipulation of negative affect, participants completed the two questionnaires in the folder; one included eight adjectives (four positive and four negative items) with 4-point scales for expressing feelings and opinions about the article. The other also included eight adjectives (four positive and four negative items) with 4-point scales for expressing how the article made the participant feel. Response categories for both scales were: strongly (4), slightly (3), unsure (2), and not at all (1).

Self-report measure  The experimenter re-entered the room after these two forms were completed (observed via a hidden, closed-circuit camera) and explained how to use the numbers on the keypad to answer the questions displayed on the computer screen. When the experimenter pressed ‘enter’ on the keypad, the computer indicated that ‘all five participants are now logged on’. The light in the room was turned off so the participant could easily see the computer screen, and the experimenter left the room.

Psycho-physiological measures  Surface EMG activity was recorded using Ag/AgCl electrodes (4 mm in diameter) placed in pairs, 1 cm apart, over the brow (corrugator supercilii) and on the cheek (zygomaticus major), in accordance with previous placement recommendations (e.g. Fidell & Cacioppo, 1986; Tassinary, Cacioppo, & Geen, 1989; Vanman et al., 1997). A single ground electrode was clipped to the earlobe on the opposite side of the face. Facial EMG signals were relayed through a shielded cable to a Grass Model 12 Neurodata Acquisition System preamplifier with an amplification...
factor of 50,000, a passband of 3 and 100 Hz, and calibrated to yield a 100 µV full scale deflection value. Signals were rectified and smoothed using Bak Electronics Model PF-1 integrators with a 0.05 second time constant. The two EMG channels were digitized at a rate of 500 samples per second, and transferred online to the computer controlling the experimental procedures. LabVIEW (National Instruments, version 3.1) graphical programming language was used to acquire and compile the EMG data.

A separate and distinct temporal window set apart each of the four evaluation targets. The computer screen announced ‘Think about this person as your potential discussion partner’ along with a description of the target (e.g. homosexual/USC student). This screen with the target description remained in view for 7.5 seconds. Then, the target description was again presented at the top of the screen along with the ratings scale (‘How much would you like this person as a discussion partner?’) for 13 more seconds. Thus, EMG was recorded for a total of 20.5 seconds for each target. This interval may seem a long time relative to intervals reported in the EMG literature; however, our pilot studies showed that most participants took an average of 10–15 seconds to respond to the questions for each target. Our goal was to obtain EMG scores during the period that participants were thinking about and responding to the target.

The EMG data were compiled and compressed into one mean score reflecting EMG activity for each target person during the entire 20.5 seconds. During the 13-second temporal window that presented each target as a potential partner, the participant indicated his or her preference on the keypad.

The EMG readings for the two facial locations were digitally sampled and compiled by LabVIEW, then filed into a spreadsheet file containing self-report measures for each of the four targets.

Results

Manipulation check
On the first mood questionnaire (‘How do you feel about the article?’), the positive items were kind, open-minded, friendly, and fair; the negative items were biased, insulting, prejudiced, and snobbish. The positive items on the second questionnaire (‘How did the article make you feel?’) were relaxed, overjoyed, pleased, and happy; the negative items were irritable, angry, annoyed, and sorry. Higher scores indicated that the adjective was a better description of the participant’s feelings. The order of these two questionnaires was counterbalanced between participants.

For each questionnaire, the positive and negative adjectives were separately averaged to create composite positive mood scores (Cronbach’s alphas = .75 and .74 for first and second questionnaires, respectively) and composite negative mood scores (alphas = .79 and .57, respectively). For the first negative mood index, from the questionnaire ‘How do you feel about the article?’ a one-way analysis of variance (ANOVA) between insult and no insult conditions showed that participants in the insult condition felt more negative (M = 2.59) than did those in the no insult condition (M = 1.97) (F(1, 46) = 5.41, p < .05). Likewise, on the positive mood index, participants in the insult condition felt less positive (M = 1.30) than did those in the no insult condition (M = 1.63) (F(1, 35) = 5.01, p < .05). For the second negative mood index, from the questionnaire ‘How did the article make you feel?’, the ANOVA between insult and no insult conditions showed that participants in the insult condition felt more negative (M = 3.17) than did those in the no insult condition (M = 2.25) (F(1, 45) = 11.20, p < .05). The second positive mood index revealed that participants in the insult condition felt less positive (M = 1.47) than did those in the no insult condition (M = 2.17) (F(1, 35) = 12.83, p < .05). These results indicate a successful manipulation of mood between insult and no insult conditions.
Partner evaluations

