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The Interplay of Subjective Essentialism and Entitativity in the Formation of Stereotypes

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In line with our subjective essentialist view of stereotypes (Yzerbyt, Rocher, & Schadron, 1997), we propose that two classes of factors that mutually reinforce each other influence the perception of groups. The perception of a strong level of similarity and organization among group members (i.e., group entitativity) suggests the existence of a deep essence that would account for the detected regularities. Conversely, the existence of naïve theories regarding the presence of an underlying core encourages the search for resemblances and connections within the group. After a short presentation of the recent literature dealing with the concepts of entitativity and essentialism, we review a series of studies from our laboratory showing the impact of entitativity on essentialism as well as the influence of essentialism on entitativity. We also provide empirical evidence for this bidirectional process from both the outsider and the insider perspective. Finally, we examine the potential role of cultural differences both in the ascription of a fundamental nature to an entitative assembly of people and in the use of a priori naïve theories to create surface similarity among group members. As a set, these efforts point to the importance of taking into account the constant dialogue between perceivers' theory-based explanations and group members' perceptual characteristics if one wishes to understand group stereotypes.

The way people see groups is a major concern of social psychologists (for recent reviews, see Brewer & Brown, 1998; Doosje, Spears, Ellemers, & Koomen, 1999; Fiske, 1998; Spears, Oakes, Ellemers, & Haslam, 1997). Indeed, there is little doubt that the reactions toward our own and other groups affect a multitude of behaviors. A better knowledge of the various factors that impinge on perceivers when they appraise social groups is thus likely to inform us about the evolution of the relations between the individual and the group and between the groups themselves. In this article, we stress the heuristic value of making a distinction between two classes of factors that mutually reinforce each other to create meaningful social entities. On one hand, the entitativity of a social group (i.e., the perception of a strong degree of similarity and organization among its members) encourages perceivers to evoke an underlying essence that may account for the observed regularities. On the other, the attribution of deep characteristics to a social group is likely to reinforce the search for similarity and organization at the perceptual level and to result in the construal of the group as an entity. Our goal in this article is to illustrate this interplay of entitativity and essentialism. We first provide a brief conceptual overview of these notions. Then, we examine in more detail a number of recent studies conducted in our laboratory that tackled this important issue both from an outsider and an insider perspective. Finally, we briefly examine the potential role of cultural factors on the link between entitativity and essentialism.

Entitativity

Recent work on group perception reveals an increasing interest in the concepts of entitativity and essentialism. Revitalizing a concept proposed by Campbell (1958) more than 4 decades ago, researchers interested in entitativity examined not only the extent to which a social aggregate is or is not perceived as a coherent, unified, and meaningful entity (Lickel et al., 2000), but also the role of entitativity in information processing (Hamilton & Sherman, 1996; Hamilton, Sherman, & Lickel, 1998; McConnell, Sherman, & Hamilton, 1997; Yzerbyt, Rogier, & Fiske, 1998) and

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social perception (Abelson, Dasgupta, Park, & Banaji, 1998; Brewer & Harasty, 1996; Dasgupta, Banaji, & Abelson, 1999; Dépret & Fiske, 1999; Gaertner & Schopler, 1998; Welbourne, 1999; Yzerbyt, Castano, Leyens, & Paladino, 2000; Yzerbyt et al., 1998) and behavior (Insko & Schopler, 1998).

In an attempt to reconcile a series of inconsistent messages emerging from impression formation research and work on stereotyping and group perception, Hamilton and Sherman (1996) proposed that perceivers engage in qualitatively different mental operations depending on the assumed entitativity of the encountered target. Whereas online processes tend to be initiated for entitative targets such as individuals, memory-based processes likely dominate for less entitative targets such as a group. When high unity is expected, however, online processes are initiated both for individual and group targets (McConnell et al., 1997). Thus, entitative groups tend to be perceived in the same way individuals are.

Leaving aside the issue of the differential entitativity of individuals and groups, a series of researchers built on the Gestalt principles put forth by Campbell (1958) and investigated the impact of several properties of social groups on the emergence of entitativity (Gaertner & Schopler, 1998; Lickel et al., 2000; Wilder & Simon, 1998). This line of work suggests the existence of two clusters of group attributes contributing to the emergence of entitativity: the similarity cluster (homogeneity, similarity, size, proximity, etc.) and the organization cluster (organization, interdependence, interaction, goals, etc.). An illustration of the use of similarity among group members as a way to operationalize entitativity can be found in a recent set of studies by Dasgupta et al. (1999). These studies, which involved the perception of computer-generated characters, provided evidence that perceivers tend to attribute hostile intentions and behavioral homogeneity to groups composed of physically similar members. Surface similarity thus seems to create a sense of unitary purposeful organism even in the absence of group-relevant motivations (see also Abelson et al., 1998).

Other researchers more attuned to small group phenomena studied the impact of the organization factor on the emergence of entitativity (Rabbie & Horwitz, 1988). As a case in point, Gaertner and Schopler (1998) manipulated the level of interaction among ingroup members in the context of a problem-solving task involving two groups that either did or did not compete with each other. Regardless of intergroup relations, those members who experienced higher levels of intragroup interaction had stronger perceptions of ingroup and outgroup members as separate groups. Also, intragroup interaction but not intergroup competition had a direct impact on ingroup favoritism. More important, ingroup entitativity mediated the impact of the salience of intergroup category on intergroup bias.

Finally, a series of studies pointed out the role that interdependence may have in the perceived entitativity of groups. For instance, in a study conducted by Brewer, Weber, and Carini (1995), participants perceived competing outgroups as more homogeneous than noncompeting ones. In the same vein, Rothgerber (1997) found that the experience of hostility elicited perceived differentiation from the hostile outgroup and perceived assimilation within the two groups. More recently, Corneille, Yzerbyt, Rogier, and Buidin (in press) found that extreme and homogeneous impressions were formed about a value-conflicting outgroup whose relative power increased. Taken together, these findings are consistent with the view that the formation of entitative impressions may facilitate retaliation toward hostile outgroups (Vanbeselaere, 1991; Wilder, 1986).

Subjective Essentialism

Whereas virtually all contemporary research on entitativity can be traced to the seminal work of Campbell (1958), the notion of essentialism stems from a variety of intellectual traditions (N. Haslam, Rothschild, & Ernst, 2000; Leyens et al., 2000; Rothbart & Taylor, 1992; Yzerbyt & Rocher, in press; Yzerbyt, Rocher, & Schadron, 1997). The idea has been evoked with greatest frequency in the philosophy of language and in the philosophy of biology. In the former context, scholars speak of essentialism to refer to the classical or Aristotelian view of concepts. An essential approach to concepts, according to which a concept requires the satisfaction of a set of necessary conditions (i.e., features) is contrasted with the Wittgensteinian view of fuzzy membership embodied in Rosch's prototype theory (Rosch & Mervis, 1975). Within the philosophy of biology, essentialism refers to the pre-Darwinian view of species. In contrast to the more recent perspective that species are historically changing, internally variable, and organized around a family resemblance criterion, the essentialist view holds that all the members of a given species once and for ever share the same set of features.

Within psychology, Medin and Ortony (1989) relied on the notion of essentialism to refer to the belief among lay people that many categories have essences. Building on a theory-based rather than a similarity-based approach to concepts (Murphy & Medin, 1985), these authors argued that perceivers' concepts are often grounded in essentialist implicit theories. These early efforts have since been confirmed by more recent work showing that lay people hold essentialist theories about living things but not about human arti-

facts (Keil, 1989; Malt, 1994). Turning to social psychology, Rothbart and Taylor (1992) were the first to bring the notion of essentialism to bear on social categorization. These authors proposed that people commonly treat social categories, such as Jews, Dutch, or soccer fans, as if they were natural kinds although they are better considered as artifacts, such as chairs, cars, or sweaters. According to Rothbart and Taylor, social categories are the consequence of historically situated conventions, needs, and desires. By omitting that their perceived inductive potential only reflects social values and beliefs and is highly variable across cultures and over time, people make a crucial ontological error.

