

Cognition and Stereotyping:

Emerging Trends

Susan T. Fiske & Cydney H. Dupree

Princeton University

For Scott, R., & Kosslyn, S. *Emerging Trends in the Social and Behavioral Sciences*.

Thousand Oaks CA: Sage.

Keywords: social psychology, social cognition, stereotyping, prejudice, social neuroscience, racism, sexism

Abstract

Social psychologists have studied stereotypes since the start of the 20th century. Investigation proceeded at first descriptively, then in a process-oriented fashion that evolved with the broader field into increasingly cognitive explanations, and now marrying those approaches to social neuroscience. The illustrative case is stereotype content, first studied in the 1930s, then dormant as more process-oriented topics dominated, and recently revisited in several models, including the Stereotype Content Model reviewed here. Fundamental dimensions of social cognition, including stereotypes, depend on inferred intentions for good or ill (warmth) and ability to enact them (competence). These dimensions follow respectively from inferred cooperation/competition and from inferred societal status. In turn, the warmth-by-competence space predicts emotional prejudices and discriminatory tendencies, as evidenced by laboratory experiments, social neuroscience, random sample surveys, and cross-cultural comparison.

Introduction

Cabdrivers know all about stereotyping. Many are themselves minorities dealing with the broader public, so they readily tell anecdotes about riders' reactions to them. In dealing with the full range of the public, cabbies frequently volunteer opinions about specific groups of people they trust, or not. Their livelihood and safety often depend on first impressions, which people often base on stereotypes. Judging other people by their membership in a broad ethnic, gender, age, or social-class category is a common shortcut that everyone uses, for better or worse.

Stereotypers are not intrinsically bad people; we all do it because we categorize people who seem to go together, and we make inferences about culturally associated characteristics accordingly. This cold cognitive perspective describing one feature of intergroup prejudice provides a surprisingly powerful way to understand how we manage our increasingly multicultural, globalizing, cosmopolitan daily experiences.

Social psychologists have studied stereotypes since the start of the 20th century. Investigation proceeded at first descriptively, then in a process-oriented fashion that evolved with the broader field into increasingly cognitive explanations, and now marrying those approaches to social neuroscience, as this article will review. The general topic of prejudice and intergroup relations preoccupies easily a quarter to a third of social psychologists, but perhaps this follows from the continued currency of the issues.

Foundational Research

From the get-go, stereotyping research has documented the existence of stereotypes and the processes by which they take shape (see Fiske, 1998, for a review).

Describing the existence of stereotypes commenced empirically with Katz and Braly (1933) handing Princeton undergraduates the names of 10 ethnic, national, and racial groups, then asking them to check which of 84 adjectives best described them. Repeated twice during the 20th century and recently in the 21st, much of the stereotype content lingers (Bergsieker, Leslie, Constantine, & Fiske, 2012, Studies 4-5): Italians are consistently viewed as passionate, Chinese as intelligent, and Turks as neither. As an encouraging sign of the times, students are increasingly reluctant to answer the questionnaire at all.

Descriptions of gender stereotypes awaited the feminist movements of the later 20th century, documenting female stereotypes' communality and males' agency. Other social categories' images (e.g., homosexuals, elders) are less well documented, until a recent revival of interest in stereotype content, to which we return.

Beyond describing group stereotypes, research proceeded to lie dormant for decades. Although racial prejudices were apparent and relevant scales developed, their processes and mechanisms remained vague. Many theories focused on the aberrant, prejudiced individual with murky motives (see Fiske, 1998, for a review).

The exception, a brilliant analysis by Gordon Allport (1954), proposed that people categorize people the way we categorize other entities in our environment; Allport coined the phrase "nouns that cut slices." This cognitive analysis required no ill intent, just all-too-human efficient information processing. The normal process of categorizing exaggerates perceived differences between groups and minimizes perceived within-group differences, a theme later developed in European social psychology.