Self-report measures As previously indicated, the design was a 4 (Type of Target: ii, io, oi (or Oi), oo) × 2 (Insult: insult from one out-group category vs. no insult) × 2 (Political Sensitivity: Oi contained a politically sensitive out-group vs. oi contained a non-sensitive out-group) factorial with the first factor manipulated within subjects, and the last two factors manipulated between subjects. With respect to the sensitivity factor, there was no effect of the specific out-group category (African-Americans or homosexuals vs. graduate students or business majors) within the oi/Oi ratings. Thus, the results reported below reflect pooled African-Americans and homosexuals categories within political sensitivity, and pooled graduate students and business majors categories within non-sensitivity.

When we examined the participants’ preferences for discussion partner, a three-way ANOVA revealed an interaction between the type of article and the type of target \((F(3, 117) = 4.25, p < .01)\) (see Table 1). Neither the other interactions nor main effects were significant. As predicted, confirming the Non-Sensitivity-Insult Hypothesis, preference for the Oi target (whose non-sensitive out-group category matched the source of insults) was lower in the non-sensitive insult condition \((M = 3.21)\) than preference for the corresponding oi target in the non-sensitive no insult condition \((M = 4.33)\) \((F(1, 24) = 6.26, p < .05)\). In addition, the greater preference for the io \((M = 5.09)\) target over the Oi target \((M = 3.43)\) found within the insult condition (collapsed across sensitivity) \((t(25) = 5.53, p < .001)\) was not found in the no insult condition \((M = 4.58 vs. 4.82, for the io and oi, respectively; t(20) = -1.00, ns)\). The greater preference for the oi \((M = 4.82)\) target over the oo \((M = 3.34)\) target found in the no insult condition (again, collapsed across sensitivity) \((t(21) = -3.99, p < .01)\), was not found in the insult condition \((M = 3.43 vs. 3.44, for the oo and Oi, respectively; t(23) = 0.01, ns)\). Hence, as expected, when insults were received from a specific out-group, participants tended to reject others from that same out-group category as discussion partners.

Despite the absence of a 3-way interaction involving political sensitivity \((p = .67)\), we performed additional analyses on the ratings of the Oi target because theory had suggested a specific a priori hypothesis (Abelson, 1995; Hall & Rosenthal, 1995; Rosenthal & Rosnow, 1985). When we examined the preferences for the Oi vs. oi targets (between-subjects), a 2 (insult) × 2 (political sensitivity) ANOVA revealed a main

| Table 1. Mean preferences for targets as a function of insult from out-group members and political sensitivity of insulting out-group category (Oi) |
|-----------------|-----------------|-----------------|-----------------|-----------------|
| Condition       | ii target       | io target       | Oi target       | oo target       |
| Insult          |                 |                 |                 |                 |
| Politically sensitive \((N = 11)\) | \(M = 5.18\)    | \(4.82\)        | \(3.64\)        | \(3.73\)        |
| SD              | \(1.08\)        | \(0.98\)        | \(1.50\)        | \(1.79\)        |
| Non-sensitive \((N = 13)\) | \(M = 5.50\)    | \(5.23\)        | \(3.21\)        | \(3.15\)        |
| SD              | \(1.68\)        | \(1.09\)        | \(1.19\)        | \(1.82\)        |
| No Insult       |                 |                 |                 |                 |
| Politically sensitive \((N = 10)\) | \(M = 6.10\)    | \(4.80\)        | \(5.30\)        | \(3.30\)        |
| SD              | \(0.88\)        | \(1.48\)        | \(0.95\)        | \(1.51\)        |
| Non-sensitive \((N = 11)\) | \(M = 5.36\)    | \(4.36\)        | \(4.33\)        | \(3.17\)        |
| SD              | \(1.36\)        | \(1.21\)        | \(1.07\)        | \(1.47\)        |