Along somewhat similar lines, Hirschfeld (1995, 1996), a psychological anthropologist, argued that people are innately equipped with a conceptual system dedicated to the social domain and responsible for the creation and the regulation of knowledge about what he called human kinds. The basic idea here is that racial concepts do not develop by simple induction from perceptual properties but are guided by a specific model that organizes the information of human kinds in essentialist terms. In contrast to Rothbart and Taylor (1992), who argued that perceivers essentialize social categories because they rely on the same assumptions whether confronted with living things and social entities, the social ontology proposed by Hirschfeld (1996) derives from the existence of a specific conceptual system that is endemic to that domain.

Their Interplay

It seems the notions of entitativity and essentialism have developed in fairly independent ways. In our view, however, these two notions should be examined in close connection. Interestingly, Campbell (1958, p. 17) defined entitativity as the degree of having the nature of an entity, of having real existence. In spite of this early insistence on the link between the perception of a social aggregate as an entity and its assumed ontological status, only a handful of researchers examined the relations between these two concepts (N. Haslam et al., 2000; McGarty, Haslam, Hutchinson, & Grace, 1995; Yzerbyt et al., 2000; Yzerbyt, Rocher, & Schadron, 1997).

McGarty et al. (1995) explored the impact of a number of group properties on judgments of entitativity. Specifically, participants were presented with a number of stimuli that represented the position of the members of a single group on an attitude scale. Their task was to rate the consistency of the attitudes of the group members on that scale. Depending on the stimulus, the groups judged varied in size, diversity, extremity, and variability. The main results were that perceived consistency increased with size and decreased with variability and diversity. For McGarty et al. (1995), the degree to which the attitudes of the group members are seen as being consistent reflects the extent to which they comprise a coherent whole. Confronted with a given distribution of attitudes, participants face a choice between deciding that the pattern represents a meaningful group or that the pattern is spurious. McGarty et al. (1995, p. 250) further suggested that the process of making entitativity judgments can be seen as analogous to the hypothesized process of inference in attribution theory models. Thus, the perceptual properties of a group seem to encourage observers to believe in the existence of an inhering essence.

More recently, N. Haslam et al. (2000) explored the notion of essentialism in a yet another way. Building on earlier efforts to characterize the concept of essentialism in various intellectual arenas, these authors asked their participants to indicate the extent to which a wide variety of groups could be characterized by a series of essentialist attributes. A principal component analysis of the answers revealed the presence of two independent factors. The first factor mapped quite well on the conceptualization of essentialism as is found in the philosophy of biology and was labeled *natural kind.* The second factor most closely corresponded to the uses of essentialism found in social psychological accounts and was called *reification/entitativity.* Specifically, the reification factor combined the elements of informativeness, uniformity, inherence, and exclusivity.

From the preceding research, one may get the impression that the concepts of entitativity and essentialism go hand in hand. As a matter of fact, the questions formulated by N. Haslam et al. (2000) suggest that the reification factor is in fact a mixture of surface similarity (uniformity) and underlying sameness (inherence). In other words, both the phenotypic and the genotypic level of similarity contribute to making people members of a real unitary social entity. If one adds to that the notion of exclusive membership, the reification potential of a social category clearly renders membership extremely informative. In our view, however, a more heuristic way to formalize the concepts of entitativity and essentialism is to distinguish these two aspects of social perception (Yzerbyt, Rocher, & Schadron, 1997). Whereas entitativity would stand for the more ecological side of group perception, essentialism would refer to its inferential facet. Echoing current conceptions regarding the respective role of similarity and theories in categorization (Medin, 1989), this analytic distinction allows emphasis of the fact that social perception jointly results from the features of the targets and the beliefs of the perceivers.

In addition to building on an impressive body of literature in the cognitive domain, the distinction between entitativity, or the more perceptual side of group perception, and essentialism, or the more inferential

side of group perception, is reminiscent of other distinctions in the social psychological literature. To take but one illustration, Semin and Fiedler (1991) argued that perceivers could rely on different levels of abstractness or concreteness in the language forms they use to communicate about observed behaviors. At one extreme, people can decide to stick as much as possible to the concrete behavior by using so-called descriptive action verbs (the woman gives a $20 bill to the homeless person, the skinhead hits the old lady). At the other extreme, perceivers may rely on adjectives (the woman is generous, the skinhead is aggressive), thereby switching to a more abstract level of communication. We argue that the essentialism enters into play when perceivers bridge the gap from the observation of some group features to the inference of socially shared deep characteristics. In the remainder of this article, we present a series of empirical arguments that clarify the advantages of keeping this distinction.

Within the field of intergroup relations and stereotyping, a key dimension is the distinction between ingroup and outgroups (Brewer & Brown, 1998). Indeed, an abundant literature shows the importance of group membership in a number of social phenomena. With a few exceptions (Gaertner & Schopler, 1998; Sherman, Hamilton, & Lewis, 1999; Yzerbyt et al., 1998), however, the concepts of entitativity and essentialism have only been examined with respect to the outgroup. We argue that the way insiders react also deserves close attention (Yzerbyt et al., 2000). We thus propose that it is heuristic to examine the different perspectives of outsiders and insiders. In the following sections, we report experimental evidence from our laboratory that illustrates the impact of entitativity on subjective essentialism and the influence of essentialist beliefs on the perception of entitativity for both outsiders and insiders.

From Entitativity to Essences

Outsider Perspective

In the context of our theory of subjective essentialism (Yzerbyt, Rocher, & Schadron, 1997), we argued that stereotypes should not only be seen as handy devices to facilitate our dealings with a puzzling environment. Stereotypes also serve another important function: They provide subjective meaning to the world (Bruner, 1957; Fiske, 1992; Leyens, Yzerbyt, & Schadron, 1994; Oakes, Haslam, & Turner, 1994). Stereotypes work as enlightening gestalts as they supply perceivers with extra information by building on a rich set of interconnected pieces of data. Moreover, stereotypes comprise more than a list of attributes that help describe a particular social group. They also, and perhaps most important, include the underlying explanations for the relations among the attributes (Medin, 1989; Murphy & Medin, 1985). In our opinion, by linking observable features to deep inherent characteristics common to all group members, such theories may serve to justify and rationalize social arrangements by representing social divisions as stemming from the inherent nature of the groups (for a detailed presentation of the links between subjective essentialism and the legitimization of the social order, see Yzerbyt & Rogier, in press; for a collection, see Jost & Major, in press).

In one illustrative study (Yzerbyt et al., 1998), we studied the impact of entitativity, operationalized as group homogeneity, on the fundamental attribution error (FAE; Ross, Amabile, & Steinmetz, 1977). Specifically, groups of at least 7 students were called into the laboratory to take part in a quiz game in which two teams of three people were opposed. Assignment to the team of questioners, the team of answerers, and the role of observer was made on an explicitly random basis. Whereas some students learned that the group of questioners all came from the same school (entity conditions), others were informed that they came from three different institutions (aggregate conditions). Similarly, whereas half of the participants learned that the group of answerers comprised students from the same institution, the remaining participants were informed that they came from three different schools.

The participants then played the quiz game for approximately 10 min. Questions about sports and entertainment were selected because pilot research had revealed that there were no stereotypes linking these topics to the various institutions. At the end of the game, the observers rated the competence and the general knowledge of the questioners and the answerers, both individually and as groups. As expected, observers saw questioners as being more competent than answerers. However, this bias turned out to be much higher in the entitative than in the aggregate condition. Finally, this effect emerged not only for the group ratings but also for the individual ratings, indicating that each target person was indeed perceived differently depending on the degree of entitativity of his or her group. By linking the homogeneity of the observed group to the emergence of social attribution, these findings provide strong evidence for the close relation between entitativity and subjective essentialism.

In another study, we illustrated this impact of entitativity on the attribution process by relying on a group version of the classic overattribution bias first carried out by Jones and Harris (1967). In our group version of this paradigm (Rogier & Yzerbyt, 1999), participants watched a video portraying an experimenter with 6 students. The experimenter explained that he needed to collect many arguments about euthanasia. He then randomly assigned the 6 students to two groups of 3 students each. Whereas the first group of 3

students was asked to find arguments in favor of euthanasia, the second group had to come up with unfavorable arguments. The 3 students in the second group were always presented as coming from different departments. The crucial experimental manipulation concerned the affiliation of the first group of students, who were presented either as coming from the same department or from three different departments. The video was stopped when the first group of students had provided their arguments. Participants were then asked a series of questions dealing with the perceived attitudes of the 3 members of the first group and with potential explanations for their behavior.

