

## Reducing Intergroup Conflict: From Superordinate Goals to Decategorization, Recategorization, and Mutual Differentiation

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We examine how cooperation among the groups of summer campers in M. Sherif, O. J. Harvey, B. J. White, W. R. Hood, and C. W. Sherif's (1961) classic Robbers Cave study produced intergroup harmony and the implications of this work for contemporary theoretical issues. Our analysis of the descriptions of the events at Robbers Cave and data from our own laboratories converge to support T. F. Pettigrew's (1998) proposal that, when viewed over time, decategorization, recategorization, and mutual intergroup differentiation processes each can contribute to the reduction of intergroup bias and conflict. Furthermore, these categorization-based approaches not only can reduce bias individually but also can facilitate each other reciprocally.

In 1954, Muzafer Sherif and his colleagues (Sherif, Harvey, White, Hood, & Sherif, 1961, reprinted in 1988) conducted the third in a series of field studies on intergroup conflict adjacent to Robbers Cave State Park in Oklahoma. The park was named after the legendary bandit Jesse James and his companion, Belle Starr, who evaded authorities by hiding out on this property. In this study, 22 boys attending summer camp were randomly assigned to two groups. Over a period of weeks they became aware of the other group's existence, engaged in a series of competitive activities that generated overt intergroup conflict, and ultimately participated in a series of cooperative activities designed to ameliorate conflict and bias. In this article we examine how cooperation among the summer campers in Sherif et al.'s classic study produced intergroup harmony and explore the implications of this work for addressing contemporary theoretical issues and for improving

intergroup relations more generally. We begin by sketching the events that occurred at Robbers Cave that summer.

### Robbers Cave Study

In the Robbers Cave study, Sherif and his colleagues engaged psychologically healthy 12-year-old boys from Oklahoma City, Oklahoma, in what turned out to be a clever (some might say diabolical), carefully orchestrated social psychology experiment about the creation and reduction of intergroup bias and conflict. These boys, who had signed up for 3 weeks of summer camp, were initially assigned to two groups. These two groups (which subsequently named themselves Eagles and Rattlers) arrived at camp on different days without knowledge of each other's existence. To permit time for group formation (e.g., norms and a leadership structure), these groups were kept completely apart for 1 week.

During the 2nd week, the investigators introduced competitive relations between the groups in the form of repeated competitive athletic activities centering around tug-of-war, baseball, and touch football. As expected, the introduction of competitive activities generated derogatory stereotypes and conflict among these groups. These boys, however, did not simply show in-group favoritism as we frequently see

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in laboratory studies. Rather, there was genuine hostility between these groups. Each group conducted raids on the other's cabins that resulted in the destruction and theft of property. The boys carried sticks, baseball bats, and socks filled with rocks as potential weapons. Fistfights broke out between members of the groups, and food and garbage fights erupted in the dining hall. In addition, group members regularly exchanged verbal insults (e.g., "ladies first") and name calling (e.g., "sissies," "stinkers," "pigs," "bums," "cheaters," and "communists").

During the 3rd week, Sherif and his colleagues arranged intergroup contact under neutral, noncompetitive conditions. These interventions did not calm the ferocity of the exchanges, however. Mere intergroup contact was not sufficient to change the nature of the relations between the groups. Only after the investigators altered the functional relationship between the groups by introducing a series of superordinate goals—ones that could not be achieved without the full cooperation of both groups and that were successfully achieved—did the relations between the two groups become more harmonious.

In the remainder of this article, we consider the origins of intergroup bias and conflict. We then explore how interventions can address the psychological processes that underlie intergroup bias to reduce conflict and improve intergroup relations. We turn next to Sherif et al.'s (1961) detailed account of the events at Robbers Cave for clues as to which psychological processes were initiated by intergroup cooperation. Then we describe the results of some experiments from our own laboratories that were designed specifically to address these same issues. We conclude by summarizing the potential interrelationships among different category-based strategies for the reduction of intergroup bias.

### *Origins of Intergroup Bias and Conflict*

Sherif et al. (1961) proposed that the functional relation between groups is the critical factor determining intergroup attitudes. According to this position, which is also known as realistic conflict theory (see Bobo & Hutchings, 1996; Campbell, 1965; LeVine & Campbell, 1972), competition between groups for scarce tangible resources bodes poorly for harmonious intergroup relations. When groups are competi-

tively interdependent, the interplay between the actions of each group results in positive outcomes for one group and negative outcomes for the other. Thus, in the attempt to obtain favorable outcomes for themselves, the actions of the members of each group are also realistically perceived to be calculated to frustrate the goals of the other group. Thus, a win-lose, zero-sum competitive relationship between groups can initiate mutually negative feelings and stereotypes toward the members of the other group.

However, Sherif et al.'s (1961) detailed account of the first few days at Robbers Cave reveals that intergroup bias actually preceded the introduction of functionally competitive relations between the groups. Even before the groups met face to face or engaged one another in competitive activities, intergroup tension and conflict were already brewing. Knowledge of the mere existence of the other group appeared to initiate bias. Sherif et al. observed:

When the in-group began to be clearly delineated, there was a tendency to consider all others as out-group. . . . The Rattlers didn't know another group existed in camp until they heard the Eagles on the ball diamond; but from that time on the out-group figured prominently in their lives. . . . Simpson was convinced that "those guys" were down at our diamond again. . . . When the Eagles were playing on the ball diamond and heard the Rattlers, Wilson referred to those "nigger campers." (pp. 94-95)

Although Sherif et al. (1961) interpreted the events at Robbers Cave primarily within a functional perspective, this observation suggests that the mere delineation of an in-group and an out-group, independent of and before competition, was sufficient to instigate intergroup biases. Consistent with a social categorization perspective (Doise, 1978; Doise & Sinclair, 1973; Tajfel, 1969), the recognition of the existence of two distinct groups was all that was needed to foster intergroup bias.

