

Universal dimensions of social cognition: warmth and competence

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Like all perception, social perception reflects evolutionary pressures. In encounters with conspecifics, social animals must determine, immediately, whether the 'other' is friend or foe (i.e. intends good or ill) and, then, whether the 'other' has the ability to enact those intentions. New data confirm these two universal dimensions of social cognition: warmth and competence. Promoting survival, these dimensions provide fundamental social structural answers about competition and status. People perceived as warm and competent elicit uniformly positive emotions and behavior, whereas those perceived as lacking warmth and competence elicit uniform negativity. People classified as high on one dimension and low on the other elicit predictable, ambivalent affective and behavioral reactions. These universal dimensions explain both interpersonal and intergroup social cognition.

Introduction

Dark alleys and battle zones approximate the survival settings of ancestral encounters with strangers. Evolutionary pressures are reflected in social perception: on encountering others, people must determine, first, the intentions of the other person or group and, second, their ability to act on those intentions. In the past few years, research has clearly established that perceived warmth and competence are the two universal dimensions of human social cognition, both at the individual level and at the group level. The evidence for these dimensions comes from various sources, including experimental social psychology laboratories, election polls and cross-cultural comparisons. Decades of prior research supports the importance (and constant recurrence) of the warmth and competence dimensions, under various labels (Box 1). However, only in the past five years have cutting-edge studies of social cognition firmly established that people everywhere differentiate each other by liking (warmth, trustworthiness) and by respecting (competence, efficiency).

According to recent theory and research in social cognition, the warmth dimension captures traits that are related to perceived intent, including friendliness, helpfulness, sincerity, trustworthiness and morality, whereas the competence dimension reflects traits that are related to perceived ability, including intelligence, skill, creativity and efficacy. For example, these dimensions appear in

spontaneous impressions of presidential candidates, which entail both competence and integrity (warmth, trustworthiness) [1–3]. Impressions of leaders also involve these dimensions and include image management (building trust), relationship development (warmth) and resource deployment (competence and efficacy) [4]; although one could quibble over separating or combining trust and warmth, there is a core linkage between the two features, with trust and warmth consistently appearing together in the social domain.

These public-sector results are borne out by studies from Bogdan Wojciszke's laboratory on how people construe the behavior of others. The basic dimensions of warmth and competence account for 82% of the variance in perceptions of everyday social behaviors [5]. Three-quarters of more than 1000 personally experienced past events are framed in terms of either morality or competence [6], and impressions of well-known people show a similar pattern [5] (reviewed in Ref. [7]). The terms used by Wojciszke and colleagues [5,6] are translated as 'competence' and 'morality', but the moral traits include fair, generous, helpful, honest, righteous, sincere, tolerant and understanding, which overlap with the warmth–trustworthiness dimension that has been identified elsewhere. (There is no dispute over the competence label; these traits include clever, competent, creative, efficient, foresighted, ingenious, intelligent and knowledgeable.) In sum, when people spontaneously interpret behavior or form impressions of others, warmth and competence form basic dimensions that, together, account almost entirely for how people characterize others.

The primacy of warmth judgments

Although warmth and competence dimensions emerge consistently, considerable evidence suggests that warmth judgments are primary: warmth is judged before competence, and warmth judgments carry more weight in affective and behavioral reactions. From an evolutionary perspective, the primacy of warmth is fitting because another person's intent for good or ill is more important to survival than whether the other person can act on those intentions. Similarly, morality (warmth) judgments determine approach–avoidance tendencies, so they are the fundamental aspect of evaluation [8,9] and, therefore, precede competence–efficacy judgments. People infer warmth from the perceived motives of the other person [10]. Information

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Box 1. History of research on person perception

In 1946, Solomon Asch [62] published a paradigmatic study in which undergraduates formed impressions of another person based on lists of trait adjectives (e.g. determined, practical, industrious, intelligent, skillful), which also included either 'warm' or 'cold' depending on the experimental condition. The power of warm versus cold as 'central traits' that dramatically alter impressions has been the stuff of introductory textbooks ever since. These impression studies demonstrated the role of Gestalt clusters in social perception: a warm intelligent person is wise, whereas a cold intelligent person is sly.