Replicating our earlier findings on the FAE, the overattribution bias and the level of confidence were much stronger when participants were confronted with an entitative group than when they were facing an aggregate. An additional focus of the study concerned the extent to which participants thought that the department of origin had played a role in shaping the students' behavior. Compared to participants confronted with an aggregate, those facing an entity were significantly more likely to state that the department of affiliation had an impact on the opinion about euthanasia and to overestimate the number of students in that department who would share the same opinion. Thus, here again, the phenotypic (i.e., surface) features of the group (entity vs. aggregate) had a strong impact on the attribution of genotypic (i.e., stable and internal) characteristics (attitudes) to their members.

Insider Perspective

Our research program on the links between entitativity and subjective essentialism has accumulated a fair amount of evidence supporting the idea that observable attributes of the group members encourage perceivers to infer the presence of underlying deep characteristics that may account for the regularities observed in the group. As a case in point, the study on social attribution mentioned earlier offered a demonstration that observers can be tempted to refer to underlying dispositions (Yzerbyt et al., 1998). In another series of studies, we examined the impact of observable features of the group on the emergence of essentialist beliefs from the perspective of the insider. Specifically, we hypothesized that the perception of ingroup entitativity would translate into stronger identification with the ingroup.

To test this idea, we manipulated the degree of intragroup similarity by presenting our Belgian participants with the same information about the European Union (EU) member states but gave them one of two sets of instructions (Castano, Yzerbyt, & Bourguignon, 1998, Experiment 2). Whereas some participants were requested to concentrate on the similarities between the EU member states, other participants were asked to focus on the differences. Because we expected similarities and differences in instructions to increase and decrease, respectively, the perception of entitativity of the EU, we hoped to find a corresponding strengthening and weakening of the identification with the EU. The data fully confirmed our hypothesis. Asking people to concentrate on similarities between the different countries tended to increase the perceived entitativity of the EU and, by way of consequence, exacerbated their level of identification. In contrast, asking participants to concentrate on differences among the several countries comprising the EU produced a less entitative view of the EU and engendered a dramatic decrease in the participants' level of identification.

In another study (Castano et al., 1998, Experiment 4), we decided to manipulate the entitativity of the ingroup by varying the alleged fuzziness of its boundaries. We informed participants that the final number of countries to be included in the EU was either known or still under discussion among the current members of the EU. We predicted that, compared to a condition in which the boundaries of the group were well defined (high entitativity), ill-defined boundaries (low entitativity) would decrease the degree of identification with the ingroup. This is indeed what was observed. Globally, we take these findings to show that group entitativity facilitates the attribution of a deep characteristic common to all members of the ingroup, which results in a more pronounced sense of group identification.

It should be noted that these data may also provide an argument for maintaining a distinction between insiders and outsiders. Indeed, whereas the available data indicate that entitative outgroups are generally associated with malevolent intentions (Abelson et al., 1998; Insko & Schopler, 1998), our own findings attest to the attraction power of some entitative ingroups (for a more complete presentation, see Yzerbyt et al., 2000).

From Essence to Entitativity

Outsider Perspective

The research efforts discussed so far have all been directed at situations corresponding to the causal arrow from entitativity to subjective essentialism. That is, we always checked for the impact of perceptual factors on the emergence of some underlying coherent characteristic common to all group members. To complete our journey we also need to turn our attention to the reverse causal direction. The empirical work presented in the next two sections deals with the influence of subjective

essentialism on the perception of entitativity at the perceptual level, be it related to the more similarity or to the more interdependence facet of Campbell's (1958) notion. Thus, the question we sought to address here was how perceivers' naive theories regarding the underlying essence of a group affect their construal of the group as a social entity.

Almost 40 years ago, Tajfel and Wilkes (1963) conducted an experiment that would turn out to have a lasting impact on social psychology. These authors had participants evaluate a set of eight lines in one of three conditions. In a first no-label condition, each line was presented separately and the participants' task was to indicate the length of the line. In the random-label condition, the lines were always associated with one of two labels but there was no systematic relation between the length of the line and the specific label. In the correlated-label condition, the length of the line was linked to the label associated with the line. Tajfel and Wilkes found that the imposition of a trivial category label that correlated with some characteristic of the objects, in this case the length of the lines, induced perceivers to accentuate the differences between the two categories. Later work confirmed that there also was an increase in the similarity within the categories (see, for instance, Krueger & Clement, 1994; McGarty & Penny, 1988; McGarty & Turner, 1992), at least on dimensions that best allow teasing apart the two categories (Corneille & Judd, 1999).

We argue that, in terms of the perspective presented here, the correlated-label condition could be seen as providing a minimal set of essentialist beliefs. In other words, the presence of a label that turned out to be systematically associated with a certain type of lines suggested the existence of some underlying property that differentiates the specific group from other groups. As a result, perceivers engaged in some constructive process that altered the perception of the lines to produce two subjectively distinctive sets of lines. Consistent with our subjective essentialist theory, we hypothesized that the imposition of a meaningful as opposed to a trivial category label should invite perceivers to magnify the accentuation effects and to see the groups even more as an entity. Although far-reaching in its implications, the idea we put forth is quite straightforward. We expected that the availability of a naive theory that justifies the existence of any given group would lead people to assume a fair degree of underlying coherence where little in fact exists. As a result, perceivers would strive to reinforce similarity at the surface level. This conjecture was tested in a first series of studies that relied on the accentuation paradigm.

The general paradigm was simple. We asked pretest students chosen from the same population as our participants to write one-page descriptions of themselves in the context of a social setting. A total of 10 descriptions were selected on the basis of richness and length. They were then rewritten and presented on separate sheets. In a first study (Yzerbyt & Buidin, 1998, Experiment 1), the 10 descriptions were distributed in two groups of 5 before being handed out to participants. The participants' task was to read the first group of 5 descriptions and form an idea of the first group. They were then to come back to the first description, rate the first person on 10 traits, read the second description and rate the second person on the same 10 traits, and so on. These traits had been carefully selected so that 2 traits would concern each one of the five dimensions of Norman's (1963) Big Five factor structure. A consistent finding over the various studies was that 7 of the 10 traits were highly intercorrelated, allowing the computation of a global index of sociability. Once the 5 members of the first group were evaluated, participants were instructed to rate the group as a whole again using the 10 traits. These steps were then repeated for the second group of 5 members. Finally, participants were fully debriefed, thanked, and dismissed. The presentation of one of two random distributions of the descriptions constituted the first one of our experimental manipulations. The key independent variable, however, was the specific rationale given to the participants for the constitution of the two groups. Whereas half of the participants were told that the two groups of 5 people corresponded to two sets of people waiting for a different bus, the remaining participants learned that the two groups were made up of people sharing a different genetic marker. Pretest work had indicated that these two kinds of groups were seen to be quite different in terms of their inherence.

The ratings given to the group members and to the groups allowed computing a variety of indexes of central tendency and variability. First, we recorded the evaluation of each group by computing the evaluation index on the group ratings. Second, we computed a target-based evaluation of each group. To this end, we averaged the sociability index for the 5 members of each group. We thus secured two group-based evaluations and two target-based evaluations from each participant. As for the measure of variability, we computed the standard deviation of the sociability index within each group of 5 targets. We could thus count on two standard deviation scores for each participant. Confirming the random nature of the distribution of the 10 descriptions in two groups of 5, this first study revealed no difference in the mean evaluations of the groups, be it at the level of the target or at the level of the group. More important, however, and supporting our predictions, the within-group standard deviation was significantly lower, thereby revealing the presence of a higher level of perceived internal coherence in the groups when the participants were led to think that the groups revolved around different

genetic markers than when they thought that they were people waiting for different buses.

