# The Role of Integral Affect and Category Relevance on Crossed Categorization

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The authors investigated integral affect effects (insults or compliments from out-group members) on evaluations of crossed-categorization targets (in-group/in-group, in-group/out-group, out-group/in-group (Oi), and out-group/out-group) as discussion partners. The Oi target possessed a category membership that matched the out-group source of affect. The relevance of this category to participants' own category membership determined the evaluation patterns. As predicted, negative affect lowered evaluations of targets with group memberships relevant to those of the insulting out-group members (Study 1). Positive affect primed the positive aspects of in-group memberships, leading to broader, more inclusive categorizations of targets irrespective of their relevance to the affective source (Study 2). Evaluation patterns across targets also confirmed predictions, with negative and positive affect respectively producing hierarchical and social inclusion patterns.

Keywords: categorization, affect, category relevance, prejudice, bias

The existence of crossed category memberships, wherein individuals belong to numerous overlapping social categories, has been proposed as a cultural feature that reduces intergroup bias, conflict, and discrimination in real-world settings (Coser, 1956; LeVine & Campbell, 1972; Simmel, 1908, 1955). The crossed categorization (CC) experimental research paradigm simplifies this structural feature of societies by orthogonally overlapping two in-group memberships and two out-group memberships to produce four target groups for participants' evaluation: double ingroup (ii), crossed groups (io and oi), and double out-group (oo; for reviews, see Migdal, Hewstone, & Mullen, 1998; Mullen, Migdal, & Hewstone, 2001; Urban & Miller, 1998). Consider a young Democrat who is asked to evaluate a young Democrat (ii), a young Republican (io), an older Democrat (oi), and an older Republican (oo). Unlike the convergent group memberships of ii and oo targets, the crossed targets (io and oi) exhibit conflicting cues about in-group/out-group identity and may elicit less bias than single (o) or convergent (oo) out-group targets. Thus, a young Democrat may exhibit less bias toward young Republicans because category membership on the age dimension conflicts with and cancels the negative implications of out-group membership on the political dimension.

Simply introducing or making CC memberships salient, however, will not reliably eliminate intergroup bias in that CC research evidences both reduced and increased bias (Miller, Urban, & Vanman, 1998). Moreover, across the four CC targets, at least six distinct evaluative patterns have emerged (e.g., Crisp & Hewstone, 1999; Migdal et al., 1998). Unfortunately, the specific conditions wherein CC memberships reduce bias are not well understood, precluding successful application of its potential conflict-reducing benefits to settings containing diverse groups (Miller et al.,

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We thank Ivy Chen for her assistance in data collection.

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1998; Urban & Miller, 1998). Here we extend CC research by focusing on affective arousal and relevance, to examine their interactive impact on evaluations of the four CC targets. First, we review briefly the literatures on relevance and affect, and then we describe two studies that examine the effects of integral affect and category relevance on CC evaluations.

### Relevance, Salience, and Identification

A critical proposition of Social Identity Theory is that individuals seek to achieve a positive distinctiveness by evaluating their in-group more favorably than relevant comparison groups (Abrams & Hogg, 1990; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Hence, positive evaluation of the in-group and negative evaluation of the out-group occurs on dimensions relevant to the social categories that define an individual's self-concept but not on dimensions irrelevant to the perceiver (Devos, 1998; Kelly, 1989; Mullen, Brown & Smith, 1992; Simon & Brown, 1987; Wilder, 1984). When a dedicated Republican party worker meets a stranger, she is more likely to use political orientation than gender or age to categorize that stranger's in-group/out-group status. Category differentiation between in-group (viz., Republicans) and out-group members (viz., Democrats) on this relevant dimension then affects judgments and leads stronger intergroup bias (Miller, Kenworthy, Canales, & Stenstrom, 2005; Urban, & Miller, 1998). The social context can also affect categorization. Many voters who identify themselves as Independents may do so (in part) because politics is unimportant to them. According to Tversky's (1977) diagnosticity principle, shared features or attributes with diagnostic value increase the perceived similarity among objects. If, at election time, an independent comes to lean toward a particular party, political party membership may become important in determining whether that Independent views another as an in-group or out-group member. Related as well as virtually identical attributes impact relevance. In today's United States, most Blacks identify themselves as Democrats. Hence, when a Republican overhears Blacks derogating conservatives, such attitudes are diagnostic of the attitudes of non-Black Democrats toward conservatives. For a highly self-identified White Republican, such

correlated membership is relevant. It will lead her to assume that a Black stranger is a double out-group member (Oo). Relevance is similarly invoked when a Republican who overhears one group of Democrats speaking about Republicans' hypocrisy generalizes her negative affect to other Democrats.

Two somewhat distinct conceptualizations of relevance emerge from the preceding discussion. One emphasizes the perceived importance of the social category dimension (Devos, 1998; Spears & Manstead, 1989). In social identity research, the greater the importance of a category dimension, the more relevant it is to the participant, and therefore, the more likely that it will elicit ethnocentric bias (Hinkle & Brown, 1990; Mullen et al., 1992; Tajfel, 1982). Accordingly, "importancetype relevance" is the perceived importance or significance of the category dimension to the actor. For the long-dedicated Republican party worker, party is more important than sex or age for determining the in-group/out-group status of a newly met other.

A second perspective argues that a category dimension is relevant to the degree that it correlates with or predicts other comparison dimensions (Kelly, 1989; Simon & Brown, 1987; Wilder, 1984). The more strongly a target person's attribute or category membership is logically or empirically connected to an out-group category, the more relevant it is.<sup>1</sup> Accordingly, *fit-type relevance* refers to the connection or relatedness between a category membership of the target and that of a salient out-group. It is invoked not just when a Republican makes inferences

<sup>&</sup>lt;sup>1</sup> A study using the "who said what" paradigm (see Taylor, Fiske, Etcoff, & Ruderman, 1978) had the categorization criteria relevant to the target's category memberships but not the participant's category memberships (van Knippenberg, van Twuyver, & Pepels, 1994). The "who said what" paradigm measures attributional memory recall, and in that study the measurement of within-category confusions about who said what statement during a verbal or written exchange occurred more often than between-category confusions for matching categories. Vanbeselaere (2000) had participants rate crossed targets using the minimal group paradigm in which relevance was conceptualized as groups that were either real (e.g., contained group members) or hypothetical (e.g., labels on a page but no actual members). Hypothetical groups were assumed to be "irrelevant" because evaluating them was hypothesized to not impact an individual's self-esteem or provide an opportunity to achieve positive social identity. There was no measurement of relevance and no differences were found in target evaluations between the relevant and irrelevant groups.

about Democrats by generalizing from overheard comments by Blacks, but also, when an attribute or attitude of one category member is generalized to other members of that same category.

Social cognition theorists conceptually distinguish relevance from salience. After salient stimuli activate category awareness, relevance judgments occur. Only then is that knowledge used cognitively (Higgins, 1996). Similarly, social identity theorists argue that once a stimulus is activated or salient, one then determines whether the social category is relevant and thus applicable to the particular context (Tajfel & Turner, 1979).

Also warranting discussion is the distinction between importance-type relevance and group identification. Group identification is defined as individuals' self-labelization as a member of a social category. It consists of liking of the group, perceived similarity to the group, perception of fit into the group, perception of group cohesiveness, strengths of the ties with the group, belongingness to the group, and importance of the group (Brown, Condor, Mathews, Wade & Williams, 1986). Thus, importance of a category dimension is one among the many components of group identification. In the present studies, although importance-type relevance was manipulated by induction of taskrelated personal involvement (which is explained in detail below), there was no manipulation or induction of group identification.

