Intentions and Competence in Evaluations of Both In-group and Out-group

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Abstract
Research from a number of social psychological traditions suggests that social perceivers should be more concerned with evaluating others' intentions (i.e., warmth) relative to evaluating others' ability to act on those intentions (i.e., competence). The present research examined whether warmth evaluations have cognitive primacy over competence evaluations in a direct reaction-time comparison and whether the effect is moderated by ingroup versus outgroup membership. Participants evaluated as quickly as possible whether warmth versus competence traits described photographs of racial ingroup versus outgroup members expressing neutral emotions. Responses supported the hypothesis that evaluations of warmth take precedence over evaluations of competence; participants were faster to evaluate others on warmth-related traits compared to competence-related traits. Moreover, this primacy effect was not moderated by racial group membership. The data from this research speak to the robustness of the primacy of warmth in social evaluation.

KEYWORDS: stereotype, intention, competence, primacy, race

Introduction:
In the soup of social perception, our evaluations of others boil down to two fundamental ingredients – warmth and competence. Understanding whether others' intentions are benevolent (i.e., whether people are warm, likable, trustworthy, and friendly) and whether they can act on these intentions (i.e., whether they are competent, clever, intelligent, and capable) allows us to assess potential threats in our social environment and to respond accordingly. While the universality of warmth and competence in person perception is well documented [1, 2], we know little about how social information affects the relative importance of these judgments. When judging others, the literature indicates that warmth enjoys cognitive primacy over competence. That is, people are faster to evaluate others on traits related to warmth relative to competence. The literature reviewed next also suggests that warmth matters more only to evaluating others, while competence matters more to evaluating self. Here, we ask whether that differentiation

extends to ingroups and outgroups or whether warmth continues to have primacy in perceptions of ingroup as well as outgroup individuals.

Universality and Importance of Warmth and Competence

Warmth and competence are key dimensions across judgment targets [1, 2], including self, other individuals, and other groups.[1] Asch's early work on trait centrality [3] first intuited the importance of the warmth dimension in global impressions; simply substituting the trait *cold* for the trait *warm* in a list of personality attributes prompts different interpretations of those attributes. Subsequent theorists posited two underlying trait dimensions in person perception, which were identified as *social* (i.e., warmth) and *intellectual* (i.e., competence) [4]. Later work by Wojciszke, Bazinska, and Jaworski [5] found these two dimensions to account for a majority of variance in global interpersonal impressions, suggesting that they are core components of social evaluation.

More recently, the Stereotype Content Model (SCM) has extended these arguments beyond individual judgments, demonstrating the importance of warmth and competence in group perceptions as well [6, 7]; essentially all group stereotypes differentiate by perceived warmth and competence. Cross-cultural studies of intergroup perceptions reveal clear and consistent stereotypic evaluations that fall along the warmth/competence dimensions [8, 9]. These dimensions characterize stereotypes across a wide spectrum of groups, including gender, age, race/ethnicity, and economic status [6, 7].

The SCM also suggests that social structure predicts stereotypes differentially associated with warmth and competence. Perceived group competition reliably predicts stereotypically low warmth, across groups and across cultures [6, 7, 8, 9]. That is, groups (and individual members) perceived as competing with one's own group tend to be judged as cold and to have hostile intentions (i.e., low warmth), whereas non- competitive groups (and individual members) are perceived to act in accordance with the goals of the ingroup, and are generally viewed as warm and having benevolent intentions. If perceivers make one type of judgment more quickly than the other, then it would indicate that dimension has some priority in cognitive processing and presumably matters more in person perception.

Primacy of Warmth Judgments

People rely more on morality- than competence-related traits when forming impressions of others [10], presumably because this information has more direct and immediate impact on the perceiver's well-being than information concerning the person's competence. Morality relates closely to the social dimension of warmth: Trait lists describing warmth and morality overlap considerably, both tap people's intentions toward others [1], and both matter more than competence in impressions of others. For example, Ybarra, Chan, and Park [11] tested the speed with which people recognize morality/warmth (e.g., hostile, friendly, honest, cruel) versus competence-related (e.g., skillful, creative, stupid, ignorant) trait words in lexical decision tasks (LDTs) wherein participants determined whether traits were words or non-words. Across two

studies, participants were faster to recognize morality-related traits than competence-related traits, providing some evidence for the primacy of warmth.