According to the social categorization perspective, when people or objects are categorized into groups, actual differences between members of the same category tend to be perceptually minimized (Tajfel, 1969) and often ignored in making decisions or forming impressions. Members of the same category seem to be more similar than they actually are and more similar than they were before they were categorized together. In addition, although members of a

social category may be different in some ways from members of other categories, these differences tend to become exaggerated and overgeneralized. Thus, categorization enhances perceptions of similarities within groups and differences between groups, emphasizing social difference and group distinctiveness. This process becomes more ominous because these within- and between-group distortions have a tendency to generalize to additional dimensions (e.g., character traits) beyond those that differentiated the categories originally (Allport, 1954). Further, as the salience of the categorization increases, the magnitude of these distortions also increases (Abrams, 1985; Brewer, 1979; Brewer & Miller, 1996; Dechamps & Doise, 1978; Dion, 1974; Doise, 1978; Skinner & Stephenson, 1981; Turner, 1981, 1985).

Moreover, in the process of categorizing people into two different groups, people typically classify themselves into one of the social categories and out of the other. The insertion of the self into the social categorization process increases the emotional significance of group differences and thus leads to further perceptual distortion and to evaluative biases that reflect favorably on the in-group (Sumner, 1906) and, consequently, on the self (Tajfel & Turner, 1979). Tajfel and Turner (1979), in their social identity theory, further proposed that a person's need for positive self-identity may be satisfied by membership in prestigious social groups. Thus, this need motivates social comparisons that favorably differentiate in-group from out-group members.

The social identity perspective also proposes that a person defines or categorizes the self along a continuum that ranges at one extreme from the self as the embodiment of a social collective or group to the self as a separate individual with personal motives, goals, and achievements (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). At the individual level, one's personal welfare and goals are most salient and important. At the group level, the goals and achievements of the in-group are merged with one's own (see Brown & Turner, 1981), and the group's welfare is paramount. At each extreme, self-interest fully is represented by the pronouns *I* and *we*, respectively. Intergroup relations, therefore, can only first begin when people think about themselves as group members rather than as distinct individuals. Unfortunately, as Sherif

et al.'s (1961) initial observations reveal, intergroup relations begin to sour soon after people categorize others in terms of in-group and out-group members: "Discovery of another group of campers brought heightened awareness of 'us' and 'ours' as contrasted with 'outsiders' and 'intruders,' [and] an intense desire to compete with the other group in team games" (Sherif et al., 1961, p. 95). Thus, social categorization lays the foundation for intergroup bias and conflict that can lead to, and be further exacerbated by, competition between these groups.

Additional research demonstrated just how powerfully mere social categorization can influence differential thinking, feeling, and behaving toward in-group and out-group members. For example, on social categorization, people favor in-group members in reward allocations (Tajfel, Billig, Bundy, & Flament, 1971), in esteem (Rabbie, 1982), and in the evaluation of the products of their labor (Ferguson & Kelley, 1964). Also, shared in-group membership decreases psychological distance and facilitates the arousal of empathy (Hornstein, 1976). Relatedly, prosocial behavior is offered more readily to in-group than to out-group members (Piliavin, Dovidio, Gaertner, & Clark, 1981). In addition, people are more likely to be cooperative and exercise more personal restraint when using endangered common resources when these are shared with in-group members than with others (Kramer & Brewer, 1984). In terms of information processing, people retain more information in a more detailed fashion for in-group members than for out-group members (Park & Rothbart, 1982), have better memory for information about ways in-group members are similar and out-group members are dissimilar to the self (Wilder, 1981), and remember less positive information about out-group members (Howard & Rothbart, 1980).

People are also more generous and forgiving in their explanations for the behaviors of in-group relative to out-group members. Positive behaviors and successful outcomes are more likely to be attributed to internal, stable characteristics (the personality) of in-group than out-group members, whereas negative outcomes are more likely to be ascribed to the personalities of out-group members than of in-group members (Hewstone, 1990; Pettigrew, 1979; Taylor & Jaggi, 1974). Relatedly, observed

behaviors of in-group and out-group members are encoded in memory at different levels of abstraction (Maass, Salvi, Arcuri, & Semin, 1989). Undesirable actions of outgroup members are encoded at more abstract levels that presume intentionality and dispositional origin (e.g., she is hostile) than identical behaviors of in-group members (e.g., she slapped the girl). Desirable actions of out-group members, however, are encoded at more concrete levels (e.g., she walked across the street holding the old man's hand) relative to the same behaviors of in-group members (e.g., she is helpful).

Language plays another role in intergroup bias through associations with collective pronouns. Collective pronouns such as "we" or "they" that are used to define people's in-group or out-group status are frequently paired with stimuli having strong affective connotations. As a consequence, these pronouns may acquire powerful evaluative properties of their own. These words (*we*, *they*) can potentially increase the availability of positive or negative associations and thereby influence beliefs about, evaluations of, and behaviors toward other people, often automatically and unconsciously (Perdue, Dovidio, Gurtman, & Tyler, 1990). In the next section, we explore how an understanding of the role of social categorization in intergroup bias can contribute to strategies for reducing bias and producing more harmonious intergroup relations.

### *Implications of Social Categorization for Reducing Bias*

Three quite different categorization-based solutions for reducing bias have received substantial empirical attention. These approaches involve decategorization, recategorization, and mutual differentiation. They share a common assumption: Whereas it may not be feasible to short-circuit the social categorization process altogether, it may be possible to affect the levels of category inclusiveness people use when categorizing other people, including themselves. Relatedly, interventions can potentially alter whether people identify themselves as distinct individuals or as group members on the continuum proposed by Tajfel and Turner (1979; see also Brewer, 1988; Brewer & Miller, 1984; Fiske & Neuberg, 1990; Wilder, 1978). From these perspectives, it is possible to engineer a

decategorization or recategorization of perceived group boundaries in ways that reduce the salience of the original group boundaries and consequently ameliorate the original intergroup bias and conflict (see Wilder, 1986).

