Diversity in In-Group Bias: Structural Factors, Situational Features, and Social Functions

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Four experiments addressed the different forms and functions of in-group bias in different contexts. The authors proposed 2 functions: an identity-expressive function and an instrumental function (or promotion of positive social change). The authors manipulated status differentials, the stability of these differences, and the communication context (intra- vs. intergroup) and measured in-group bias and both functions. As predicted, identity expression via in-group bias on symbolic measures was most important for stable, high-status groups. By contrast, material in-group bias for instrumental motives was most prevalent in unstable, low-status groups but only when communicating with in-group members. This latter effect illustrates the strategic adaptation of group behavior to audience (i.e., displaying in-group bias may provoke the out-group and be counterproductive in instrumental terms). Stable, low-status groups displayed more extreme forms of in-group bias for instrumental reasons regardless of communication context (i.e., they had nothing to lose). Results are discussed in terms of a contextual–functional approach to in-group bias.

Keywords: in-group bias, discrimination, motivation, social identity

Two striking aspects of the in-group bias phenomenon are its pervasiveness and its diverse character. In-group bias occurs between all kinds of groups, in different cultures; it can take many different forms (e.g., gender discrimination vs. out-group derogating soccer chants), and it has cognitive, behavioral, and emotional aspects (Bettencourt, Dorr, Charlton, & Hume, 2001; Brewer, 1979; Hewstone, Rubin, & Willis, 2002; Messick & Mackie, 1989; Mullen, Brown, & Smith, 1992; Tajfel, 1982). In the current article, we take this diversity as a starting-point for addressing the sociomotivational nature of in-group bias. Given the different faces in-group bias can have, it seems unlikely that there is just one ultimate motive that drives it under all circumstances. Rather, we propose that in-group bias serves different social functions in different social contexts.

Central to our approach is the distinction between an identity-expressive function and an instrumental (facilitating social change) function of in-group bias. On the one hand, in-group bias can be a means to express the value of one’s group; on the other hand, it can be a means to improve the position of one’s group. We propose that these functions are served by specific forms of in-group bias and operate as a result of (varying) sociostructural factors and strategic considerations regarding the audience to which in-group bias is communicated.

Below, we first introduce our general framework in terms of the different functions in-group bias can serve. Then, we address the sociostructural and strategic determinants of the identity-expressive and instrumental function of in-group bias and discuss how these different functions are related to specific forms of in-group bias (e.g., symbolic vs. material forms). We then present four experiments to test our model.

The Social Functions of In-Group Bias

In prior work, we have argued for a distinction between two general functions of in-group bias: an identity function and an instrumental function (Scheepers, Spears, Doosje, & Manstead, 2002, 2003). The former function is directed at creating (Tajfel, 1978), expressing, and thereby confirming (Leonardelli & Brewer, 2001) a sense of group identity (Spears, Jetten, & Scheepers, 2002, 2003). The instrumental function is aimed at facilitating intergroup competition, in general, and social change, in particular (i.e., changing the positions groups occupy in the status hierarchy; Tajfel & Turner, 1979). The roots of these two functions can be found in two general approaches to in-group bias: instrumental approaches (focusing on the relation between in-group bias and goals; Gaertner & Insko, 2000; Levine & Campbell, 1972; Rabbie, 1993; Sherif & Sherif, 1969) and identity approaches (Brewer,
A central tenet of our analysis is that the functions highlighted by these approaches are social in character. That is, like these earlier theories, we aim to go beyond intrapsychological perspectives and propose that the functions of in-group bias are related to the achievement of group goals (e.g., social change) and are triggered by sociocontextual factors, such as the status of one's group.

In recent work, we have demonstrated the validity, as well as the broad applicability, of a distinction between instrumental and identity-expressive functions of in-group bias (Scheepers et al., 2003). Specifically, we showed that these functions could be empirically distinguished in a large sample including both social groups and social categories (Rabbie, 1993). In the current article, we go a step further by addressing the contextual determinants of the two functions.

Structural Factors: Status and Stability

One of our central propositions is that motivations for in-group bias cannot be entirely understood without taking into account the social context in which in-group bias is expressed (Bettencourt et al., 2001; Haslam, Turner, Oakes, McGarty & Hayes, 1992; Turner, 1999). Two important sociostructural factors are the group’s place within the status hierarchy and the stability of the status hierarchy (i.e., the chance that status positions may change; Ellemers, Van Knippenberg, & Wilke, 1990; Tajfel & Turner, 1979). However, when one considers the influence of this first factor on in-group bias, a rather complicated picture emerges. For example, some studies have found that low-status groups discriminate more than do high-status groups (Branthwaite, Doyle, & Lightbown, 1979; Mummendey et al., 1992; see also Brewer, 1979), whereas other studies have shown the opposite (Commins & Lockwood, 1979; Sachdev & Bourhis, 1987).

The fact that the relation between sociostructural determinants and in-group bias is complex is in keeping with our general proposition that in-group bias can be functional for both low- and high-status groups, although the main function it serves may be quite different. For example, in the study by Sachdev and Bourhis (1987), in which it was found that members of high-status groups discriminated more than those in low-status groups, status differences were based on a once-only intergroup comparison between ad hoc groups. In our view, their finding is therefore best explained as a reflection of in-group superiority (i.e., identity expression). In contrast, in the study by Branthwaite et al. (1979), status differences were embedded in a history—and expected future—of multiple intergroup comparisons between real groups. Their finding that the low-status group discriminated more than did the high-status group is therefore better explained in terms of a challenge to the status quo, or even as a preparation for collective action (i.e., an instrumental function). Indeed, there is meta-analytic evidence that in-group bias is higher for high-status groups in artificial group settings but higher for low-status groups in real groups (Mullen et al., 1992). Making distinctions between different functions served by in-group bias may not only provide more insight into the motivational basis of this phenomenon; it also may help to resolve seemingly contradictory results of previous research.

This general line of reasoning with regard to group status is in line with previous work in which we demonstrated that the instrumental function of in-group bias operates under conditions of group threat, whereas the identity-expressive function operates under conditions of group enhancement (Scheepers et al., 2003). For instance, it was demonstrated that in-group bias in soccer chants fulfilled a team-motivating (i.e., instrumental) function when the in-group team was threatened by a potential loss, whereas it fulfilled an identity-expressive function when the in-group team scored a goal (i.e., a group-enhancing situation).

In keeping with this previous work, we predicted that identity-expression is especially prevalent in members of high-status groups when status differences are stable, as under these conditions group members would be most certain about their group’s superiority. This reasoning is in line with meta-analytic evidence that under stable, high-status circumstances people have most positive views of their in-group and most negative views of the out-group (Bettencourt et al., 2001), as well as with the observation that members of high-status groups show a stronger in-group bias when their group’s status is the reliable outcome of fair intergroup competition (Jost & Burgess, 2000).

However, what happens in high-status groups when status differences are unstable? Although this situation represents a threat to the positive value of the group and will trigger the motivation to protect the group’s privileged position (i.e., instrumental action), it is less likely that in-group bias will be applied to this end. It should be noted that—contrary to what is sometimes suggested—in-group bias is not the only route to obtain or preserve a positive social identity; social identity theory has described social competition as a more general strategy to accomplish this goal (although in-group bias is the only way to obtain a positive social identity in many experimental contexts, including the classic minimal group paradigm; Tajfel, Flament, Billig, & Bundy, 1971). Although social competition can be accompanied by explicit expressions of in-group bias (see below), we think this is less likely in the case of unstable high-status groups because (a) high-status groups are less dependent on proactive or extreme measures such as in-group bias in order to prevent social change and (b) the use of in-group bias can be counterproductive in so far as it can provoke the low-status out-group, stimulating them to strive for social change (Van Knippenberg, 1984). Although such strategic considerations also play a role for low-status groups (see below), for them more overt actions are often the only way to obtain change, while at the same time they may have nothing to lose. In sum, although we predicted that unstable, high-status groups become instrumentally motivated, we expected that they would be more cautious, not wanting to draw

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1 It is important to note that the social identity approach also describes some of the more instrumental aspects of in-group bias, especially as they relate to collective action and the position of a group within the status hierarchy. These particular aspects can be contrasted with the more purely identity aspects within this framework like the research on the minimal intergroup situation.
attention to their precarious position, and therefore reluctant to express in-group bias.  

Although the use of in-group bias for instrumental reasons is reserved for low-status groups, the relationship between the stability of this low group status and the instrumental function of in-group bias may be quite complicated. On the one hand, one could argue that instrumental motives are stronger within low-status groups when status differences are unstable because then there is hope and scope to change the status quo. This prediction is in line with classic social identity theory principles ("cognitive alternatives"; Tajfel & Turner, 1979) and work by Ellemers et al. (1990) that revealed that members of low-status groups identified more strongly with their group when status differences were unstable than when they were stable. Ellemers et al. interpreted this investment in the group in terms of a preparation for collective action. On the other hand, in-group bias is a more extreme way of achieving social change than identifying more strongly or increasing individual effort in intergroup competition. Therefore, it might also be argued that in-group bias for instrumental reasons remains reserved for cases when there are no other ways of improving the group's position, that is, when status differences are stable (Wright, Taylor, & Moghaddam, 1990). Under stable conditions, fair intergroup competition may be insufficient to obtain social change and more drastic means designed to undermine out-group performance may be needed (Ouwerkerk & Ellemers, 2002; see also Blanz, Mummendey, & Otten, 1995).