With the cognitive revolution in psychology generally, the categorization approach to stereotyping processes proved rapidly fruitful (Macrae & Bodenhausen, 2000). Consensus developed that prototypes represent social category members by an average, ideal, or extreme case (though concrete exemplars have an important role as well). Consensus also developed that categories activate spontaneously and rapidly but not necessarily automatically, as the accessible category depends on the goal and the stimulus configuration. Goals and expertise also guide the level of category used, from the most global to the more specific. Social categories in particular do not form a tidy taxonomic hierarchy with necessary and sufficient features; rather they are fuzzy sets connected by a tangled web of relationships. Nevertheless, people do often think categorically about others, and nowhere so much as demographic categories that carry associated stereotypes.

As an example, social category primes cause stereotype-relevant words to be accessed more rapidly (for a review, see Fazio & Olson, 2003). People have less control over the more immediate association, but more control over judging relevance and reporting beliefs. Categories not only make stereotypes accessible, but also guide stereotypic interpretations where information is ambiguous, and they can cue stereotype-consistent memory under many circumstances (see Fiske & Taylor, 2013, Ch. 11, for a review). Stereotype-relevant evaluations, emotions, and behavior also emerge.

The best-known example of cognitive stereotype measurement is the Implicit Association Test (Greenwald, McGhee, & Schwartz, 1998). Often focused on category names associated with good-bad evaluations—perhaps an indicator of prejudiced associations—it also measures stereotypes. For example, when asked to associate women

with humanities and men with math, people are faster than with the reverse pairing. Such associations predict decision-making for self (e.g., career choices) and others (e.g., hiring).

Category-based stereotypes predict emotional prejudices, which in turn predict behavior (Cuddy, Fiske, & Glick, 2007), so the proximate cause of intergroup behavior is emotions, not cognition (Dovidio, Brigham, Johnson, & Gaertner, 1996; Tropp & Pettigrew, 2005; Talaska, Fiske, & Chaiken, 2008). Thus, the cognitive beliefs have a catalyzing role in this process, and such stereotypes are more automatic than ordinary people think.

Nevertheless, cognitive stereotypes are less automatic than stereotyping researchers originally thought, being over-ridden by motivation and information. A variety of goals override relatively automatic stereotypes: explicitly intending to respond non-stereotypically, training to “just say no,” perspective-taking, being reminded of a better self, and accuracy goals (see Fiske & Taylor, 2013, Ch. 6, for a review). But this is not a simple proposition. For example, active suppression fails because it creates a rebound. What’s more, people must have both motivation and capacity, as well as information, to override relatively automatic stereotypes. The 20th century taught social cognitive psychologists much about the processes of stereotyping.

Cutting-Edge Research

Into this mix have come two emerging trends, both involving adjacent disciplines—other social sciences, on the one hand, and neuroscience, on the other. As an illustrative case, we review the Stereotype Content Model (SCM) as well as its predictions for intergroup affect and behavior, which draws heavily on social science

perspectives. We then close with an examination of how neuroscience can provide promising insight into this area of research.

Renewed Interest in Stereotype Content

As noted, early social stereotyping research described racial and ethnic stereotypes. Gradually this research focused on the cognitive process of stereotyping, developing under the presumption that stereotyping processes generalize across groups, and in many respects, they apparently do. But the accumulated focus on process has ignored the nuances of stereotype content that target various outgroups. Content matters, not only process, because the content of stereotypes produces unique combinations of prejudiced emotions and discriminatory behavior. As group categories become more volatile, uncertain, complex, and ambiguous in the 21st century (Bodenhausen & Peery, 2009), models must describe the systematic patterns that cut across groups' particular histories, positions, combinations, and patterns. Here, we briefly offer the Stereotype Content Model as one unifying framework that addresses stereotype nuances, their social adaptive functions, and possible neural signatures.

Starting in the late 1990s, researchers began to suggest that stereotypical views may not be as uniformly unfavorable toward outgroups and flattering toward ingroups as generally assumed. For example, systematically different negative attitudes toward outgroups emerged from experimentally manipulating intergroup contexts (see Fiske et al., 2007, for references). Intergroup image theory suggests that responses toward outgroup members differ based on power, status, and competition. Outgroup images depend on how those outgroups can influence the ingroup's social standing.