*Decategorization.* The decategorization perspective proposes that if the memberships of two groups conceive of themselves as separate individuals (Wilder, 1981) or have personalized, self-revealing interactions to enable them to get to know one another and even become friends (Pettigrew, 1997, 1998), the validity of out-group stereotypes would be undermined and intergroup bias reduced (Brewer & Miller, 1984; Miller, Brewer, & Edwards, 1985). Although perceiving people in terms of a social category is easiest and the most common way of forming impressions, appropriate goals, motivation, and effort can produce more individuated impressions of others (Brewer, 1988; Fiske & Neuberg, 1990). During personalization, members focus on information about an out-group member that is relevant to the self as an individual rather than self as a group member. Repeated personalized interactions with a variety of out-group members should over time decrease the value of the category stereotype as a source of information about members of that group. Thus, the effects of personalization are hypothesized to generalize to new situations as well as to heretofore unfamiliar out-group members. When personalized interactions occur, members "attend to information that replaces category identity as the most useful basis for classifying each other" (Brewer & Miller, 1984, p. 288). Allport's (1954) revised contact hypothesis proposed that, for contact between groups to be successful, certain prerequisite features must be present, including equal status between the groups, cooperative intergroup interaction, opportunities for self-revealing personal acquaintance between the members, and supportive norms by authorities within and outside of the contact situation. From Brewer and Miller's (1984) point of view, these features reduce bias because they contribute to the process of decategorization. Specifically, cooperative interdependence between in-group and out-group members is proposed to promote more individuated perceptions of one another and greater attention to expectancy-inconsistent information (Erber & Fiske, 1984; Neuberg & Fiske, 1987).

A number of experimental studies support this theoretical perspective (Bettencourt, Brewer, Croak, & Miller, 1992; Marcus-Newhall, Miller, Holtz, & Brewer, 1993; Miller et al., 1985). In Bettencourt et al. (1992), for example, contact that permitted more personalized interactions (e.g., when cooperative interaction was person focused rather than task focused) produced more positive attitudes not only toward those out-group members physically present in the contact situation but also toward other out-group members (viewed on video). Thus, these conditions of intergroup contact reduced bias in both an immediate and generalizable fashion. Structurally, the decategorization perspective proposes that to reduce intergroup bias intergroup interactions should be structured to weaken the salience of category distinctions and to promote opportunities for interpersonal interactions that facilitate the development of perceptions of out-group members as individual (i.e., to change how people regard one another from “us and them” to “you and me”).

*Recategorization.* Another category-based model of intergroup contact and prejudice reduction is also based on the premise that reducing the salience of in-group-out-group category distinctions is key to positive effects. In contrast to the decategorization approach, recategorization is designed not to reduce or eliminate categorization but rather to structure a definition of group categorization at a higher level of category inclusiveness in ways that reduce intergroup bias and conflict (see Allport, 1954; Brown & Turner, 1981; Doise, 1978; Feshbach & Singer, 1957; Hornstein, 1976; Worchel, Axsom, Ferris, Samaha, & Schweitzer, 1978). One recategorization approach involves creating or increasing the salience of cross-cutting group memberships. Making interactants aware that members of another group are also members of one's own group on a different dimension can improve intergroup attitudes (Urban & Miller, 1998).

Another recategorization strategy, represented by our own work on the common in-group identity model, involves interventions to change people's conceptions of the memberships from different groups to one, more inclusive group or to subgroups within a more inclusive superordinate group (Gaertner, Dovidio, Anastasio, Bachman, & Rust, 1993; Gaertner, Dovidio, Nier, Ward, & Banker,

1999). Allport's (1954, p. 43) “circles of inclusion” diagram nicely depicts the idea that a person's potential in-groups can vary hierarchically in inclusiveness (e.g., from one's family to one's neighborhood, to one's city, to one's nation, to all of humankind). Common in-group identity may be achieved by increasing the salience of existing common superordinate memberships or by introducing factors (e.g., common goals; feature of the contact hypothesis; Allport, 1954) that are perceived to be shared by the memberships. When recategorization interventions create or strengthen a common in-group identity, the cognitive and motivational processes that initially produced in-group favoritism are redirected to the former out-group members who now share the superordinate group identity.

Whereas Sherif et al.'s (1961) framework emphasized the primary role of functional relations between groups, the common in-group identity model focuses on the mediating role of group representations (e.g., as different groups, one group, or subgroups within one group). From this perspective, for example, cooperative interaction enhances positive evaluations of out-group members at least in part because cooperation transforms members' representations of the memberships from separate groups to one group. Thus, in terms of the common in-group identity model, cooperation among Sherif et al.'s (1961) groups of summer campers reduced bias and conflict because intergroup cooperation transformed the boys' perceptions of themselves from two groups to a more inclusive superordinate identity. Indeed, Sherif and Sherif (1969, p. 288; see also Sherif, 1966, p. 158) acknowledged the potential of intergroup cooperation toward facilitating the development of a common superordinate entity. This possibility, however, was conceived to represent the very gradual development of a highly structured superordinate group rather than the immediate creation of a social entity that may only exist more ephemerally within the perceptions of its members.

The development of a common in-group identity does not necessarily require each group to forsake its less inclusive group identity completely. As reflected by a “subgroups within one group” (i.e., a dual identity) representation, we believe that it is possible for members to conceive of two groups (e.g., parents and

children) as distinct units within the context of a superordinate (i.e., family) identity. Indeed, demands to forsake these group identities or to adopt a "color-blind" ideology would likely arouse strong reactance and result in especially poor intergroup relations (see Schofield, 1986). Abandoning original group identities would also preclude generalization to out-group members beyond the contact situation because the associative link to involving subgroup identity would have been severed. If, however, people continued to regard themselves as members of different groups but all playing on the same team or as part of the same superordinate entity, intergroup relations between these "subgroups" would be more positive than if members only considered themselves as "separate groups" (see Brewer & Schneider, 1990). There would also be increased potential for generalization to occur. This dual-identity representation is quite compatible with the mutual intergroup differentiation model proposed by Hewstone and Brown (1986), who suggested the usefulness of maintaining group distinctiveness during intergroup cooperation. Within the context of the common in-group identity model, however, the subgroups remain distinctive at one level but also share superordinate group identification and sense of connection at another, more inclusive level.