Decades later, assuming that certain traits tend to separate into clusters, Rosenberg *et al.* [22] asked undergraduates to sort 64 traits into categories that are likely to be associated in the same person. Multidimensional scaling and subsequent analyses identified two primary dimensions: social good–bad and intellectual good–bad. As Figure 1 indicates, socially good traits include warm (as found in Ref. [62]) and sociable (as found in Ref. [22]), plus good-natured, happy, popular and sincere; socially bad traits are their opposites. Nearly orthogonal are the intellectually good–bad traits: intelligent, persistent, determined, skillful and industrious, and their opposites. Asch's dramatic results for warm–cold could be explained by the sociability dimension (warm–cold) being varied while the intellectual dimension was kept constant [23]. The warm–cold manipulation gains its power to alter the Gestalt of an impression by tapping a fundamental aspect of how people are perceived.

Nevertheless, the implications of these basic dimensions of person perception did not reach total consensus immediately. Furthermore,

calling trait lists 'person perception' was empirically tractable but ecologically problematic. Some studies (e.g. Ref. [21]) addressed ecological validity by providing pictures of stimulus persons engaged in personality-revealing behaviors on two cognate dimensions, such as sociability and responsibility. However, these laboratory studies entailed experimenter-chosen traits, which capitalized on the apparent distinction between the two dimensions but brought into question the perceivers' spontaneously used dimensions.

Fortunately, in parallel, impressions of others within small, interactive groups were found to include separate social (warmth) and task (competence) orientations [63]. Generations of Harvard university undergraduates in Robert Freed Bales's self-observational small group class and interacting small groups in a variety of organizations converged on these two dimensions [64]. The Bales system included a third dimension – sheer volume of interaction. This is probably most salient in the live interaction context but less salient in stored impressions.

In sum, there is a venerable history of warmth and competence dimensions that emerge in independent lines of research. One could add self-perception to this list (e.g. independent, agentic versus interdependent, communal) in addition to work on perceptions of social categories (e.g. the distinction between communion and agency in gender stereotypes). However, the various labels that have been used for these basic dimensions had (until recently) obscured the pervasiveness and power of the fundamental, underlying dimensions of warmth and competence.