Recently, not only from a socially functional perspective, but also an evolutionarily functional one suggests intergroup differentiation. Prejudices toward outgroups may have evolved to defend against threats to social coordination (Cottrell & Neuberg, 2005). Continuing to dissect negative outgroup stereotypes, various types of threat posed by different outgroups (contamination, deviance) elicit qualitatively different and functionally relevant emotions. The traditional notion of stereotyping as a uniformly negative view of others has masked the diversity of people's reactions toward outgroups with differing threat profiles.

Developed independently and simultaneously, another model identified status and competition quickly as the predominating factors that people use when forming impressions of outgroups. The stereotype content model (SCM) (Fiske, Cuddy, Glick, & Xu, 2002) hypothesizes that when encountering outgroups, people ask:

- a) Do they intend to help or harm me? (Are we competing in any way? Am I in any danger of being exploited or cheated of resources? Or is this other harmless? Might we even cooperate?)
- b) To what extent are they able to enact their intentions toward me? (Do they have the necessary skills and resources to harm me (if we are in competition) or to help me (if we are in cooperation)?)

Several kinds of outgroups differ depending on where they fall along these two dimension of warmth (i.e. likeability, trustworthiness, communality, friendliness, other-orientation) and competence (i.e. status, agency, self-orientation) (Fiske et al., 2002). The SCM's warmth-competence framework identifies four cognitive stereotypes: two unambivalent combinations (high warmth/high competence, low warmth/low

competence) and two ambivalent combinations (high warmth/low competence, low warmth/high competence).

Variations of this warmth-competence framework have emerged in social perception around the world (see Fiske, Cuddy, & Glick, 2007 for review). Bogdan Wojciszke's impression formation research suggests that more than 80% of the variance in impressions is based on appraisals of competence and morality (the latter a close cousin of warmth; see Fiske et al., 2007, for references). Other closely related frameworks have applied the warmth-competence dimensions to national groups. The warmth/morality/communality appears as self-profitable and competence/agency as other-profitable. These are not modern inventions; the SCM successfully applies to early social psychologists' descriptions of racial group stereotype content (Katz & Braly, 1933; Bergsieker et al., 2012). These and other studies validate the multidimensional nature of stereotype content.

Stereotype Ambivalence

Many standard models of prejudice would predict the SCM's findings regarding groups that fall into the unambivalent quadrants of high-warmth/high-competence and low-warmth/low-competence. People tend to see the ingroup and societal reference groups as high-warmth/high-competence, viewing the ingroup and its allies as friendly and trustworthy, as well as capable and resourceful. Currently, in the United States, those who identify as middle class, heterosexual, and Christian are widely regarded as high warmth and high competence. In contrast, the most extreme of social outcasts seem neither warm nor competent: drug addicts and the homeless (Harris & Fiske, 2006),

welfare recipients, and undocumented immigrants (Lee & Fiske, 2006). These groups tend to be on the receiving end of traditional, unambivalent prejudice.

The most useful contribution of the SCM is found in identifying ambivalent warmth-competence combinations, those groups seen as high on one dimension and low on another. Indeed, stereotypes more often than not trade-off warmth and competence. The evaluation of outgroups along these two dimensions tends to operate in a compensatory manner. Groups stereotyped as high on one dimension are usually seen as low on the other (e.g., Kervyn, Yzerbyt, & Judd, 2010). For example, outgroups viewed as high in warmth are assumed to be low in competence. Groups that fall into this ambivalent quadrant include handicapped people, such as the physically or mentally disabled, and the elderly. Such groups seem harmless and well-meaning, but they are also seen as low-status and incapable. Outgroups that fall into the high-warmth/low-competence quadrant may be liked as nonthreatening, but they are not respected.

In contrast, groups that fall into the opposite ambivalent quadrant, low-warmth/high-competence, seem competitive. In the United States, groups such as Jews, Asians, the rich, and professionals are often evaluated as cold and untrustworthy, but competent and high-status (Fiske et al., 2002). Such groups do not qualify as allies or friends, but they do have the competence and resources to act on their goals.