Support for the common in-group identity model is offered by a series of laboratory experiments and surveys involving students attending a multiethnic high school (Gaertner, Rust, Dovidio, Bachman, & Anastasio, 1994), corporation executives who have been involved in a merger (Bachman, 1993), and stepfamily members who are trying to fuse together into one family (Banker & Gaertner, 1998). Across these studies, the results converge to suggest that factors specified by the contact hypothesis, such as intergroup cooperation (Gaertner, Mann, Dovidio, Murrell, & Pomare, 1990), reduce bias in part because they change members' representations of the memberships from "us and them" to a more inclusive "we." In addition, studies by Brown and Gonzales, (1999), Hornsey and Hogg (in press), Huo, Smith, Tyler, and Lind, (1996), Smith and Tyler (1996), and Rust (1996) revealed the value of the dual-identity representation for the benefits of contact to generalize beyond out-group members in the immediate contact situation.

*Mutual differentiation.* Rather than reducing the salience of the social categories as proposed by the decategorization and recategorization approaches, the mutual intergroup differentiation model (Hewstone & Brown, 1986) encourages groups to emphasize their mutual distinctiveness but in the context of cooperative interdependence. Also, by dividing the labor in a complementary way to capitalize maximally on each group's relative superiorities and inferiorities, the members of each group can recognize and appreciate the indispensable contribution of the other. In the attempt to obtain favorable outcomes for both memberships, the actions of each group would now be realistically perceived to be calculated to satisfy their mutual goals. Thus, win-win cooperative relationships can initiate mutually favorable feelings and stereotypes toward the members of the other group while emphasizing each groups' positive distinctiveness.

Evidence in support of this approach comes from the results of an experiment by Brown and Wade (1987; see also Deschamps & Brown, 1983), in which teams composed of students worked to produce a two-page magazine article. When the members of the two groups worked apart but were assigned separate roles on the joint task (one group working on figures and layout, the other working on text), the contact experience had more positive effect on intergroup attitudes than when the groups worked apart but were assigned similar roles (both did the layout and the text for a single page) or when the groups worked together face to face during which no distinctive role was assigned to either group.

Similarly, the Deschamps and Brown (1983) study indicated that more favorable attitudes toward out-group members' contributions were achieved when groups worked separately but maintained different, noncomparable roles while working cooperatively on a joint product than when these roles were identical. Importantly, in the Deschamps and Brown (1983) study when the roles were noncomparable, the groups were assigned parts of the project that capitalized on their unique strengths. Science students were assigned the mathematical portion of the task, and arts students were assigned the verbal portion of the task. Thus, these roles were not only noncomparable but were assigned in a complementary and functionally advantageous

way. Both groups could capitalize on the special talents of the other. This very nicely exemplifies the circumstances proposed by Hewstone and Brown (1986) of how group differentiation can foster the development of mutual respect for members of each group. Cooperation can lead to more positive intergroup attitudes when the division of labor maximizes the likelihood of achieving the groups' mutual goals.

Hewstone and Brown (1986) further proposed that interactions that maintain the salience of the separate group identities are more likely to generalize to out-group members beyond the immediate contact situation than when the distinctiveness of these group identities are degraded. Thus, generalization should be more likely with mutual differentiation than with decategorization or complete recategorization (i.e., when the dual-identity representation is not primary). That is, when the associative links to initial category identities are weakened, information that is gleaned from these interactions will not likely be stored at the level of these category labels and thus preclude generalization (see Rothbart & John, 1985). Supportive of these assertions, positive out-group attitudes are more likely to generalize when interactions involve highly typical rather than atypical out-group members (Brown, Vivian, & Hewstone, 1999; Johnston & Hewstone, 1992; Vivian, Hewstone, & Brown, 1997; Wilder, 1984). In general, then, there is also evidence that cooperative interactions that maintain the salience of an "us and them" representation can reduce intergroup biases. In the next section, we examine the roles of these different, possibly competing but also potentially complementary categorization approaches to improving intergroup relations.

### *Conceptual Puzzle*

The decategorization, recategorization, and mutual intergroup differentiation strategies for reducing intergroup bias have received empirical support. However, a puzzle remains as to how we should conceptualize these alternatives that seem so very different, even opposite to one another. Are they incompatible competitors? Are they independent processes that reduce bias through different pathways? Alternatively, are they different but complementary processes that reciprocally facilitate each other?

To address these issues, we turn our discussion to the Robbers Cave experiment (Sherif et al., 1961). Specifically, we attempt to understand how cooperation among Sherif et al.'s groups of summer campers reduced intergroup bias. Was it through decategorization, recategorization, or mutual differentiation or through all three processes? We focus on Sherif et al.'s work not just to present a historical perspective but for enlightenment regarding contemporary theoretical issues involving the possible interplay among these three category-based models.

*Robbers Cave revisited.* Although Sherif et al. (1961) did not provide many *p* values for the effects they reported, they did provide a legacy of richly detailed observations of these boys' reactions to the planned interventions. It is on these observations we soon focus but only after providing a preview of our conclusion.

After rereading the details of the events at Robbers Cave, the conclusion we reached about the relative merits of the three category-based processes for reducing intergroup bias corresponded with findings from our own laboratories as well as a recent *Annual Review of Psychology* article by Pettigrew (1998). The work in our laboratories, Pettigrew's review, and Sherif et al.'s (1961) richly detailed descriptions converge to suggest that, when viewed over time, these strategies for reducing intergroup bias are not competitors. Rather they can each contribute to the reduction of intergroup bias and also they can reciprocally facilitate each other. Thus, recategorization can lead to more interpersonally friendly, self-revealing interactions. This is illustrated most clearly in Sherif et al.'s account. Personalized, self-revealing interactions, however, can also lead to recategorization. Similarly, mutual intergroup differentiation, under specifiable circumstances, can also lead to recategorization. Thus, these processes are not necessarily independent.