### Relevance and Cross Categorization

In Ensari and Miller (1998), conservatives insulted liberal participants, who then indicated their relative preference for the four CC target persons as discussion partners. In the condition that induced fit-type relevance, one of the two category memberships of each of the four CC targets was drawn from the category dimension (liberal/conservative) of the out-group category (that is, conservatives). For instance, an LAS undergraduate, liberal, female, U.S. citizen participant might receive the following four targets to evaluate: liberal/female (ii); liberal/business student (io); conservative/ undergraduate (Oi); conservative/non-U.S. citizen (Oo). This type of direct contextual relationship between the liberal/conservative dimension and the categorization criterion (conservative) is traditionally found in research that manipulates fit-type relevance (Kelly, 1989; Wilder, 1984). By contrast, in the insult conditions that did not induce fit-type relevance, with a single exception (the Oi target), the category memberships of the ii, crossed, and oo targets were all irrelevant to the liberal/conservative dimension. Thus, the category memberships of the target persons presented to a liberal, sophomore, female, LAS, undergraduate, U.S. citizen, nonsmoker, nonwork-study, native English speaking participant might be: nonsmoker/LAS student (ii); female/ business student (io); conservative/native English speaker (Oi); non-U.S. citizen/graduate student (oo). (Note that in both the relevant and the control conditions, the O category of the Oi target was always from the relevant dimension—liberal/conservative).

In Ensari and Miller (1998) the manipulation of fit-type relevance only weakly affected target evaluations, perhaps because targets' category membership on the liberal/conservative dimension was insufficiently important when selecting them as discussion partners for topics unrelated to liberal/conservative attitudes. Herein, we strengthen relevance effects by using an induction that covaries discussion topic importance and fit-type relevance. Supporting this addition, manipulated importance of CC targets in a common in-group context moderated the effects of a common categorization on evaluations (Crisp, Walsh, & Hewstone, 2006). When crossed category targets lacked importance, imposing a common in-group produced a social inclusion pattern, whereas the typical additive pattern remained intact for important CC targets.

#### Relevance and Integral Affect

Bodenhausen (1993) identified two types of affective states. *Incidental* affect, such as sadness or happiness, arises from environmental characteristics or sources that are unrelated to any specific target. *Integral* affect, such as an insult or compliment from out-group members, stems directly from specific persons. Our major focus herein is the effects of integral affect (Study 1—negative affect; Study 2—positive affect) when paired, or not paired with a combined induction of both fit and importance relevance. Thus, in each study we compared the effects of three conditions on evaluation of the four CC targets: integral affect paired with a combined fit and importance induction of relevance; integral affect only; and neutral affect.

The valence of affect (positive or negative) influences how its combination with relevance moderates prejudice. Who will be associated with affect that arises after the receipt of insults from out-group members? The relevance of the recipient's category to the source of insult directs attention to the social category associated with the insult. Thus, when a liberal reads conservatives' insulting comments about his in-group, political orientation (liberalism/ conservatism) becomes a relevant dimension, directing attention to individuals who are associated with conservatives (e.g., Republicans). As a result, the combination of integral affect (i.e., insult from conservatives) and relevance impacts evaluations of those who share a relevant category membership with the insult's source (i.e., other conservatives), but does not extend to irrelevant out-groups (such as out-group members with respect to gender or age).

Conversely, positive integral affect (e.g., an out-groups' compliments) does not merely have an opposite effect. It also creates broader, more inclusive categorizations (Isen & Daubman, 1984) by priming attention toward positive aspects of a target person, such as their in-group memberships and expanding accessibility of positive material in memory (Urada & Miller, 2000). Positive affect is usually associated with neutral strangers (Klar & Giladi, 1997; Sears, 1983) as well as in-groups (Vanman, Paul, Ito, & Miller, 1998). Thus, it allows perceivers to include positive or neutral people into a positive category (Isen & Daubman, 1984). It thereby increases acceptance of in-group members irrespective of their relevance to a compliment's source. Yet, the stronger weighting of in-group than out-group memberships is especially likely for an in-group that lies on the same dimension as the complementing category. Positive affect, however, does not induce broader categorization of predominantly negative people into negative categories (Isen, Niedenthal, & Cantor, 1992). This asymmetry means that increased inclusiveness will not be extended to out-groups who are not the source of compliments.

### Overview

In summary, we expect negative integral affect from an out-group to influence only the evaluation of out-group persons who share a relevant category membership with the outgroup that provided the insult and not extend to irrelevant out-groups in general. By contrast because it leads to broader categorization, positive integral affect is likely to influence target evaluations even when relevance is lacking. It will elicit a more positive reaction toward any target with an in-group membership, irrespective of whether that membership lies on a category dimension identical or similar to that which was the source of positive affect. Thus, the influence of category relevance on CC target evaluations will depend on affective valence.

To examine the relationship between integral affect and relevance, participants read a news article that was either insulting to one of their in-groups or was neutral (Study 1), or was complimentary or neutral (Study 2). They then indicated the desirability of the four CC target persons as potential discussion partners for a second study. Thus, with the four CC targets as a within-subject manipulation, Study 1 contained three between-subjects conditions: (a) negative affect/relevant-a news article providing insults from an out-group and both fit and importance relevance for one of each CC target's two category memberships; (b) negative affect/irrelevant-a news article providing insults from an out-group, but neither fit nor importance relevance across targets (other than fit relevance for the Oi target); and (c) no-affect control condition-a neutral news article with neither a fit nor importance relevance induction for any target. (Study 2 replicated this design, substituting an integral positive mood induction). As indicated, the affect/relevant condition induced fit-type relevance by describing each of four potential discussion partners as having as one of their two category memberships a membership on the dimension (e.g., liberal/conservative) correspondent with the source of affect (e.g., conservatives). We simultaneously induced importance relevance by selecting a discussion topic (e.g., bias in funding Republican and Democrat campus organizations) that was intrinsically linked to the relevant fit dimension (liberal/conservative). In the affect/irrelevant condition, all targets (except the Oi target) lacked both fit relevance (by having no category memberships on the relevant dimension liberal/conservative) and importance relevance (by selecting a discussion topic such as new faculty hires, which had no connection with the source of insults or compliments—e.g., conservatives). Finally, note that the no-affect control conditions precluded manipulation of relevance because the neutral article provided no affect that could be linked to a social category.

#### Study 1

A dominant category is highly accessible. Its accessibility arises from contextual factors (e.g., a single minority female entering a room filled with an exclusively male majority) or as a consequence of historical factors (e.g., ethnicity in the Balkans; Crisp, Ensari, Hewstone & Miller, 2003). In Study 1, we expected the negative integral affect produced by insults from an outgroup to make that category dominant and hence lead our combined fit and importance inductions of relevance to moderate target (Ii, Io, Oi, Oo) evaluations.<sup>2</sup> Thus, we expected insults from an out-group source to increase rejection of targets sharing a category membership with the source of insults (the Oi target) by comparison with the very same target in the no-affect control condition (oi; Hypothesis 1). To allow comparison between the present research and our initial investigation of relevance and negative integral affect, the current design matched Ensari & Miller (1998, Study 2) in that the irrelevant condition lacks any importance relevance and induces fit-type relevance solely for the Oi target. Therefore, in line with our theorizing about the two types of relevance, we expected the combined fit and importance-type relevance of the insult/relevant condition to increase rejection of the Oi target, by comparison with mere fit-type relevance possessed by the Oi target in the insult/irrelevant condition (Hypothesis 2).