Notes: Seven-point rating scales were used. Higher values indicate more preference for target. Means that do not share common subscripts within a row differ reliably from each other \((p < .05)\); ii = in-group/in-group; io = in-group/out-group; Oi = out-group/in-group (the source of insult); oo = out-group/out-group.
effect of insult ($F(1, 43) = 15.62, p < .001$), and a marginally significant effect of political sensitivity (see Table 1), ($F(1, 43) = 3.89, p = .055$). Insults from out-group members decreased preference for a new member of this out-group category as a discussion partner ($M = 3.43$ vs. $4.82$, for insult and no insult conditions, respectively). At the same time, as expected, preference for the politically sensitive Oi target ($M = 4.47$) exceeded that for the non-sensitive oi target ($M = 3.77$), both pooled across the insult factor.

Additionally, in accord with the Sensitivity-Control Hypothesis, in the no insult conditions, preferences for the Oi target possessing a politically sensitive category ($M = 5.30$) exceeded that for the oi target possessing a non-sensitive category ($M = 4.33$) ($t(20) = 2.22, p < .05$). In the insult condition, however, confirming the Sensitivity-Insult Hypothesis, evaluations of the Oi target possessing a politically sensitive category ($M = 3.64$) did not differ from those of the oi target possessing a non-sensitive category ($M = 3.21$) ($t(22) = .79, ns$). Thus, as anticipated, only when insult was associated with a politically sensitive category did participants evaluate the target possessing a politically sensitive out-group membership negatively. In the absence of insult, the participants were willing to conform to social desirability demands and evaluate a target possessing a politically sensitive out-group membership more favorably. Apparently, then, insult reduces the pressure to give socially desirable, favorable evaluations of politically sensitive out-group targets.

### Contrast analyses

To test whether the specific predicted patterns of preference across the four targets matched our predictions, we applied orthogonal contrast weights (Rosenthal & Rosnow, 1985). As expected in the Hierarchical Acceptance Hypothesis, the obtained pattern in the insult condition conformed to a hierarchical acceptance pattern ($ii > io > Oi > oo$), as shown by orthogonal contrast analyses using weights of 5, 1, $-3$, and $-3$ ($F(1, 23) = 40.15, p < .05$), with no residual variance ($F_{res}(3, 23) = .89, ns$). Further, confirming the Additivity Hypothesis, the pattern of preferences for targets was additive in the no insult condition ($ii > io = oi > oo$), as shown by application of the contrast weights of 4, 0, 0 and $-4$ ($F(1, 21) = 39.72, p < .05$), with no residual variance ($F_{res}(3, 21) = .63, ns$).

In sum, then, the anticipated additive pattern of preference for targets found in the no insult condition was altered in the insult condition in accord with our prediction. Insult produced a pattern in which the crossed target whose out-group category membership matched the source of insult (Oi) was evaluated as unfavorably as the double out-group target. The negatively valenced affective arousal that was induced by insults from out-group members resulted in a generalized effect in which preference decreased for new members of that specific out-group category as discussion partners (see Henderson-King & Nisbett, 1996). Thus, in the self-reports of this study, we replicated Ensari and Miller (1998, Study 2) wherein insult from an out-group produced a pattern that corresponds to a hierarchical acceptance pattern.