It may be helpful to distinguish between more subtle and more extreme forms of in-group bias. Examples of such distinctions are in-group favoritism versus out-group derogation (Brewer, 1996; Mummendey et al., 1992) and the (related) distinction between striving for maximum in-group profit (MIP) or maximum differentiation (MD) when allocating resources between in-group members and out-group members (Tajfel et al., 1971; see also Bourhis, Sachdev, & Gagnon, 1994). The former allocation strategy is more soft and subtle, as the main goal is to optimize the welfare of the in-group, regardless of that of the out-group (i.e., it is more of an in-group focused strategy). By contrast, the MD strategy is more harsh and extreme, as the main goal behind it is to optimize the difference with the out-group (Jetten, Spears, & Manstead, 1996).

We proposed that in-group bias can have an instrumental function for both stable and unstable low-status groups but that the form in-group bias takes would differ in these two conditions. When status differences are unstable, pro in-group behavior may be sufficient to attain social change (and to motivate the in-group) without provoking the out-group, in line with Ellemers et al.'s (1990) findings. Therefore, we predicted that instrumental in-group bias under these conditions would take more subtle forms like aiming for MIP. This more "subtle side of intergroup discrimination" (Brewer, 1996) can be seen as a form of team spirit when low-status groups mobilize for social change under conditions of instability. However, when status differences are stable and working on behalf of the group is insufficient, more drastic measures (e.g., an MD strategy) can be used as a more revolutionary means to set social change in motion (Wright et al., 1990). These considerations illustrate the importance of taking into account the form in-group bias takes when explaining this complex intergroup phenomenon. As we argue below, drawing distinctions between different forms of in-group bias is also helpful in further disentangling the two proposed functions of in-group bias. However, before we turn to this issue, we first discuss how the basic relations between social-structural factors and different functions of in-group bias are moderated by strategic considerations concerning the audience that witnesses the expression of in-group bias.

### Situational Features: The Communication Context

In-group bias is often expressed in a public context and carries expressive functions, which makes it sensitive to audience constraints (Ellemers, Van Dyck, Hinkle, & Jacobs, 2000; Reicher, Spears, & Postmes, 1995). We proposed that the functionality of in-group bias, and especially its instrumental function, would depend heavily on whether in-group bias is expressed to in-group members only (an intergroup communication context) or also to out-group members (an intragroup communication context). Although using in-group bias to express one’s social identity is more functional under public circumstances than it is under anonymous circumstances, we expected communication context to have its biggest impact on the instrumental function. Whether in-group bias proves to be functional in facilitating social change depends heavily on whether in-group bias is visible to in-group members or (also) to out-group members. In general, we expected visibility to other in-group members to have a positive effect on the expression of progroup behavior (Barreto & Ellemers, 2000; Reicher, Levine, & Gordijn, 1998). In contrast, expressing in-group bias to facilitate social change in front of an out-group audience can be counterproductive because it warns the out-group and may lead to counterattacks, thereby hindering social change (i.e., "They are trying to undermine us; well let’s see who is the best!"); Ellemers et al., 2000). Moreover, we expected this strategic use of in-group bias to be especially evident under unstable conditions, because provoking the out-group may then be most consequential (under stable conditions, groups have less to lose).

So far, we have only described sociostructural and strategic factors that have an influence on the expression of in-group bias but not the ways in which we can assess the different functions of in-group bias. We now address this issue by considering another source of diversity in in-group bias, namely its form.

### Diverse Forms of In-Group Bias

A variety of measures have been used to measure in-group bias, ranging from attitudinal measures and trait ratings (e.g., Jetten et al., 1996) to helping behavior (Dovidio & Gaertner, 1981) and resource allocations (e.g., Tajfel et al., 1971). Despite this variety, different forms of in-group bias have not hitherto been integrated into a single conceptualization of the functions of in-group bias. In general, we proposed that a useful distinction can be made between material forms of in-group bias (e.g., resource allocations) and measures of in-group favoritism versus out-group derogation (Brewer, 1996; Mummendey et al., 1992) and the (related) distinction between striving for maximum in-group profit (MIP) or maximum differentiation (MD) when allocating resources between in-group members and out-group members (Tajfel et al., 1971; see also Bourhis, Sachdev, & Gagnon, 1994). The former allocation strategy is more soft and subtle, as the main goal is to optimize the welfare of the in-group, regardless of that of the out-group (i.e., it is more of an in-group focused strategy). By contrast, the MD strategy is more harsh and extreme, as the main goal behind it is to optimize the difference with the out-group (Jetten, Spears, & Manstead, 1996).

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symbolic forms (e.g., trait ratings; see also Scheepers et al., 2002). By this we mean in-group bias in the allocation of material resources (material in-group bias) versus symbolic and abstract claims of in-group superiority and out-group inferiority (symbolic in-group bias).

We expected that in-group bias serving the instrumental function would be stronger on material dimensions that help the group to grow stronger and facilitate social change (Rabbie, 1993). This is also in line with resource mobilization theory (McCarthy & Zald, 1977), which stresses the importance of the acquisition of human and other material resources in preparation for social change. Further, we expected in-group bias serving identity expression to be stronger on symbolic measures that help to celebrate positive distinctiveness in more general and abstract terms (Rabbie, 1993). However, we want to stress that this expected asymmetry of forms of in-group bias by which different functions are served is relative. In principle, both functions of in-group bias can be served to some degree by both forms of in-group bias. For example, with respect to our analysis of in-group bias in soccer chants (Scheepers et al., 2003), at one level these songs are symbolic in nature but arguably also serve instrumental functions (i.e., promoting team support and performance). Thus, the different functions and forms represent distinct but related dimensions of in-group bias.

Overview and Hypotheses

In summary, the current research has the following key theoretical objectives: (a) to examine the sociomotivational nature of in-group bias by going beyond individualistic perspectives and single-process models, (b) to resolve (seemingly) contradictory results with regard to the relation between group status and in-group bias (by defining the different functions in-group bias can serve for low- and high-status groups), (c) to examine the strategic use of in-group bias in guiding instrumental action against the out-group, (d) to develop a new framework for distinguishing between different forms of in-group bias and relating these to the different functions they serve, and (e) to integrate identity and instrumental approaches to in-group bias by defining the contextual determinants of the different functions these approaches describe.

On the basis of prior work, we proposed that instrumental motives for in-group bias are more present in low-status groups than they are in high-status groups, whereas identity-expressive motives are more present in high-status groups than in low-status groups (Scheepers et al., 2003). However, in the current work we go beyond this basic proposition by addressing the influence of additional structural (stability) and strategic (audience) factors, as well as the form that in-group bias takes. Our hypotheses were

**Hypothesis 1a:** People use more subtle forms of material in-group bias for instrumental reasons under unstable than under stable, low-status conditions but primarily when responding anonymously or in the presence of other in-group members.

**Hypothesis 1b:** People use more harsh forms of material in-group bias for instrumental reasons under stable than under unstable, low-status conditions, irrespective of audience.

We tested these predictions in four experiments. In Experiment 1, we addressed the relation between sociostructural factors and the different forms of in-group bias. In Experiments 2 and 3, we also examined the role of the communication context and measured the two functions directly, together with several other variables (e.g., self-esteem and effort), to gain further insight into the different functions in-group bias can serve. In Experiment 4, we further sought to validate the distinction between material and symbolic in-group bias by measuring both forms by means of a similar response format (an allocation measure).

**Experiment 1**

In this experiment, we used a minimal group paradigm (e.g., Tajfel et al., 1971) to test the relation between sociostructural factors and different forms of in-group bias. After initial categorization into groups, participants were given positive or negative feedback on a group task (the status manipulation). We also announced that there would be a second round of this task at the end of the session and provided information about the chance that the groups’ positions could change after the first round (for similar manipulations see Ellemers et al., 1990). As a measure of material in-group bias, participants allocated resources between members of the in-group and the out-group by means of the Tajfel matrices (Tajfel et al., 1971; see also Bourhis et al., 1994). These resources were framed as tools that could facilitate performance on the second round of the task. As a measure of symbolic in-group bias, participants indicated the extent to which they agreed with a set of in-group favoring and out-group derogating statements. We predicted that participants in the low-status condition use more subtle forms of material in-group bias (MIP) to facilitate social change when status is unstable than when it is stable, whereas they would use more extreme measures toward this end (MD) when status is stable than when it is unstable. Moreover, we predicted that participants in stable, high-status groups use more symbolic in-group bias as a form of identity expression than do participants in the stable, low-status condition.