As we detail the events at Robbers Cave, note some of the following characteristics that mark the occurrence of each of these category-based processes:

1. Decategorization can include (a) friendly interactions in which people relate to one another in terms of their personal interests and abilities rather than interests that are important to their respective groups; (b) self-other comparisons that replace group-on-group comparisons; (c) self-revealing interactions; and (d) lack of

uniformity among in-group members in their views about how outgroup members should be treated.

2. Recategorization can involve (a) use of pronouns "us," "we," and "our," whose meaning is inclusive of the memberships of both groups; (b) arrangement of the memberships in space, such as an arrangement that reduces the salience of separate group boundaries (e.g., an alternating [ABABAB] or random [ABBABA] seating pattern), which could be characteristic of decategorization as well; and (c) activities that celebrate common superordinate groups to which the members actually belong (e.g., singing songs symbolic of superordinate group memberships).

3. Mutual intergroup differentiation can include (a) maintenance of original boundaries in the use of space; (b) more respectful appreciation of differences between the groups; and (c) solutions to collective problems that respectfully recognize the group boundaries.

*Superordinate goals at Robbers Cave.* Sherif and his colleagues introduced a series of superordinate goals intended to elicit intergroup cooperative activity among the conflicting groups. Quite literally, with control over environmental features of the camp, the researchers successively placed these groups in common predicaments requiring their mutual cooperation. For our purposes, the focus of this return to Robbers Cave involves the detailed observations of the patterns of behavior during and after these cooperative intergroup activities.

In the first superordinate goal of the series, the investigators sabotaged the camp's water supply by clogging the faucet valve on the water tank located some distance above the camp's facilities. To mobilize the boys' cooperation, the staff announced to the assembled campers that there may be a leak in the pipe somewhere between the reservoir and the camp and that about 25 people (i.e., just about everyone present, including the staff) would be needed to locate the source of the problem. On hearing this information that was specifically intended to enlist their assistance, both groups of boys volunteered to help. Four homogeneous search parties, each composed exclusively of Eagles or of Rattlers, set off to locate the problem. Thus, even during this cooperative activity initiated by the camp's staff, the boys were split in separate groups divided along their group lines. Eventually, all

of the boys wound up at the water tank and identified the problem and, with Eagles and Rattlers working together now, remedied the situation. Sherif et al. reported:

When the water finally came through, there was common rejoicing. The Rattlers did not object to having the Eagles get ahead of them when they all got a drink, since the Eagles did not have canteens with them and were thirstier. No protests or "ladies first" type of remarks were made. . . . When the first enthusiasm for the work . . . died down, individuals drifting away from the faucet increased. Among these boys there was a noticeable increase of mingling across group lines in such activities as catching lizards and making wooden whistles. . . . This was the first striking instance in which we observed friendly interaction among the members of the two groups on a general scale. (Sherif et al., 1961, pp. 163-164)

It is clear that friendly interpersonal relations among these boys occurred immediately on their achieving their common goal, but not before or even during the last stages of the cooperative episode when members of both groups were working together at the sabotaged water tank. That friendlier interpersonal relations between the groups emerged only after but not during this activity, which the investigators described as highly task focused, is consistent with more recent findings suggesting that a strong task focus is not optimally conducive to personalizing processes even during intergroup cooperation (Bettencourt et al., 1992; Brewer & Miller, 1984). The friendlier, decategorized interpersonal relations across group lines that occurred after achieving the superordinate goal were transitory, however. The negative intergroup attitudes were again full-blown at supper that very evening. The investigators wrote, "During the meal, members of both groups started throwing left-overs, bottle caps, and paper that started in a rather good-natured way, but, in time, took on serious proportions" (Sherif et al., 1961, p. 164).

The second superordinate goal introduced by the staff involved the boys securing the highly desirable movie *Treasure Island*. The staff explained that renting this appealing film would cost \$15.00 and that the camp could not afford to pay the whole amount. Because 2 boys became homesick and left camp early, there were 11 Rattlers and only 9 Eagles at this time. Although more grossly unfair solutions were initially considered, the boys decided that each group would pay \$3.50 and the camp would pay \$8.00.



What is interesting about this solution is that since there were 11 Rattlers, each would pay 31 cents and each of the 9 Eagles would contribute 39 cents. Sherif et al. (1961) remarked, "It is worth noting that in individual terms this . . . was not equitable. But it was an equitable solution between the two groups" (p. 166). This solution was considered fair by both groups, which is suggestive of mutual intergroup differentiation processes because the groups were cooperative, and they were beginning to treat each other fairly and respectfully at the group level. The fact that it was inequitable at the individual level was not important. Also, the boys sat along group lines while viewing the movie, further suggesting that at this time neither decategorization or recategorization processes were operating. However, relative to the week before, these groups treated each other fairly, and this carried over to the next morning: "While waiting in line for breakfast . . . the two groups discussed and reached an agreement that the Rattlers would go into breakfast first, and at lunch the Eagles would be first. . . . Thus the notion of 'taking turns' was introduced . . . on the intergroup level to regulate matters of mutual concern" (Sherif et al., 1961, p. 168), further revealing that the memberships perceived themselves as mutually differentiated entities, each respecting the rights of the other.