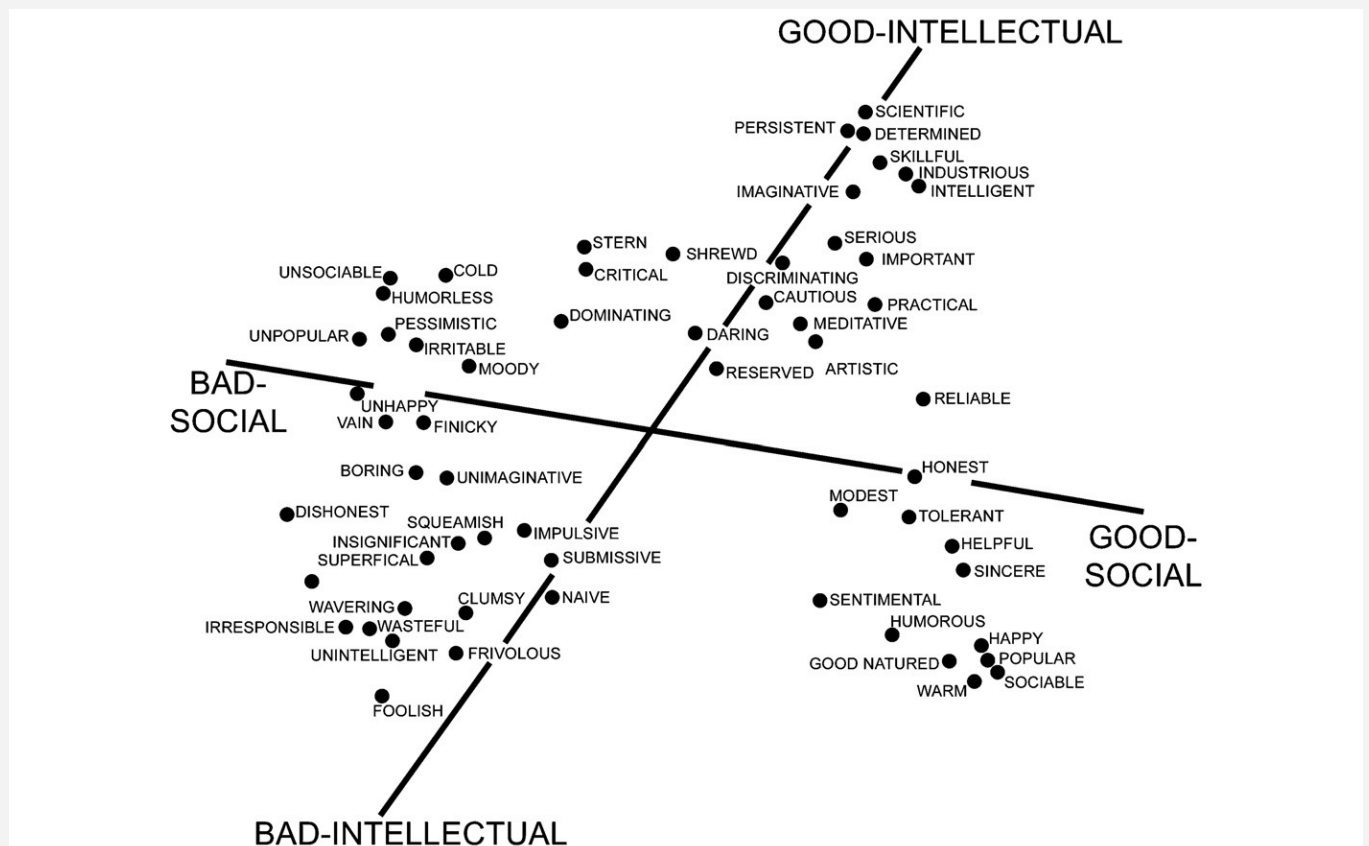


Figure 1. Two-dimensional configuration of 60 traits, which shows the best-fitting axes for the properties of social desirability and intellectual desirability. Reproduced, with permission, from Ref. [22].

about the moral–social dimension is more cognitively accessible, more sought by perceivers, more predictive and more heavily weighted in evaluative judgments [5]. The warmth dimension predicts the valence of the interpersonal judgment (i.e. whether the impression is positive or negative), whereas the competence dimension predicts

the extremity of that impression (i.e. *how* positive or *how* negative) [5] (see also Ref. [11]).

Importance of 'other-profitable' traits

Moral–social traits facilitate or hinder other people, whereas competence traits facilitate or hinder mainly the self. The

moral–social, ‘other-profitable’ traits include kind, honest and aggressive (which is a negative ‘other-profitable’ trait) because they immediately affect people around the judged person. ‘Self-profitable’ traits include competence, intelligence and efficiency because they directly and unconditionally affect the possessor’s chance of achieving personal goals (e.g. Ref. [9]). In a study that examined 200 trait terms, from a dozen dimensions (including controllability, temporal stability, situational stability and behavioral range), only warmth and competence predicted global evaluations (accounting for 97% of the variance). However, the β -weight for warmth (other-profitable) traits was larger (0.58) than for competence (self-profitable) traits (0.42) [12]. Thus, warmth assessments are primary, at least from the observer’s perspective (B. Wojciszke and A.E. Abele, unpublished).