**Method**

**Participants and design.** Participants were 117 first-year psychology students (73 women, 44 men) at the University of Amsterdam. Their mean age was 21 years (SD = 4), and they received course credits for participation. They were randomly allocated to a 2 (group status: low vs. high) × 2 (status stability: unstable vs. stable) between-participants design.

**Procedure and independent variables.** The whole experiment was run on computers, such that all information, manipulations, and measures were delivered via computer. On arrival in groups of 6–11 persons, participants were seated in a single room where they were separated by screens. The study was presented as research on “modes of perceiving and estimation ability.” We explained that prior research had revealed two kinds of perceivers: global and detailed. The goal of our research was said to be discovering which group possessed better estimation abilities. Participants first engaged in a dot estimation task (Gerard & Hoyt, 1974). This task involved making a series of numerical estimations of dots that appeared on
the computer screen. We told the participants that by means of this task we could assess their mode of perceiving as well as the estimation performance of both groups of perceivers. After the dot estimation task, we gave participants (false) feedback about their mode of perceiving. All participants were categorized as detailed perceivers, although they were led to believe that “in the current session both detailed and global perceivers are present.”

After categorization, information was provided about a competition between global and detailed perceivers. Participants were told that we were interested in whether detailed or global perceivers are better estimators and that the estimations of the two groups would therefore be compared. We indicated that all estimations during all sessions would be aggregated, resulting in a final score. We also told participants that after all sessions, at the end of the experiment, prizes would be raffled among the members of the group that made the best estimations across all sessions. Finally, we announced that at the end of the session they would engage in a second round of dot estimation.

Participants were then shown a bar graph that ostensibly represented the performance of the two groups. This was the group status manipulation. In the low-status condition, participants learned that their in-group, detailed perceivers, performed worse than did the global perceivers. In the high-status conditions, participants learned that their in-group performed better than the global perceivers. The same bar chart was used in all conditions: only the bar labels (“detailed perceivers” and “global perceivers”) were changed, in line with our status manipulation. Thus, the performance gap was identical in the low- and high-status conditions. The stability of the status differences was manipulated by informing participants either that group scores had fluctuated a lot over previous sessions (unstable conditions) or that there had been little fluctuation (stable conditions). Participants then completed the dependent measures, after which they were informed that the experiment was over (i.e., in reality there was no second round of making estimations). Finally, the participants were debriefed and probed for suspicion. Specifically, they were asked if they had participated in similar experiments before and if there was any point during the study when they became suspicious about the aims of the study.

Dependent variables. Participants first responded to some checks. First, they had to name the group to which they were assigned. The status differential was checked by the following question: “Which group performed better so far during the estimation competition?” Participants responded (using a mouse) by clicking on one of two buttons, one of which was labeled “detailed perceivers” and the other “global perceivers.” The stability of the status differences was checked with two questions: “To what extent do you expect that the rankings of the estimation competition might change?” and “To what extent do you expect that the rankings of the estimation competition will stay the same?” Responses were made by placing crosses on a 100-point scale with not at all (0) and very much (100) as endpoints.

Our material in-group bias measure followed in the form of resource allocations using six Tajfel matrices. In the current study, participants divided feedback opportunities between anonymous members of the in-group and the out-group. We told the participants that during the second round of the estimation task they would make 30 estimations and that for some of these trials they would receive feedback. They would decide for other participants (who were indicated as either in-group members or out-group members) how much feedback they would receive. It was stressed that feedback would be helpful for enhancing estimation performance.

The Tajfel matrices make it possible to discern four strategies used in allocating resources between in-group and out-group members (Bourhis et al., 1994): maximum joint profit (MJP), which maximizes resources for both in-group and out-group; fairness (F), which is a strategy by which equal resources are allocated to in-group and out-group; MIP, which consists of awarding the maximum amount of resources to the in-group, regardless of how much is awarded to the out-group; and MD, which involves maximizing the difference (in favor of the in-group) between in-group and out-group, even at the cost of absolute in-group profit. The MIP and MD strategies are both forms of in-group bias, although the former form is more subtle and soft, whereas the latter is more harsh and aggressive.

Each of the matrices used consisted of 12 ways in which resources could be divided between an anonymous in-group member and an anonymous out-group member. Moreover, each matrix pitted one particular strategy (e.g., F) against one or two others (e.g., MIP and MD). Concretely, this means that the allocation options at each pole of a matrix represented the optimal choice for one particular strategy and the options between the two poles a compromise between the two strategies. Following standard practice (Bourhis et al., 1994; Jetten et al., 1996; Turner, Brown, & Tajfel, 1979), we used the following three matrix types: MIP and MJP versus MD; MIP and MD versus MJP; and MIP and MD versus F. Each matrix was presented twice: The labels “in-group” and “out-group” were reversed for the second presentation.

To express the relative strength of one strategy (e.g., MD) while controlling for another (e.g., MIP and MJP), researchers have calculated so-called “pull-scores” (Bourhis et al., 1994; Tajfel et al., 1971). Pull-score calculations are based on the notion that when presenting each matrix twice (varying the group labels), it is possible to assess the difference between the tendency to use a particular strategy in isolation (say, MD), and the tendency to use it in combination with the other strategies it is pitted against (i.e., MD, MIP, and MJP together). By means of the standard matrices that we used in this study, it is possible to calculate the following pull-scores: MIP and MJP versus MD (MIP); MD versus MIP and MJP, MIP and MD versus MJP, and MIP and MD versus F (all representing an MD strategy); MJP versus MIP and MD (MIP); and F versus MIP and MD (F). Pull-scores range from −12 to 12, with higher numbers indicating stronger use of a particular strategy while controlling for another. Although it is not possible to assess MIP in isolation with the Tajfel matrices (i.e., it is always measured in combination with MIP or MD), a stronger use of the MIP and MJP versus MD strategy in absence of the MJP versus MD and MJP strategy is a valid indication of MIP (e.g., Leonardelli & Brewer, 2001; Sachdev & Bourhis, 1985; Turner et al., 1979).3 The MD versus MIP and MJP pull-score represents the purest MD strategy (Jetten et al., 1996).

After completing the material in-group bias measure, participants filled out the symbolic in-group bias measure. Specifically, they indicated the extent to which they agreed with six statements, some of which represented in-group favoritism (e.g., “The detailed perceivers group is a superior group”) and others out-group derogation (e.g., “Global perceivers are born losers”). Participants responded to the symbolic in-group bias measures by placing crosses on 100-point scales with not at all (0) and very much (100) as endpoints.

3 In general, participants made minimal use of MJP in isolation (i.e., the MJP vs. MIP and MD pull-score) in the current experiments (M = −0.43, SD = 2.80 in Experiment 1; M = −0.23, SD = 2.33 in Experiment 3; M = −0.05, SD = 2.10 [point allocations] and M = 0.05, SD = 1.83 [feedback allocations] in Experiment 4) which means that the effects on the MIP and MJP versus MD pull-score can be attributed to MIP. Although the MIP and MJP versus MD and the MIP and MJP pull-scores are based on the same two matrices, they are mathematically independent (Turner et al., 1979). To check if a given result on one pull-score is not an artifact of restricted range on the other, one can test for a negative correlation between the cell standard deviation of one given pull-score and the absolute cell means of the corresponding opposite pull-score. Such correlations were absent across all pull-scores across all experiments that were reported.
Results

We used 2 (group status: low vs. high) × 2 (status stability: unstable vs. stable) analyses of variance (ANOVAs) and multivariate analyses of variance (MANOVAs) for all analyses.

Manipulation checks. Twelve participants exhibited suspicion concerning the manipulations during debriefing. Their data were excluded from further analyses. All participants indicated their group’s status in accordance with the manipulations; only one indicated his or her group membership incorrectly. The first stability check (“To what extent do you expect that the rankings of the estimation competition might change?”) was recoded so that higher scores on this item indicated more stability. It formed a reliable scale with the second stability check (r = .50). The only significant effect on this scale was the main effect for stability, F(1, 101) = 46.81, p < .01. Participants in the stable conditions reported greater status stability (M = 69.72, SD = 19.65) than did those in the unstable conditions (M = 45.41, SD = 17.88). In sum, we can conclude that our manipulations were successful.

In-group bias. The six symbolic in-group bias items formed a reliable scale (α = .80). We first tested for gender differences on the different in-group bias strategies. The only gender effect was a Gender × Status interaction on the symbolic in-group bias measure. Men in the high-status condition expressed a stronger symbolic in-group bias than did women in both conditions and men in the low-status condition.

We included the symbolic scale, together with the two material in-group bias strategies (MD, which was represented by the MD vs. MIP and MJP pull-score, and MIP, which was represented by the MIP and MJP vs. MD pull-score) in a 2 × 2 MANOVA with status and stability as factors.4 This resulted in a multivariate main effect for status, which was qualified by a multivariate two-way interaction between status and stability, F(3, 99) = 3.80, p < .05. At the univariate level, this interaction was significant for symbolic in-group bias, F(1, 101) = 6.87, p < .05, and material MIP, F(1, 101) = 5.68, p < .05. The means relating to these two interactions are displayed in Table 1.