At a societal level, social structure predicts group placement along the warmth and competence dimensions. High-status groups appear competent. In contrast, low-status groups appear incompetent. People generally believe in meritocracy. The other dimension, warm, is predicted by perceived group cooperation or competition. As such, social structure plays a significant role in the stereotyping of social groups, influencing

the images of certain groups. Therefore, the SCM's predictions, based on those fundamental dimensions of warmth and competence, can help explain structural inequalities that perpetuate social injustice.

Once formulated, these ambivalent and unambivalent attributions of warmth and competence predict emotions and behaviors toward outgroup members. For example, groups viewed as high on both dimensions (i.e., the societal ingroup, its allies) tend to elicit pride. Groups that are seen as high in warmth but low in competence are pitied, and cold but competent groups are envied. Lastly, outgroups that fall into the low-low quadrant are scorned, eliciting emotions of contempt and even disgust (Harris & Fiske, 2006).

Each outgroup most elicits one of these four emotions, dependent on whether the group is liked/disliked as warm/cold or respected/disrespected as competent/incompetent. These combinations predict certain forms of discrimination that follow from harboring the specific emotions toward different outgroups. The behaviors from intergroup affect and stereotypes (BIAS) framework (Cuddy et al., 2007) predicts intergroup behaviors along two different dimensions: active/passive and facilitative/harmful.

Pitied, low-status outgroups receive active facilitation (helping), but they also elicit passive harm (neglecting). Examples include institutionalization of the mentally disabled or of elderly in nursing homes. On the other hand, envied, high-status outgroups elicit a far different reaction. These groups are respected and receive a certain amount of passive facilitation (associating) due to their perceived status, resources, and stereotypic competence. However they are also viewed with hostility due to their stereotypic coldness and competition. This makes for a volatile combination, one that can result in

active harm (harassing) and Schadenfreude (malicious joy) when the envied group is vulnerable (Cikara & Fiske, 2012; Fiske, 2010).

The evaluation of social groups using ambivalent and unambivalent combinations of warmth and competence has been shown in representative samples both within the United States and internationally (Cuddy, Fiske, Kwan et al., 2009; Durante et al., in press). The SCM's warmth-competence dimensions of stereotyping also applies to several subgroups of larger societal categories (see Fiske et al., 2007, for references). For example, generic images of black people tend to hover near the center of the warmth and competence dimensions, unless they are differentiated by social class, in which case they polarize. When African Americans volunteer their own subtypes of black people, the subgroups of African-American professionals and poor African-Americans, the images spread out across the entire space. Similar warmth-by-competence stereotypes describe other subgroups: men and women, gay men, and mentally illnesses. Certain animal species and brands have even been found to be categorized along warmth and competence dimensions (Kervyn, Fiske, & Malone, 2012; Sevillano & Fiske, under review), simply because animals and brands can be perceived as having intent and agency.

Illustrative Next Steps:

Social Neuroscience of Stereotyping Processes and Content

Recent social neuroscience has revealed potential neural signatures of stereotypical warmth and competence, specifically the four quadrants described by the SCM.

Here, the medial prefrontal cortex (mPFC), the neural powerhouse of social cognition, plays a crucial role in stereotype content. Social neuroscientists agree on the importance of the mPFC in person perception and interaction. In one of the most reliable findings in social neuroscience, the mPFC comes online when we encounter other people, especially when considering others' thoughts and feelings (for reviews, see Amodio & Frith, 2006; Mitchell, 2009). However, the mPFC uniquely fails to activate when people consider the most scorned of outgroups, that is, drug addicts and the homeless. In contrast, some level of mPFC activation appears for ingroups and outgroups in all other quadrants of the SCM (Harris & Fiske, 2006). The disgust-scorn-contempt reaction, documented also by questionnaire data, shows the difficulty of connecting with these extreme outgroup members on a human level. Unfortunately, the evolutionarily-based research of Neuberg and Cottrell suggests that such a reaction is only natural, for an extreme aversion to disgusting things is evolutionarily adaptive (Cottrell & Neuberg, 2005). However, merely asking participants to consider an allegedly disgusting outgroup member's individual preferences (for example, his or her favorite vegetable) reactivates the mPFC (Harris & Fiske, 2007).