In a second study (Yzerbyt & Buidin, 1998, Experiment 2), we decided to use the same scenario as the random study with one important modification. This time, the descriptions were first ranked on the basis of the mean evaluations given in the bus condition of the random study. Whereas one group comprised the 5 most sociable targets, the other group was made of the 5 least sociable targets. The five descriptions were then randomly presented within each group. Participants were confronted with one of two orders of presentation depending on whether the more social group was presented first or second. As before, the crucial experimental manipulation concerned the information regarding the nature of the two groups. In the bus condition, the two groups were said to comprise people waiting for a different bus. Participants in the gene condition learned that the two groups comprised people with different genetic markers. The steps involved in the collection of the data were the same as the ones used in the random study. As expected, the nature of the beliefs influenced the perceived entitativity of the groups. Participants evaluated the sociability of the 5 group members to be more similar when they thought that the group members shared the same genetic marker than when they were informed that the groups were made up of people waiting for a different bus.

We also added a third condition in which participants were simply informed that they would be confronted with descriptions of 10 people. Because we did not mention the existence of two groups, participants in this condition were not instructed to rate the groups in and of themselves and did not provide us with group-based evaluations. Not surprisingly, the data confirmed the presence of a significant built-in difference between the more sociable and the less sociable group. More important, a highly significant interaction between the a priori beliefs about the group and the built-in sociability of the groups supported our idea that the provision of a meaningful basis of categorization facilitates the emergence of accentuation. Participants saw little difference between the sociability of the two groups when the various descriptions were said to originate from 10 people or when the two groups allegedly comprised 5 people waiting for a different bus. In sharp contrast, the mention of an explicit category label referring to the existence of some essential feature associated with group membership led to the perception of a significantly stronger difference between the two groups.

Our goal in these studies was to show that an explicit reference to essential characteristics underlying the constitution of a group amplifies the accentuation effect. Outsiders confronted with groups that supposedly cohere around inherent characteristics tend to exacerbate the perceived homogeneity of the group members and the difference between the two groups. The strong support obtained for our predictions led us to seek additional illustrations of the impact of essentialist beliefs in social perception. To this end, we turned our attention to the illusory correlation paradigm.

When related to stereotyping, the illusory correlation paradigm consists in showing a series of behaviors of two groups. These behaviors vary on one dimension, usually likability. Whereas one group constitutes the majority (e.g., participants read about the behaviors of 26 individuals), the other group forms a minority (e.g., participants read about the behaviors of 13 individuals). Moreover, the majority of the behaviors are located on one pole of the dimension (e.g., 27 of the 39 behaviors are likable) and the minority on the other pole (in this case, 12 behaviors are unlikable). The key feature of the distribution of the behaviors is that the proportion of likable and unlikable behaviors is the same in the two groups (in this example, 18 likable behaviors are attributed to the largest group). As a result of the proportional presence of likable versus unlikable behaviors in each group, there is no relation between likability of the behaviors and group membership. Despite the absence of a correlation in the materials presented to the participants, the typical findings reveal the existence of a systematic tendency to associate the minority group with the less frequent behaviors (in the example used here, the smallest group is seen to be significantly less positive than the largest group).

The earliest explanation of the effect points to the causal role of a perceptual bias: Perceivers' attention would automatically be directed toward infrequent rather than frequent events (Hamilton & Gifford, 1976). According to this distinctiveness account, the co-occurrence of rare events would be particularly salient and would facilitate an association in memory. In the illusory correlation paradigm, the behaviors of the minority are less frequent than those of the majority and the unlikable behaviors are less numerous than the likable behaviors. The unlikable behaviors of the minority are thus likely to attract perceivers' attention and to be memorized. Recently, a number of alternative explanations have been proposed to account for this effect. For instance, Fiedler (1991) and Smith (1991) suggested that the illusory correlation emerges because of information loss processes.

The approaches based on distinctiveness, memory, and information loss all rest on mechanisms that implicate the content of the information. In contrast, McGarty and colleagues (S. A. Haslam, McGarty, & Brown, 1996; McGarty & de la Haye, 1997; McGarty, Haslam, Turner, & Oakes, 1993) argued that participants' expectations about the nature of the task and the groups presented in the experimental setting play a major role in the emergence of the illusory

correlation effect. For McGarty et al. (1993), the bias results from participants' beliefs that the experimental task requires them to find a difference between the two groups. Said otherwise, participants ask themselves how the groups differ on the evaluative dimension: Which of the two groups is better? McGarty et al. (1993) argued that, in absolute terms, there are real evaluative differences among the stimuli used in the classic task because there is more evidence for the hypothesis that Group A is good and Group B is bad (18 + 4 = 22 stimuli) than for the opposite hypothesis (9 + 8 = 17 stimuli). In other words, when people learn that members of two different groups have performed a number of behaviors, they initiate a series of mechanisms that help them to clearly differentiate between these two social entities. The nature of the stimuli leads them to favor A over B. This reasoning was demonstrated *a contrario* by S. A. Haslam et al. (1996) in a study in which the labels assigned the two groups were either neutral (Groups A and B) or associated with existing but irrelevant groups regarding the dimension to be judged (left- and right-handed people). In line with the authors' predictions, the effect was replicated in the former but not in the latter condition. This finding is remarkable if one considers that all participants were right-handed. Indeed, several researchers reported that the illusory correlation is attenuated when participants are members of the minority but exacerbated when they are members of the majority (Schaller & Maass, 1989). S. A. Haslam et al. (1996), however, found no trace of an ingroup bias: Right-handed perceivers failed to derogate the minority of left-handed people.

The study conducted by S. A. Haslam et al. (1996) nicely illustrates the way people's expectations about the nature of a category influence the perception of the characteristics associated with its members. Still, we see two limitations to this study. First, in contrast to what happens in the neutral-label condition, participants in the irrelevant-label condition are not thrown in a situation where they learn information about two new groups. It would thus be most surprising if these participants were to change their perception of the two groups after the confrontation with such a restricted set of behaviors. The second limitation is empirical rather than methodological in nature. Indeed, S. A. Haslam et al. demonstrated that perceivers' naive theories are in a position to counter the formation of illusory correlation. In our view, however, it remains to be shown that naive theories facilitate the formation of new stereotypes. To address this issue, we conducted a study in which care was taken to manipulate the beliefs about the nature of the groups and the origin of the behaviors without providing information about the content of the stereotypes themselves (Yzerbyt, Rocher, McGarty, & Haslam, 1997).

The experiment was modeled after the classic illusory correlation paradigm. A total of 72 participants read 39 sentences presented in a random order for 8 sec each. In line with the standard distribution of the information used to create the illusory correlation, 18 positive behaviors and 8 negative behaviors were associated with Group A and 9 positive and 4 negative behaviors were associated with Group B. These behaviors had been pretested so that the mean positivity and mean negativity was the same for the two groups. The participants' task was to memorize the behaviors as well as the group membership of their authors. The only experimental manipulation of the study concerned the information provided about the origin of the groups. Depending on conditions, the participants were informed that the two groups had been constituted either by a computer program or by clinical psychologists. A control group also took part in the study and was given the standard instructions in which no information is provided about the origin of two groups assumed to exist in real life (Hamilton & Gifford, 1976). In participants' eyes, the specific competence of clinical psychologists is precisely that of interpreting behavior and classifying people in various groups. In contrast, there is a general suspicion that computers are ill equipped to make subtle distinctions between people. Our prediction was that participants would display a stronger illusory correlation when the origins of the group conferred meaning to these groups. Thus, we expected the illusory correlation to be stronger in the clinical psychologists than in the computer program condition.

The results of our study nicely concur with the hypotheses. Compared to the control condition in which we found a modest yet significant illusory correlation (ϕ correlation of .15), the absence of a meaningful rationale for the constitution of the two groups led participants to conclude that the two groups did not differ (a nonsignificant ϕ correlation of .08). In other words, our participants did not think that a computer program could validly distinguish people into real groups. Therefore, the categories that were created were not indicative of true differences between the group members. As a result, participants did not actively engage in category differentiation. In sharp contrast, the provision of a sensible reason for the existence of the two groups resulted in more positive perceptions of Group A and more negative perceptions of Group B (a highly significant ϕ correlation of .30). This experiment illustrates the enormous impact of naive theories on the formation of stereotypes. Perceivers seem to process the information quite differently when they rely on a powerful theory regarding the existence of a target group than when they are convinced that the observed people are not members of a meaningful social entity.