More important, Study 1 also examined the interactive effects of insult and relevance. We expected increased rejection of an out-group target who shared a category membership with the source of the insult (Oo), and a contrast effect for targets who possess an in-group membership on a relevant dimension (Io). A liberal who is insulted by conservatives will not only evidence increased prejudice toward other conservatives, but may also evidence in-group favoritism toward other liberals because such in-group members are located on the category dimension, liberal/conservative, made more dominant by that insult. Negative integral affect elicited by conservatives' insults may emphasize one's self-identity with liberals, accentuating one's preference for them. Hence, by comparison with the irrelevant condition, we expected increased acceptance of the CC target whose in-group status is relevant with respect to both the source of insults and the forthcoming discussion topic (Io; Hypothesis 3) and increased rejection of targets whose out-group status is similarly relevant (Oo; Hypothesis 4).

A unique aspect of CC (vs. single categorization) research is that a targets' category memberships may be equally or unequally important to the perceiver. When equally important, they are weighted equally, resulting in evaluations based solely on the in-group/out-group status of the categories. Similar to the bias seen in single categorization research, a target who shares two in-group memberships with the perceiver (ii) will more favorably be evaluated than one possessing two out-group memberships (oo), but the conflict inherent in in-group and out-group characteristics being attached to the same target will lead crossed targets (io and oi) to receive intermediate evaluations, resulting in an additivity pattern (viz., ii > io = oi > oo).

Unequally weighted category dimensions, however, can produce a variety of patterns (Miller et al., 1998; Singh & Goh, 2006; Singh, Poh, & Chang, 2008; Urada & Miller, 2000). When specific target categories are associated with integral affect, relevance can increase the dominance of one dimension over another and thereby create unequally weighted category dimensions. The particular pattern expected from negative affective arousal (irrespective of relevance level) is the hierarchical acceptance pattern (viz., Ii > Io > Oi = Oo). Both in the relevant and irrelevant insult conditions, the Oi target shares a category membership with the source of the insults, thereby depressing evaluations of this target as compared with other targets who possess either one (relevant condition) or no (irrelevant condition) relevant category memberships. Thus, compared to the basic additivity pattern wherein crossed targets are

<sup>&</sup>lt;sup>2</sup> A dominant category dimension is represented with a capital "I" or "O" for the dominant in-group or out-group, respectively. A lowercase "i" or "o" refers to the nondominant category dimension.

equivalently rated, the Oi target will be favored less than the Io target, who possesses one dominantly positive in-group membership. Consequently, the Oi target will be assimilated toward a double out-group target, making ratings of both the Oi and Oo targets equally unfavorable. In summary, we predict that the unequally weighted categories produced in both insult conditions will yield a hierarchical acceptance pattern (viz., Ii > Io > Oi = Oo; Hypothesis 5). By contrast, the absence of affect in the no insult condition will create equally weighted categories, yielding an additivity pattern (viz., ii > io = oi > oo; Hypothesis 6).

Relevance will have one more unique effect on CC target evaluations. As previously discussed, negative integral affect increases the dominance of an out-group category that is linked to a source of insult. When relevance is combined with insult, however, it creates a dominant dimension wherein there is decreased acceptance of targets who share an out-group category membership on the dimension that provided the insult (Oi and Oo), but also, increased acceptance of the targets who share an in-group category membership on the dimension that provided the insult (Ii and Io). Therefore, our manipulation of relevance tests whether a hierarchical pattern results from a dominant dimension, as originally stated by Brewer, Ho, Lee, and Miller (1987), or instead, a dominant category, as argued by Ensari and Miller (1998). Although Ensari and Miller obtained a hierarchical pattern in a context that precluded a dominant dimension, they did not comparatively examine the effects of a dominant dimension versus a dominant category. Study 1 is designed to examine this issue. We predict that both a dominant category (as in the case of insult/irrelevant condition) and a dominant dimension (as in the case of insult/relevant condition) will yield hierarchical patterns, thereby implying that a dominant category is sufficient for this pattern (Hypothesis 7).

### Method

#### **Participants**

Participants were 73 students enrolled at the University of Southern California (USC). They were recruited from the departmental participant pool and participated as partial fulfillment of their course requirements. Data from 12 students who were suspicious about the cover story and the future discussion task were discarded, resulting in total of 61 participants.

# Design

Participants were randomly assigned to a 3 (negative affect/relevance: insult/relevant vs. insult/irrelevant vs. control)  $\times$  4 (type of target: ii, io, Oi [oi], oo) factorial design that manipulated the first factor between-subjects and the categories of the second within-subjects.

# Materials

Four forms were used. The first, the Participant Information Form, assessed both in-group and out-group membership of the participant and category importance for the participants' "sense of self" on eight category dimensions: year in school (freshman, sophomore, junior, or senior), political affiliation (liberal or conservative), major (business, LAS, or other), graduate or undergraduate student, smoker or nonsmoker, citizenship (U.S. citizen, or non-U.S. citizen), work-study or not a work-study student, and native language (English or other). An independent survey of students (for a summary of the mean ratings, see Ensari & Miller, 1998; Urban, 1995) established these 8 category dimensions as approximately equal in importance among 20 dimensions). For each individual participant this form was used to select four appropriate CC discussion partner target descriptions, each containing two category memberships per target. It also provided a basis for selecting the category for the insulting out-group. After indicating the importance of each category, participants identified the four most important ones among the larger set of eight. For each participant, the category experimentally chosen as the insult source was selected randomly from among his or her four most important categories. We thereby reduced both between-subjects variation in the importance levels of the insulting out-groups and extraneous within-subject variation across targets.

We used Ensari and Miller's (1998) manipulation of affect. Participants read an alleged article from the USC newspaper. It contained insulting remarks from an out-group about their in-group, or in the no insult condition, remarks about Disneyland. For each participant in the insult conditions, one of eight newspaper articles (each consisting of an interview with outgroup members of a category randomly selected from among the four most important categories on his or her Participant Information Form) was used to induce negative affect. Each insulting article allegedly had been photocopied from the university newspaper and showed its format and logo.

A third form, the Discussion Partner Form, was used to create descriptions of the four CC target persons. For each target, two handwritten pieces of descriptive information indicated his or her category identity on two social categorization dimensions. Finally, "The Partner Selection Form" included the dependent measures described below.

# Procedure

On arrival, the participant entered the experimental room and signed a consent form. Next, the experimenter stated that the primary purpose of this study was to examine the impact of personality on memory, and consequently, the participant would first fill out the first part of a personality questionnaire, read a news article, answer several questions it, and finally, at the end of the experiment, would be given the second half of the personality questionnaire to complete. After these initial instructions, participants were given a bogus personality questionnaire containing the Participant Information Form, which asked them to categorize themselves along the eight dimensions, as explained in the Materials section.

We then created a believable scenario for why participants would later rate potential discussion partners by telling them that they could participate in a future discussion session for which they would be asked to choose a partner. Specifically:

Before we continue with the experiment, there is something I need to ask you. The professor who oversees this project is a member of the USC Faculty Senate and the Senate is in the middle of debating an issue that could have a large impact for students here at USC. Because this is a serious issue, the Faculty Senate wants to have some student input on this matter before they take a final vote. So, 3 weeks ago, the professor I work for offered the Faculty Senate access to subjects participating in experiments he was supervising as an easy and convenient way to recruit people to get some student feedback. This is actually a great opportunity for students like yourself because the Faculty Senate is actually willing to pay students \$15 dollars for half an hour of their time sometime in the near future. The scheduling of the half an hour discussion session is very flexible in order to accommodate students with busy schedules, and can be hammered out later.