Rapidity of warmth judgments

Cognitively, people are more sensitive to warmth information than to competence information. In lexical decision tasks that control for word length, social perceivers identify warmth-related trait words faster than they identify competence-related trait words [13]. When judging faces after an exposure time of 100 ms, social perceivers judge trustworthiness most reliably, followed by competence [14]. Reliability is calculated by measuring the correlation between time-constrained and time-unconstrained judgments of the same faces. It is striking that people make these judgments in just a fraction of a second, with moral–social judgments occurring first.

Perceivers and situations moderate the primacy of warmth

The priority for detecting warmth over competence, although robust, is stronger for some kinds of perceivers than others. In particular, women, whose traditional gender roles emphasize communal (warmth) over agentic (competence) traits [15], show a stronger priority for detecting warmth [12]. Communal traits traditionally affect women’s lives more, whereas competence traits traditionally affect men relatively more [15]. In parallel, collectivist orientations emphasize the social–moral dimension, whereas individualist orientations emphasize the competence dimension [16]. Liking depends on warmth (communion), and respect depends on competence (agency) (A.E. Abele, B. Wojciszke and W. Baryla, unpublished).

Similarly, the relative accessibility of the two dimensions is moderated by the situation. Depending on the primed context, people construe some ambiguous social behaviors in either warmth or competence terms (e.g. tutoring a friend, avoiding a car accident, failing to cheer up a sibling and leaving a meeting). On reading a series of such behaviors, undergraduates interpret them in competence terms if the actions are framed from the actor’s (self-related, individualist) perspective and in warm–moral terms if framed from the observer’s (other-related, collectivist) perspective [6] (B. Wojciszke and A.E. Abele, unpublished).

Diagnosticity of warmth and competence information: positive and negative

Social perceivers engage a complex calculus regarding relative diagnosticity of the two fundamental dimensions

[17–19]. They process positive–negative warmth information and positive–negative competence information asymmetrically, but in opposite ways [17]. Perceivers sensitively heed information that disconfirms, rather than confirms, the other person’s warmth [17–20]. This sensitivity reflects concerns about the other person’s intentions or motives [10]. To be perceived as warm, a person must adhere to a small range of moral–sociable behavior; a negative deviation eliminates the presumption of morality–warmth and is attributed to the person’s (apparently deceptive or mean) disposition. By contrast, a person who is perceived as unfriendly might sometimes behave in moral–sociable ways, but the person will continue to be perceived as unfriendly and untrustworthy; positive deviations are explained by situational demands – even evil people can be nice when it matters to them. In other words, mean and untrustworthy behavior is more diagnostic because it can only be attributed to the other person’s disposition, not to social demands. Perceivers interpret warm behavior as controllable, socially cued and, thus, non-diagnostic.

By contrast, perceivers presume that competent behavior is not under immediate personal control. Hence, competence is asymmetrical in a different way from warmth. A person who is perceived as competent might behave competently most of the time, and a few incompetent behaviors do not undermine the perception of general competence (consider the absent-minded professor). However, a person who is perceived as incompetent, and presumably lacks the ability, can never behave competently without challenging the perceived incompetence. Therefore, for competence, positive (compared with negative) behavior is more diagnostic: competence is usually attributed to the other person’s abilities, not to social demands.

Sometimes the dimensions combine: competent behavior is particularly diagnostic when the other person is perceived as immoral–unsociable; the competence of an enemy potentially has greater consequences than the competence of a friend [9]. Thus, asymmetries in the processing of positive–negative warmth and competence information can depend on the relative diagnosticity for personality impressions [18–21].

In sum, although both dimensions are fundamental to social perception, warmth judgments seem to be primary, which reflects the importance of assessing other people’s intentions before determining their ability to carry out those intentions. This demonstrates a sensitivity to potential threats, which aids survival in all organisms.

Individual versus group perception

Although warmth and competence are separate dimensions [22,23], when people judge individuals, the two dimensions often correlate positively (although modestly) in the well-known halo effect [22,24]: people expect isolated individuals to be evaluatively consistent [25]. However, when people judge social groups, warmth and competence often correlate negatively: many groups are judged as high on one dimension and low on the other, which has important implications for affective and behavioral reactions [26–28].