As can be seen in the table, participants in the unstable, low-status condition and the stable, high-status condition scored highest on both forms of in-group bias. However, in line with our proposition that the two forms of in-group bias serve different functions, participants in the unstable, low-status condition scored highest on the material measure (i.e., MIP, whereas participants in the stable, high-status condition scored highest on the symbolic measure. A test of the simple main effects revealed that the participants in the unstable, low-status condition scored higher on MIP than those in the stable, low-status condition, F(1, 101) = 3.86, p = .05, whereas in the high-status condition the effect of status was not significant, F(1, 101) = 2.03, ns. In addition, participants in the stable, high-status condition scored significantly higher on symbolic in-group bias compared with those in the stable, low-status condition, F(1, 101) = 8.98, p < .01, whereas under unstable conditions, there was no significant difference between the low- and high-status condition, F(1, 101) = 0.57, ns.

Analyses of the remaining pull-scores only revealed significant main effects for status on the F versus MIP and MD strategy and the MIP and MD versus MJP strategy. Participants in the high-status conditions displayed more F and made less use of the MIP and MD versus MJP strategy than did participants in the low-status conditions.

Discussion

The results of the first experiment confirmed our predictions. In-group favoritism on a material dimension that facilitates social change was stronger in unstable, low-status groups than in the stable, low-status condition. By contrast, in-group bias on a more global and symbolic dimension was stronger in stable, high-status groups than in the stable, low-status condition. This is in line with our prediction that in-group bias fulfills an instrumental function for unstable, low-status groups and an identity-expressive function for high-status groups under stable conditions.

It should be noted that in-group bias on both measures was highest in the unstable, low-status condition and the stable, high-status condition, although the effect on the material measure was stronger in the former context and the effect on the symbolic

Table 1

| In-Group Bias as a Function of Group Status and Status Stability (Experiment 1) |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|
|                                 | Low Unstable    | Stable Unstable | Low Stable      | High Stable     |
| Material (maximum in-group profit) | 3.08* 0.68     | 0.40 2.25*      | 14.84 18.20     | 29.37 26.91     |
| Symbolic M                      | 29.37 26.91     | 25.96 39.93     | 15.27 14.72     | 15.27 14.72     |
| Symbolic SD                     | 4.80 4.38       | 5.05 3.89       | 14.84 18.20     | 29.37 26.91     |

Note. Material in-group bias ranges from −12 to 12; symbolic in-group bias ranges from 0 to 100. Higher scores indicate more in-group bias.

* Score differs significantly from 0.
measure was stronger in the latter. This clearly shows that the distinction between different forms of in-group bias as indicators of different functions of in-group bias is a relative one: In principle, both functions can be addressed by both forms of in-group bias.

Although we found a main effect for group status on the MIP and MD versus MJP strategy (indicating more use of the strategy in the low-status conditions), we did not find evidence for a more harsh material in-group bias strategy (i.e., MD vs. MIP and MJP) in the stable, low-status condition. It is possible that the stakes in this experiment were not sufficiently high (e.g., because of relatively low commitment to a minimal group; Jetten et al., 1996) for group members to use a strategy that might seem otherwise extreme or undesirable (see also Reynolds, Turner, & Haslam, 2000).

Although this first experiment provides good evidence for our predictions, we conducted a second experiment with two aims: first, to measure the different functions of in-group bias more directly, and second, to investigate the strategic use of in-group bias to serve these different functions in response to audience constraints.

Experiment 2

In this second experiment, participants read a short story about a handball match while they had to imagine that they were the main character in the story. At a given moment, this player makes a derogatory statement about the out-group team. Although this statement was the same in all conditions, the circumstances—in terms of group status, status stability, and communication context—under which it was made were varied systematically. Participants then indicated to what extent they saw the derogatory statement serving an instrumental (i.e., team-motivating) or identity-expression function (see Scheepers et al., 2003, for a similar procedure). We predicted that in-group bias would be attributed more strongly to identity expression for high-status groups than it is for low-status groups under stable conditions. Furthermore, we predicted that in-group bias is more strongly attributed to instrumental motives in the unstable, low-status condition than in the stable, low-status condition but only in the case where other in-group members were present (i.e., an intragroup context). Under stable status conditions, we did not expect such an audience effect.

Method

Participants and design. Participants were 140 first-year psychology students (54 men, 86 women) at the University of Amsterdam; they received course credits for their participation. Participants were randomly allocated to a 2 (communication context: intragroup vs. intergroup) × 2 (group status: low vs. high) × 2 (status stability: unstable vs. stable) between-participants design.

Procedure and independent variables. Participants first read a short scenario. They were instructed to imagine that they were the main character in this story, indicated as “X.” The story described a handball game between two teams (“DDV” and “Papendrecht”). At a given point, the DDV player X makes an offensive discriminatory statement about the Papendrecht team. X calls the Papendrecht team “a bunch of bastards and losers who don’t know anything about the game except rough play.” Although this statement was the same in all conditions, the circumstances under which it was made were varied systematically.

The first manipulation in the stories concerned the communication context. In the intragroup conditions, the statement was made during halftime, while the teams were alone in their own dressing room. It was stressed that only DDV players (i.e., in-group members) were able to hear the statement. In the intergroup context conditions, the statement also occurred during halftime but was made as the two teams walked back to the field together. It was stressed that players of both teams could hear the statement.

A second variation in the stories concerned the status differentials between the teams. We manipulated these by means of the teams’ relative league positions. In the high-status conditions, the in-group (DDV) was at the top of the league, whereas Papendrecht was ranked ninth. In the low-status conditions, the differentials were reversed: DDV was ranked ninth whereas Papendrecht was top.

The stability of the status differences was manipulated by providing information about the past performances of the teams. In the unstable conditions, it was said that the rankings had changed a lot over the last couple of years. In some years, Papendrecht finished above DDV, whereas in other years DDV finished above Papendrecht. Furthermore, it was said that it was very likely that this fluctuating pattern would persist in the future. Under stable conditions, it was said that the current rankings were typical of recent years and that it was very likely that they would remain unchanged in the coming years.

Dependent variables. For dependent variables, we measured the perceived function of in-group bias. The instrumental function of in-group bias was measured using three items (e.g., “To what extent did you make the statement to pep up the team?”). To measure the identity-expression function of in-group bias, we used two items (e.g., “To what extent did you make the statement to present your team in a positive light?”). All answers were given on scales ranging from 1 (not at all) to 9 (very strong).

Results

The scales used to measure the instrumental function (α = .88) and the identity-expression function (r = .51, p < .01) both proved to be reliable. We used 2 (communication context: intragroup vs. intergroup) × 2 (group status: low vs. high) × 2 (status stability: unstable vs. stable) ANOVAs to analyze the two scales. On the instrumental function scale, there was a significant interaction between communication context and status stability, which was qualified by the interaction between communication context, group status, and status stability, F(1, 132) = 4.48, p < .05. This latter interaction is displayed in Table 2. A test of the simple interactions between communication context and status stability revealed that this interaction was significant in the low-status condition, F(1, 132) = 9.76, p < .01, but not in the high-status condition, F < .01, ns. A test of simple main effects revealed that, in line with predictions, in the intragroup context in-group bias was attributed more strongly to instrumental motives in the unstable than in the stable, low-status condition, F(1, 132) = 4.81, p < .05. In contrast, in the intergroup context in-group bias was attributed significantly less to instrumental motives in the unstable than in the stable, low-status condition, F(1, 132) = 4.98, p < .05. Finally, under stable, low-status conditions, the difference between the intragroup condition and the intergroup condition was not significant, F(1, 132) = 2.36, p = .13.

With regard to identity expression, there was a significant interaction between group status and status stability, F(1, 132) = 4.90, p < .05, but this was not qualified by audience. As expected, participants in the stable, high-status condition scored higher on identity-expression (M = 6.57, SD = 1.38) than did those in the
stable, low-status condition ($M = 5.84, SD = 1.60$), $F(1, 132) = 3.74, p < .06$. The difference between the unstable, high-status condition ($M = 5.95, SD = 1.78$) and the unstable, low-status condition ($M = 6.41, SD = 1.44$) was not significant, $F(1, 132) = 1.42, \text{ns}$.

**Discussion**

In line with predictions, we found that the identity-expressive function of in-group bias operated especially under stable, high-status conditions, whereas the instrumental function of in-group bias operated especially under unstable, low-status conditions, but only in an intragroup context. This latter finding illustrates the important influence of communication context on the functionality of in-group bias. Participants in the unstable, low-status intergroup condition scored lowest on the instrumental function, in line with our hypothesis that in-group bias may be especially likely to provoke the out-group under those circumstances, which makes it dysfunctional in instrumental terms. Thus, people appear reluctant to "rock the boat" when the out-group is in the same (unstable) boat.

It is also worth noting that in the stable, low-status conditions the difference between the intragroup and intergroup conditions was not significant. This is in line with our prediction that under these conditions groups have nothing to lose and may use in-group bias even in an intergroup context, perhaps in an ultimate attempt to fluster the out-group. Indeed, it is worth noting that the stable, low-status condition was the only condition where instrumental motives were higher in an intergroup as compared with an intragroup context. This is in line with the rationale outlined in the introduction, namely that under these more desperate conditions it is not enough to enhance the in-group but also to bring down the out-group.