We then told participants that if they agreed to participate, they would be paired with another student to cooperatively discuss the topic and write down suggestions and opinions to be forwarded directly to the Faculty Senate. Allegedly, the people scheduling the discussion sessions were attempting to match each participant as best as possible with another person with whom they would feel comfortable. To encourage future discussion participation we told them that just about every prior participant had jumped at the chance for an easy \$15, and that they could cancel the session if they wished without penalty. At this point, if they declined, they were debriefed and released. Otherwise the experimenter proceeded with the remainder of the study.

Induction of negative affect. After participants agreed to participate in the future discussion session, the memory aspect of the experiment was explained. Participants were given the interview article allegedly photocopied from the university paper, told to read it carefully and informed that they would be later asked to recall it. Experimenter blindness to conditions was achieved by having an assistant give the article to the experimenter in a closed file.

In the insult/relevant and insult/irrelevant conditions article consisted of insulting interview comments from members of one of the participant's out-group categories, directed toward his or her in-group. Participants in the control condition read a neutral article containing no insults. In all conditions, participants then completed a manipulation check questionnaire.

After reading the newspaper article, participants received two mood questionnaires that assessed the effectiveness of the negative affect manipulation. Each had 4 positive and 4 negative adjectives with 4-point scales. The first questionnaire asked feelings about the article and contained the following adjectives: kind, open-minded, friendly, and fair (positive items); biased, insulting, prejudiced, and snobbish (negative items). The second questionnaire assessed mood state ("How did the article make you feel?") and contained the following adjectives: relaxed, overjoyed, pleased, and happy (positive items); irritable, angry, annoyed, and sorry (negative items). Higher scores indicated a better description of the participant's feelings. Questionnaire order was counterbalanced.

Manipulation of relevance. Next, we told participants that it would be easier to complete the Discussion Partner Form now, prior to the memory test. We then informed them about the important issue under debate by the Faculty Senate, noting that to match themselves with someone with whom they felt comfortable, the form contained information about four persons randomly selected from previous participants. As indicated, for each we inserted two handwritten pieces of descriptive category membership information, constructed to correspond to the CC targets (i.e., ii, io, oi, oo). We justified provision of only two pieces of information, stating "The Faculty Senate . . . wanted discussion partners who were primarily strangers who only knew a little bit about each other because this usually resulted in more points of view being raised." We emphasized the importance of picking a person with whom they would feel comfortable. They then received four randomly ordered bogus descriptions (ii, io, oi, oo), constructed by using an idiographic selection procedure based on information in the participant's own Participant Information Form (Urada, 1996; for details, see Ensari & Miller, 1998).

In the insult/relevant condition, the relevant dimension was selected randomly from among the four important dimensions as indicated in the Participant Information Form. In this condition, one of each target's category memberships was from the relevant category dimension, and the topic of discussion in the bogus future session was linked directly to the relevant dimension. The topic was presented so that the interests of the participant's in-group and the out-group were at odds over the issue at hand. For example, if a liberal LAS sophomore female participant had read interviews in which conservative students insulted liberals, then political orientation was relevant but all other dimensions were irrelevant. In this case, the double in-group (ii) target was described as a liberal and as a member of one of the other in-group categories (e.g., sophomore, LAS major etc.), the io target was described as a liberal and as a member of one of

the other out-group categories (e.g., grad student, business major, etc.), the Oi target was described as a conservative and as a member of one of the other in-group categories, (e.g., female) and finally the double out-group (oo) target was described as a conservative and as a member of one of the other out-group categories (e.g., male). In this case, the discussion topic was whether the University Program Board should allocate money to the College Republicans and Trojan Democrats based on their membership numbers versus equally as is (allegedly) the case now, and this change would mean giving more money to the College Republicans than the Trojan Democrats because of their larger enrollment. In this condition, the relevant dimension was basically the same category dimension from which out-group members had been insulting.

The insult/irrelevant condition removed both fit and importance relevance. After an important dimension (e.g., liberal/conservative) had been selected to provide an insulting news article category (e.g., conservatives), target descriptions were created (within the constraint of providing a set of ii, io, oi, and oo targets) by randomly combining two category descriptors from the three remaining irrelevant but important categories. The target descriptions (other than Oi) thereby provided low fit relevance in that they only contained information about category memberships on dimensions unrelated to the source of insults. In addition, to simultaneously provide low importance relevance, the discussion topic too (e.g., major change to current on-campus parking regulations) was made irrelevant to the insulting category (conservatives).

In the control condition, we created target descriptions by randomly selecting two category descriptors from the four important dimensions identified by participants on their Participant Information Form. The discussion topic was the same as that used in the insult/irrelevant condition.

To assess the effectiveness of the relevance manipulation, participants completed a questionnaire listing the four category dimensions headto-head against one another (six questions). They indicated the relative importance of the four important categories on a 9-point scale. For example, if the four important dimensions on the Participant Information Form were political orientation, major, citizenship, and smoking, one of these was first selected to be the relevant dimension (e.g., political orientation). Then, on this questionnaire, the first three questions assessed the importance of political orientation relative to major, citizenship, and smoking. The other questions assessed the importance of major relative to citizenship and smoking, and the final question assessed the importance of citizenship relative to smoking. A rating of "5" indicated categories were equally important. A rating of "1" indicated that the category on the left side was extremely important relative to that on the right side. A rating of "9" indicated that the category on the right side was extremely important relative to that on the left. The relevant dimension was always on the left side. Therefore, ratings closer to "1" indicated greater importance of that dimension compared to all others.

The key dependent measures. After participants reviewed the Discussion Partner Form, they were given the Partner Selection Form asking them to indicate on a 7-point scale how much they wished to be a partner with each described target for the future discussion task based on a scale ranging from 1 (*not at all*) to 7 (*extremely*). Then participants completed manipulation checks, were probed for suspicion, and fully debriefed.

### Results

### Manipulation Check of Affect

The positive adjectives on the manipulation check questionnaire (first questionnaire: relaxed, overjoyed, pleased, and happy,  $\alpha = .70$ ; second questionnaire: kind, open-minded, friendly, and fair,  $\alpha = .84$ ) were averaged to create a composite positive mood score. Similarly the negative adjectives (first questionnaire: irritable, angry, annoyed, and sorry,  $\alpha = .74$ ; second questionnaire: biased, insulting, prejudiced, and snobbish,  $\alpha = .76$ ) were averaged to create a composite negative mood scores. As indicated, their order was counterbalanced.

An analysis of variance (ANOVA) revealed an interaction between affect/relevance (insult/ relevant vs. insult/irrelevant vs. control) and the valence of the adjectives (positive vs. negative), F(2, 54) = 4.20, p < .05; for the first questionnaire, and F(2, 46) = 3.01, p = .06; for the second. Post hoc tests showed that the insulting articles (M = 1.49 both in the insult/relevant and insult/irrelevant conditions) made participants feel less positive than the neutral article (M = 2.03), p < .05. Further, the insulting articles (M = 2.08 both in the insult/relevant) and insult/ irrelevant conditions) made them feel more negative than the neutral article (M = 1.61), p < .05. In sum, the insulting articles were less positive and more negative than the neutral article.