The next day the groups departed in separate trucks for an overnight camping trip to Cedar Lake. Shortly after their arrival, it was time for lunch, which set the stage for the introduction of the third superordinate goal. The driver of one of the trucks indicated that he would drive down the road to get the food. However, as planned, the truck would not start and the boys were very hungry. Some Rattlers suggested pushing the truck, but the truck was facing uphill. Someone suggested, "Let's get 'our' tug-of-war rope and have a tug-of-war against the truck. . . . Someone said, '20 of us can pull it for sure'" (Sherif et al., 1961, p. 171). The use of the collective pronouns "our" and "us" at this point reveals that recategorization actually preceded actual intergroup cooperative activity in this instance. This is interesting because it suggests that the earlier episodes of intergroup cooperation among the boys may have resulted temporarily in recategorization processes that could re-emerge when they once again faced a common predicament. Thus, although there was no direct

evidence of recategorization occurring during or after the earlier two instances of intergroup cooperative activity, the collective pronouns used by the boys before this third instance suggests the potentially lingering effects of their earlier cooperative experiences. After this third episode of intergroup cooperation, recategorization again seemed to initiate decategorization revealed by the friendlier, interpersonal interactions across group lines.

Mills (R) ran over to get the rope [which was planted by the staff in full sight near the truck] and started to tie it to the front bumper of the truck. An Eagle said it would be too long, and suggested pulling it half-way through the bumper, thus making 2 pulling ropes. Harrison (R) suggested that the Eagles pull one rope and the Rattlers the other. Barton (R) said, "It doesn't make any difference. . . . The line-up pulling on the two ends of the rope was Eagles on one side and Rattlers on the other. . . . The first pull did not "start" the truck. . . . On the second pull, the members of both groups were thoroughly intermixed on both ropes. . . . Finally the truck started. . . . Allen (R) shouted: "We won the tug-of-war against the truck!" Bryan (E) repeated, "Yeah! We won the tug-of-war against the truck." This cry was echoed with satisfaction by others from both groups.

Immediately following this success, there was much intermingling of groups, friendly talk, and backslapping. Four boys went to the pump and pumped water for each other. . . . Thus the successful, interdependent efforts of both groups in pulling the truck, which was to get their food, had an immediate effect similar to that of superordinate goals introduced on previous days at the camp—intermingling of members of the two groups and friendly interaction between them. (Sherif et al., 1961, p. 171)

In this instance, it is clear from the use of the pronoun "we" that intergroup cooperation led immediately to recategorization, which preceded intermingling, helping across group lines, and friendly interpersonal interactions. When it came time to begin preparing food for lunch, however, there was obvious tension regarding whether the groups wanted to remain completely apart or together, albeit mutually differentiated. Among the Eagles, for example, some boys were in favor of alternating meal preparation such that one group would prepare lunch and the other would handle dinner. Others objected to the alternating arrangement and wanted to cook just for themselves. This dissension among the Eagles regarding their relationship with out-group members suggests the weakening of their in-group boundary (see [Brown & Turner, 1981](#)). As it turned out, as

discussions continued, food preparation suddenly began in which boys from each group prepared lunch together as a single group:

McGraw, the customary meat-cutter in the Eagle group, began cutting the meat. He received much advice from everyone, and Mills (R) stood at his elbow for a time and helped him. In the meantime, Simpson (R) and Craig (E) poured Kool Aid into a bucket . . . and Meyers (E) poured in what he thought was sugar. Unfortunately, it turned out to be salt; but Myers was not berated by either Eagles or Rattlers for his mistake. . . . Harrison (R) pointed out that it wasn't really Meyers' fault since the salt was in a sugar sack. (Sherif et al., 1961, p. 172)

This display of compassion, interpersonal sensitivity, and protectiveness by Harrison toward Meyers, a former enemy, surely signals the magnitude of the shift in the relationship between the members of these two groups. That evening, just before supper, the truck "stalled" again, but this time, with hardly any discussion, the boys acted as a single, recategorized unit as they pulled the rope through the bumper and lined up on the two ropes thoroughly mixed together. Thus, throughout the series of superordinate goals, there was marked transformation in just how mutual cooperation between the groups was initiated and whether it was executed by the groups working separately or together as a single unit. Initially, when the camp's water supply was threatened, intergroup cooperation had to be gently coaxed by the investigators, and it was executed with the boys divided along group lines. In contrast, in this last instance in which the truck was stalled a second time, the groups spontaneously joined together as single unit. Meal preparation as one group followed this last cooperative effort accompanied by much intermingling and helping without regard to former group membership.

The next day, however, on planning a trip to the nearby Arkansas border, joining together as one group again did not come easily because there was obvious tension between whether the boys should recategorize and travel together in one truck or travel separately. As it worked out, all the boys went in one truck:

Clark (E) began to whistle the Star Spangled Banner and was joined by several boys . . . without any discussion, the members of both groups now continued singing for about half-an-hour, alternating a song which had become associated with the Eagles with one which the Rattlers had adopted. . . . The truck stopped . . . to allow the boys to have cool drinks . . . and the seating arrangement at the tables, which seated four or five

boys each, reflected little of the group demarcations. (Sherif et al., 1961, p. 177)

This type of seating, which was unrelated to prior group membership, also occurred during the evening meal the last day at camp when the staff rearranged the dining hall so that seating arrangement would not simply reflect habitual patterns, unless that was desired by the boys. The final evening's campfire program "was a striking demonstration of the cumulative effectiveness of . . . interdependent activities toward common superordinate goals. The notion of 'taking turns,' which had started as a way of regulating activities in which a conflict of interests was involved (going in to meals), had been extended to joint singing of the two groups . . . in entertaining one another, as groups and as individuals" (Sherif et al., 1961, 177).

During breakfast and lunch on the last day of camp, the seating was without regard to earlier group membership as it was on the bus ride home to Oklahoma City. The boys crowded close together toward the front of the bus as a single group singing "Oklahoma."

