

# Who May Enter? The Impact of In-Group Identification on In-Group/Out-Group Categorization

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An experiment was conducted to examine the impact of identification with the in-group on the categorization of pictures depicting in-group and out-group faces. Findings showed that high identifiers classified fewer pictures as in-group members than did low identifiers. High and low identifiers also differed in their categorization latencies. Whereas high identifiers seemed more concerned with erroneously including an out-group member in the in-group, low identifiers seemed concerned with accuracy. The results are discussed with regard to the motivations underlying social categorization as well as to other phenomena that have been discovered through research on social identity theory. © 2002 Elsevier Science (USA)

Social psychologists have long known that the way we categorize ourselves and others influences many aspects of our lives (Allport, 1954; Sherif, 1967; Tajfel, 1981). Whether we divide the world according to nationality or religion, categorization is likely to have a profound impact on our social rela-

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tions (for reviews, see Leyens, Yzerbyt, & Schadron, 1994; Oakes, Haslam, & Turner, 1994; Wilder, 1986). Categorization often involves self-categorization (Turner, Hogg, Oakes, Reicher, & Wheterel, 1987); the “us” and “them” distinction seems to have the most dramatic influence on social perception and judgment. In this context, the motivation to establish and maintain a positive social identity (Tajfel, 1978; Tajfel & Turner, 1979, 1986) has been shown to result in ethnocentrism and in-group bias (Brewer, 1979; Tajfel, Billig, Bundy, & Flament, 1971). The distinction between in-group and out-group also goes hand in hand with the stereotyping process, which is among the most important determinants of prejudiced behavior (see Mackie & Smith, 1998). In this article, we focus on a specific aspect of the in-group versus out-group distinction, namely the decision to accept an individual as an in-group member or to exclude the individual as a member of the out-group. We review existing evidence on this issue and present the results of a study that shows the impact of identification with the in-group on the categorization process.

## PREJUDICE AND CATEGORIZATION

A set of studies conducted from the late 1940s through the 1970s examined how people categorize others as Jewish

or non-Jewish. Due to the conceptualization of prejudice that dominated social psychology at the time, primarily in terms of individual differences, these studies focused on the group that was the target of prejudice rather than on the distinction between the in-group and the out-group. Nevertheless, their results are pertinent for our purpose here. In a typical experiment, anti-Semitic participants and their non-prejudiced counterparts were presented with a series of faces or names, some Jewish and some not. The task was simply to identify the Jewish faces or names or to say "I do not know." The results of these studies suggested that high prejudice is associated with better recognition of Jewish faces (for an early illustration, see Allport & Kramer, 1946).

This pattern of results was replicated in several different contexts (for a review, see Quany, Keats, & Harkins, 1975) and led to the formulation of two rival accounts. The first of these accounts is known as the "vigilance hypothesis" (e.g., Lindzey & Rogolsky, 1950). Because prejudiced people are alert to out-group members, they are more likely to pay careful attention to anything related to the out-group, and so they acquire a better knowledge of out-group characteristics (Dorfman, Keeve, & Saslow, 1971). An alternative account rested on the idea of a "response bias" (Elliott & Wittenberg, 1955). Maybe prejudiced people are better at identifying out-group members simply because they put more targets in the out-group category. Whereas the first account revolved around accuracy (i.e., identifying out-group members correctly in absolute terms), this alternative account suggests that highly prejudiced people are not better at recognizing Jews but are more motivated to classify a greater number of faces or names in the Jew category. In other words, they may be motivated to avoid certain kinds of errors more than others. This debate is highly reminiscent of the distinction made between the notions of *sensitivity* and *bias* in signal detection theory (McNicol, 1972, p. 11).

Although not concerned with anti-Semitism per se, an experiment conducted in South Africa by Pettigrew, Allport, and Barnett (1958) provides further insight into this aspect of categorization. In that study, participants were exposed to stereoscopic presentations of two sets of different photographs and asked to judge the race of the person that appeared to them in the resulting combined image. The most interesting results, for our purpose, emerged when participants were confronted with racially mixed faces. In this case, Afrikaners and English-speaking Whites saw a European face much less often than did Indians. Although this finding yields support for the response bias account, it also raises an intriguing question: Do people aim at classifying as many individuals as possible in the category that is the target of their prejudice, or are they in fact concerned with erroneously including a target in the ranks of the in-group?