### Manipulation Check of Relevance

To assess the efficacy of the relevance manipulation, the participants indicated the importance of the relevant dimension relative to the three irrelevant dimensions on a 9-point scale. Lower scores indicated greater importance of the relevant dimension as compared with the irrelevant dimensions. The importance of the relevant dimension relative to the three irrelevant dimensions was averaged to create a mean relative importance score. Analysis showed mean relative importance score to be higher in the insult/relevant condition (M = 3.59) than in the irrelevant conditions (insult/irrelevant and control conditions combined; M = 4.82, t(56) = -2.19, p < .05. When category cues for identifying the targets had included in-group/out-group memberships that were on the same category dimension as the discussion topic (i.e., relevant condition), that particular category dimension was more important relative to the other category dimensions than when the social dimensions in all target descriptions (except that of the Oi) differed from the category directly concerned with discussion topic (i.e., irrelevant condition).

### Partner Evaluations

As previously indicated, the design was a 3 (insult/relevant vs. insult/irrelevant vs. control)  $\times$  4 (type of target: ii, io, oi (or Oi), oo) factorial with the first factor manipulated between-subjects and the second within-subjects.<sup>3</sup> Kolmogorov–Smirnov tests of normality, performed before we examined mean target evaluations of the four targets as a function of insult and relevance, indicated normal (p < .05) distributions for each of the four targets, making

<sup>&</sup>lt;sup>3</sup> Although in the experiment the crossed target who was the source of insults was either the Io or the Oi target in a counterbalanced order, we always refer to the Oi target as the source of insults in the Results section to avoid any confusion.

ANOVA procedures appropriate for the subsequent analyses. We first examined the participants' preferences for the four crossed categorization discussion partners in a full ANOVA. The 3 (negative affect/relevance)  $\times$  4 (type of target) ANOVA revealed a two-way interaction, F(6, 174) = 7.79, p < .001; a main effect of type of target, F(3, 174) = 87.21, p < .001; and a marginal main effect of negative affect/relevance, F(2, 58) = 2.86, p = .06.

Hypothesis 1 predicted that insults from an out-group source will increase rejection of targets who shared a category membership with the source of insults (Oi target) by comparison with the very same target in the no-affect control condition (oi). To test Hypothesis 1, we first combined the Oi ratings in the two insult conditions, and then tested the difference between the Oi rating in the insult conditions versus the oi rating in the control condition. Supporting our prediction, preference for the Oi crossed target (who shared a category membership with that of the category that provided insults) was lower (M = 3.12) than that for the oi target in the control condition (M = 4.53), t(59) =-3.39, p < .001. The data also support Hypothesis 2, which predicted that in the insult/relevant condition, the addition of importance type relevance would increase rejection of the Oi target compared to fit-type relevance only. Consistent with this theorizing, the addition of importance type relevance decreased preference for the Oi target in the insult/relevant condition (M = 2.33) compared to the Oi target with fit-type relevance only (M = 3.90), t(40) =-4.07, p < .001.

Hypotheses 3 and 4 concerned the contrast effect underlying differential preferences for the Io and Oo targets in the insult conditions. Hypothesis 3 predicted an increased acceptance of the CC target whose in-group status is relevant with respect to source of insults (Io). To assess it, we tested the difference between the preferences for the Io target in the insult/relevant and insult/irrelevant conditions. The results showed that preference for the Io target was marginally higher in the insult/relevant condition (M = 5.48) than in the insult/irrelevant condition (M = 4.71), t(40) = 1.90, p = .065. Supporting Hypothesis 3, when the category dimension that cued in-group status for the Io target matched the category dimension invoked by a discussion topic linked with the insulting outgroup category (i.e., the relevance condition), preference for the Io target tended to be greater than when it was not. Hypothesis 4 predicted increased rejection of targets whose out-group status is relevant with respect to the source of insults (Oo) as compared to the irrelevant condition. In confirmation, examination of the preferences for the Oo target in the insult/relevant and insult/irrelevant conditions showed that when insulted, participants' preference for the relevant Oo target (M = 2.33) was lower than that for the irrelevant oo target (M = 3.81), t(40) = -3.19, p < .01. Although the difference between means in the Io and Oo insult conditions did not differ from that of the control condition (p > .05), they are, as expected, directionally larger (see Table 1). In sum, the data support Hypothesis 4 in that insults from out-group members decreased preferences for the targets whose out-group status is relevant with respect to source of insults (Oo) as compared with the irrelevant out-group targets.

# **Evaluation Patterns**

We expected a hierarchical pattern to emerge in the insult condition because negative affect creates dominant categories (Hypothesis 5), whereas in the no insult condition the additivity pattern was expected because in the absence of affect categories are weighted equally (Hypothesis 6). We applied contrast weights to test whether the patterns of preference across the four targets matched our predictions. As ex-

Table 1

Mean Preferences for the Four CC Targets as a Function of Insults From Out-Group Members and Relevance

Condition	Four types of targets				
	II	ΙΟ	OI (source of insult)	00	
Insult/relevant <sup>a</sup>	6.48 <sub>a</sub>	5.48 <sub>b</sub>	2.33	2.33	
Insult/irrelevant <sup>a</sup>	6.10 <sup>°</sup> <sub>a</sub>	4.71 <sub>b</sub>	3.90 <sub>c</sub>	3.81 <sub>c</sub>	
Control <sup>b</sup>	6.16 <sub>a</sub>	5.05 <sub>b</sub>	4.53 <sub>b</sub>	3.00 <sub>c</sub>	

*Note.* 7-point rating scales were used. Higher values indicate greater preference for target. Means not sharing common subscripts within a row differ from each other at p < .05. CC = crossed categorization; II = in-group/in-group; IO = in-group/out-group; OI = out-group/in-group; OO = out-group/out-group. <sup>a</sup> n = 21. <sup>b</sup> n = 19.

290

pected, the pattern in the insult condition conformed to a hierarchical acceptance pattern (Ii > Io > Oi = Oo), as shown by the analyses that used the contrast weights of 4, 2, -3, -3, F(1, 174) = 229.15, p < .001. There was no residual variance, F(2, 174) = .38, p > .05. By contrast, the pattern of preferences for targets were additive in the no insult condition (ii > io = oi > oo), as shown by application of the contrast weights of 2, 0, 0, and -2, F(1, 174) =136.8, p < .001. Again there was no residual variance, F(2, 174) = 0.11, p > .05.

Hypothesis 7 concerned whether a dominant dimension or a dominant category is sufficient to create the hierarchical pattern. To test this hypothesis, we applied contrast weights of 4, 2, -3, -3 to the mean preferences of the four crossed categorization targets separately in the insult/relevant and in the insult/irrelevant conditions. As expected, the obtained pattern in both the insult/relevant and insult/irrelevant conditions conformed to a hierarchical acceptance pattern (Ii > Io > Oi = Oo), F(1, 174) =196.40, p < .001; in the insult/relevant condition, F(1, 174) = 42.70, p < .01; in the insult/ irrelevant condition. There was no residual variance, F(2, 174) = 2.17, p > .05; and F(2, 174) = 2.17, p > .05; and F(2, 174) = 0.05; and (174) = 2.60, p > .05; respectively. Thus, a hierarchical pattern emerged both when the entire dimension was dominant (insult/relevant condition), and when the out-group category was dominant (insult/irrelevant condition). Contrary to Brewer et al. (1987), this suggests that a dominant category is sufficient for obtaining a hierarchical pattern.

### Discussion

Study 1 examined the effects of relevance and integral negative affect. We included the affect/irrelevant condition, which induced pure fit-type relevance only for the (Oi) target, to compare the effects of fit relevance alone with a combined induction of fit and importance relevance, as contained in the affect/relevant condition. Although this comparison focused primarily on evaluations of a single target (Oi), the comparative effects across all four CC targets were also of interest. In doing so we not only sought to justify our conceptual distinction between the two types of relevance, but also, to provide comparison with Ensari and Miller (1998, Study 2), which solely induced fit relevance uncombined with importance relevance.