Although this second experiment provided evidence for our predictions, it has one obvious shortcoming: It uses a scenario methodology (but see recent evidence that such methods produce similar emotional effect to actual involvement; Robinson & Clore, 2001). The reason for using this methodology was that we could control the level of expressed in-group bias. It would be more difficult to ask questions like “To what extent did you use in-group bias to pep up the team?” when the level of expressed in-group bias was left open (as it was the case in Experiment 1). If this were the case in the current experiment, the question would be irrelevant for participants who did not express in-group bias. Nevertheless, it is of course more convincing if we can relate the different functions to genuinely expressed in-group bias. Therefore, in our third experiment we adapted the functionality questions and included them in a paradigm in which participants were directly involved and in which we also measured in-group bias itself.

### Experiment 3

In this experiment, we combined the design of Experiment 2 with the method used in Experiment 1. In addition to direct measures of functionality (as in Experiment 2; see also Scheepers et al., 2003) we also measured effort (i.e., working for social change) and self-esteem as more general indicators of instrumental and identity motives respectively (see also Scheepers et al., 2002). To link the expressed in-group bias to its functions and related outcome measures (effort, self-esteem), we conducted structural equation modeling. We predicted that participants use more subtle forms of material in-group bias (MIP) for instrumental reasons under unstable than under stable, low-status conditions, but only when communicating with other in-group members (an intragroup context). In addition, we predicted that participants in the stable, low-status condition use more harsh forms of material in-group bias (MD) than participants in the unstable, low-status condition, irrespective of audience (nothing to lose). Finally, we predicted that participants use more symbolic in-group bias for identity expression in high-status than in low-status groups under stable conditions.

### Method

**Participants and design.** Participants were 144 first-year psychology students (38 men, 106 women) at the University of Amsterdam. Their mean age was 21 years ($SD = 5$), and they received course credits for participation. Participants were randomly allocated to a 2 (communication context: intragroup vs. intergroup) $\times$ 2 (group status: low vs. high) $\times$ 2 (status stability: unstable vs. stable) between-participants design.

**Procedure and independent variables.** The procedure was identical to that of Experiment 1, with the exception that we also manipulated the communicative context as in Experiment 2. We used a similar manipulation to the one used by Ellermers et al. (2000) and Noel, Wann, and Branscombe (1995). In the intragroup context, participants were told that they had to report and justify their answers to those members of the in-group (detailed perceivers) who were present in that particular session. In the intergroup context, it was stated that they would have to justify their answers to all persons (i.e., both global and detailed perceivers) who were present. Just before completing the in-group bias measures, we checked

**Table 2**

<table>
<thead>
<tr>
<th>Status stability</th>
<th>Communication context</th>
<th>Intragroup</th>
<th>Intergroup</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low in-group status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unstable</td>
<td>$M$</td>
<td>7.25</td>
<td>5.75</td>
</tr>
<tr>
<td></td>
<td>$SD$</td>
<td>0.92</td>
<td>1.63</td>
</tr>
<tr>
<td>Stable</td>
<td>$M$</td>
<td>6.17</td>
<td>7.00</td>
</tr>
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<td>$SD$</td>
<td>2.08</td>
<td>0.62</td>
</tr>
<tr>
<td><strong>High in-group status</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Unstable</td>
<td>$M$</td>
<td>6.50</td>
<td>5.84</td>
</tr>
<tr>
<td></td>
<td>$SD$</td>
<td>1.59</td>
<td>2.05</td>
</tr>
<tr>
<td>Stable</td>
<td>$M$</td>
<td>6.90</td>
<td>6.30</td>
</tr>
<tr>
<td></td>
<td>$SD$</td>
<td>1.63</td>
<td>1.60</td>
</tr>
</tbody>
</table>

*Note.* Scale ranges from 1 to 9, with higher numbers indicating a greater instrumental function.
this manipulation by asking participants to indicate the group membership(s) of the people to whom they had to justify their responses.

**Dependent measures.** We used the same in-group bias measures as in Experiment 1. As a general indicator of the instrumental function, we used two items to measure the willingness to invest effort in the second round of the task (e.g., “To what extent are you willing to complete more trials on the second task than the standard number if this would improve your group’s position on the ranking?”). As a general indicator of an identity-expressive function, we used the four-item Private subscale of Luhtanen and Crocker’s (1992) Collective Self-Esteem Scale (PCSE), modified to fit the current group context. A sample item is: “I’m glad to be a member of the detailed perceivers group.”

For our more explicit measure of the different functions of the different forms of in-group bias, we used 10 items: 5 assessed the functions of material in-group bias and 5 assessed the functions of symbolic in-group bias. Rather than measuring the functions more directly as we did in Experiment 2, we formulated the functionality items more generally in order not to prejudge their use. That is, we asked participants to indicate the different reasons “participants in the current study could have for favoring their own group.” For each of the sets of 5 items, 3 were intended to measure an instrumental function (e.g., “To what extent do you think participants would have favored his or her group to make their group stronger?”) and 2 were intended to measure the identity-expressive function (e.g., “To what extent do you think participants would have favored their group to show what their group is about?”). Participants responded to all these measures by placing crosses on 100-point scales with not at all (0) and very much (100) as extremes.

**Results**

We used 2 (communication context: intragroup vs. intergroup) × 2 (group status: low vs. high) × 2 (status stability: unstable vs. stable) ANOVAs and MANOVAs in the analyses reported below.

**Manipulation checks.** During debriefing, 8 participants voiced suspicion concerning the manipulations, and their data were excluded from further analyses. All participants indicated their group membership and their group’s status correctly, and only 2 did not indicate the correct group membership(s) of the persons to whom they had to justify their answers (communication context manipulation). Moreover, in line with the proposed manipulations, participants in the stable conditions reported greater status stability ($M = 70.93, SD = 18.84$) than did those in the unstable conditions ($M = 45.77, SD = 16.40$), $F(1, 128) = 70.27, p < .01$.

**In-group bias.** In-group bias strategies in feedback allocations on the Tajfel matrices were calculated in the same way as in Experiment 1. As was the case in Experiment 1, the only effect of gender was an interaction with status on the symbolic in-group bias measure. Men in the high-status conditions again made more use of this strategy compared with women in both conditions and men in the low-status condition.

We included the two material in-group bias strategies (MIP and MD), together with the symbolic in-group bias measure ($\alpha = .75$) in a $2 \times 2 \times 2$ MANOVA with communication context, group status and status stability as factors. This resulted in a multivariate two-way interaction between group status and status stability, which was qualified by a significant three-way interaction between communication context, group status, and status stability, $F(3, 126) = 2.86, p < .05$.

At the univariate level, the three-way interaction was only significant for the material MIP strategy, $F(1, 128) = 4.54, p < .05$. The means relating to this interaction are displayed in Table 3. The simple interaction between communication context and stability was significant for the low-status condition, $F(1, 128) = 5.19, p < .05$, but not for the high-status condition, $F(1, 128) = 0.55, ns$. In line with predictions, simple main effects analysis revealed that in an intragroup context there was more MIP in the unstable, low-status condition than in the stable, low-status condition, $F(1, 128) = 4.45, p < .05$, whereas in the intergroup context there were no significant differences, $F(1, 128) = 1.13, ns$.

Regarding the MD strategy, there was only a univariate interaction between group status and status stability, $F(1, 128) = 5.28, p < .05$ (see Table 4, top). Participants in the stable, low-status condition scored highest on this more aggressive form of in-group bias ($M = 6.35, SD = 4.72$), and they did so significantly higher than those in the unstable, low-status condition ($M = 3.09, SD = 4.67$), $F(1, 128) = 8.38, p < .01$. Between the unstable and stable high-status conditions there were no differences in the use of MD, $F(1, 128) = 0.14, ns$. Thus, under more hopeless and desperate conditions (stable, low status), participants made more use of this more extreme form of material in-group bias than did participants under unstable, low-status conditions.

On the symbolic in-group bias measure, there was also a significant univariate two-way interaction between group status and status stability, $F(1, 128) = 7.08, p < .01$ (see Table 4, bottom). Participants in the stable, high-status condition scored significantly higher on symbolic in-group bias than did those in the stable, low-status condition, $F(1, 128) = 10.39, p < .01$. Under unstable conditions, there were no differences in the use of symbolic in-group bias between the low- and high-status conditions, $F(1, 128) = 0.34, ns$. Thus, in line with predictions and the results of Experiment 1, people in the high-status conditions scored higher

<table>
<thead>
<tr>
<th>Status stability</th>
<th>Intragroup</th>
<th>Intergroup</th>
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<tbody>
<tr>
<td><strong>Low in-group status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unstable</td>
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<td></td>
</tr>
<tr>
<td>$M$</td>
<td>3.07*</td>
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<tr>
<td>$SD$</td>
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<td>3.46</td>
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<tr>
<td>Stable</td>
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<td></td>
</tr>
<tr>
<td>$M$</td>
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<td>1.00</td>
</tr>
<tr>
<td>$SD$</td>
<td>2.98</td>
<td>4.72</td>
</tr>
<tr>
<td><strong>High in-group status</strong></td>
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<td></td>
</tr>
<tr>
<td>Unstable</td>
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<td></td>
</tr>
<tr>
<td>$M$</td>
<td>2.00</td>
<td>1.22</td>
</tr>
<tr>
<td>$SD$</td>
<td>2.75</td>
<td>3.08</td>
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<tr>
<td>Stable</td>
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<td></td>
</tr>
<tr>
<td>$M$</td>
<td>3.28*</td>
<td>1.00</td>
</tr>
<tr>
<td>$SD$</td>
<td>4.71</td>
<td>4.87</td>
</tr>
</tbody>
</table>

*Note.* Scale ranges from −12 to 12, with higher numbers indicating more material in-group bias.