Besides verbal cues, facilitated trait judgments about facial photos show similar effects and directly relate to the person-perception processes at the heart of our current research questions. People infer warmth- and competence-related traits from facial appearance alone [12, 13], and they do so quickly. For example, Willis and Todorov [13] investigated the minimal conditions under which people extract information and infer traits to photographed faces. In an initial study, participants made time-unconstrained ratings of the *attractiveness, likeability, competence, trustworthiness,* and *aggressiveness* of different faces. These ratings served as reliability criteria for the speeded trials that followed. In five separate studies, White participants saw photographed White faces (with neutral expressions) for 100ms, 500 ms, or 1000 ms, making dichotomous trait judgments regarding one of five traits (between studies). Immediately following the presentation of each face, participants indicated (yes or no) whether the person in the photo possessed one of the five traits (e.g., "Is this person likable?"). Although people were able to extract warmth-related (trustworthiness, likability) and competence-related information from the faces, regardless of exposure time, people were faster to judge trustworthiness than they were to judge competence. Moreover, at 100 ms exposure, trustworthiness judgments had the strongest correlation with the criterion (i.e., judgments made in unconstrained exposure settings), suggesting that perceivers quickly and reliably gathered information from the faces to infer this trait, relative to other traits. These findings suggest that evaluations assessing potential benevolence/threat are not only spontaneous; they also precede evaluations assessing capability. Although these data demonstrate the primacy of warmth evaluations, these studies did not consider racial or ethnic group membership. Targets' race may well qualify the importance of warmth and competence evaluations.

Does Group Membership Matter?
Evolutionary theories [14] suggest that understanding others' intentions (i.e., assessing warmth) should take precedence over assessing others' abilities to act on those intentions (i.e., competence) [1]. From an evolutionary perspective, rapidly identifying threatening others would facilitate survival. Hence, people must understand whether others intend us harm, and, secondarily, whether they can act on these goals. Initial research supports this possibility. For example, people are faster to detect threatening than friendly targets [15], an effect not dependent on conscious appraisal [16]. Untrustworthy faces also activate the brain's amygdala, even when people's task is judging the age of the faces [17]. Further, non-conscious threat detection links to amygdala activation [18]. Specifically, the trustworthy/threatening dimension tracks amygdala activation for motivational relevance [19]. Thus, the automaticity of facial threat detection and its neural correlates suggest an evolved, highly specialized behavior that is adaptive in humans.

Target group membership might well moderate the relative importance of warmth over competency in judgment. That is, perhaps the warmth-trustworthiness dimension is redundant with ingroup membership, and so this dimension requires priority only in outgroup members. For

example, amygdala activation suggest that White perceivers differentially attend to racial ingroup versus outgroup members, in ways that suggest vigilance for threat. In several studies [20, 21, 22], amygdala activation is generally higher when Whites view Black (i.e., outgroup) photos compared to White (i.e., ingroup) photos. Because the amygdala is linked to vigilance and emotion [23, 24], these data suggest that perceivers spontaneously process information about others' potential warmth as a function of target group membership.

In social appraisals, understanding intent (i.e., warmth) seems of more immediate importance than understanding ability to act on intentions; one's evaluations of competence may only qualify the importance of various intents. For example, knowing someone is *capable* of physical harm (i.e., physically strong) is not especially important if that person does not *intend* to harm you (i.e., being your ally). Conversely, determining whether someone's intentions are benevolent (or not) enables perceivers to attend appropriately to information regarding the person's ability to help (or harm). Assessing another's competence is, therefore, meaningful to the extent one already understands the person's intentions.

In accordance with this theory, differential effects might occur for judgments of ingroup versus outgroup members. Because ingroup members tend to be familiar and encountered frequently, evaluations may enjoy a processing advantage relative to more unfamiliar outgroup members. Additionally, ingroup members may be perceived as possessing benevolent intentions, such that evaluating the ability to act on those intentions may not carry the same weight as evaluating the ability of an unfamiliar outgroup member with potentially hostile intentions. For example, a woman walking to her car in a dimly lit parking garage late at night notices a person walking towards her. Her most immediate evaluation would be to determine whether the approaching person is friendly or hostile. If the person is deemed hostile, she will seek to determine the approaching stranger's ability to cause harm; she would focus on cues related to capability, such as the person's potential strength, and whether the stranger is carrying a weapon. In other words, evaluations of competence require more deliberate assessments. Because racial outgroups have been linked to vigilance of threat, racial group membership might moderate the cognitive primacy of warmth evaluations when perceiving others, resulting in quicker decisions when evaluating the warmth of racial out-group members compared to racial in-group members.