As predicted, the insult/relevant condition (fit plus importance relevance) showed increased rejection of Oi and Oo targets, and increased acceptance of the Io target, as compared to the insult/irrelevant condition (only fit relevance). That is, targets who shared an out-group category membership with an insulting category received their lowest preference when there was both an insult and that insult came from a social category that was relevant to the target in terms of both fit and importance. Conversely, under the combined relevance induction, when targets possessed an in-group membership on the category dimension that was the source of insult, they were preferred more. Thus, relevance augments preference for the relevant in-group category as well. In sum, relevance is the means by which targets are imbued with the affective valence generated by the insult.

One possibility that could have emerged was that an insulting comment from a specific outgroup member might prime the negative intrinsic affect that is generally associated with outgroups in general, and thereby negatively influence the evaluation of out-groups in general. This did not occur. Affect only influenced the evaluation of out-groups who shared a relevant category membership with the category that was the source of insults. It did not extend to irrelevant out-groups in general.

The evaluation patterns across the four targets also confirmed our expectations. The additive pattern of preference for targets found in the no insult condition was altered in accord with our prediction for the insult conditions, both of which showed a pattern in which the crossed target whose out-group category was the source of insults was evaluated as unfavorably as the double out-group target. Finally, we note that hierarchical patterns were obtained in each of the insult conditions. Supporting Ensari and Miller (1998), this shows that a dominant category as well as a dominant dimension, is sufficient to create a hierarchical pattern. In sum, the data show that relative preferences for targets as potential discussion partners were strongly affected by the negative affect induced by insults from out-group members of a relevant category dimension.

# Study 2

Study 2 expands understanding of the relation between affect and relevance by substituting positive affect in a design that replicated that of Study 1. Positive integral affect was induced in Study 2 in a manner that paralleled our induction of negative affect in Study 1-complimentary remarks from interviewees about one of the participant's in-groups, as reported in a university news article. We expected compliments to influence target evaluations of all target possessing an in-group membership, even ones not relevant to the category that provided the compliment. Specifically, unlike Study 1 in which insults negatively influenced only those targets relevant to the category dimension that provided the insult, we expected no difference between the relevance conditions. Instead, as discussed in the introduction, the unique nature of positive affect in creating broader and more inclusive categories will increase acceptance of all in-group targets irrespective of relevance. At the same time, as in Study 1, we expected the positive affect from compliments to increase acceptance of targets who share the same category memberships of the persons that provided the compliment (Oi) as compared to the very same targets in the control condition (oi) where there is no induction of positive affect (Hypothesis 1).

In addition, we expected the broader categorization induced by the positive affect in the two compliment conditions to shift evaluations of the crossed targets toward those received by the double in-group members. To test this hypothesis of broader categorization, we therefore needed to examine preference for the crossed targets compared to the double in-group member. More specifically, we anticipated that in the compliment conditions, the evaluative difference between the double in-group and the combination of the crossed targets (i.e., Ii - (Io +Oi)/2) would be smaller than in the no compliment control condition (Hypothesis 2). In other words, we expected compliments to yield parallel effects in the two compliment conditions that differed from those in the control condition where there is no induction of positive affect.

Finally, if broader categorization means that any target with an in-group membership will be positively evaluated, then the Ii, Io, and Oi targets will all be more favorably evaluated than the Oo target, who lacks an in-group membership. Thus, the compliment conditions will create a social inclusion pattern (Ii = Io = Oi > Oo; Hypothesis 3), where all groups with an in-group dimension are rated as equivalently more positive than the double out-group target (Crisp & Hewstone, 1999; Migdal et al., 1998; Urban & Miller, 1998). By contrast, we expected the absence of affect in the no compliment condition to create equally weighted categories, resulting in an additivity pattern (ii > io = oi > oo) as found in Study 1 (Hypothesis 4).

### Method

### **Participants**

The participants were 47 students at the University of Southern California who participated as partial fulfillment of their course requirements. They were recruited from the departmental participant pool. The data of 7 participants were excluded because they indicated suspicion about the cover story and the future discussion task, leaving 40 participants.

### Design and Materials

The design was a 3 (positive affect/relevance: compliment/relevant vs. compliment/ irrelevant vs. control)  $\times$  4 (Target type: ii, io, Oi, or oi, oo) mixed design with the first factor manipulated between-subjects. Like the design of Study 1, all targets in the irrelevant condition are irrelevant to the source of the compliments, except the Oi target.

The materials (the Participant Information Form, the Discussion Partner Form, and the Partner Selection Form, which included the key dependent measures) paralleled those used in Study 1. And as in Study 1, we manipulated integral affect with news articles. In the positive affect conditions they contained compliments from members of one of the participants' outgroups, whereas that for the neutral affect condition had no such link. Paralleling the procedure of Study 1, we created eight complimentary articles that allegedly had been photocopied from the university newspaper (*Daily Trojan*). The neutral article was identical to that used in Study 1.

## Procedure

Other than the substitution of complimentary for insulting news articles, the procedure and cover story matched that of Study 1.

### Results

### Manipulation Check of Affect

After participants read the news article, they completed two manipulation check mood questionnaires: The positive adjectives on the first ("How did the article make you feel?") were relaxed, overjoyed, pleased, and happy; and the negative adjectives were irritable, angry, annoyed, and sorry. On the second questionnaire ("How do you feel about the article?"), the positive adjectives were kindly, open-minded, friendly, and complimenting; and the negative adjectives were biased, insulting, prejudiced, and snobbish. Higher scores indicated that the adjective was a better description of the participant's feelings, whereas lower scores indicated that the adjective did not apply to their feelings. For both questionnaires, the positive adjectives ( $\alpha = .73$  and  $\alpha = .75$ , respectively) were averaged to create a composite positive mood score, and the negative adjectives ( $\alpha = .65$  and  $\alpha =$ .76, respectively) were averaged to create a composite negative mood score.<sup>4</sup> The order of these two questionnaires was counterbalanced.

An ANOVA revealed an interaction between affect/relevance (compliment/relevant vs. compliment/irrelevant vs. control) and the valence of the adjectives (positive vs. negative), for the "How do you feel about the article?" questionnaire only, F(2, 43) = 3.28, p < .05. Post hoc tests showed participants to have felt more positive about the complimenting articles (M = 2.15 and 2.56 for the complement/ relevant and compliment/irrelevant conditions) than the neutral article (M = 1.81), p < .05. Composite negative mood score for the complimenting articles (M = 1.68 in the complement/ relevant condition, M = 1.85 in the compliment/irrelevant condition) did not differ from the neutral article (M = 2.28) on, p > .05. Paralleling the results for the "How do you feel about the article?" questionnaire, analyses of the "How did the article make you feel?" showed that the complimenting articles (M = 2.73 and M = 2.97, respectively) made

the participants feel more positive than the neutral article (M = 1.77), p < .05. Again, the complimenting articles (M = 1.51 and M = 1.50, respectively) and the neutral article (M = 1.73) did not differ on the composite negative mood score, p > .05. In sum, the complimenting articles were more positive than the neutral one.