*Theoretical reflections on Robbers Cave.* Our analysis reveals that at Robbers Cave the introduction of superordinate goals instigated a sequence of category-based social processes that alternated between decategorization, recategorization, mutual intergroup differentiation, and categorization as two conflicting groups. Indeed, Sherif et al. (1961) emphasized that intergroup harmony was achieved gradually, only after the groups cooperated on a series of superordinate goals. In addition, our analysis indicates that there were important category-based changes in the relations between these groups that occurred during and after each superordinate goal. The change in the relations between these groups was reflected in the manner (from external encouragement to spontaneous coordinated action) in which each successive goal mobilized their joint cooperation. Throughout the period after the introduction of superordinate goals, the change from hostile to friendly relations between these groups reveals the emergence of decategorization, recategorization, and mutual differentiation processes, although not necessarily in that order. Clearly, nothing substantively materialized in terms of reducing hostility between these groups until, together, they achieved their first superordinate

goal involving the camp's water supply. At that moment, the conditions of contact (Allport, 1954) were favorable. The groups were cooperatively interdependent, they enjoyed equal status, the camp authorities supported harmonious relations between these groups, and there was opportunity for personal interaction.

Pettigrew (1998) proposed that the conditions of intergroup contact reduce prejudice over time by initiating a sequence of strategies for reducing bias. He suggested that the sequence unfolds beginning with decategorization, followed in turn by mutual differentiation and recategorization. According to this reformulated contact theory, this combination, over time, can maximally reduce prejudice toward out-group members and also generalize across situations, to different out-group members, and even to different out-groups (see Pettigrew, 1997).

The order in which these category-based processes unfold, however, probably depends on specific features of the contact situation, such as whether contact emphasizes group-on-group interaction (as at Robbers Cave) or interaction among individuals from different groups (as among neighbors). Nevertheless, the cogency of Pettigrew's (1998) general perspective receives converging support from Sherif et al.'s (1961) detailed descriptions of the events at Robbers Cave and from studies in our laboratories that were designed to examine how these conditions of contact (e.g., cooperation and equal status) reduce intergroup bias and to explore the possible interplay among decategorization, recategorization, and mutual differentiation processes. Some experiments in our laboratories further explored the processes by which intergroup cooperation reduces bias and conflict and illustrates potential interrelationships among recategorization, decategorization, and mutual intergroup differentiation.

### *From Superordinate Goals to Recategorization*

In terms of the common in-group identity model, cooperation among Sherif et al.'s (1961) groups of summer campers reduced bias and conflict because intergroup cooperation transformed the boys' perceptions of themselves from "us" and "them" to a more inclusive "we." To test this hypothesis directly, Gaertner et al. (1990) conducted a laboratory experiment

that brought two 3-person laboratory groups together under conditions designed to vary independently the members' representations of the aggregate as one group or two groups (by varying factors such as seating arrangement) and the presence or absence of intergroup cooperative interaction. In the absence of cooperative interaction, participants induced to feel like one group relative to those whose separate group identities were reinforced reported that the aggregate did feel more like one group. They also had lower degrees of intergroup bias in their evaluations (likable, cooperative, honest, trustworthy) of in-group and out-group members. We regard this as an important preliminary finding because it helps to establish the causal relation between the induction of a one-group representation and reduced bias, even in the absence of intergroup cooperation.

Supportive of the hypothesis concerning how cooperation reduces bias, among participants induced to feel like two groups the introduction of cooperative interaction increased their perceptions of one group and also reduced their bias in evaluative ratings relative to those who did not cooperate during the contact period. Also supportive of the common in-group identity model, reduced bias associated with introducing cooperation was due to enhanced favorable evaluations of out-group members. In further support for the common in-group identity model, this effect of cooperation was mediated by the extent to which members of both groups perceived themselves as one group. Thus, not only did cooperation reduce bias, but it did so through the process specified by this model: by changing members' representations from two groups to one group.

Although recategorization may have followed cooperation and led to interpersonally friendly relations among the summer campers at Robbers Cave, Sherif et al.'s (1961) detailed account indicates that recategorization and decategorization were momentary and did not primarily characterize the relations between these groups, at least not until the bus ride home when group identities were about to dissolve anyway. Additional studies in our laboratories, however, began to ask whether the benefits of recategorization can be extended by instigating friendlier interpersonal processes, as observed at Robbers

Cave, that may reduce intergroup biases through an additional pathway.

*Reciprocal relations among recategorization, decategorization, and mutual differentiation.* As Sherif et al.'s (1961) description reveals, the sequence of stages relating to the development of more positive relations at Robbers Cave evolved from recategorization to friendlier interpersonal relations. We observed a similar sequence in our own work. Intergroup bias in attitudes and behaviors can often be independent, with different causes and consequences (Struch & Schwartz, 1989), and, in general, intergroup prejudice is only a modest predictor of discrimination (Dovidio, Brigham, Johnson, & Gaertner, 1996). Nevertheless, a common in-group identity is hypothesized specifically to facilitate more positive attitudes and actions. Thus, in a laboratory experiment (Dovidio et al., 1997), we attempted to replicate the sequence from recategorization to more positive interpersonal behaviors that Sherif et al. observed at Robbers Cave. In this study, the members of two groups were first induced to conceive of themselves as two groups or one group (i.e., recategorization) and then given the opportunity to self-disclose or to offer assistance to an in-group or out-group member.

As expected, the degree of self-disclosure and prosocial behavior toward out-group members, relative to in-group members, was greater among participants in the one-group relative to the two-group condition. In addition, supportive of our model, these effects were mediated by changes in participants' representations of the memberships from two groups to one group. Self-disclosure and prosocial behaviors are particularly interesting because they elicit reciprocity, which can further accelerate the intensity of positive interpersonal interactions across group lines even when the initial recategorization process lasts only temporarily.

The sequence from recategorization to personalization and decategorization is not necessarily the only one that can occur, however. In some cases, personalization may precede and lead to recategorization. This possibility is illustrated in a laboratory study in which personalized, self-disclosing interactions among the members of two groups meeting group on group transformed their perceptions of the aggregate from two groups to one group and consequently reduced intergroup bias (Gaertner, Rust & Dovidio,

1997). In this study, members of two groups interacted under conditions that induced them to feel like one group or two groups (see Gaertner, Mann, Murrell, & Dovidio, 1989). In a third, personalization condition, they discussed their own personal traits that would be relevant to their laboratory task. The results revealed that participants in the personalization condition rated their perceptions of the memberships as feeling as much like one group as did participants in the one-group condition. Also, their degree of bias was as low as those in the one-group condition; both of these groups had lower levels of bias than did participants in the two-group condition. Thus, self-disclosing interactions can precede recategorization of the memberships as one group.