## SOCIAL IDENTITY AND CATEGORIZATION

The primacy of in-group attachment versus out-group prejudice was at the core of two studies recently conducted within the framework of social identity theory. In the first study, by Leyens and Yzerbyt (1992), Walloon (French-speaking Belgian) participants received descriptions of several targets. These descriptions consisted of lists of traits stereotypical of either the Flemish (Dutch-speaking Belgians) or the Walloons. The traits appeared one after the other on a computer screen. Participants had to decide when they had seen sufficient traits to classify the targets as Walloon or Flemish. As expected, participants reported less often that the targets were Walloon than Flemish, and they requested more traits when these were stereotypical of Walloons (for a replication of these results in an Italian context, see also Capozza, Dazzi, & Minto, 1996).

In the second study, by Yzerbyt, Leyens, and Bellour (1995), Walloon or Flemish participants were asked to identify a target as either an in-group or an out-group member by listening to sentences pronounced in French or Dutch by Walloon or Flemish targets. Interestingly, more errors were made on in-group targets, especially for short sentences pronounced in the out-group language (i.e., when the available information was ambiguous). It also took longer for participants to identify in-group members who read sentences in the out-group language. Neither the origin of the participants nor the wording of the questions qualified these findings. Parallel results emerged in a more recent study by Blascovich, Wyer, Swart, and Kibler (1997), who compared low- and high-prejudice participants. The latter displayed longer latencies and more hesitation when classifying racially ambiguous targets. These researchers suggested that highly prejudiced participants were more motivated to make accurate categorizations of targets so as to avoid erroneously including an out-group member in the in-group category (cf. Taylor & Moghaddam, 1994).

These and other results reported above led Leyens and Yzerbyt (1992) to formulate the following *in-group over-exclusion* hypothesis. Because identity rests, in part, on the groups with which people are connected, they want to protect their in-group from undesirable outsiders. Thus, they are especially cautious when decisions must be made about group membership. The tendency to increase the number of out-group members may thus correspond less to a better knowledge of what the out-group is like than to exclusion from the in-group in cases of doubt. Highly prejudiced and highly identified individuals may share the same motivation, namely to avoid "contaminating" the in-group with out-group members.

The goal of this article is to extend these results by investigating further the factors affecting in-group/out-group categorization decisions. Specifically, we tested the impact of the level of identification with the in-group on the categorization

process. We reasoned that if the motives underlying the categorization bias reflect individuals' concern with the integrity of the in-group, then it is precisely the impact of in-group identification that needs assessment. Furthermore, identification with the in-group has proven to influence a number of phenomena, such as the in-group bias (Castano & Yzerbyt, 1998; Jetten, Spears, & Manstead, 1996; Lindeman, 1997), the black sheep effect (Branscombe, Wann, Noel, & Coleman, 1993; Castano, Paladino, Coull, & Yzerbyt, 2001; Coull, Yzerbyt, Castano, Paladino, & Leemans, 2001), and the perception of in-group homogeneity (Castano & Yzerbyt, 1998; Doosje, Ellemers, & Spears, 1995; Kelly, 1989), all of which could be considered strategies to enhance and protect the image of the in-group (Castano, 1999, in press; Doosje & Ellemers, 1997; Leyens et al., 1994; Yzerbyt, Castano, Leyens, & Paladino, 2000).

We also assessed participants' latency to categorize, which can serve as an indicator of the importance of the task for them. We thus conducted an experiment in which group members with high versus low levels of identification with the in-group were asked to categorize a series of individuals as either in-group or out-group members.

## METHOD

### Pretesting

Seven pictures of northern European males and seven pictures of northern African males were presented randomly via a computer screen to 82 Italian female undergraduates of the University of Padua, Italy. Each picture depicted a full frontal face with a neutral facial expression. Participants were asked to classify each picture as either northern Italian or southern Italian. On average, the seven pictures depicting northern Europeans were classified as northern Italians 81% ( $SD = 10\%$ ) of the time. The seven pictures depicting northern Africans were classified as southern Italians 83% ( $SD = 16\%$ ) of the time.

### Experiment

#### Participants

The participants were 36 female undergraduates at the University of Padua. All of them were born and lived in northern Italy.