### Psycho-physiological (facial EMG) measures and comparisons with self-reports

Facial EMG measures from 7 of the 45 participants could not be recorded because of technical problems with the LabVIEW program. The EMG data were examined by two independent judges, blind to experimental conditions, in order to exclude artifacts and outliers that could be due to coughing, smiling, etc. (observed via hidden camera) during the data recording. For example, if the brow EMG data from a participant were 8.01, 9.74, 6.04, and 63.70, for the four targets, then the extreme score from the last target (63.70) was deleted. In addition, data for which the responses exceeded full-scale deflection (i.e. 100 µV) were deleted, because the preamplifiers were calibrated to yield a full-scale deflection of a 100 µV signal. Both judges strongly agreed in their judgments regarding editing of the data ($r = .94$). As a result, approximately 5% of the EMG data were excluded as artifacts and outliers.
For simplicity of presentation and in accord with previous research (e.g. Vanman et al., 1997), a composite measure of facial EMG was computed by subtracting the brow activity scores from the cheek activity scores such that more positive scores indicate more positive affect. To test the predicted divergence between the self-reported responses to the Oi partner and affect toward the same as seen in facial EMG activity, as well as to increase power for the within-subjects analyses (Bush, Hess, & Wolford, 1993), participants’ individual facial EMG scores and self-report scores were converted to $z$-scores. We then performed a multivariate ANOVA (MANOVA) in which the type of measure was treated as a within-subjects variable (see Figure 1). Confirming the EMG-No Insult Hypothesis, the analysis revealed an interaction between the type of measure and political sensitivity ($F_{1(1, 17)} = 7.30, p < .05$), indicating that under no insult participants reported more favorable evaluations of politically sensitive Oi targets (viz. African-Americans and homosexuals) ($z = .26$) than non-sensitive Oi targets (viz. business majors and graduate students) ($z = -.24$) on the self-report measures ($F_{1(1, 17)} = 4.80, p < .05$). At the same time, their facial EMG activity revealed greater negativity toward politically sensitive Oi targets ($z = -.27$) than toward non-sensitive Oi targets ($z = .22$) ($F_{1(1, 17)} = 4.46, p < .05$). Supporting this analysis, the EMG and self-report measures were virtually uncorrelated in the insult condition ($r(8) = -.054, p = .89$), whereas the two types of measure were correlated more negatively in the no insult condition ($r(13) = -.37, p = .20$). Thus, EMG unmasked the automatic, uncontrolled feelings of the participants, revealing the overlay of positivity that they had evidenced on their self-report measures.

When we examined the facial EMG scores for the Oi target, there was not an Insult $\times$ Political Sensitivity interaction ($F < 1$). Again, however, we performed additional analyses in order to assess specific a priori theoretical predictions regarding preferences for the Oi partner (Hall & Rosenthal, 1995; Rosenthal & Rosnow, 1985). Theory suggests that facial EMG measures of the politically sensitive vs. non-sensitive Oi targets will differ in the no insult condition, but that they will not differ in the insult condition. In the no insult condition, confirming the EMG-No Insult Hypothesis, participants exhibited less positive affect toward the politically sensitive Oi targets ($z = -.25$) than toward non-sensitive Oi targets ($z = .64$) ($t(12) = -2.04, p = .06$). However, supporting the Measures Convergence-Insult Hypothesis, in the insult condition this difference disappeared ($z = -.31$ vs. $z = .04$, for the politically sensitive Oi and non-sensitive Oi targets, respectively; $t(13) = -4.4, ns$). When negative integral affect is associated with a politically sensitive category, the scores on self-report evaluations were brought into line with those obtained on the EMG measures. Apparently, insult reduces the pressure to give favorable responses toward politically sensitive out-groups (see Rogers & Prentice-Dunn, 1981).

**Mediational analyses**

To further understand the effects that we have reported, we conducted mediational analyses (Judd & Kenny, 1981). Our predicted (and obtained) effects primarily concerned the Oi/oi targets. Because these were the key targets for our analyses, the mediational analyses examined the effects of our major independent variables (insult and political sensitivity) on the differential preference for these specific crossed categorization discussion partners. Thus, central to the psychological processes that might underlie our effects are the subjective affective effects evoked by the insult and political sensitivity manipulations respectively, and the subsequent impact of these subjective responses on bias exhibited toward the Oi and oi targets. Two types of measures assessed the relevant subjective responses: the mood manipulation check measured the subjective affective responses to the insult manipulation, whereas the facial EMG measures assessed the subjective affective responses to the manipulation of the political sensitivity of the crossed targets.

We assessed mediation for these two types of measures with four regression equations: first, the mediator was regressed on the independent
Figure 1. Standardized means of the self-report and facial EMG measures for the Oi target as a function of insult and political sensitivity. Higher scores indicate more positive evaluations (self-report) or positive affect (EMG) toward the target.
variable; second, the dependent variable was regressed on the independent variable to test for direct effects; third, the dependent variable was regressed simultaneously on both the independent variable and on the mediator to examine the link between the mediator and the dependent measure; finally, the dependent variable was regressed on the independent variable controlling for the mediator (Baron & Kenny, 1986; Judd & Kenny, 1981).