At first sight, our data are at odds with those reported by McConnell et al. (1997; for a recent review,

see Stroessner & Plaks, in press). These authors argued that the expectation of target coherence should encourage perceivers to devote a substantial amount of attention to the incoming information, that is, to process the stimuli online (Hamilton & Sherman, 1996). Because perceivers no longer depend on memory-based processes, the traditional illusory correlation should be less likely to emerge. More recently, however, Berndsen, Spears, McGarty, and van der Pligt (1998) observed that instructing their participants to expect coherent groups led to the emergence of an illusory correlation. Interestingly, this was true only when the set of behaviors pertaining to each group was itself moderately coherent. This finding led Berndsen et al. to suggest that the combination of a very strong expectation of coherence, as is typical in McConnell et al.'s (1997) studies, and the presence of moderate coherence in the data may in fact contribute to radicalize the image of the two groups and minimize the need to differentiate between them. In contrast, the expectation of low coherence may continue to translate into illusory correlation when it is combined with moderate data-based coherence. This prediction actually corresponds to the pattern reported by McConnell et al. and offers a neat way to reconcile the divergent sets of data. In a test of this conjecture, Berndsen et al. (1998, Experiment 2) confirmed that the presence of either very strong or minimal data-based coherence indeed prevented the emergence of an illusory correlation. Only moderate data-based coherence allowed for the appearance of an illusory correlation.

In contrast to McConnell et al.'s (1997) manipulation, we do not see our clinical instructions to refer to perceived similarity. Rather, the indications we gave to our participants should simply suggest that all the members of a given group share some underlying essence. This essence should be remote enough that people would only expect a moderate level of coherence in the actual behaviors and would not mind the presence of some inconsistency in the stimuli. Ironically, this state of affairs is precisely what should make possible the emergence of a strong illusory correlation, as it should encourage participants to give meaning to the data. In contrast, because the computer instructions question the presence of underlying coherence in the materials, participants should refrain from construing a meaningful evaluative difference between the two groups.

Insider Perspective

The studies discussed earlier demonstrated the impact of essentialist beliefs on the creation of perceptual similarity (Yzerbyt, Rocher, & Schadron, 1997), a pattern of findings that is highly reminiscent of the work in cognitive research (Medin, 1989). Although surface similarity is important, category formation appears to proceed on the basis of people's theories about the underlying structure of the categorization scheme. Note that we restricted ourselves to situations in which perceivers were not members of the observed groups. One of the most fascinating aspects of social categorization, however, is that perceivers can be members of the target categories. As a consequence, perceivers engaged in a social categorization process will generally be both the actors and the targets of the accentuation effects. They likely will act in ways that maximize similarities and differences and change their own qualities in ways that are categorically meaningful. We devote this last section to a study that illustrates how people regulate their own behavior to achieve ingroup entitativity.

As members of groups, we are often led to form beliefs about those very social entities to which we belong. Is it the case that insiders may also be sensitive to the assumed nature of their group and shape their behaviors accordingly? Is it possible that the group members act in ways that exacerbate the entitativity of the group? We think that this issue has not yet been properly addressed in the literature. To begin to fill this gap, we set out to examine the impact of naive theories regarding the origin of the ingroup on group decision-making processes. In a recent series of studies (Yzerbyt & Estrada, 1999), we examined the role of subjective essentialism in the construction of ingroup consensus by relying on a standard group polarization paradigm. Participants were asked to volunteer for a study on opinion and decision making and were presented with a series of 10 risky dilemmas taken from the group polarization literature (for a review, see Brown, 1986). Typically, such dilemmas describe a situation in which a target person is confronted with one line of action that involves no risk at all but is unattractive and another line of action that is much more attractive but entails some level of risk. The task of the participants is to read each dilemma and indicate the highest level of risk for them to continue to encourage the target person to select the attractive line of action.

The study took place in two sessions separated by 1 week. In a first session, up to 5 participants were first given a trial dilemma to familiarize them with the dependent measures. They were then given the 10 dilemmas and all the necessary time to provide their answers. Participants spent an average of 25 min to make their decisions. On completion of the dilemma questionnaire, participants were asked to come back to the laboratory to study group decision making. They also learned that they would have to come along with 4 other participants. In addition to setting an appointment time for the second session, participants were invited to take part in a test allegedly aimed at identifying the presence of certain personal characteristics. Spe-

cifically, they were asked to put a sample of their saliva on a small color test paper. The female experimenter explained that the result of the test might or might not be important for the second part of the study and that participants would receive more information if necessary. She then showed the five possible colors that could result from the saliva test, explained that each color was associated with a different set of objective characteristics, and that a few minutes were necessary for the test paper to take on a particular color. While the participant examined the names given to the various colors, the experimenter randomly selected one of five precolored test papers and presented it as being the result of the participant's saliva test. Participants were then informed about the result of the saliva test that characterized them and asked to fill in the record sheet accordingly. An appointment was then made for the second session.

At the time set for the second session, participants (a minimum of 3 and a maximum of 5) were seated around a table in the middle of a large room. Control participants were then informed that they would be presented with the same dilemmas as the ones used during the first session and that they were expected to reach a consensus in their answers using 60 min for the 10 dilemmas. Experimental participants were also requested to reexamine their record sheet and notice that they were all associated with the same color, hence with the same set of objective characteristics. Actually, the assignment to the conditions was purely random with the only constraint that same test-color participants were assigned to the corresponding groups.

After 1 hr, participants were asked to sit at one of the four tables placed against the walls of the laboratory room, the fifth participant remaining seated at the central table. The experimenter asked participants to go over each dilemma once again and to indicate what they thought was the appropriate answer for each problem. On completion of this third questionnaire, participants filled out a series of manipulation checks. Finally, they were debriefed, thanked, and dismissed. Manipulation checks confirmed that our manipulation of the naive theories was successful.

As is common practice in group polarization research, we first examined the answers given during the initial individual phase. The data revealed that participants later assigned in one of the two conditions initially expressed similar views on the dilemmas. To evaluate the level of group polarization, we then compared the group answers to the initial individual answers. The average reactions to the 10 dilemmas revealed the presence of a significant risky shift. We had no clear expectations regarding the amount of polarization that could emerge in each one of the two conditions. On one hand, it is possible to argue that people who are told that they share the same essence would be less ready to change their initial position. This could be because members of essentialized groups would already see themselves as a prototypical instance of the group or, alternatively, because they would like to retain their individual viewpoint as much as possible to affirm their distinctiveness (Brewer, 1991). On the other hand, the information regarding the underlying essence could facilitate the operation of informational and normative influence among the members of the group and result in greater polarization. Although the means were more consistent with the first than the second conjecture, an analysis of variance indicated that the total amount of polarization on the 10 dilemmas was the same in both conditions. This pattern of findings means that all participants manifested polarization when confronted with a group decision.

Because our expectation was that naive theories about the foundation of the group should indeed influence how people react toward other group members' positions, we also compared the way participants in the different conditions changed their individual decision into a group decision. To do this, we computed the squared difference between the initial individual answers and the group answers. The data revealed that the average amount of individual change was lower in the same color than in the control condition. In our view, this pattern suggests that the participants in essentialized groups felt less of a need than control participants to abandon their individual position. To evaluate this interpretation more directly, we also computed the squared difference between the initial and the final individual answers. As expected, the data showed that the average impact of the group discussion was more limited when participants thought that all group members shared the same essence. In other words, essentialized participants were more likely to maintain their initial position despite the experience of the group discussion.

These data provide promising evidence that people do not react similarly when they think of themselves as a member of an ad hoc group or a member of a group that is based on the shared presence of some deep characteristics. Although we provided our experimental participants with minimal information about the essential nature of the groups, such knowledge had a definite impact on the way they reacted to the situation. In this case, the availability of naive theories reinforcing the ontological status of the group altered the way the members of the groups reached consensus in a decision-making context by minimizing their willingness to change their initial position in any dramatic way.