Overview

Our research directly examines the relative ease with which people evaluate ingroup and outgroup others on warmth and competence. We tested the hypothesis that people are faster to evaluate others on warmth-related traits than those related to competence. Additionally, we explored whether group membership would moderate this effect. We adopted a minimal-judgment paradigm similar to that of Todorov and colleagues [12]. Here, however, we measured White participants' reaction times to indicate whether several different warmth versus competence traits described photographs of White and Black faces displaying neutral expressions. We assessed evaluations of warmth and competence using facial photographs of ingroup and outgroup members in an impression formation task. Participants indicated whether

warmth versus competence traits described individuals presented in the photos. Reaction times to make these judgments served as the dependent variable of interest.

Method
Participants
At a small Southwest university, 80 undergraduates (61 female, 19 male), with a mean age of 18 years, participated in exchange for course credit. The racial/ethnic composition of the sample included 64% White, 9% Black, and 21% Hispanic, and 6% other. We opted to focus only on Whites' perceptions of racial ingroup and outgroup targets owing to the low number of Black participants in our sample. Additionally, because Hispanics may identify as White or Black or another race, for clarity of ingroup/outgroup membership Hispanics were excluded from analyses. We therefore included in our analyses only the data from those participants who reported a racial identity of White (N = 51).

Procedure
Participants were recruited for a study of photo evaluation. Photo stimuli consisted of 20 color photographs of young adults. We fully crossed the racial group membership and gender of the judgment targets in the photos, with half of the photos depicting males, half females, and half of the photos depicting Whites, half Blacks. All photos were head and shoulder images of individuals displaying neutral expressions, presented against a plain white background [25]. Participants evaluated target photographs with regard to 28 trait characteristics reflecting the dimensions of warmth and competence; seven positive (e.g., *caring, trustworthy*) and seven negative (e.g., *selfish, threatening*) components of warmth; seven positive (e.g., *clever, competent*) and seven negative (e.g., *powerless, ignorant*) components of competence.

Words were matched across each of the four categories using the Brown Corpus [26], which contains over one million words used in the American English language and tagged according to identifiers that allow for statistical analyses. Positive warmth words were equated with negative warmth words in both syllable length and average word frequencies. Likewise, positive competence words were equated with negative competence words.

Each photo was presented via computer using DirectRT software [27]. For each trial, participants viewed a photo paired with a trait presented at the bottom of the screen. Participants were asked to indicate as quickly as possible (yes or no) whether the trait described the person in the photograph. Trait words and photos remained on the screen for the duration of the trial until participants entered a response by pressing one of two keys, labeled "yes" or "no," on a response pad. Response mappings were counterbalanced between-subjects. Response times to photo/trait pairings were recorded in milliseconds and served as the dependent measure of interest.

The experiment consisted of five blocks of 112 trials each, separated by a brief rest period. Participants were instructed to proceed with the next block of trials at their own pace. Each block of trials began with five practice trials, which included images of non-social stimuli (e.g., landscapes and buildings) and judgments of non-trait adjectives (e.g., *tall, dry*). These trials

oriented participants to the task without involving social judgments. Within each block, the 28 trait words were paired with each of four target photos, selected at random from the total set of 20 photos. Across the five blocks, therefore, participants rated all 20 photos on each of the 28 trait words.

Results

We adopted standard procedures for identifying and handling extreme reaction times, excluding responses that were +/- 3 *SD*s of the mean reaction time for the sample (2.8% of the total responses). To test our hypotheses that people respond faster to warmth-related traits than competence-related traits, and to test whether this effect is moderated by group membership, reaction time data were entered in a 2 (Target Race:

Black; White) x 2 (Trait Dimension: warmth; competence) x 2 (Trait Valence: positive; negative) repeated measures ANOVA with all factors treated as within-subjects measures.

As predicted, results indicated a main effect for Trait Dimension, such that participants were faster to rate targets on traits related to warmth (*M* = 1011 ms, *SD* = 145) than to traits related to competence (*M* = 1037 ms, *SD* = 157), $F(1,50) = 20.90$, $p < .001$, $\eta p^2 = .30$, providing evidence for the cognitive primacy of warmth.