People ask the same warmth and competence questions of societal ingroups and outgroups as they do of individuals,

which creates predictable stereotypes, emotional prejudices and discriminatory tendencies. (By convention, social psychologists refer to a perceiver's own group as the ingroup and all others as outgroups [29].) The types of bias against outgroups differ depending on the group and its perceived relationship to other groups in society.

Stereotype content model

The two-dimensional warmth-by-competence space depicts one societal ingroup and three kinds of outgroups that are recognizable in all the countries that have been studied (see below). From the societal perspective, certain groups are prototypes or, in sociological terms, reference groups. For example, in the USA, at the present time, middle-class people, Christian people, heterosexual people and US citizens all are societal ingroups. People rate these groups as high on both warmth and competence, and they express pride and admiration for them [28,30,31] (Figure 1).

Prejudice is not simply antipathy

Lay people and psychologists have long viewed outgroup prejudice as antipathy [32], whereby societal outgroups are stereotypically neither warm nor competent, but hostile, untrustworthy, stupid and unmotivated. In the USA, these groups are reported to include poor white people, poor black people, welfare recipients, homeless people, drug addicts and undocumented migrants [28,30,31,33]. These groups reportedly elicit contempt and disgust more than all other groups. On viewing photographs of apparently homeless or addicted individuals, perceivers show neural

activation in the insula, which is consistent with disgust. Furthermore, areas that are normally activated on viewing or thinking about other people (e.g. the medial prefrontal cortex) show significantly less activation to these outgroups, as if people perceive them as less than human [34].

Ambivalent prejudices

Although some outgroups are perceived negatively on both warmth and competence, others are perceived ambivalently (high on one dimension and low on the other). Most societal outgroups fall into these previously ignored combinations [30,31,35]. US data show that people who are older, physically disabled or mentally disabled are viewed as warm but incompetent. These groups elicit pity and sympathy [28,30,31,36], which are inherently ambivalent emotions that communicate subordinate status but paternalistic positivity [37].

Other groups are viewed as competent but cold (and untrustworthy). In the USA, these currently include rich people, Asian people, Jewish people, female professionals and minority professionals [28,30,31]. These groups elicit envy and jealousy more than other groups. Such resentful emotions are inherently ambivalent because they suggest that the outgroup possesses prized abilities but that their intentions are suspect.

The US evidence for these four combinations of warmth and competence includes 'convenience' samples of undergraduates, their parents and retirement communities [30], and also a representative sample survey of US adults [31]. The four types of outgroups also seem to fit studies of ethnic stereotypes that have persisted since the 1930s (L.M.