EMG-derived affect as the mediator of the political sensitivity of the Oi target In the no insult conditions, we had expected participants who were asked to express their relative preferences for an out-group target who belonged to a politically sensitive category (i.e. an African-American or a homosexual target) to exhibit more negativity in their EMG scores than those participants who were responding to non-sensitive targets. More fundamentally, we expected the underlying affect reflected in their EMG scores to make participants more aware of socially acceptable attitudes and behaviors, and in turn to lead them to hide their true feelings toward politically sensitive targets by evaluating them more favorably.

Following the four-step mediation analysis procedure, when we regressed the EMG scores for the Oi/oi target (the mediator) on political sensitivity (the independent variable), the results showed that the participants with a sensitive Oi target exhibited marginally more negative affect than did those with a non-sensitive Oi target ($F(1, 13) = 4.15, p = .06; R^2 = .20$). Second, regression of the preference for the Oi/oi target on political sensitivity indicated that the participants preferred the Oi target more strongly in the politically sensitive than in the non-sensitive condition ($F(1, 20) = 4.91, p < .05; R^2 = .26$). Third, regression of the Oi/oi preference on the EMG score with political sensitivity simultaneously entered in the equation showed that the EMG score for the Oi/oi target influenced the preference for that target ($F(2, 12) = 5.21, p < .05; R^2 = .25$). Finally, controlling for EMG responses to the Oi/oi target, the direct effect of political sensitivity no longer remained significant ($F(2, 10) = 1.36, p > .05$). Supporting this mediation effect, Sobel’s test of the change in beta from the simple (beta = .51) to multiple regression (beta = .19) was significant, ($z(12) = -5.02, p < .05$).

These results show that affect toward the Oi/oi target, as assessed by EMG scores, mediated the effect of political sensitivity on preferences for that target. They accord with our argument that social desirability is a strong motivator that suppresses people’s true reactions toward out-group members.

Affect as the mediator of insult We obtained a mood score for each participant by taking the average of the negative and positive self-reported adjective ratings that each participant had provided after the insult manipulation, after first reverse-coding the negative adjective ratings. The regression of affect on insult confirmed our previously reported analyses of the manipulation check data, which had indicated that participants who read the insulting articles responded with a more negative mood than those who read the neutral article ($F(1, 34) = 11.30, p < .01; R^2 = .26$). Consistent with the previously reported results, regressing the preference for the Oi/oi targets on insult confirmed the greater preference for the oi target in the no insult condition than for the Oi in the insult condition ($F(1, 45) = 14.62, p < .001; R^2 = .25$). At the third step of the mediational analysis, with self-reported affect simultaneously entered in the equation, affect influenced the participants’ preference for the Oi/oi target ($F(2, 22) = 8.76, p < .01; R^2 = .17$). Most important, however, with affect simultaneously in the equation, the direct effect of insult on the preference ratings no longer remained significant ($F(2, 22) = .88, p > .05$). Utilization of Sobel’s (1982) procedure for testing the significance of the indirect mediational relationship provided evidence of a reliable change in beta from simple (beta = -.51) to multiple regression (beta = -.19) ($z(22) = 8.31, p < .05$). Thus, these analyses show that the negative affect elicited by the insults mediated the effect of insult on preferences for the Oi/oi target.
Discussion

Our results suggest that the effect of race or sexual orientation of one’s future discussion partner on preferences will differ depending on whether the evaluative measure is voluntary or involuntary. In the no insult condition, the voluntary measures (i.e. self-reports) showed that the participants were willing to conform to social desirability demands; they preferred politically sensitive out-group targets to non-sensitive out-group targets. On the involuntary (i.e. facial EMG) measures, however, this pattern of evaluation was reversed. Further, when insult justified expressing their true negative feelings and attitudes, they outwardly did not prefer these targets as discussion partners. This was evidenced by the unfavorable response exhibited both in the self-report and EMG measures. Had we relied strictly on paper-and-pencil measures of partner preferences, the data from the neutral condition could only be interpreted as suggesting that the participants preferred to be paired with a homosexual or African-American partner. Clearly, the EMG measures suggest otherwise.