* Scores differ significantly from 0.
FUNCTIONS OF IN-GROUP BIAS

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Table 4
Material In-Group Bias (Maximum Differentiation) and Symbolic In-Group Bias as a Function of Group Status, and Status Stability (Experiment 3)

<table>
<thead>
<tr>
<th>In-group bias</th>
<th>Group status and stability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Material (maximum differentiation)</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3.09*</td>
</tr>
<tr>
<td>SD</td>
<td>4.67</td>
</tr>
<tr>
<td>Symbolic</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>30.52</td>
</tr>
<tr>
<td>SD</td>
<td>15.79</td>
</tr>
</tbody>
</table>

Note. Material in-group bias ranges from −12 to 12; symbolic in-group bias ranges from 0 to 100. Higher scores indicate more in-group bias.

*Scores differ significantly from 0.

on symbolic in-group bias than did participants in the low-status conditions, but only when status differences were stable.

Analyses of the remaining pull-scores revealed main effects for communication context regarding the F versus MIP and MD strategy and the MIP and MD versus MJP strategy. Participants in the intergroup conditions displayed more F, and made less use of the MIP and MD versus MJP strategy, than did participants in the intragroup condition. This main effect on F was qualified by a significant interaction between communicative context and status stability, F(1, 128) = 4.06, p < .05. Participants in the unstable, intergroup conditions expressed more F (M = 6.38, SD = 4.79) than did participants in the unstable intragroup condition, (M = 2.21, SD = 4.65), F(1, 128) = 11.71, p < .01. There were no differences with or between the stable conditions (M = 4.53, SD = 5.10 for the stable, intragroup condition; M = 3.80, SD = 0.70 for the stable, intragroup condition).

Functions of in-group bias, effort, and collective self-esteem. We created scales measuring the instrumental function of material in-group bias (α = .69), the identity-expressive function of symbolic in-group bias (r = .44, p < .01), the instrumental function of symbolic in-group bias (α = .83), and the identity-expressive function of material in-group bias (r = .37, p < .01). These scales were submitted to a 2 × 2 × 2 MANOVA with group status, status stability, and communication context as factors. This resulted in a multivariate main effect for group status, F(4, 125) = 6.82, p < .01, which in univariate terms was only significant for the instrumental function of material in-group bias, F(1, 128) = 11.24, p < .01, and for the identity-expressive function of symbolic in-group bias, F(1, 128) = 3.90, p = .05. Participants in the low-status conditions scored higher on the instrumental function of material in-group bias (M = 74.52, SD = 19.49) than did those in the high-status conditions (M = 64.77, SD = 13.39). Conversely, participants in the high-status condition scored higher on the identity-expressive function of symbolic in-group bias (M = 45.16, SD = 24.64) than did those in the low-status condition (M = 37.43, SD = 22.20). In sum, low group status instigated material in-group bias directed at group improvement, whereas high-group status instigated symbolic in-group bias directed at identity expression.

The scales measuring effort (r = .73, p < .01) and self-esteem (α = .65) both proved to be reliable. The only significant effect on effort was the main effect of status, F(1, 128) = 4.10, p < .05, which indicated that those in the low-status conditions were more willing to work for the group (M = 48.52, SD = 23.57) than were those in the high-status conditions (M = 40.28, SD = 22.47). This is consistent with the argument that low status will stimulate instrumental motives to change the status quo. Although there was no significant interaction between status and stability, it is worth noting that participants in the unstable, high-status group scored almost as high on effort (M = 43.19) as did participants in the low-status conditions (M = 46.81 for the unstable, low-status condition; M = 50.28 for the stable, low-status condition) and higher than participants in the stable, high-status condition (M = 37.61). A contrast revealed that the two low-status conditions and the unstable, high-status condition differed significantly from the stable, high-status condition, r(132) = 2.02, p < .05. This thus indicates that although members of unstable, high-status groups did not use material in-group bias, they were still somewhat instrumentally motivated (i.e., to protect their vulnerable status), as their effort in the intergroup competition indicates.

There was a main effect of status on collective self-esteem, qualified by a significant interaction between status and stability, F(1, 128) = 5.46, p < .05. Participants in the stable, high-status condition scored higher on self-esteem (M = 72.07, SD = 12.69) than did participants in the stable, low-status condition (M = 53.11, SD = 15.04), F(1, 128) = 35.44, p < .01.

Path model. To examine the relations between the different forms of in-group bias, the different functions of in-group bias, and the two other indicators of functionality (effort and self-esteem), we used LISREL 8 (Jöreskog & Sörbom, 1996) to test a multisample path model with two distinct routes: an identity-expressive route (relating the identity-expressive function of symbolic in-group bias to symbolic in-group bias and self-esteem) and an instrumental route (relating the instrumental function of material in-group bias to material in-group bias and effort). Using a multisample procedure, it is possible to determine whether a given relation within a model is stronger or weaker in different sub-samples. For instance, in our soccer chants study (Scheepers et al.,
we found that the relation between the instrumental function and in-group bias was stronger under conditions of group threat than under conditions of group enhancement, whereas the relation between the identity-expressive function and in-group bias was stronger under conditions of group enhancement than under conditions of group threat. Along similar lines, in the current model we estimated separate paths for the low- and high-status conditions. We predicted that the paths of the instrumental route are stronger in the low-status groups than in the high-status groups and that the paths of the identity-expressive route are stronger in the high-status groups than in low-status groups. We only made different estimations for the status conditions (and not for the stability or communication context factors), not only because we only had significant main effects for status on the functionality items but also because we did not have the statistical power to test an eight-sample model. However, group status can be viewed as the most basic variable triggering motivations for collective action or identity-expression (just like the threat vs. enhancement dimension; Scheepers et al., 2003), whereas stability and audience can be seen as moderators of the specific (strategic) actions that are taken to fulfill these motivations.

The proposed relationships between the different forms of in-group bias and the indicators of its functions are displayed in Figure 1. As can be seen, the identity-expressive function was related to symbolic in-group bias, which was in turn related to self-esteem. More important, however, is the fact that the relations among these constructs were stronger in the high-status conditions (second-named parameter) than they were in the low-status conditions (first-named parameter). Thus, in line with our general rationale, identity expression as a function of in-group bias was stronger in high-status groups than in low-status groups. Turning to the instrumental route, the explicit measure of the instrumental function of in-group bias was positively related to both material

Figure 1. Relationships between different functions and forms of in-group bias, self-esteem, and effort in Experiment 3. Standardized coefficients are expressed along the lines (low status/high status); those in bold are significant at \( p < .05 \). Id = identity-expressive function; Inst = instrumental function; PCSE = Private subscale of Collective Self-Esteem Scale; MIP = maximum in-group profit; MJP = maximum joint profit; MD = maximum differentiation.

5 Latent constructs on the basis of single observations (e.g., pull-scores) were scaled to 1, with measurement errors set to 0. To simplify the measurement model, we used scales of symbolic in-group favoritism (comprising the three symbolic statements that expressed in-group favoritism), symbolic out-group derogation (comprising the three symbolic statements that expressed out-group derogation), and PCSE, instead of the separate items, as observed variables. For the sake of clarity, error variances are not displayed.
in-group bias strategies as well as to the willingness of the participant to work for social change (effort). Generally, the relations between the instrumental function, on the one hand, and material in-group bias and effort, on the other, were stronger in the low-status conditions than they were in the high-status conditions (with the only exception being the relation between the instrumental function and MD). There were no significant paths between the identity-expressive function of material in-group bias and material in-group bias and between the instrumental function of symbolic in-group bias and symbolic in-group bias. This is in line with the argument that symbolic in-group bias is less suited to serving an instrumental function and that material in-group bias is less suited for serving an identity function. As a result, we omitted these paths and constructs from the model.

Thus, the identity-expressive route to in-group bias was more evident in high-status groups than in low-status ones, whereas the instrumental route to in-group bias was more evident in low-status groups than in high-status ones. The fit of this model is adequate, \( \chi^2(1,28, N = 127) = 162.42, p = .02, \) root-mean-square error of approximation (RMSEA) = 0.065 (\( p \) for test of close fit = .55), comparative fit index (CFI) = 0.88.