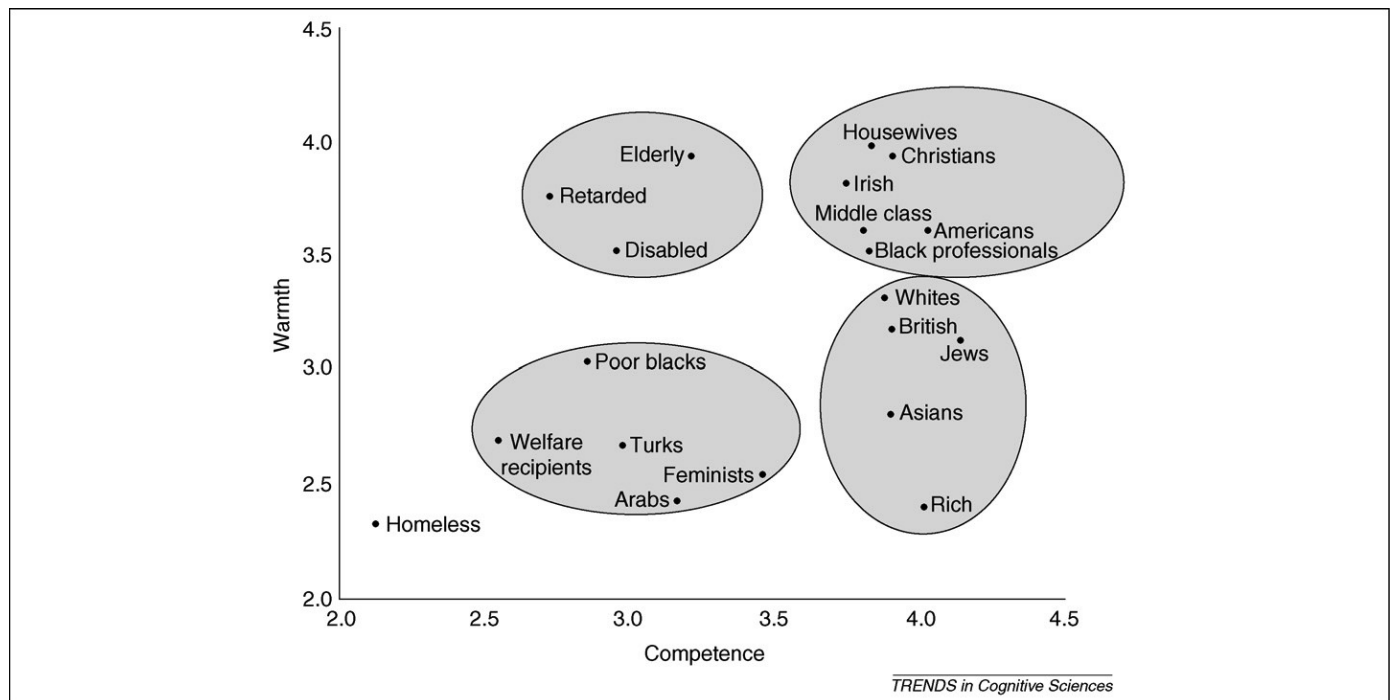


Figure 1. Scatter plot and cluster analysis of competence and warmth ratings for 20 groups. Averaging across US respondents, each group receives warmth (warm, friendly) and competence (competent, capable) scores, which are submitted to cluster analyses to determine number and membership of clusters. Groups near the center of their cluster replicate cluster membership most reliably across studies. Ratings on other variables (emotions, behaviors) cross-validate the cluster solutions. Different group names were used in different studies. Usually, an initial sample of respondents generated group names that were later rated by a second set of respondents on warmth and competence. The 20 names shown here were selected from prior sets and for various theoretical reasons. Warmth and competence were rated on five-point scales. Related to data from Refs [30,31,33,38,39,43]. Reproduced, with permission, from Ref. [31].

Leslie, V.S. Constantine and S.T. Fiske, unpublished) and they fit every society that has been studied so far: 19 nations on 4 continents [35,36,38,39] (I. Anselin and S.T. Fiske, unpublished; A.J.C. Cuddy and S.T. Fiske, unpublished). (To our knowledge, nations studied so far are, in North America, the USA, Costa Rica, Dominican Republic and Mexico; in Europe, Belgium, Bulgaria, France, Germany, Italy, the Netherlands, Norway, Portugal, Spain and the UK; in the Middle East, Israel; in Africa, South Africa; and in Asia, Hong Kong, Japan and South Korea.) In every society studied, poor people are perceived as neither nice nor smart, rich people are perceived as smart but not nice and older people are perceived as nice but not smart. Other societal groups that are local to each culture fit these three classifications. (The one exception is that in Asian cultures, in keeping with modesty norms, people rate societal ingroups neutrally on competence and warmth; however, the other three combinations are fully represented [38]. This demonstrates that outgroup prejudice does not require overt ingroup admiration.)