#### Materials

Starting with the 14 photos used in the pretest, 35 other stimuli were generated using a morphing computer program. Given any 2 images as end points, that program produces a linear continuum of images between these end points (for a description of the morphing technique, see Beale & Keil, 1995). The 35 new stimuli comprised 7

pictures combining 20% northern Italian with 80% southern Italian features, 7 pictures combining 40% northern Italian with 60% southern Italian features, 7 pictures combining 50% northern Italian with 50% southern Italian features, 7 pictures combining 60% northern Italian with 40% southern Italian features, and 7 pictures combining 80% northern Italian with 20% southern Italian features. The final set of 49 stimuli contained these 35 morphed faces along with the 14 original faces. Regarding our terminology, percentage (%) refers to the percentage of a picture that includes features from an in-group member. Therefore, 0% refers to the original out-group pictures, 20% refers to pictures with 20% in-group features (and 80% out-group features), and so on. The original in-group pictures are referred to as 100%.

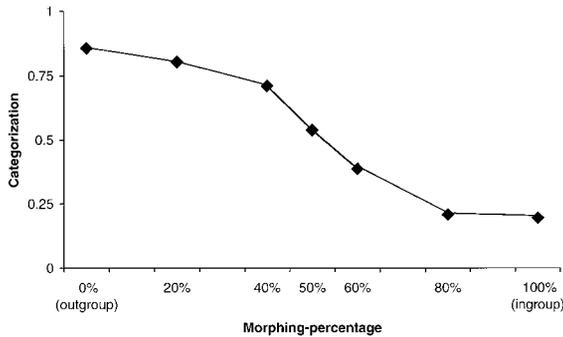
#### Procedure

After arriving at the laboratory, participants were told they would take part in a psychology experiment consisting of a paper-and-pencil task followed by a computer-assisted session. No further details about the goal of the experiment were given. Participants were first asked to answer a six-item questionnaire intended to measure their level of identification with the category northern Italians. Examples of items included "I identify with northern Italians" and "To be a northern Italian is not of particular significance to me." Each item was rated on a scale from 1 to 7, ranging from *strong disagreement* to *strong agreement*. Participants were then seated in front of a computer and instructed to perform the categorization task. Afterward, participants were told the aim of the experiment, thanked, and dismissed.

*The categorization task.* Participants were told that a series of faces would appear on the screen. Their task was to decide whether each person was a northern or southern Italian. They were instructed to convey their decisions by pressing one of two keys, labeled with either the letter S (*Settentrionali* or northern Italian) or the letter M (*Meridionali* or southern Italian). Participants were randomly assigned to one of two conditions that counterbalanced the correspondence between the keys and group membership. The presentation of the stimuli was controlled by a MEL software program that displayed the 49 stimuli randomly, one at a time, on the computer screen. If participants did not answer within 32,000 ms, the program automatically moved to the next stimulus. A black screen appeared during the 1500-ms interval between each pair of stimuli. Participants' categorization decisions and latencies were recorded. The program assigned the value 0 when participants classified a stimulus as northern Italian and the value 1 when they classified a stimulus as southern Italian.

## RESULTS

An identification score was computed by averaging ratings of the six items on the identification scale (Cronbach's



**FIG. 1.** Categorization as a function of morphing percentage (0 = in-group, 1 = out-group).

alpha = .80). A median split on this score was used to divide participants into two groups, namely “high” and “low” identifiers. An analysis of variance (ANOVA) on the identification scores confirmed that high identifiers scored significantly higher ( $n = 19$ ,  $M = 4.30$ ) than did low identifiers ( $n = 16$ ,  $M = 2.50$ ),  $F(1, 33) = 41.55$ ,  $p < .0001$ . One-tailed  $t$  tests were computed to assess whether the identification scores of the two groups were different from the midpoint (4.00) of the identification scale. The test was significant for the low identifiers,  $t(1, 15) = 16.66$ ,  $p < .0001$ , but only marginally so for the high identifiers,  $t(1, 18) = 1.22$ ,  $p < .12$ . Therefore, although we decided to name these two groups “low” and “high” identifiers, respectively, the high identifiers were not strongly identified with the in-group.

A categorization index was created by averaging for each participant the seven categorization decisions pertaining to pictures in the same morphing percentage. This reduced the number of data points for each participant to seven—that is, the seven levels of morphing. The range for this score on categorization index was from 0 to 1. Higher values reflected a tendency to classify people as southern Italians (the out-group). A latency index was also computed using the same averaging procedure.<sup>1</sup> Data from 1 participant, who categorized all 49 targets into the same category, were dropped, leaving 35 participants in the final sample. A total of 11 of 1715 (49 stimuli  $\times$  35 participants) latencies exceeded 10,000 ms. To avoid the impact of these extreme responses, they were eliminated from the data set.