We are only beginning to see the potential lessons of this study for our knowledge about group and intergroup behavior. In particular, it is worth elaborating a bit on the fact that participants were much more similar to each other in their convergence toward a group posi-

tion when they believed in the essential nature of their group. Indeed, the shifts toward the new consensual answer appeared to be smaller and more evenly distributed among members of essentialist than non-essentialist groups. One possible explanation for this finding is that the members of essentialist groups minimized the perceived difference in the positions held by the different members of their groups. In a related vein, the mention of the strong ontological status of the group may have led these participants to see themselves as a prototypical incarnation of their group norms and to feel therefore less need to abandon their individual positions.

One fascinating alternative interpretation to this finding is that members of essentialist groups were more strongly opposed to the group decision and more reluctant to give up their distinctive features than members of nonessentialist groups. In this perspective, essentialized participants stick to their personal views to reaffirm their sense of uniqueness (Brewer, 1991). Obviously, the former explanation is consistent with the view that people rely on their beliefs regarding the underlying essence of their group to create similarity. In contrast, the latter explanation stresses the fact that deep sharedness (especially when it concerns groups that have not been freely chosen) can be experienced as oppressive and lead group members to reaffirm their idiosyncrasy. At any rate, our data show that naive beliefs about the nature of groups have a substantial impact on group decision making. Further research is certainly needed to disentangle these two interpretations.

Role of Cultural Factors

The various studies presented here suggested that perceivers may be prompt to conceive additional observable similarity when they are armed with essentialist theories about social groups. Alternatively, the evidence showed that people are tempted to evoke an underlying essence when confronted with entitative groups. As it happens, one most intriguing issue regarding this bidirectional process is the potential impact of cultural factors. Indeed, we have been arguing that subjective essentialism is very much like making dispositional inferences about group members as group members; that is to say, all the members of an entitative group are imbued with some underlying property that makes them a member of the group at the same time that it accounts for the regularities in the observed behavior. The consequence of such social attribution is that observers tend to overlook the situational constraints that impinge on the actions of the group members (Yzerbyt et al., 1998), a phenomenon that comes across as a social version of lay dispositionism (Ross & Nisbett, 1991). *Lay dispositionism* refers to a number of inferential practices like viewing behavior as reflecting the correspondent disposition, believing that behavior can be predicted from knowledge of the relevant trait, and expecting high behavioral consistency across situations.

Of interest, a number of authors have taken issue with the view that the dispositional bias is universal. Building on the growing interest in cross-cultural differences within social psychology (Markus & Kitayama, 1991; Triandis, 1995), there now seems to be strong evidence that dispositionism is sensitive to cultural aspects (Choi, Nisbett, & Nisrezayan, 1999; Miller, 1984). The general message emanating from this line of work is that people from Western cultures tend to make more person attributions, whereas people from Eastern cultures tend to make more situational attributions (Fletcher & Ward, 1988; Shweder & Bourne, 1984). Does this mean that Easterners are less likely to fall prey to subjective essentialism in general and social attribution in particular? We think that such a conclusion would be highly misguided. To understand our position, we propose to distinguish two distinct views of a cultural perspective on dispositionism. A differential process interpretation holds that European Americans are more prone to call on inherent characteristics of persons than Asians are, whereas Asians prove to be more sensitive to the transient influences of the situation on human behavior (Shweder & Bourne, 1984). As an illustration of this approach, Morris and Peng (1994) found that Chinese newspapers explained two mass-murder incidents in terms of situational factors surrounding the actor. In contrast, U.S. newspapers stressed the dispositions of the persons (Lee, Hallahan, & Herzog, 1996). According to the differential process view, Asians are expected to be much less likely than European Americans to display the FAE in a number of standard situations in which the dispositional bias has repeatedly been observed (Choi & Nisbett, 1998). Obviously, such a perspective promotes the idea that Asians avoid referring to extensive and broad dispositions altogether and prefer to invoke circumstantial, context-specific, and nongeneral factors. A differential content view holds that all humans have a fundamental tendency to search for stable causes. According to that approach, the observed difference between cultures resides in the fact that Asians tend to give priority to stable external (i.e., situational) causes to explain events, whereas European Americans generally elect stable internal (i.e., personal) causes (Krull, 1993). Our view on social attribution shares with the differential content view the assumption that social perceivers have a universal tendency to isolate stable causal factors to make sense of the surrounding world. However, the idea of social attribution goes one step further in that it stresses the so-

cial dimension as a distinctive causal factor. By *social dimension,* we refer both to social groups as entities and to individuals' group loyalties and duties. To the extent that the interdependence and social embeddedness of the actors are more real and their independence and autonomy are less real to Easterners than to Westerners (Chiu, Dweck, Tong, & Fu, 1997; Kashima, Siegal, Tanaka, & Kashima, 1992), that is, to the extent that Easterners easily "see" the group behind an actor's behaviors, then Easterners are likely to make attributions to collective agents rather than to individual agents (Menon, Morris, Chiu, & Hong, 1998). In her classic study on attributional responses among North Americans and Indian Hindus of various age groups, Miller (1984) not only found that North Americans used an increasing number of person dispositions as they were growing older (a pattern not observed for Hindus), but also that older Hindus invoked social roles and relationships much more than younger Hindus did (a finding that did not emerge for North Americans). Data such as these suggest that the crucial difference between Asians and European Americans may not so much lie in the differential weight given by the members of these two cultures to the dispositions of either the actor or the situation, but rather in people's differential ability to see the person or the group as the meaningful locus of causality. From our perspective, members of Western and Eastern cultures indeed differ in the kind of attributions that they make. However, instead of the preferential reference to fluid aspects of the situation in comparison with fixed individual factors, what matters is the causal status of the individual as a self-contained entity versus the individual as member of a larger group or even the group itself.

Conclusion

The research program presented here builds on our earlier efforts at examining the links between entitativity and essentialism (Yzerbyt et al., 2000; Yzerbyt, Rocher, & Schadron, 1997; Yzerbyt et al., 1998). According to our theory of subjective essentialism, stereotypes about social groups cannot be reduced to the simple perception of group features, nor can they be seen as mental constructions entirely detached from objective reality. Rather, we stress the key role of a constant dialogue between theory-based explanations and the data-based information concerning the group members out there.

In this article, we argue for a closer connection between the now abundant work on the concept of entitativity (Hamilton & Sherman, 1996) and the somewhat less popular issue of essentialism (Haslam et al., 2000; Yzerbyt, Rocher, & Schadron, 1997). There is already evidence that the presence of strong perceptual cues of entitativity leads perceivers to evoke the existence of an underlying set of deep aspects common to all group members. We therefore devoted most of our presentation to the role of essentialist beliefs in the perception of phenotypic regularities within social groups. We showed that the characterization of a social group as being based on some deep underlying characteristic orients outsiders and insiders alike to amplify the resemblance between group members. The fact that outsiders exacerbated similarities between individual group members illustrates the perceptual impact of naive theories about the ontology of a group. The finding that insiders made more similar concessions in the determination of a group norm level emphasizes the behavioral properties of essentialist beliefs about the ingroup.

As a set, our studies stress the importance of taking into account the beliefs of perceivers as much as the perceptual features of the target. They concur with other work showing that people's implicit theories shape their views of the social world. As a case in point, Levy, Stroessner, and Dweck (1998) investigated the impact of people's beliefs about the fixedness versus malleability of human attributes on social stereotyping and found that compared to incremental theorists (i.e., people who think that people's traits are malleable), entity theorists (i.e., people who believe that people's traits are fixed) made more stereotypical trait judgments of existing ethnic and occupational groups and made more extreme ratings of novel groups of people. Interestingly, whereas entity theorists attributed stereotyped traits more to inborn group qualities than to environmental factors, the reverse pattern was obtained for incremental theorists. These efforts confirm that the machinery that allows us to create similarity is every bit as impressive as the processes that give us access to the similarities of the world. One intriguing conclusion is that the existence of a priori beliefs about the deep nature of a group may have a series of consequences on the management of stereotype inconsistency. At one level, we will likely tolerate a fair bit of variability at the phenotypic level as long as we remain convinced that group members share some inherent essence. At another, we will probably work much harder to reinterpret discrepant information in line with our preconception if we think that there exists a deep characteristic common to all group members. Because essential beliefs offer such an efficient means to handle inconsistency at the surface level, the stereotypes we may dislike most may precisely be those that are most resistant to modification. In our view, this means that the best strategy to alter disputable social stereotypes may well be to launch direct attacks against beliefs regarding their inherence.