There was a main effect for Target Race, which was qualified by Trait Valence, $F(1,50) = 12.34$, $p = .001$, $\eta p^2 = .20$. The pattern of this interaction was that participants responded significantly faster to positive words when evaluating White targets (*M* = 1009 ms, *SD* = 141) than when evaluating Black targets (*M* = 1031 ms, *SD* = 149), $t(50) = 3.63$, $p = .001$, $d = .15$; however response time to negative words did not differ between evaluations of White targets (*M* = 1026 ms, *SD* = 145) and Black targets (*M* = 1026 ms, *SD* = 157). These data indicate an established ingroup bias effect, such that participants were quicker to associate positive traits with members of their own racial ingroup [28]. No other significant effects were revealed. Of note is the lack of a significant interaction between Target Race and Trait Dimension, $F(1,50) < 1$, $p = $ ns, which could suggest that racial group membership does not moderate the primacy of warmth effect in social evaluations.

Discussion

Consistent with prediction, these data demonstrate that judgments of warmth precede judgments of competence in a speeded judgment context. Participants were faster to evaluate others on traits related to warmth compared to traits related to competence. Additionally, the results indicate that the warmth primacy effect is not moderated by target race, speaking to the robust nature of this effect.

Despite evidence that would suggest people spontaneously evaluate others along group dimensions, notably we did not obtain response-time effects of target group membership, alone or in combination with dimension. Our participants did not evaluate outgroup members differently than they evaluated ingroup members on the dimensions of warmth and competence. A wide range of studies would predict that perceivers should be quick to differentially weight the

intentions of outgroups relative to ingroups. Nevertheless, we observed no moderation of the warmth primacy effect in the minimal judgment paradigm. These findings suggest people do not automatically evaluate others on dimensions of warmth and competence differentially based on racial group membership.

Of course, in minimal judgment contexts such as this study, the absence of target information necessarily diminishes the personal relevance of these judgments for perceivers. One might hypothesize that group membership could bear on the primacy of warmth when perceivers have access to individuating information regarding an outgroup member in the context of anticipated interaction. Theory and research on intergroup anxiety suggests that people may experience heightened levels of anxiety in anticipation of inter-group, compared to intra-group, interactions [29]. For example, Whites and Blacks each report greater anxiety with regard to racial intergroup interactions than intra-group interactions [30]. Because assessments of potential threat and anxiety may be heightened when judgment targets are outgroup members, greater discrepancy between warmth and competence judgments might occur for ingroup than outgroup members. Future studies might investigate various contexts in which people are anxious about intergroup interactions and test whether these anxieties elevate the importance of evaluating outgroup members' warmth.

In addition to these contributions, these data extend our understanding of the primacy of warmth in social judgments. We have argued that people are faster to evaluate others on the dimension of warmth because it matters more than evaluating competence in the context of detecting threats and predicting the outcomes of social interaction. One alternative explanation for this effect is that people simply have a harder time inferring competency than warmth when responding to photo facial stimuli; that is, nonverbal facial cues could communicate warmth better than competence. However, previous studies have found that people are able to extract competence as well as warmth information from facial appearance [12, 13]. Thus, this argument is unlikely to explain our data.

A limitation of our study concerns the photographs used as stimuli. We utilized photos of Black faces and White faces to manipulate target group membership. As such, race was confounded with ingroup/outgroup status. Consequently, our data can speak only to the effect of White ingroup/Black outgroup evaluations. Further studies should investigate whether these same effects occur when members of different racial groups judge other racial groups.

As a final point, our data are consistent with theory and research on the facilitation of affective versus cognitive judgments. For example, Zajonc [31] posited that affective (feelings) judgments precede cognitive (thoughts) judgments. One could claim that warmth evaluations simply reflect relatively more affective rather than cognitive judgments, whereas competence evaluations reflect relatively more cognitive than affective judgments. Such reasoning would complement our own argument that evaluations of warmth take precedence over evaluations of competence in social evaluations.

Also consistent with prior studies is our finding that Whites are quicker to associate positive than negative traits with members of their own racial in-group. These data are consistent with an

established in- group bias effect [32, 33], which states that people gain self-esteem by associating with positively viewed groups. As such, our results support a broader body of research on in-group favoritism.

In conclusion, our study presented evidence that people are quicker to judge others on the traits reflecting the dimension of warmth compared to traits reflecting the dimension of competence. Our data also suggests that racial group membership does not moderate such evaluations, which speaks to the robustness of the warmth primacy effect in person perception.

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