### Categorization

We computed a mixed-model ANOVA on the categorization scores using level of identification (high vs low) as the between-participants factor and morphing percentage (0% vs 20% vs 40% vs 50% vs 60% vs 80% vs 100%) as the

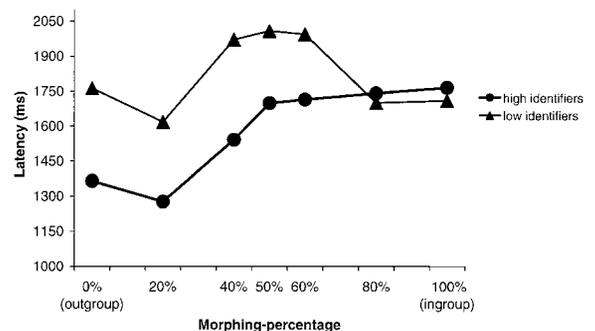
<sup>1</sup> Standard deviations for each of the seven levels of morphing percentage were computed for categorization and latency scores separately. These were fairly similar for both scores, reassuring us that values for each morphing percentage were equally representative.

within-participants factor. This analysis revealed a significant main effect of morphing percentage,  $F(6, 198) = 116.55$ ,  $p < .0001$ . Pairwise comparisons between adjacent morphing percentages showed that, except for the contrasts between 0% and 20%,  $F(1, 33) = 2.94$ ,  $p < .10$ , and between 80% and 100%,  $F < 1.0$ , all pairwise comparisons were significant,  $p < .001$ . As Fig. 1 shows, the greater the percentage of one group in a face, the greater the likelihood that it would be categorized as belonging to that group. A linear trend best fit this main effect,  $F(1, 33) = 497.14$ ,  $p < .0001$ . The main effect of identification was also significant,  $F(1, 33) = 5.06$ ,  $p < .03$ . Compared to low identifiers, high identifiers were more likely to categorize the pictures as southern Italians—members of the out-group ( $M = 0.49$  and  $M = 0.56$ , respectively). The interaction between morphing percentage and level of identification was not significant,  $F < 1.0$ .

We also compared the global decision scores to a chance level of categorization (.50). Overall, participants’ decisions were moderately biased toward rejection ( $M = .53$ ),  $t(34) = 1.89$ ,  $p < .06$ . This illustrates the in-group overexclusion effect. The same analysis performed for low and high identifiers separately revealed that low identifiers did not depart from chance levels of categorization ( $M = .49$ ),  $t < 1.0$ . By contrast, high identifiers classified pictures as out-group rather than in-group members ( $M = .56$ ) significantly more often than would be expected by chance,  $t(18) = 2.39$ ,  $p < .03$ .

### Latencies

We computed a mixed-model ANOVA on latencies using level of identification as the between-participants factor and morphing percentage as the within-participants factor. The main effect of identification was not significant,  $F(1, 33) = 1.17$ ,  $p > .28$ , but the main effect of morphing percentage was significant,  $F(6, 198) = 4.86$ ,  $p < .0001$ . This pattern was qualified, however, by a significant interaction effect,  $F(6, 198) = 2.07$ ,  $p < .05$  (see Fig. 2). To better understand the nature of that interaction, we computed a series of



**FIG. 2.** Latency (ms) as a function of the morphing percentage and the level of identification.

polynomial contrasts. These contrasts confirmed the presence of a significant linear trend in morphing percentage,  $F(1, 33) = 5.62, p < .02$ , as well as an interaction between the linear trend and identification,  $F(1, 33) = 4.79, p < .03$ . The only other effect that approached significance involved identification and the quadratic trend for morphing percentage,  $F(1, 33) = 2.12, p < .15$ . Separate analyses for high and low identifiers confirmed the presence of a significant linear trend for high identifiers,  $F(1, 18) = 7.79, p < .01$ , but not for low identifiers, and a significant quadratic trend for low identifiers,  $F(1, 15) = 4.93, p < .05$ , but not for high identifiers. The linear trend among high identifiers suggests that the more a target seemed like an in-group member, the longer it took to make a decision about membership. By contrast, the quadratic trend among low identifiers suggests that faster decisions were made about less ambiguous targets, whether they seemed like in-group or out-group members.