References

Abelson, R. P., Dasgupta, N., Park, J., & Banaji, M. R. (1998). Perceptions of the collective other. *Personality and Social Psychology Review, 2,* 243–250.

Berndsen, M., Spears, R., McGarty, C., & van der Pligt, J. (1998). Dynamics of differentiation: Similarity as the precursor and product of stereotype formation. *Journal of Personality and Social Psychology, 74,* 1451–1463.

Brewer, M. B. (1991). The social self: On being similar and different at the same time. *Personality and Social Psychology Bulletin, 17,* 475–482.

Brewer, M. B., & Brown, R. J. (1998). Intergroup relations. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., pp. 554–594). New York: McGraw-Hill.

Brewer, M. B., & Harasty, A. S. (1996). Seeing groups as entities: The role of perceiver motivation. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition* (Vol. 3, pp. 347–370). New York: Guilford.

Brewer, M. B., Weber, J. G., & Carini, B. (1995). Person memory in intergroup contexts: Categorization versus individuation. *Journal of Personality and Social Psychology, 69,* 29–40.

Brown, R. (1986). *Social psychology: The second edition.* New York: Free Press.

Bruner, J. S. (1957). On perceptual readiness. *Psychological Review, 64,* 123–152.

Campbell, D. T. (1958). Common fate, similarity, and other indices of the status of aggregates of persons as social entities. *Behavioural Sciences, 3,* 14–25.

Castano, E., Yzerbyt, V. Y., & Bourguignon, D. (1998). *We are one and I like it: The impact of ingroup entitativity on social identification.* Manuscript submitted for publication.

Chiu, C., Dweck, C. S., Tong, J. Y., & Fu, J. H. (1997). Implicit theories and conceptions of morality. *Journal of Personality and Social Psychology, 73,* 923–940.

Choi, I., & Nisbett, R. E. (1998). Situational salience and cultural differences in the correspondence bias and actor-observer bias. *Personality and Social Psychology Bulletin, 24,* 949–960.

Choi, I., Nisbett, R. E., & Nisrezayan, A. (1999). Causal attribution across cultures: Variation and universality. *Psychological Bulletin, 125,* 47–63.

Corneille, O., & Judd, C. M. (1999). Accentuation and sensitization effects in the categorization of multi-faceted stimuli. *Journal of Personality and Social Psychology, 77,* 927–941.

Corneille, O., Yzerbyt, V. Y., Rogier, A., & Buidin, G. (in press). Threat and the group attribution error: When threat elicits judgments of extremity and homogeneity. *Personality and Social Psychology Bulletin.*

Dasgupta, N., Banaji, M. R., & Abelson, R. P. (1999). Group entitativity and group perception: Associations between physical features and psychological judgment. *Journal of Personality and Social Psychology, 77,* 991–1003.

Dépret, E., & Fiske, S. T. (1999). Perceiving the powerful: Intriguing individuals versus threatening groups. *Journal of Experimental Social Psychology, 35,* 461–480.

Doosje, B., Spears, R., Ellemers, N., & Koomen, W. (1999). Perceived group variability in intergroup relations: The distinctive role of social identity. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 10, pp. 41–74). Chichester, England: Wiley.

Fiedler, K. (1991). The tricky nature of skewed frequency tables: An information loss account of distinctiveness-based illusory correlations. *Journal of Personality and Social Psychology, 60,* 24–36.

Fiske, S. T. (1992). Thinking is for doing: Portraits of social cognition from daguerrotype to laserphoto. *Journal of Personality and Social Psychology, 63,* 887–889.

Fiske, S. T. (1998). Stereotyping, prejudice, and discrimination. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (Vol. 2, 4th ed., pp. 357–411). New York: McGraw-Hill.

Fletcher, G. J. O., & Ward, C. (1988). Attribution theory and processes: A cross-cultural perspective. In M. H. Bond (Ed.), *The cross-cultural challenge to social psychology*. Newbury Park, CA: Sage.

Gaertner, L., & Schopler, J. (1998). Perceived ingroup entitativity and intergroup bias: An interconnection of self and others. *European Journal of Social Psychology, 28,* 963–980.

Hamilton, D. L., & Gifford, R. K. (1976). Illusory correlation in interpersonal perception: A cognitive basis of stereotype judgments. *Journal of Experimental Social Psychology, 12,* 392–407.

Hamilton, D. L., & Sherman, S. J. (1996). Perceiving persons and groups. *Psychological Review, 103,* 336–355.

Hamilton, D. L., Sherman, S. J., & Lickel, B. (1998). Perceiving social groups: The importance of the entitativity continuum. In C. Sedikides, J. Schopler, & C. A. Insko (Eds.), *Intergroup cognition and intergroup behavior* (pp. 47–74). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Haslam, N., Rothschild, L., & Ernst, D. (2000). Essentialist beliefs about social categories. *British Journal of Social Psychology, 39,* 113–127.

Haslam, S. A., McGarty, C., & Brown, P. M. (1996). The search for differentiated meaning is a precursor to illusory correlation. *Personality and Social Psychology Bulletin, 22,* 611–619.

Hirschfeld, L. A. (1995). Do children have a theory of race? *Cognition, 54,* 209–252.

Hirschfeld, L. A. (1996). *Race in the making: Cognition, culture, and the child's construction of the human kind.* Cambridge, MA: MIT Press.

Insko, C. A., & Schopler, J. (1998). Differential distrust of groups and individuals. In C. Sedikides, J. Schopler, & C. A. Insko (Eds.), *Intergroup cognition and intergroup behavior* (pp. 75–107). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Jones, E. E., & Harris, V. A. (1967). The attribution of attitudes. *Journal of Experimental Social Psychology, 3,* 1–24.

Jost, J., & Major, B. (in press). *The psychology of legitimacy: Emerging perspectives on ideology, justice, and intergroup relations.* New York: Cambridge University Press.

Kashima, Y., Siegal, M., Tanaka, K., & Kashima, E. (1992). Do people believe that behaviours are consistent with attitudes? Towards a cultural psychology of attribution processes. *British Journal of Social Psychology, 31,* 111–124.

Keil, F. C. (1989). *Concepts, kinds, and cognitive development.* Cambridge, MA: MIT Press.

Krueger, J., & Clement, R. W. (1994). Memory-based judgments about multiple categories: A revision and extension of Tajfel's accentuation theory. *Journal of Personality and Social Psychology, 67,* 35–47.

Krull, D. S. (1993). Does the grist change the mill? The effect of the perceiver's inferential goal on the process of social inference. *Personality and Social Psychology Bulletin, 19,* 340–348.

Lee, F., Hallahan, M., & Herzog, T. (1996). Explaining real-life events: How culture and domain shape attributions. *Personality and Social Psychology Bulletin, 22,* 731–741.

Levy, S. R., Stroessner, S. J., & Dweck, C. S. (1998). Stereotype formation and endorsement: The role of implicit theories. *Journal of Personality and Social Psychology, 74,* 1421–1436.

Leyens, J.-P., Paladino, P. M., Rodriguez-Torres, R., Vaes, J., Demoulin, S., Rodriguez-Perez, A., & Gaunt, R. (2000). The emotional side of prejudice: The attribution of secondary emotions to ingroups and outgroups. *Personality and Social Psychology Review, 4,* 186–197.

Leyens, J.-P., Yzerbyt, V. Y., & Schadron, G. (1994). *Stereotypes and social cognition.* London: Sage.

Lickel, B., Hamilton, D., Wieczorkowska, G., Lewis, A. C., Sherman, S. J., & Uhles, A. N. (2000). Varieties of groups and the perception of group entitativity. *Journal of Personality and Social Psychology, 78,* 223–246.

Malt, B. C. (1994). Water is not H2O. *Cognitive Psychology, 27,* 41–70.

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98,* 224–253.

McConnell, A. R., Sherman, S. J., & Hamilton, D. L. (1997). Target entitativity: Implications for information processing about individual and group targets. *Journal of Personality and Social Psychology, 72,* 750–762.