The warmth-by-competence space also fits in-depth US perceptions of specific US societal subgroups, such as subtypes of older people [40,41], Asian and Asian-American people [42], subgroups of immigrants [33], subtypes of gay men [43], subgroups of women [39,44], people who have distinct mental illnesses (A.M. Russell, S.T. Fiske, G. Moore and D. Thompson, unpublished), European nationalities [38,45–47], enemy outgroups [48], socioeconomic groups [49–51] and speakers of nonstandard dialects [52].

Behavioral consequences

Distinct types of discrimination result from each warmth-by-competence combination, which is captured by the behaviors from intergroup affect and stereotypes (BIAS) map [35] (Figure 2). Being primary, the warmth dimension predicts active behaviors: active facilitation (helping) versus active harming (attacking). Being secondary, the

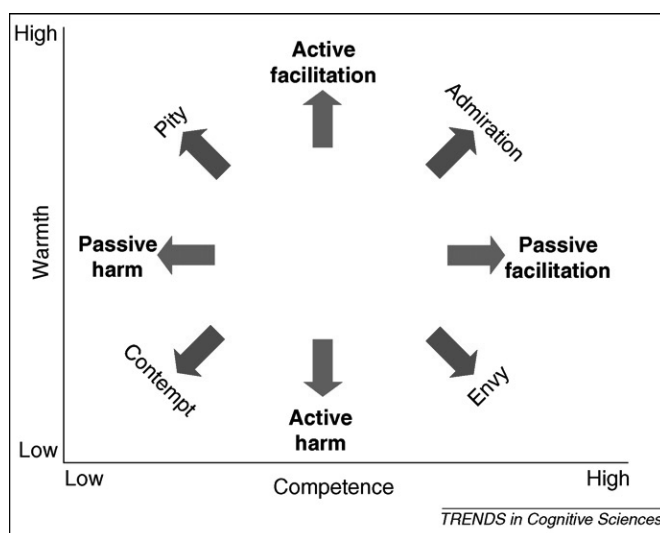


Figure 2. Schematic representation of behaviors from intergroup affect and stereotypes (BIAS) map. Competence and warmth stereotypes are represented along the x and y axes. Emotions are represented by red arrows on diagonal axes. Thus, groups in different quadrants are rated as receiving one predicted emotional prejudice and two predicted behaviors. Behavioral tendencies are represented by blue arrows on horizontal and vertical axes. Reproduced, with permission, from Ref. [31].

competence dimension predicts passive behaviors: passive facilitation (association) and passive harm (neglect).

The intersections of the two dimensions create unique behavioral profiles that are directed towards each type of outgroup. In the two most straightforward cases, societal ingroups elicit both active and passive facilitation (helping and associating) and the low–low outgroups (e.g. homeless people) receive both kinds of harm (active attacks and passive neglect) [31]. News reports confirm this potentially fatal kind of discrimination.

The mixed combinations are more volatile: pitied groups (e.g. older and disabled people) elicit active helping and passive neglect; for example, institutionalizing older or disabled people actively aids them but socially isolates them. By contrast, envied groups elicit passive association and active harm [31]; for example, neighbors might shop at the stores of entrepreneurial outsiders but, under societal breakdown, they might attack and loot these same shops. Jews during the Holocaust, Koreans in the Los Angeles riots and Chinese in the Indonesian riots all exemplify this unfortunate profile.

What reliably predicts these discriminatory behaviors? In path analyses of representative data from the USA, competence and warmth stereotypes combine to predict emotions, which directly predict behaviors [31]. The proximal cause of these social behaviors is affect, a finding that is reflected in meta-analyses of emotional prejudices and cognitive stereotypes as predictors of discrimination [53–55]. Stereotypes can legitimize antipathy towards outgroups [49,50,56,57]. However, the social structure creates these relationships of antipathy and stereotyping, as we show next.