We also tested, in a more direct manner, whether the expression of symbolic in-group bias mediated collective self-esteem enhancement. We could test this more directly as we had a similar two-way interaction on both of these measures. When including the symbolic in-group bias measure as a covariate in the analysis on self-esteem, the interaction between group status and stability on self-esteem was no longer significant, \( F(1, 128) = 2.48, n.s. \) and the only effects that remained significant were the covariate (symbolic in-group bias), \( F(1, 128) = 11.98, p < .01, \) and the main effect of status, \( F(1, 128) = 31.13, p < .01. \) The Sobel test indicated that the reduction of the interaction effect between group status and status stability was significant (\( Z = 2.18, p < .05. \)). This is consistent with the notion that for those in the stable, high-status condition, self-esteem was enhanced by means of symbolic in-group bias.

**Discussion**

The results of Experiment 3 provided good support for our predictions. When group status was low, material MIP was strongest when the status hierarchy was unstable and the audience consisted of in-group members. This finding is consistent with the results of Experiment 1 and 2, in that instrumental motives for in-group bias were highest under unstable, low-status conditions. However, this only led to the actual expression of in-group bias when out-group members were not present (i.e., in an intragroup communication context). This illustrates the strategic way in which in-group bias is adapted to serve the instrumental function. The strategic dimension of instrumental action was further illustrated by the fact that participants in the unstable, high-status group were more willing to invest effort in the competition than participants in the stable, high-status condition, even though they did not use material in-group bias to this end. It may be less necessary in the unstable, high-status condition to use in-group bias (because change is not desired), and under these circumstances people may become more cautious and strategic as in-group bias might provoke and motivate the low-status out-group to take advantage of the instability.

We also found evidence for a more harsh and extreme form of instrumental in-group bias under stable, low-status conditions. The fact that this strategy was used irrespective of the kind of audience that witnessed its expression illustrates a nothing-to-lose tactic that still is related to instrumental action, as the path model shows us. Finally, in line with our identity-expression hypothesis, and consistent with the results of Experiment 1 and 2, we found strongest symbolic in-group bias when group status was high and the status hierarchy was stable.

In the current experiment, we also found more direct evidence for the proposed functional processes underlying the effects of in-group bias. Identity expression was more relevant—and more strongly related to symbolic in-group bias—in the high-status condition than it was in the low-status condition. In contrast, the instrumental function was more relevant—and more strongly related to material in-group bias—in the low-status condition than it was in the high status condition. Further supportive evidence came from other indicators of functional processes: The instrumental function was related to increased effort in the second round of the group task, and identity expression through symbolic in-group bias mediated self-esteem enhancement.

It is worth noting that self-esteem was the only indicator of the different functions for which we found an interaction; on the other measures, we only found main effects. Thus, in contrast to Experiment 2, we only found main effects for status on the functionality ratings. The crucial difference between the two experiments is that in Experiment 2 there was always in-group bias, and as a result, the functionality items could be formulated in a more direct manner ("why did you use in-group bias?"). In the current experiment we had to be more conditional in our wording for potential motives ("why do you think people in general may have used in-group bias?") for which participants may have found a given reason (e.g., stimulating instrumental action) relevant, even when they did not engage in in-group bias themselves (e.g., for strategic reasons). Nevertheless, given the significant relations between these functionality measures and the actual expression of in-group bias, we have clear evidence that those who scored highest on the material and symbolic forms of in-group bias did so for instrumental and identity-expressive reasons, respectively.

Although the current experiment provides good evidence that material and symbolic forms of in-group bias serve different functions, an issue that remains is that in the current experiments the two forms of in-group bias were measured using different response formats (i.e., resource allocations vs. statements). Therefore, to validate our distinction between these different forms of in-group bias in a more clean way, in our final experiment we measured both forms using a single response format (i.e., an allocation measure).

**Experiment 4**

In our fourth experiment, we manipulated group status and status stability in a minimal group and measured both material and symbolic in-group bias by means of Tajfel matrices. The material measure of in-group bias was similar to that of Experiments 1 and 3. For the symbolic measure, participants allocated points which...
had no instrumental value in the competition (Turner, 1975). We predicted that participants use more subtle forms of material in-group bias in the unstable, low-status condition than in the stable, low-status condition, whereas participants use more harsh forms of material in-group bias (MD) in the stable, low-status condition than in the unstable, low-status condition. Finally, we predicted that participants use more symbolic in-group bias in the stable, high-status condition than in the stable, low-status condition. On the symbolic measure, we expected in-group bias to take an MD strategy as it represents the most optimal expression of positive group distinctiveness (Jetten et al., 1996).

**Method**

Participants and design. Participants were 75 undergraduate students (44 women, 31 men) at Leiden University. Their mean age was 22 years (SD = 3), and they received 4 Euros (approximately $4.75) for their participation. They were randomly allocated to a 2 (group status: low vs. high) × 2 (status stability: unstable vs. stable) between-participants design.

Procedure and independent variables. The procedure of the experiment was identical to that of Experiment 1, with three important exceptions: First, we measured both symbolic and material in-group bias using Tajfel matrices; second, we measured both the critical allocation strategies (MD and MIP) by means of two different matrices (see Jetten et al., 1996); third, participants completed the experiment in separate cubicles, whereas in Experiment 1 and 3 they were tested in a single room and where they only had been separated by screens.

Dependent variables. Checks on status and status stability were similar to those used in Experiment 1 and 3. Material in-group bias was again measured in terms of feedback opportunities. In the case of symbolic in-group bias, participants allocated “points,” for which it was stressed that they had “no value in the estimation competition.” The order in which symbolic and material in-group bias was measured was counterbalanced. Effort in the intergroup competition was measured using the same two items as in Experiment 3.

**Results**

Except where indicated, 2 (group status: low vs. high) × 2 (status stability: unstable vs. stable) ANOVAs were used for all the analyses.

Manipulation checks. All participants indicated their group membership correctly, and only 1 participant failed to indicate the status of his or her group correctly. In addition, participants in the stable conditions reported greater status stability (M = 70.84, SD = 18.75) than did those in the unstable conditions (M = 50.03, SD = 18.60), F(1, 71) = 24.54, p < .01. In sum, we can conclude that our manipulations were successful.

In-group bias. A factor analysis on the pull-scores on material and symbolic resource allocations revealed a five-factor solution, explaining 72% of the variance. Factor 1 could be interpreted as symbolic MD because it comprised the following pull-scores regarding the allocation of points (all loadings > .74): MIP and MD versus MIP (1), MIP and MD versus MJP (2), MIP and MD versus F, MD versus MIP and MJP (1), and MD versus MIP and MJP (2). Factor 2 could be interpreted as material MD because it comprised the same five pull-scores regarding the allocations of feedback opportunities (all loadings > .70). Factor 3 comprised the two material MIP pull-scores (MIP and MJP vs. MD; loadings > .39), whereas Factor 4 comprised the two symbolic MIP pull-scores (loadings > .75). Factor 5 comprised both material and symbolic MIP strategies (MIP vs. MIP and MD; loadings > .36). The material and symbolic F pull-scores loaded negatively on the first two in-group bias factors (see Jetten et al., 1996, for a similar factor solution). Thus, a clear distinction between material and symbolic in-group bias could be made on the basis of this analysis.

Because the MD strategy is to some extent confounded with MIP in the MIP and MD versus MIP pull-scores, and in keeping with the previously reported results, we focused on the purer and more clearly interpretable MD versus MIP and MJP strategies as the more harsh and extreme form of in-group bias (although consistent with the single-factor solutions, analyses on a composite measure produce similar results to those reported here). There were no gender effects on the in-group bias strategies, and the only effects regarding the order in which the different measures were taken were two main effects on the symbolic in-group bias strategies. When first allocating feedback opportunities, participants scored higher on symbolic MD, whereas when first allocating points, participants scored higher on symbolic MIP. Because these effects were not qualified by interactions with status and stability, in our further analysis we also collapsed across the order factor.

The material and symbolic MD measures were included in a 2 (group status: low vs. high) × 2 (status stability: unstable vs. stable) × 2 (form of in-group bias: material vs. symbolic) mixed-model ANOVA with repeated measures on the last factor. The only effects on the ANOVA were a two-way interaction between status and form of in-group bias, which was qualified by a significant three-way interaction between group status, status stability, and form of in-group bias, F(1, 71) = 5.94, p < .05. The means relating to this interaction are displayed in Table 5.

As can be seen, participants in the stable, low-status group displayed the highest levels of material MD, whereas participants in the stable, high-status group displayed the highest levels of symbolic MD. A test of the simple main effects revealed that participants in the stable, low-status condition displayed higher material differentiation than did participants in the unstable, low-status condition, F(1, 71) = 5.15, p < .05, whereas in the high-status conditions the difference between the stable and unstable condition was not significant, F(1, 71) = 0.71, ns. In addition, participants in the stable, high-status condition scored higher on symbolic differentiation than participants in the stable, low-status condition, F(1, 71) = 4.62, p < .05, whereas the difference between the low- and high-status group was not significant under unstable conditions, F(1, 71) = 0.91, ns.