Within an alternating sequence of categorization processes, mutual differentiation may emerge very frequently to neutralize threats to original group identities posed by the recategorization and decategorization processes. Consistent with the view that different categorization processes can emerge sequentially in the relationship between groups, it is also possible that mutual intergroup differentiation can precede and facilitate recategorization. For instance, in a laboratory experiment (Dovidio, Gaertner, & Validzic, 1998), members of two groups were first instructed to perform a task from the same perspective or from different perspectives. The two groups then interacted under conditions of equal or unequal status, based on feedback about the level of group performance on the first task. Consistent with the mutual intergroup differentiation model (Hewstone & Brown, 1986), intergroup bias was lowest when groups had equal status but brought different perspectives and experience to the common problem-solving task. When groups had equal status and the same experience and orientation, bias tended to be exacerbated.

This study further illustrates how mutual intergroup differentiation and recategorization can operate in a complementary fashion. Consistent with the common in-group identity model, the process by which mutual differentiation produced reductions in bias was mediated by one-group representations. That is, groups that had equal status but different perspectives on their common problem felt most like one group, and the more they felt like one group, the lower was the level of intergroup bias. Thus, mutual

differentiation reduces threats to groups' positive identities, which then facilitates recategorization and the development of more inclusive representations and more positive intergroup attitudes (see also Mottola, 1996).

Taken together, our studies suggest that recategorization can initiate decategorization processes, decategorization can lead to recategorization, and mutual differentiation can also facilitate recategorization. However, how should the sequence begin to produce intergroup harmony most effectively?

*How should the sequence begin?* Interventions, such as activities that are planned and the spatial configuration of the groups in the setting, may provide the opportunity to influence which process begins the sequence or the pattern with which the processes alternate. However, which categorization-based process to emphasize initially may depend on structural features of the contact situation, the nature of intergroup relations, and intragroup processes. Structural aspects of the contact situation may relate to, for example, whether contact is group on group or among individuals. The nature of intergroup relations can involve whether groups are in overt conflict or bias is less direct. When the level of conflict between groups is very high, it may be best to begin with decategorization, which promotes more friendly relations between individuals, one on one, to inhibit the recurrence of perceptions of the memberships as two competing groups. As the details of Sherif et al.'s (1961) Robbers Cave study reveal, the introduction of superordinate goals, which initiates recategorization processes, can also be an effective strategy when conflict between groups is high, but this may not always be realistic. In contrast, some contemporary forms of White racism, such as aversive racism (Dovidio & Gaertner, 1998; Gaertner & Dovidio, 1986), may involve primarily a lack of a sense of connection to out-group members rather than conscious hostility (Gaertner et al., 1997). For these types of biases, recategorization may be a particularly effective strategy because it extends the cognitive and motivational processes involved in in-group favoritism to people who would otherwise be considered only out-group members.

With respect to intragroup considerations, the degree to which people identify with their group may be a particularly important factor. When

group identities are very strong, contact situations that initially facilitate mutual intergroup differentiation, which emphasizes similarities and differences between groups, would reduce threats to members' social identities and thereby facilitate more favorable intergroup attitudes. This can become very complex, however; groups in contact can have different levels and types of identities. For example, intergroup contact frequently involves members of minority groups, who have a strong sense of ethnic identity and who may consequently prefer intergroup contact that emphasizes mutual differentiation, and members of a majority group, who prefer a more assimilationist, recategorization model for contact (see Dovidio, Gaertner, & Kafati, in press). Thus, choosing one strategy for both groups could be problematic. In this type of situation, integrative strategies, such as the dual-identity form of recategorization that emphasizes both the salience of the superordinate group identity and ethnic subgroup identities simultaneously, may be most effective.

## Conclusion

In general, Sherif et al.'s (1961) descriptions of the events at Robbers Cave and data from our own laboratories converge to support Pettigrew's (1998) idea that decategorization, recategorization, and mutual differentiation processes each contribute to the reduction of intergroup bias and conflict. Furthermore, particularly when the processes are viewed over time, these categorization-based approaches not only can reduce bias individually but can also facilitate each other reciprocally. Therefore, strategies and interventions to reduce intergroup bias and conflict may consider these processes both independently and collectively. They are potentially complementary and alternating routes to more positive intergroup relations.

Finally, as we suggest here, understanding intergroup bias and identifying strategies for reducing it involve not only looking ahead to new theoretical insights but also looking back to the important field studies of Sherif and his colleagues (1961) as well as to other classic works in the field (e.g., Allport, 1954; Williams, 1947). These sources continue to offer timeless insights into intergroup relations, and they often also provide valuable descriptions and analyses

of events that would be difficult to reconstruct or replicate today. Reflecting on these events in the context of contemporary theory can further illuminate psychological processes that would be difficult to observe with the spatial and temporal constraints of the typical laboratory study. Moreover, developing a more comprehensive understanding of these processes in this way has practical as well as theoretical benefits. In particular, although the contact hypothesis (Allport, 1954; Williams, 1947) identifies a number of necessary and facilitating conditions of intergroup contact for reducing bias, the reality often is that these conditions are difficult to introduce in many actual contact situations. Having a theoretical understanding of the psychological processes that can reduce bias, both individually and sequentially, can help to identify alternatives that can be introduced when these particular conditions of contact cannot be fully implemented. Thus, classic work in the field, such as the Robbers Cave study, can offer rare, detailed analyses of complex social relationships over time that complement current research, methods, and theory in ways that leave a truly enduring legacy to the field.

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