Two other important neural structures come online in response to allegedly disgusting outgroups: the ventral striatum and the insula (for relevant review, see Fiske, 2010, Ch. 2). The insula is a reliable indicator of emotional experiences, especially feelings of disgust and other bodily states. Scorned outgroups are seen as disgusting and to be avoided. Scorned outgroups are also seen as inferior, which is where the VS comes into play. The VS is an integral part of the brain's reward system, responding to reminders of our own reputation and the reward of having high status. The activation of

the VS when scorning outgroup members may simply implicate the rewarding response of putting oneself above another, inferior group.

Another line of SCM research has shown that envy also has distinct neural signatures. As mentioned, when enviable outgroups seem vulnerable, other people tend to experience Schadenfreude or malicious glee. Schadenfreude appears through affective and physiological means (i.e., reliable hints of a smile when seeing a default investment banker step in gum or gets splashed on the streets) (Cikara, Botvinik, & Fiske, 2011). Moreover, neural signs of reward processing occur when envied groups are diminished, if only momentarily. Neural areas implicated in reward processing, including the VS, come online when witnessing envied rivals in positions of misfortune (Cikara et al., 2011; Cikara & Fiske, 2011).

These ongoing lines of research hint at several distinct neural signatures that signal disgust, envy, and Schadenfreude when encountering outgroups that fall into the SCM's different quadrants of warmth and competence. Further research is examining the neural responses that reflect pride in the ingroup and pity for high-warmth, low-competence groups. The reviewed research indicates a start to using neural measures in social psychological theory for predicting affective and behavioral responses.

References

- Allport, G. W. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.
- Amodio, D. M., & Frith, C. D. (2006). Meeting of minds: The medial frontal cortex and social cognition. *Nature Reviews Neuroscience*, 7(4), 268–277.
- Bergsieker, H. B., Leslie, L. M., Constantine, V. S., & Fiske, S. T. (2012). Stereotyping by omission: Eliminate the negative, accentuate the positive. *Journal of Personality and Social Psychology*, 102(6), 1214-1238.
- Bodenhausen, G. V., & Peery, D. (2009). Social categorization and stereotyping *in vivo*: The VUCA challenge. *Social and Personality Psychology Compass*, 3(2), 133–151.
- Cikara, M., Botvinick, M. M., & Fiske, S. T. (2011). Us versus them: Social identity shapes neural responses to intergroup competition and harm. *Psychological Science*, 22, 306-313.
- Cikara, M., & Fiske, S. T. (2011). Bounded empathy: Neural responses to outgroup targets' (mis)fortunes. *Journal of Cognitive Neuroscience*, 23, 3791-3803.
- Cikara, M., & Fiske, S. T. (2012). Stereotypes and Schadenfreude: Affective and physiological markers of pleasure at outgroup misfortunes. *Social Psychological and Personality Science*, 3(1), 63-71.
- Cottrell, C. A., & Neuberg, S. L. (2005). Different emotional reactions to different groups: A sociofunctional threat-based approach to "prejudice". *Journal of Personality and Social Psychology*, 88(5), 770-789.
- Cuddy, A. J. C., Fiske, S. T., & Glick, P. (2007). The BIAS map: Behaviors from