In a final analysis, we checked whether high and low identifiers differed in the latencies associated with their acceptance of a target as an in-group member versus their rejection of a target as an out-group member. We separated the latencies associated with acceptance (classification of the target as an in-group member) from those associated with rejection (classification of the target as an out-group member) and computed a mixed ANOVA using identification (high vs low) as the between-participants factor and categorization (acceptance vs rejection) as the within-participants factor. This analysis revealed no significant main effects, both  $F_s < 1.0$ , but a significant interaction,  $F(1, 33) = 4.13, p < .05$ . Whereas low identifiers took equally long to reject or accept a target,  $F < 1.0$ , high identifiers took somewhat longer to accept a target as an in-group member than to reject a target as an out-group member,  $F(1, 18) = 3.91, p < .06$ . And whereas high and low identifiers did not differ in the amount of time they took to accept a target, high identifiers tended to reject a target more quickly,  $F(1, 33) = 2.87, p < .09$ .

## DISCUSSION

The aim of our research was to test the hypothesis that the degree to which people identify with an in-group influences their categorization of others as in-group or out-group members. We thus carried out an experiment in which high and low identifiers categorized a set of ambiguous and unambiguous targets. Both the content and latency of these categorization decisions were recorded.

With respect to *categorization*, our findings replicate and qualify previous findings on the in-group overexclusion effect (Leyens & Yzerbyt, 1992; Yzerbyt et al., 1995). In fact, only the categorization scores of high identifiers differed from chance levels. Specifically, they tended to clas-

sify more targets as out-group members. Low identifiers, by contrast, did not display this tendency.

The effect of identification on categorization of facial stimuli adds to the list of other phenomena that are influenced by the level of identification, such as the perception of group homogeneity and the black sheep effect (for reviews, see Branscombe, Ellemers, Spears, & Doosje, 1999; Yzerbyt et al., 2000). The stronger the identification with an in-group, the more stringent the criteria are to be an in-group member. This is likely to affect the acceptance of new members (cf. Yzerbyt et al., 2000; Yzerbyt, Castano, & Seron, 1998) as well as the rejection of members who have become marginal. In a recent experiment conducted with small groups, we found that higher levels of identification with the in-group not only led to stronger derogation of a negative in-group member but also were conducive to actual ejection of that member from the in-group (Castano et al., in press, Study 2). High identifiers' strong motivation to maintain the in-group as a well-bounded entity may be linked to a stronger rejection of "bad" members and to greater caution in accepting a person into the in-group (cf. Castano, 1999, in press; Yzerbyt et al., 2000).

We also assessed the *latency* for categorization and found two interesting results. First, we found a linear trend among high identifiers, revealing that the more likely targets were to be in-group members, the greater the latency for categorization. By contrast, analyses of the latencies among low identifiers revealed a quadratic trend, indicating that more time was taken to categorize ambiguous than unambiguous targets, independent of their group membership. Second, we found that among high identifiers, the rejection of targets as out-group members was faster than the acceptance of targets as in-group members.

As a whole, these results suggest that the distinction between ambiguous and unambiguous targets is meaningful for low identifiers. For high identifiers, however, it is the distinction between in-group and out-group targets that is critical. Indeed, high identifiers took longer to categorize an unambiguous in-group member than to categorize an unambiguous out-group member. By the same token, they also took longer to accept a target as an in-group member than to reject a target as an out-group member.

Latencies are an important indicator because they reveal something about the importance of the categorization task for participants. Higher latencies for information processing can be considered an indicator of central (vs peripheral) (Petty & Cacioppo, 1986), individuating (vs category) (Brewer, 1988; Fiske & Neuberg, 1990), or systematic (vs heuristic) (Chaiken, 1980) processing of information.

Blascovich and his colleagues (1997) have interpreted longer categorization latencies among prejudiced individuals as evidence that they are "more motivated than non-prejudiced individuals to *accurately* categorize racially ambiguous targets" (p. 1370, emphasis added). Our own

research suggests a need to qualify this conclusion. Because different types of individuals take different amounts of time to categorize different kinds of stimuli, we argue that longer latencies can follow from either an attempt to produce accurate responses *or* a struggle to protect the in-group.

The quadratic trend we observed among low identifiers is in line with the first interpretation because these participants processed ambiguous stimuli more carefully than they processed unambiguous stimuli. To us, this pattern indicates an accuracy motivation. By contrast, the linear trend we observed among high identifiers showed longer latencies as the likelihood of in-group membership increased. We interpret this as a sign of group defense motivation. Thus, although both high and low identifiers were motivated to perform the task well, the nature of their motivation differed.