Facial EMG as a measure of affect elicited by politically sensitive social categories

Because the EMG measures were not under voluntary control, we believe it extremely unlikely that they are artifactual. First, participants were led to believe that the electrodes attached in conjunction with the facial EMG measures were for the purpose of examining memory in conjunction with an assessment of their brain waves. No participant expressed suspicion regarding the use of the electrodes for these memory assessments. Furthermore, the ear clip used for grounding the electrodes took some focus away from the facial electrodes. Nevertheless, some might question the validity of the facial EMG measure by arguing that it does not indicate negative attitudes toward race and sexual orientation, but instead, assesses participants’ anxiety about being politically correct. For instance, Devine, Evett, and Vasquez-Suson (1996) proposed that people low in prejudice are motivated to act in an unprejudiced manner, but, at the same time, may sometimes behave in ways that are inconsistent with this standard. In this view, such inconsistency in turn arouses negative affect, such as compunction (Devine, Monteith, Zuwerink, & Elliot, 1991; Monteith, Devine, & Zuwerink, 1993; Zuwerink, Monteith, Devine, & Cook, 1996). Countering this view, however, Vanman et al. (1997) provided strong evidence that EMG measures do, in fact, indicate aversion toward the politically sensitive targets and not simply the negative affect that might be associated with concern about such instances of inconsistent behavior.

The conceptualization of prejudice in contemporary society

There are discrepancies in the reaction-time latency literature regarding the expression of prejudice against African-American targets (Fazio et al., 1995; Judd et al., 1995). For instance, Fazio et al. (1986) required participants to describe the targets of interest, such as members of racial groups, by matching them with positively or negatively valenced adjectives. The dependent measure was the amount of time it took them (i.e. latency) to match a target type with a particular adjective. Such procedures assume that if a person’s reaction time is affected by social desirability, the processing of the needed information and use of other psychological resources involved in expressing the socially desired answer will require more time, and hence increase the latency of the response.

Use of such reaction time measures, however, has yielded mixed results. Fazio et al. (1995) found evidence that interracial bias between Whites and African-Americans still exists, and that social desirability is indeed a factor in reactions to African-Americans. By contrast, Judd et al. (1995) concluded that Whites now have positive attitudes toward African-Americans. In general, however, it appears that when experimental procedures have clearly reduced the duration of exposure to the priming word (e.g. the word Blacks, or Whites) to levels that are clearly suboptimal for easy processing, outcomes suggest that Whites continue to have
negative attitudes toward African-Americans (e.g., Devine, 1989; Wittenbrink, Judd, & Park, 1997). Seemingly, such substantially suboptimal priming reduces the likelihood that experimental participants were made aware that racial attitudes were being measured and that they should adjust their responses to be more socially desirable.

Consistent with the outcomes obtained with reaction time measures applied to primes of very suboptimal duration, use of facial EMG measures, too, has demonstrated, that prejudice persists in American culture. On a positive note, however, it is important to reiterate that under the absence of negative affect, our participants gave high preference to those targets containing a politically sensitive out-group. This reveals that although these participants, internally and perhaps unconsciously, still hold negative attitudes toward African-Americans and homosexuals, they are controlling their automatic negative response to members of these categories (Devine, 1989). That is, they are successfully putting on a socially acceptable, non-prejudiced cloak.

In sum, in contrast to people who argue that bias against minorities may now have been very substantially reduced in contemporary society (e.g., Judd et al., 1995), our study provides evidence of immediate and automatic affective bias against African-Americans and homosexuals. Thus, our findings are consistent with results sometimes obtained with cognitive measures of automatic stereotype activation (e.g., Devine, 1989; Dovidio & Fazio, 1992; Fazio et al., 1995). Although immediate and automatic bias against politically sensitive categories has been supported in some previous studies (e.g., Fazio et al., 1995; Vanman et al., 1997), our study is important in that it extends prior EMG findings from hypothetical or imagined partners (Vanman et al., 1997) to target persons that participants actually expected to interact with as discussion partners. In Vanman et al. (1997), the voluntary self-reports diverged from facial EMG measures and were expressed with respect to hypothetical role-playing situations. Specifically, the dependent measure was a hypothetical activity with an African-American partner. Herein, we used a more behavioral measure in which participants believed they would actually be paired with one of the other participants with the purported category memberships for a discussion task. In the face of increased social desirability demands present with ‘real’ individuals (as opposed to the hypothetical persons in Vanman et al., 1997), participants still exhibited bias. Additionally, however, our results further extend these effects to the crossed categorization paradigm. Even when diluted by the conflicting cue of in-group membership on another dimension of social categorization, the effect of out-group membership remains potent, especially so in response to negative, openly expressed insults from members of an out-group category.