## Manipulation Check of Relevance

Paralleling the previous experiment, we used a manipulation check questionnaire that asked the participants to indicate the importance of the relevant dimension relative to the other three irrelevant dimensions on a 9-point scale. A mean relative importance score was created by comparing the importance of the relevant dimension to the average importance of the other three dimensions. Lower scores indicated that the participants rated the relevant dimension as more important than the irrelevant dimensions. After combining the two irrelevant conditions (compliment/irrelevant and control), the mean relative importance score in the compliment/ relevant conditions (M = 4.33) exceeded that in the irrelevant conditions (M = 5.52), F(1,(44) = 4.80, p < .01. Confirming an effective manipulation of importance relevance, when the CC targets shared a membership on the category dimension relevant to the discussion topic, that category dimension was rated as more important than when the discussion topic was irrelevant to the category cues that identified the targets' memberships.

### Partner Evaluations

Kolmogorov–Smirnov tests of normality were performed prior to our examination of the mean target evaluations of the four targets as a function of affect and relevance. They indicated that the distributions for each of the four targets were normal (p < .05). We therefore deemed ANOVA procedures to be appropriate for the subsequent analyses.

First, we examined the participants' preferences for the future discussion partner in a 3

<sup>&</sup>lt;sup>4</sup> One item, sorry, from the first questionnaire, and one item, fair, from the second questionnaire were excluded because they were not correlated significantly with the other adjectives.

(positive affect/relevance)  $\times$  4 (type of target) ANOVA repeated measures. It revealed only a main effect of type of target, F(3, 108) = 14.03, p < .001. In Hypothesis 1, we predicted an increased acceptance of targets who share the same category memberships of the person that provided the compliment (Oi) as compared to the very same target in the control condition (oi). Supporting this prediction, when the two compliment conditions were combined, preference for the Oi crossed target who was a member of the category that provided compliments (M = 4.98) marginally exceeded that for the corresponding oi crossed target in the control condition (M = 4.27), t(38) = 1.77, p = .08(See Table 2). Also, as predicted, ratings of the Oi target in the two compliment conditions did not differ, t(23) = .43, p > .05. In other words, positive affect tended to increase preference ratings for the Oi target irrespective of relevance.

Hypotheses 2 predicted a smaller evaluative difference between the double in-group and the combination of the crossed targets (i.e., Ii – (Io + Oi)/2) in the compliment conditions than in the no compliment control condition. We tested this hypothesis with a one-way ANOVA on the difference between the double in-group and the combination of the crossed targets (i.e., Ii - (Io + Oi)/2). As predicted, there was a main effect of affect/relevance, F(2, 50) = 4.89, p <.01; presumably reflecting a broader categorization (less evaluative difference among the ingroup targets) in the two compliment conditions (M = .66 in the complement/ relevant and M =.04 in the compliment/irrelevant condition) than in the control condition (M = 1.97).

#### Evaluation Patterns

Hypotheses 3 and 4 proposed that the two compliment conditions would exhibit the social inclusion pattern whereas the no compliment condition would follow the additivity pattern. We applied contrast weights to test the match of the patterns of preference across the four targets to our predictions. As expected, the patterns obtained in the compliment/relevant and compliment/irrelevant conditions conformed to a social inclusion pattern (Ii = Io = Oi > Oo), as shown by the analyses that used the contrast weights of 1, 1, 1, -3; F(1, 108) = 7.03, p < 100.05; and F(1, 108) = 17.56, p < .05; respectively. There was no residual variance, F(2,108 = 1.18, p > .05; and F(2, 108) = .83, p >.05; respectively. Hypothesis 4 predicted equally weighted categories in the absence of affect in the no compliment condition, thereby resulting in the additivity pattern (ii > io = oi > oo) as found in Study 1. Supporting this prediction and replicating the pattern found in the no insult condition of Study 1, we confirmed an additivity pattern in the control condition, as shown by analyses that used the contrast weights of 2, 0, 0, -2; F(1, 108) = 31.80, p <.05. There was no residual variation, F(2,108) = 0.37, p > .05.

#### Discussion

Study 2 suggests that positive affect leads to broader and more inclusive categorizations. Compared to the no-affect control condition, participants whose in-group was complimented reported less evaluative difference between the

Table 2 Mean Preferences for the Four CC Targets as a Function of Compliments From **Out-Group Members and Relevance** 

Condition	Four types of targets				
	II	IO	OI (source of compliment)	00	
Compliment/relevant <sup>a</sup>	5.36,	4.45 <sub>a b</sub>	4.82,	3.64 <sub>b</sub>	
Compliment/irrelevant <sup>b</sup>	5.07	4.92 <sub>a</sub>	5.14	3.20b	
Control <sup>c</sup>	6.27 <sup>"</sup> <sub>a</sub>	4.33 <sub>b</sub>	4.27 <sup>°</sup> <sub>b</sub>	3.33°	

Note. 7-point rating scales were used. Higher values indicate greater preference for target. Means not sharing common subscripts within a row differ from each other at p < .05. CC = crossed categorization; II = in-group/in-group; IO = in-group/out-group; OI = out-group/ in-group; OO = out-group/out-group.

a n = 11. b n = 14. c n = 15.

crossed targets and the double in-group target, both in the relevant and irrelevant compliment conditions. Presumably, the positive affect elicited by compliments primed attention toward the in-group memberships of the crossed targets, leading them to be evaluated as favorably as pure in-group members (Ii). By contrast, the larger evaluative differences assigned to targets in the control condition, suggests that these participants failed to give greater weight to the in-group memberships of the crossed targets. Thus, as predicted, a social inclusion pattern (ii = io = oi > oo) emerged in the complement conditions whereas an additive pattern (ii >io = oi > oo) was seen in the control condition. The fact that positive affect led all targets with an in-group membership to receive equally higher ratings than the double out-group target supports the notion that positive affect broadens categorization. Even in the irrelevant condition of Study 2, compliments led to evaluations characterized by broader categorizations. Only in the absence of affect did participants attend to the crossed targets' conflicting cues (i.e., their possession of both in-group and out-group characteristics).

#### General Discussion

Our major purpose was to investigate the relationship between relevance and integral affect within the CC paradigm. As predicted, negative integral affect influenced target evaluations, but only for persons with group memberships relevant to those of insulting out-group members. Positive integral affect, by contrast, improved evaluations irrespective of the relevance manipulations. This suggests that compliments from a specific out-group focus attention on the positive in-group memberships of others. This leads to broader, more inclusive categorizations that lump crossed targets with the ii target because they both possess an in-group membership. Insults, instead, only influence evaluations of specific targets whose category memberships are directly relevant to the category dimension of that insulting out-group.

These effects translated into distinct evaluation patterns across the four targets. In both studies, the absence of affect created equally weighted category memberships that conformed to an additivity pattern, as typically found in CC research (ii > io = oi > oo). The evaluative patterns, however, deviated from the basic additivity pattern as a function of the valence of the affective arousal. Negative affect only depressed evaluations of potential discussion partners who shared an out-group membership with the insulting category, thereby producing a hierarchical pattern (ii > io > Oi > oo). Because positive affect induced more positive judgments of all targets with in-group memberships, it produced a social inclusion pattern (ii = io = Oi > oo).

Finally, we call attention again to the fact that in Study 1 hierarchical patterns were obtained both in the relevant and irrelevant insult conditions. Others have argued that a dominant dimension is a necessary condition for hierarchical patterns (Brewer et al., 1987; Hewstone, Islam, & Judd, 1993). Yet, in the irrelevant affect condition, only the Oi target possessed a category membership that coincided with that of the insulting category. This suggests that a dominant category, albeit one made dominant by virtue of its correspondence with the category membership of those who insulted one's in-group, is sufficient to produce a hierarchical pattern. Although one might assume that the dominant category (the O from the Oi) made that category dimension dominant, inspection of Table 1 shows otherwise. That is, in the irrelevant insult condition, the positivity of the io target did not exceed that of the control condition, suggesting that for this condition the category dimension, was not made dominant. Thus, as argued by Ensari and Miller (1998), a dominant category as well as a dominant dimension, is sufficient to create a hierarchical pattern.