McGarty, C., & de la Haye, A.-M. (1997). Stereotype formation: Beyond illusory correlation. In R. Spears, P. Oakes, N. Ellemers, & A. Haslam (Eds.), *The psychology of stereotyping and group life* (pp. 144–170). London: Basil Blackwell.

McGarty, C., Haslam, S. A., Hutchinson, K. J., & Grace, D. M. (1995). Determinants of perceived consistency: The relationship between group entitativity and the meaningfulness of categories. *British Journal of Social Psychology, 34,* 237–256.

McGarty, C., Haslam, S. A., Turner, J. C., & Oakes, P. J. (1993). Illusory correlation as accentuation of actual intercategory difference: Evidence for the effect with minimal stimulus information. *European Journal of Social Psychology, 23,* 391–410.

McGarty, C., & Penny, R. E. C. (1988). Categorization, accentuation and social judgement. *British Journal of Social Psychology, 22,* 147–157.

McGarty, C., & Turner, J. C. (1992). The effects of categorization on social judgment. *British Journal of Social Psychology, 31,* 253–268.

Medin, D. L. (1989). Concepts and conceptual structure. *American Psychologist, 44,* 1469–1481.

Medin, D. L., & Ortony, A. (1989). Psychological essentialism. In S. Vosnaidou & A. Ortony (Eds.), *Similarity and analogical reasoning* (pp. 179–195). Cambridge, England: Cambridge University Press.

Menon, T., Morris, M., Chiu, C. Y., & Hong, Y. Y. (1998). *Culture and attributions to individuals versus groups: North Americans attribute to personal dispositions; East Asians attribute to dispositions of social collectives.* Unpublished manuscript, Stanford University, Stanford, CA.

Miller, J. G. (1984). Culture and the development of everyday social explanation. *Journal of Personality and Social Psychology, 46,* 961–978.

Morris, M. W., & Peng, K. (1994). Culture and cause: American and Chinese attributions of social and physical events. *Journal of Personality and Social Psychology, 67,* 949–971.

Murphy, G. L., & Medin, D. L. (1985). The role of theories in conceptual coherence. *Psychological Review, 92,* 289–316.

Norman, W. T. (1963). Toward an adequate taxonomy of personality attributes: Replicated factor structures in peer nomination personality ratings. *Journal of Abnormal and Social Psychology, 66,* 574–583.

Oakes, P. J., Haslam, S. A., & Turner, J. C. (1994). *Stereotyping and social reality.* Oxford, England: Basil Blackwell.

Rabbie, J. M., & Horwitz, M. (1988). Categories versus groups as explanatory concepts in intergroup relations. *European Journal of Social Psychology, 18,* 117–123.

Rogier, A., & Yzerbyt, V. Y. (1999). Social attribution: The role of homogeneity in subjective essentialism. *Swiss Journal of Psychology, 54,* 233–240.

Rosch, E., & Mervis, C. (1975). Family resemblance: Studies in the internal structure of categories. *Cognitive Psychology, 7,* 573–605.

Ross, L., Amabile, T. M., & Steinmetz, J. L. (1977). Social roles, social control, and biases in social-perception processes. *Journal of Personality and Social Psychology, 35,* 485–494.

Ross, L., & Nisbett, R. E. (1991). *The person and the situation: Perspectives of social psychology.* New York: McGraw-Hill.

Rothbart, M., & Taylor, M. (1992). Category labels and social reality: Do we view social categories as natural kinds? In G. Semin & K. Fiedler (Eds.), *Language, interaction and social cognition* (pp. 11–36). London: Sage.

Rothgerber, H. (1997). External intergroup threat as an antecedent to perceptions of in-group and out-group homogeneity. *Journal of Personality and Social Psychology, 73,* 1206–1211.

Schaller, M., & Maass, A. (1989). Illusory correlation and social categorization: Toward an integration of motivational and cognitive factors in stereotype formation. *Journal of Personality and Social Psychology, 56,* 709–721.

Semin, G., & Fiedler, K. (1991). The linguistic category model, its bases, applications and range. *European Review of Social Psychology, 2,* 1–30.

Sherman, S. J., Hamilton, D. L., & Lewis, A. C. (1999). Perceived entitativity and the social identity value of group memberships. In D. Abrams & M. Hogg (Eds.), *Social identity and social cognition* (pp. 80–110). Oxford, England: Blackwell.

Shweder, R. A., & Bourne, E. J. (1984). Does the concept of the person vary cross-culturally? In R. A. Shweder & R. A. LeVine (Eds.), *Culture theory: Essays on the mind, self, and emotion* (pp. 158–199). Cambridge, England: Cambridge University Press.

Smith, E. R. (1991). Illusory correlation in a simulated exemplar-based memory. *Journal of Experimental Social Psychology, 27,* 107–123.

Spears, R., Oakes, P., Ellemers, N., & Haslam, A. (1997). *The psychology of stereotyping and group life.* London: Basil Blackwell.

Stroessner, S. J., & Plaks, J. E. (in press). Illusory correlation and stereotype formation: Tracing the arc of research over a quarter century. In G. B. Moskowitz (Ed.), *Cognitive social psychology: On the tenure and future of social cognition.* Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Tajfel, H., & Wilkes, A. L. (1963). Classification and quantitative judgment. *British Journal of Psychology, 54,* 101–114.

Triandis, H. C. (1995). *Individualism and collectivism.* Boulder, CO: Westview.

Vanbeselaere, N. (1991). The impact of in-group and out-group homogeneity/heterogeneity upon intergroup relations. *Basic and Applied Social Psychology, 12,* 291–301.

Welbourne, J. L. (1999). The impact of perceived entitivity on inconsistency resolution for groups and individuals. *Journal of Experimental Social Psychology, 35,* 481–508.

Wilder, D. A. (1986). Social categorization: Implications for creation and reduction of intergroup conflicts. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 19, pp. 293–355). San Diego, CA: Academic.

Wilder, D. A., & Simon, A. (1998). The group as a category and an interactive entity: Implications for social perception and intergroup behavior. In C. Sedikides, J. Schopler, & C. A. Insko (Eds.), *Intergroup cognition and intergroup behavior* (pp. 27–44). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Yzerbyt, V. Y., & Buidin, G. (1998). *The impact of naive theories about the nature of the groups on the accentuation effect.* Unpublished raw data, Catholic University of Louvain at Louvain-la-Neuve, Belgium.

Yzerbyt, V. Y., Castano, E., Leyens, J.-P., & Paladino, P. M. (2000). The primacy of the ingroup: The interplay of entitativity and identification. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 11, pp. 258–295). Chichester, England: Wiley.

Yzerbyt, V. Y., & Estrada, C. (1999). *The role of subjective essentialism on group decision making.* Unpublished raw data, Catholic University of Louvain at Louvain-la-Neuve, Belgium.

Yzerbyt, V. Y., & Rocher, S. (in press). Subjective essentialism and the emergence of stereotypes. In C. McGarty, V. Yzerbyt, & R. Spears (Eds.), *The formation of social stereotypes.* Cambridge, England: Cambridge University Press.

Yzerbyt, V. Y., Rocher, S., McGarty, C., & Haslam, S. A. (1997). *Illusory correlation: Naive theories and the formation of social stereotypes.* Unpublished raw data, Catholic University of Louvain at Louvain-la-Neuve, Belgium.

Yzerbyt, V. Y., Rocher, S., & Schadron, G. (1997). Stereotypes as explanations: A subjective essentialistic view of group perception. In R. Spears, P. Oakes, N. Ellemers, & A. Haslam (Eds.), *The psychology of stereotyping and group life* (pp. 20–50). London: Basil Blackwell.

Yzerbyt, V. Y., & Rogier, A. (in press). Blame it on the group: Entitativity, subjective essentialism and social attribution. In J. Jost & B. Major (Eds.), *The psychology of legitimacy: Emerging perspectives on ideology, justice, and intergroup relations.* New York: Cambridge University Press.

Yzerbyt, V. Y., Rogier, A., & Fiske, S. (1998). Group entitativity and social attribution: On translating situational constraints into stereotypes. *Personality and Social Psychology Bulletin, 24,* 1090–1104.

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