**Understanding bias exhibited in the crossed categorization paradigm**

Another important feature of our study is that it supports the overall theoretical idea that affective arousal is indeed a major factor for predicting patterns of outcome across the four targets in the crossed categorization paradigm (Ensari & Miller, 1998; Kenworthy et al., 2003; Miller, Urban & Vanman, 1998). Whereas the majority of research on the effects of affect and mood on prejudice have looked at incidental affect, the present study examined the more ecologically interesting issue of integral affect. It also provided further experimental evidence in support of a correlational meta-analytic finding (Urban & Miller, 1998) in which negative affective arousal was shown to be a factor associated with increased intergroup bias within the crossed categorization paradigm. Our voluntary measures indicated that insult from an out-group member decreased the preferences for a new member of this out-group category as a discussion partner (see Ensari & Miller, 1998). Thus, these data suggest that the pattern of preferences among the four targets were strongly affected by experimentally induced integral affect from the out-group members of a relevant category dimension.

Additionally, our results show sexual orientation to be a sensitive category that yields bias similar to that produced by race. We obtained
no difference between race and sexual orientation for partner preference in either the insult condition or the neutral condition. That is, the participants rated the homosexual out-group target as unfavorably as the African-American out-group target in the insult condition, and as favorably as the African-American target in the neutral condition. Thus, the effects of social desirability were as important for sexual orientation as for race.

The literature on prejudice and discrimination typically focuses on antipathy and negativity toward out-groups based on race and gender, with relatively little work concerning sexual orientation. Moreover, within the crossed categorization literature, examination of sexual orientation as a target variable is virtually nonexistent.

In conclusion, our results clearly show that there is a discrepancy in participants’ self-reported evaluations of targets possessing politically sensitive category memberships. That is, the self-report ratings reflect more positivity than their corresponding EMG measures, in a neutral (no insult) condition. This means that, in the absence of insults from other members of his or her category, a potential African-American or homosexual discussion partner was preferred to a non-sensitive discussion partner. At the same time, the implicit (EMG) measures showed otherwise. This discrepancy, however, was eliminated when insults were present to justify rejection of the politically sensitive targets. This outcome raises questions about the consequences of implementing such choices on the part of participants. The effects of minor negative or hostile triggering actions by an out-group member (as compared with members of the in-group; Pedersen, Bushman, Vasquez, Phillips, & Miller, 2001), suggest that interactions with out-group members are especially vulnerable to aggression-induced effects such as those elicited by task failure, frustration, or other negative events. Whether such vulnerability is in any degree countered by the dissonance-reducing consequences of such choice behavior as having previously selected an out-group partner remains to be examined.

Notes
1. Their mean importance ratings on a 7-point scale, and their standard deviations, respectively, were: age, $M = 4.20$, $SD = 1.65$, year in school, $M = 3.37$, $SD = 1.61$, major, $M = 3.82$, $SD = 1.74$, university affiliation, $M = 3.96$, $SD = 1.74$, graduate status, $M = 3.84$, $SD = 1.68$, and citizenship, $M = 4.22$, $SD = 1.65$. The mean rating of importance of the 20 group dimensions from which these six were selected ranged from 2.42 to 5.01.
2. We thank Dr. Darren I. Urada for writing the computer program that randomly generates the four targets in this manner.
3. We have also used the baseline data to analyze the EMG data. Specifically, for each target, we subtracted the baseline data from the individual target rating, and analyzed these scores in a 2 (insult) $\times$ 2 (sensitivity) $\times$ 2 (measure) $\times$ 4 (targets) design. The results revealed the same results as reported. Therefore we did not present separate output for this data.

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References


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