One reasonable expectation might have been clear-cut findings of social exclusion (ii > io = Oi = oo) and social inclusion (ii = io = Oi > oo) for negative and positive affect respectively. Why did negative affect not produce the analogous social exclusion pattern where all of those with an out-group membership are judged more negatively? One explanation lies in the fact that intergroup bias ordinarily rests more heavily on ingroup favoritism than on out-group antagonism (Brewer, 1979). Hence, it makes sense that Study 1 participants did not negatively evaluate targets merely because they possessed an outgroup membership, but only did so when they possessed one made relevant by our simultaneous fit and importance inductions. Particular out-group memberships became more salient or dominant by

virtue of their relevance to the insulting out-group, producing a hierarchical pattern. In fact, the hierarchical pattern has been described as social exclusion pattern plus category dominance (Crisp & Hewstone, 1999). The implication of both studies taken together is that the valence of the affect influences the cognitive process by which participants evaluate targets—making it a process that focuses attention either on group memberships in general, or instead, more selectively on only relevant groups.

Once again, we note that our two studies simultaneously induced both fit type relevance and importance-type relevance. Under negative integral affect, by comparison with the weak effects elicited by an induction of relevance constrained to only include fit type relevance (Ensari & Miller, 1998, Study 2), our addition of importance-type relevance herein clearly reduced preferences for the Oi target in the relevant, as compared to the irrelevant affect conditions. And yet, under positive affect (Study 2), even with the combined induction of both types of relevance the target ratings in the relevant and irrelevant conditions did not differ. Although "null effects" must be looked on with caution, the facts that (a) the manipulation check of relevance showed the predicted effects between the relevant and irrelevant conditions, and (b) the exact same manipulation of relevance in Study 1 showed the predicted target rating differences between relevant and irrelevant conditions, give us some confidence about our theorizing concerning relevance and the categorization-broadening effects of positive integral affect. Obviously, obtaining similar outcomes from manipulations of positive and negative affect within the same study would strengthen our theoretical conclusion.

Evidence also rebuts the criticism that the lack of effects between the relevant and irrelevant conditions in Study 2 occurred because the compliments produced less affect than the insults in Study 1. The positive affect manipulation check in Study 2 indicated a level of positive affect as high, or higher, than that for negative affect in Study 1! Nonetheless, only research that manipulates different levels and types of integral affect (e.g., other types of affect inductions such as negative or positive task feedback, direct verbal or physical forms of affect, etc.) will provide a fuller picture of how relevance and affect combine to influence CC target evaluations.

The current studies also bear on three levels of generalization of bias toward out-group members: (a) future contact with the same individual in a new situation, (b) other persons within the same group as the out-group individual, and (c) members of other out-group categories (Pettigrew, 1998). Although we did not measure bias toward the actual source of affect (Level 1), negative integral affect was shown to yield generalized bias only to relevant targets (Level 2) but not out-groups in general (Level 3). By contrast, if targets contained an in-group membership, positive integral affect influenced both evaluations of relevant targets and outgroups in general (Levels 2 & 3). Seemingly, by comparison with negative affect, (which only impacts relevant individuals) positive affect can influence bias for a larger range of possible out-group members. Moreover, Study 1 showed a positive contrast effect for the Io target, indicating that generalization of bias at Level 2 was extended to targets with both an in-group and out-group membership on the category dimension of those who provided the insults.

### Future Research

Social identity theory explains how motivational forces in the crossed categorization paradigm elicit evaluative decisions that generally in favor of the in-group (Tajfel, 1981). Further expanding on this theory, Marques, Abrams, Paez, and Martinez-Taboada's (1998) model of subjective group dynamics argues that people maximize and sustain descriptive intergroup differentiation while simultaneously maximizing and sustaining the relative validity of in-group norms through intragroup differentiation. This model may provide unique insight for understanding differential evaluations of relevant in-group and out-group members within the context of CC. It argues that normative differentiation may play a role in category differentiation within the CC paradigm. One factor that makes some groups or group members more salient and appealing is their relative support for in-group norms. Out-group members who support in-group norms should be favored more than those who reject them. Consequently, a crossed target (i.e., oi) who endorses in-group norms may become a relevant member (i.e., oI) who is favored more than one who rejects or is silent about in-group norms. Thus, it seems likely that simultaneous examination of subjective group dynamics and crossed categorization processes will be fruitful.

Future research should also address how the variables that influenced target evaluations herein can reduce real world bias and discrimination toward persons possessing overlapping or conflicting social categories. As indicated, crossed targets were preferred as equally as pure in-group members (Ii) irrespective of their relevance to complimenting out-group members but the same crossed targets were nonpreferred as equally as pure outgroup members (Oo) only if they were directly relevant to the person providing the insult. By implication, negative consequences of intergroup conflict (where out-groups respectively insult or attack each other) can be reduced by framing the conflict to constrict perceptions of group relevance to as few groups as possible. A key reason why more personalized and de-categorized interactions improve intergroup relations may be because they reduce the perceived relevance of group memberships.

Finally, a limitation of CC studies is their reliance on a two-group model. They neglect the multiple-category information available in real-life interactions, where people do not merely learn two pieces of information about each other. Information is richer, some is important and some is not, and it is processed in different ways, leading us to categorize others in terms of a larger combination of group memberships (Crisp & Hewstone, 2007; Urada, Stenstrom, & Miller, 2007). Future research should focus on multiple categorizations that capture more of this complexity.

### **Practical Applications**

Many studies show that racial, ethnic, age, and gender discrimination in the U.S. labor market persists. It negatively impacts work life, creates work situations that disadvantage minorities, and poses major challenges as the diversity of organizations increases (Carr, Szalacha, Barnett, Caswell, & Inio, 2003; Council of Economic Advisers, 1998; De Vries & Pettigrew, 1998; Ragins, 1995). Despite their importance, current diversity management initiatives and programs lack scientific rigor, empirical grounding, and theoretical scrutiny (Nkomo & Cox, 1996). Separate from their theoretical implications for academic social psychology, our outcomes suggest new ideas and models that can be applied to reduce prejudice. In increasingly multicultural, global organizations, the CC model has realistic application to intergroup contexts. For instance, creating or making salient CC identities at work provides opportunities to discover others' similarities and differences (Ensari, 2001). CC identities can be created by (a) providing information to group members about others group identities or (b) creating work roles that are systematically crossed with category membership (Brewer, 1995; Ensari, 2001). When ethnicity (e.g., Chinese vs. American) is crossed with work roles (e.g., finance vs. marketing), Chinese and Americans who work in the finance department become crossed targets. Although both groups will continue to recognize their ethnic differences, they will also realize their similarity with respect to their work roles. By discovering similarities on some common grounds, the American employees in the finance department are likely to view the crossed targets (e.g., Chinese in the finance department) more favorably than the double out-group targets (e.g., Chinese in the marketing department). Alternatively, creating subtasks that combine different skill sets can create CCs that differentiate members of the representative social categories according to their role with respect to the team goal (Brewer, 1995).

In sum, the CC model has a potential for reducing prejudice and discrimination by means of crossing work roles or group identities at work. The present study leads us to a wider consideration of the application of crossed identities, but also to the more ecologically valid paradigm of multiple categorizations (Urada et al., 2007).

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Received January 18, 2008 Revision received March 26, 2009 Accepted May 18, 2009