The interpretation of categorization latency in terms of defense motivation is entirely compatible with recent propositions that longer latencies do not necessarily go hand in hand with greater accuracy. In line with the social judgeability model of Leyens et al. (1994), Chen and Chaiken (1999) recently suggested that a defense motivation and an impression motivation are also likely to induce systematic processing. Individuals may thus engage in such processing with the aim of maintaining a certain attitude or belief instead of testing an attitude or belief to assess its truth. In our research, a group defense motivation seems to have led to an increase in the in-group overexclusion effect. Given the materials we used, one might expect an equal number of targets to be categorized as either in-group or out-group members. However, high identifiers classified more targets as out-group members than one would expect at chance level. Low identifiers, by contrast, did not differ from chance in their categorization of targets as in-group or out-group members.

This result establishes a nice parallel to an emerging body of literature on the effect of accountability on the processing of information. Although accountability is generally supposed to increase the systematic processing of information and promote complexity of thought, this work has shown that it may sometimes amplify, rather than attenuate, biases (for a similar point, see Lerner & Tetlock, 1999; Leyens, Dardenne, Yzerbyt, Scaillet, & Snyder, 1999; Yzerbyt, Dardenne, & Leyens, 1998). This is consistent with the idea that under certain circumstances, "biased" judgments may be more adaptive than unbiased ones. Clearly, what is adaptive depends on the specific perspective adopted.

We suspect that highly identified group members are more reluctant to include a new person in the in-group because they are more concerned about protecting the integrity of that group. From this perspective, because of their higher levels of commitment (cf. Moreland & Levine, 1989), full members are expected to display stronger tendencies toward overexclusion than newcomers. However, the reverse prediction could also

be made, for two different reasons. First, newcomers may be particularly motivated to display behavior that is prototypical of in-group members, to gain more acceptance from the group (cf. Branscombe et al., 1999). In this case, we would expect that they would display stronger overexclusion, especially when their behavior is public. The in-group overexclusion effect would then be a self-presentational method of publicly showing commitment to the in-group. Indeed, Noel, Wann, and Branscombe (1995) found that peripheral members in a highly desirable in-group displayed more out-group derogation when they thought that their behavior was known to other group members. Second, newcomers could also become concerned about strengthening the group's boundaries once they have been included in it, for purposes other than self-presentation. Enthusiastic new members may feel a strong attachment to the in-group and thus be very attentive to its welfare. Consequently, marked overexclusion effects may emerge.

However, the picture for newcomers, or peripheral members, might be more complex than this. In fact, the acceptance of new members might also improve their status in the group. For instance, only when a new staff member arrives, 6 months after our own arrival in the department, do we stop feeling like the "new member." Obviously, whether acceptance or ostracizing tendencies prevail depends on whether contrast or assimilation effects are more likely.

In addition to factors related to membership in a group, factors involving the relations between the in-group and specific out-groups, or specific phases of the group's life, may also strengthen or weaken the in-group overexclusion effect. The mediating variable is the importance attached to defending the in-group, which is likely to vary according to these contextual changes. It is noteworthy, however, that such changes may affect not only the degree of overexclusion but also the very criteria used for categorization. In an intergroup context, for instance, people may focus on those criteria that most clearly distinguish the in-group from the out-group (Turner et al., 1987).

There is little doubt that categorization decisions are pervasive in social life. From the hiring of a job candidate to the acceptance of new members into the European Union, the question of who may enter has profound consequences for both the group and the target. Research providing a better understanding of the laws governing this process is thus very much needed. To this end, an important question that we should ask is to what extent the personal and private categorization decisions that we have studied here occur in real life. Admittedly, the decision to accept someone in a group is often a collective one, resting on several in-group members and depending on in-group rules and traditions.<sup>2</sup> It is in this collective context that the prototype of the group is

<sup>2</sup> When the decision is collective, a polarization effect may occur, making the criteria for acceptance even more stringent (Moscovici & Zavalloni, 1969).

continuously renegotiated and in which the political element of social categorization can be more clearly seen at play (Reicher, in press; Reicher & Hopkins, 1996).

Still, there are numerous occasions in life when a person must decide whether to treat someone as a partner and a friend or as an opponent and a potential enemy. Our research suggests that in those circumstances, high identifiers will tend to exclude people they meet from the in-group and categorize them as out-group members. This, in turn, can affect many other phenomena including attributions, persuasion, attraction, and competitive behavior. So far as group behavior is concerned, the question of who may enter is primary—but it is also just the beginning.

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