- intergroup affect and stereotypes. *Journal of Personality and Social Psychology*, 92, 631–648.
- Cuddy, A. J. C., Fiske, S. T., Kwan, V. S. Y., Glick, P., Demoulin, S., Leyens, J.-P., . . . Ziegler, R. (2009). Stereotype content model across cultures: Towards universal similarities and some differences. *British Journal of Social Psychology*, 48(1), 1–33.
- Dovidio, J. F., Brigham, J. C., Johnson, B. T., & Gaertner, S. L. (1996). Stereotyping, prejudice, and discrimination: Another look. In C. N. Macrae, C. Stangor, & M. Hewstone (Eds.), *Stereotypes and stereotyping*. New York: Academic Press.
- Durante, F., Fiske, S. T., Kervyn, N., Cuddy, A. J. C., Akande, A., Adetoun, B. E., Adewuyi, M. F., Tserere, M. M., Al Ramiah, A., Mastor, K. A., Barlow, F. K., Bonn, G., Tafarodi, R. W., Bosak, J., Cairns, E., Doherty, S., Capozza, D., Chandran, A., Chryssochoou1, X., Iatridis, T., Contreras, J. M., Costa-Lopes, R., González, R., Lewis, J. I., Tushabe, G., Leyens, J-Ph., Mayorga, R., Rouhana, N. N., Smith Castro, V., Perez, R., Rodríguez-Bailón, R., Moya, M., Morales Marente, E., Palacios Gálvez, M., Sibley, C. G., Asbrock, F., & Storari, C. C. (2013). Nations' income inequality predicts ambivalence in stereotype content: How societies mind the gap. *British Journal of Social Psychology*.
- Fazio, R. H., & Olson, M. A. (2003). Implicit measures in social cognition research: Their meaning and use. *Annual Review of Psychology*, 54, 297–327.
- Fiske, S. T. (1998). Stereotyping, prejudice, and discrimination. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *Handbook of social psychology* (4th ed., Vol. 2, pp. 357–411). New York: McGraw-Hill.

- Fiske, S. T. (2010). Envy up, scorn down: How comparison divides us. *American Psychologist*, 65(8), 698-706.
- Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, 82(6), 878-902.
- Fiske, S. T., & Taylor, S. E. (2013). *Social cognition: From brains to culture* (2/e). London: Sage.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, 74, 1464–1480.
- Harris, L. T., & Fiske, S. T. (2006). Dehumanizing the lowest of the low: Neuroimaging responses to extreme out-groups. *Psychological Science*, 17(10), 847-853.
- Harris, L. T. & Fiske, S. T. (2007). Social groups that elicit disgust are differentially processed in mPFC. *Social Cognitive and Affective Neuroscience*, 2, 45–51.
- Katz, D., & Braly, K. (1933). Racial stereotypes of one hundred college students. *Journal of Abnormal and Social Psychology*, 28, 280–290.
- Kervyn, N., Fiske, S. T., & Malone, C. (2012). Brands as intentional agents framework: How perceived intentions and ability can map brand perception. *Journal of Consumer Psychology*, 22(2), 166-176.
- Kervyn, N., Yzerbyt, V., & Judd, C. M. (2010). Compensation between warmth and

- competence: Antecedents and consequences of a negative relation between the two fundamental dimensions of social perception. *European Review of Social Psychology*, 21(1), 155-187.
- Lee, T. L., & Fiske, S. T. (2006). Not an outgroup, not yet an ingroup: Immigrants in the Stereotype Content Model. *International Journal of Intercultural Relations*, 30(6), 751-768.
- Macrae, C. N., & Bodenhausen, G. V. (2000). Social cognition: Thinking categorically about others. *Annual Review of Psychology*, 51, 93–120.
- Mitchell, J. P. (2009). Inferences about mental states. *Philosophical Transactions of the Royal Society*, 364(1521) 1309–1316.
- Sevillano, V., & Fiske, S. T. (under review). Animal collective: Social perception of animals.
- Talaska, C. A., Fiske, S. T., & Chaiken, S. (2008). Legitimizing racial discrimination: Emotions, not beliefs, best predict discrimination in a meta-analysis. *Social Justice Research*, 21(3), 263–296.
- Tropp, L. R., & Pettigrew, T. F. (2005). Differential relationships between intergroup contact and affective and cognitive dimensions of prejudice. *Personality and Social Psychology Bulletin*, 31, 1145–1158. [Erratum: 31, 1456.]