Analyses of the more subtle MIP strategies revealed no significant effects. On the remaining allocation strategies, there was only a significant interaction between status and stability regarding the material MJP versus MIP and MD strategy, F(1, 71) = 4.13, p < .05. Participants in the unstable, low-status condition scored lower on material MJP (M = −0.55, SD = 1.13) than did participants in the stable, low-status group (M = 0.61, SD = 2.28), F(1, 71) = 4.35, p < .05. The negative score on MJP in the unstable, low-status condition indicates minimal use of the MJP strategy (Bourhis et al., 1994).

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6 Keeping the order-factor in the design yielded similar results as those that are currently reported in the article.
Effort. The two effort items form a reliable scale ($r = .73, p < .01$). As was the case in Experiment 3, effort in the unstable, high-status group was almost as high ($M = 37.91$) as in the low-status conditions ($M = 39.93$ in the unstable, low-status case; $M = 38.23$ in the stable, low-status case), and together these three conditions differed significantly from the stable, high-status condition ($M = 39.93$), $t(71) = 2.45$, $p < .05$.

Discussion

The main goal of this experiment was to validate our distinction between symbolic and material forms of in-group bias using a similar response format (Tajfel matrices). We found strong evidence for such a distinction: More subtle and more harsh and symbolic and material forms of in-group bias could be distinguished on the basis of a factor analysis. Using these measures, we found stronger symbolic in-group bias in the stable, high-status condition than in the stable, low-status condition (in line with Experiments 1 and 3) and also, as before, evidence for the more extreme form of material in-group bias in the stable, low-status condition than in the unstable, low-status condition. As in Experiment 3, we found that although the unstable, high-status group seemed instrumentally motivated (hence equal amounts of effort compared with the low-status conditions), they did not use material in-group bias to facilitate the intergroup competition.

We did not find evidence for the more subtle form of in-group bias in the unstable, low-status condition, which may appear strange in the light of earlier evidence for this in Experiments 1 and 3. This could be because participants in the current experiment were tested in separate cubicles where they were more anonymous. This may have resulted in their feeling less obliged to confine behavior to the more benign in-group focused form of material in-group bias and more able to display the more derogatory and less socially acceptable (Reynolds et al., 2000) out-group focused forms of in-group bias. Indeed, participants in the unstable, low-status condition scored second highest (behind the stable, low-status condition) on material MD. In fact, there was some indication that participants in the unstable, low-status condition made more use of material in-group bias than they did of symbolic in-group bias, $F(1, 71) = 3.63, p = .06$. Together with the stable, low-status condition, this was the only condition where this was the case. This, together with the fact that participants in this condition minimized the use of the more cooperative material MJP strategy, demonstrates that participants in the unstable, low-status condition were instrumentally motivated but chose a different strategy than under less anonymous circumstances (as in Experiment 1, where the situation was more public than it was here). Despite this, two of our three hypotheses were supported, and at the same time our main goal of validating the distinction between symbolic and material forms of in-group bias was accomplished.

General Discussion

Across the experiments reported above, we have shown that in-group bias on an abstract and symbolic dimension is strongest for stable, high-status groups. Moreover, we demonstrated that striving for MIP was strongest under unstable, low-status conditions when in-group bias was expressed anonymously or to other in-group members. In addition, it was shown that the more extreme form of material in-group bias (i.e., the MD strategy) was strongest under stable, low-status conditions, irrespective of the audience that witnessed its expression. This latter result suggests that a nothing-to-lose strategy is used in an ultimate attempt to challenge the status quo. It was also shown that under unstable, high-status conditions group members become instrumentally motivated as they show comparable levels of effort in comparison with the low-status group, although this motivation does not lead to a stronger (material) in-group bias. Finally, symbolic in-group bias primarily served an identity-expressive function for those with secure high status, whereas material in-group bias primarily fulfilled an instrumental function, in line with our expectations.

At the theoretical level, the current work has implications for the three central questions in the study of in-group bias and in science more generally: the what, the when, and the why. Starting with the why question, the present approach has important implications for the motivational study of in-group bias. First, it shows that in-group bias can serve multiple functions, rather than being driven by a single motive. Second, in-group bias can serve social functions that are linked to the achievement of group goals and are shaped by sociostructural factors. Third, the instrumental function illustrates that, rather than being the outcome of motivational processes, in-group bias can in itself be a motivational process that
leads to certain group-relevant goals. Finally, this research shows that group members act strategically when trying to achieve group goals. Together, our approach is compatible with modern theories of motivation (e.g., Gollwitzer, 1990) that regard people as strategic goal achievers, rather than being propelled by intrapsychological drives. In addition, our approach is also consistent with more social accounts of motivation, which have focused on motivation at the group level, in terms of social identity-based goals (e.g., Ellemers, De Gilder, & Haslam, 2004; Reicher et al., 1995).

Turning to the what and when questions, the current research has shown that in-group bias is not always one and the same thing but rather takes different forms in different contexts. The approach we advocate takes advantage of the diverse character of in-group bias in that different forms of in-group bias can be indicators of different underlying motives. The two functions of in-group bias that we propose form a bridge between contextual determinants and the expression of in-group bias and therefore also help to map when, for example, low- or high-status groups are more likely to discriminate, and what form such discrimination is likely to take.

The focus on social functions also helps to preserve the important link between psychological processes and social structural factors that together provide the psychological basis for group-level behavior characteristic of the social identity approach.

The present research also extends research in the social identity tradition in relation to the effects of stability. In previous statements of theory, the assumption has been that stable low status will lead to reduced in-group bias and sometimes (when legitimate) even to bias in favor of the out-group (Tajfel & Turner, 1979; see also Jost & Banaji, 1994). We predicted and showed, however, that a stable, low-status position can lead group members to even more desperate and extreme forms of in-group bias. This effect contradicts current statements of social identity theory and to our knowledge has not previously been demonstrated experimentally. Yet the modern world abounds with examples of marginalized groups, some of whose members apparently feel forced to adopt extreme discriminatory strategies. Without wishing to condone such behavior, we use a functional approach that helps us understand why such groups might choose the more drastic and discriminatory route (“desperate situations require desperate measures”; “we have nothing to lose”). Although this line of reasoning has not been tested before in experimental studies of discrimination and the stability of status differences, there is plenty of evidence from the outside world for the more general idea that when groups find themselves in hopeless situations, drastic action against the out-group may result. A poignant example is described by Tiedens (1997), who analyzed the diverging reactions of two Jewish ghettos during WWII: the Warsaw ghetto that revolted against its oppressors and the Łódz ghetto that did not. Tiedens found that a crucial difference between the two concerned their perception of the future. The Jews in the Łódz ghetto maintained some hope for the future, whereas those in the Warsaw ghetto had given up hope of survival. In such a helpless and hopeless situation, a violent uprising is perhaps the most logical and rational course of action.

Our finding that more extreme forms of in-group bias may arise under stable, low-status conditions does not contradict the social identity theory prediction of greater in-group bias under unstable conditions (Tajfel & Turner, 1979). We find evidence for this strategy, too, albeit with respect to the more benign form of striving for MIP. This also makes sense in terms of a functional analysis: Social change is most rationally achieved when status relations are unstable by pepzing up the in-group and by not provoking the out-group (Scheepers et al., 2003).

Although our experiments demonstrate the diverse and complex nature of in-group bias, the current analysis should not be seen as exhaustive. On the structural side of our model, factors such as the permeability of group boundaries, status legitimacy (Bettencourt et al., 2001; Ellemers et al., 1990), power (Sachdev & Bourhis, 1985), and the group’s access to certain resources (McCarthy & Zald, 1977) will also play a role in explaining the function potentially and actually served by in-group bias in a given situation. We should also stress that we are not proposing that in-group bias will always be functional in achieving group goals. Indeed, under certain circumstances it may be more functional to express fairness. An illustration of this can be seen in Experiment 3. Remember that—as argued in the general introduction—in-group bias might be counterproductive in instrumental terms if it is expressed in an unstable intergroup context. In line with this argument, participants in the unstable intergroup conditions in Experiment 3 displayed the highest degree of fairness.

As argued in the introduction, the two functions of in-group bias that we have addressed in the current article can be seen as specific operationalizations of general identity and instrumental functions of intergroup behavior. Apart from identity expression, in-group bias may also be functional to identity in that it may help to create a meaningful social identity (Scheepers et al., 2002; Spears et al., 2002; Tajfel, 1978). Further, although we have focused solely on how in-group bias might be instrumental in obtaining group goals, it can also be helpful in obtaining personal goals such as material profit (Gaertner & Insko, 2000) or acceptance within a group (Noel et al., 1995). Although identity and instrumental approaches to in-group bias have frequently been regarded as rival explanations (e.g., Bourhis, Turner, & Gagnon, 1997; Rabbie, 1993), we hope that our attempt to delineate the contexts in which identity and instrumental functions operate helps to demonstrate that these approaches are complementary rather than mutually exclusive.

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