Antecedents of stereotypes, emotions and behaviors

Groups often compete with each other or at least do not facilitate each other's goals. Definitions of what constitutes a group often include shared goals, which presumably differ from the goals of other groups. When perceivers view the goals of an outgroup as differing from or conflicting with goals of the ingroup, they ascribe negative traits and experience negative emotions towards the outgroup [56]. Thus, when a group explicitly competes with the ingroup or exploits the ingroup, its intent is seen as unfriendly and untrustworthy (i.e. not warm). By contrast, when a group cooperates with or does not hinder the ingroup, then their intent is seen as friendly and trustworthy (i.e. warm). This can be viewed as perceived threat, over competition for resources.

As this theory predicts, the perceived warmth and interdependence (cooperation–competition) of groups are negatively correlated (on average, -0.52 across groups and -0.27 across individuals) across US, Western European and Asian samples [30,31,38]. The items that measure competition include power and resource tradeoffs (if one group gains power, then other groups lose power; resources that go to one group take resources away from the rest of society).

The other dimension, competence, results from judged status. To the extent that people justify hierarchical systems [58] or believe in a just world [57], they believe that groups get what they deserve. People assume that

high- versus low-status groups merit their positions because they are, respectively, more versus less competent.

Of the 19 nations we have studied, the status–competence correlations average 0.94 across groups and 0.77 across individuals [30,31,38], which suggests that these constructs are, effectively, identical. Yet the status measure includes prestigious jobs (which potentially could result from advantageous birth, connections or nepotism) and economic success (which potentially could result from luck or inheritance); the status measure is demographic, whereas the competence measure comprises traits. However, instead of resentment towards the privileged and sympathy for the underdog, on average, people endorse the apparent meritocracy and infer that (for groups) high status invariably reflects competence. However, people vary ideologically; people who endorse group hierarchies or who believe in a just world show higher status–competence correlations for perceptions of generic individuals [59].

Evidence for these social structural predictors (status and interdependence) is not only correlational, but also causal, based on experimental investigations of intergroup perception. When US citizens rate hypothetical groups that vary in ascribed status (P. Caprariello, A.J.C. Cuddy and S.T. Fiske, unpublished) or guess about unseen people living in expensive versus inexpensive houses [59], they infer the competence of the groups and individuals that are involved. Inter-nation perceptions show similar findings [48,60].

Returning to individual-person perception, new findings suggest interpersonal parallels to these intergroup predictors. Individuals who are arbitrarily placed in competition or cooperation respectively dislike or like each other; likewise, random assignment to status determines respect or disrespect (A.M. Russell and S.T. Fiske, unpublished). Like groups, individuals differentiate upward from downward status and contrast competition with assimilation [61].

Summary

Warmth and competence are reliably universal dimensions of social judgment across stimuli, cultures and time. The consistency with which these dimensions appear might reflect the answers to two basic survival questions: first, and crucially, does the other person or group intend to harm or help me (or us)? Secondly, does the other have the ability to enact those intentions? If these dimensions do reflect survival value, warmth and competence are not merely psychometric curiosities but enduring, fundamental and (arguably) evolved aspects of social perception. Furthermore, how individuals and groups are perceived on these dimensions results from structural relationships. Interdependence predicts perceived warmth, and status predicts perceived competence. Particular combinations of these perceived dimensions have distinct emotional and behavioral consequences. This is a particularly pertinent issue in terms of group-based prejudices. Typically, group stereotypes appear high on one dimension and low on the other; the ensuing ambivalent affect and volatile behavior potentially endanger constructive intergroup relationships.

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Free journals for developing countries

The WHO and six medical journal publishers have launched the Health InterNetwork Access to Research Initiative, which enables nearly 70 of the world's poorest countries to gain free access to biomedical literature through the internet.

The science publishers, Blackwell, Elsevier, Harcourt Worldwide STM group, Wolters Kluwer International Health and Science, Springer-Verlag and John Wiley, were approached by the WHO and the *British Medical Journal* in 2001. Initially, more than 1500 journals were made available for free or at significantly reduced prices to universities, medical schools, and research and public institutions in developing countries. In 2002, 22 additional publishers joined, and more than 2000 journals are now available. Currently more than 70 publishers are participating in the program.

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