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Leader-versus-Member and Fair-versus-Biased Categorizations as Safeguards against Negative Effects of Racial Diversity on Group Attraction[1]

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Abstract

The authors performed two controlled laboratory experiments jointly guided by information integration theory and social identity theory to investigate how two task-oriented diversities--leadership and reputation--safeguard against possible negative effects of the relations-oriented diversity of race on group attraction. In Experiment 1, the race of the team leader was crossed with that of the team member. As hypothesized, the leader categorization had a stronger effect than the member categorization, and group attraction was driven by both the in-group preference and the out-group derogation. In Experiment 2, the additional task-oriented manipulation was of the leader reputation as fair versus biased. As predicted, racial differences among members did not influence group attraction, but the fair reputation reduced the difference between the in-group and out-group leader by race much more than did the biased reputation. Findings illustrate operation of positive social identity considerations due to relations-oriented diversity of race in teams. Importantly, the leadership and reputation categorizations can indeed be effective safeguards against negative effects of relations-oriented diversity on group attraction. Conceptual and applied implications are discussed.

Key words: fairness, in-group bias, leadership, racial diversity, out-group derogation

Over the years, there has been a phenomenal increase in participation by the traditionally unrepresented sections of the society in the workforce. As a result, people within organizations and in teams nowadays differ markedly in visible attributes such as age, race, and sex. Such a demographic diversity is considered as important for the commercial advantage and reputation of organizations (Love, 2010). To encourage diversity, moreover, companies have been placing people of diverse backgrounds in leadership positions (see, e.g., Groysberg & Connolly, 2013, for interviews of CEOs). What are the consequences of such relations-oriented diversity of race and task-oriented diversity of leadership versus membership in workgroups for attraction among naïve people about to enter the job market?

Survey in Organizations or Laboratory Experiments?

Most studies of organizational demography relied on surveys of people within intact workgroups in an organizational context (see, e.g., Jackson & Joshi, 2011; Joshi & Jackson, 2009; Kalev, Dobin, & Kelly, 2006; Mannix & Neale, 2005; van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998, for reviews and/or meta-analyses). Data from real-world organizations, albeit appealing, have two limitations. One is that a relations-oriented diversity in race considered in a particular study, for example, might be confounded with other similar diversities in age and sex. Such complexity of natural settings required researchers to either not measure or "do not report statistics for all of the many types of diversity that may be present in the work teams being investigated" (Jackson & Joshi, 2011, p. 655). Another, and more serious, limitation is that survey data are essentially correlational. Thus, one can never be sure of whether diversity actually caused changes in the group processes surveyed or vice versa possibly due to the successive processes of attraction, selection, and attrition over time (Schneider, 1987).

For the sake of conceptual clarity about the diversity effects on group processes, van Knippenberg and Schippers (2007) recommended complementing "survey research" by "controlled experiments" (p. 533). As a remedy for the less than desired results of the diversity practices, there have been recommendations for making "organizations and their leaders as part of the diversity solution" (Mannix & Neale, 2005, p. 48), assigning greater "organizational responsibility for change" to managers themselves (Kalev et al., 2006, p. 611), or providing effective leadership to "avoid the interpersonal problems" (Jackson & Joshi, 2011, p. 674). We agree: The causal processes triggered by team diversity have not been fully understood, nor have effective organizational safeguards against any diversity's

"… negative consequences for group process" (Williams & O'Reilly, 1998, p. 121) been so far experimentally examined. In the current research, therefore, we pursued both goals of conceptual clarity and practical utility in three novel ways.

First, we performed controlled experiments in laboratory (Ilgen, 1986) that allowed us to manipulate information about *only* race of the leader and the member of teams before measuring their respective effects on group attraction. Such a response represents how people choose their future workgroups (Hinds, Carley, Krackhardt, & Wholey, 2000) and hence might be an ideal proxy of group processes (Levine & Moreland, 1994; Kozlowski & Bell, 2003). We used race because it is a particularly salient and socially relevant category for new students (Mollica, Gray, & Trevino, 2003), and racial diversity is expected to have negative consequences for group processes (Jackson & Joshi, 2011; Mannix & Neale, 2005). Also, our research setting was Singapore, a multi-racial city-state wherein people of Chinese, Malay, and Indian races work together in multinational corporations (Nizamuddin, 2007).

Second, we kept the size of the team to three (Paletz, Peng, Erez, & Maslach, 2004)—the leader, a member, and the participant—and varied team diversities in a within-participants design. Although such a design was first employed by Anderson, Linder, and Lopes (1973) in a study of group attraction, the potential of a within-participants design has recently been reiterated for studying "leadership in natural contexts where followers make comparative judgments among two or more leaders or potential leaders" (see, e.g., Hogg, van Knippenberg, & Rast, 2012, for a review, p. 284). We also saw merit in this view because the elaboration processes activated by *formal credentials* and *titles* in organizations (Jackson & Joshi, 2011) can be augmented further by the scope of comparative judgments.

Finally, we applied information integration theory (Anderson, 1981, 1982, 2013) to identify the precise ways in which information about the race of the leader and that of the member are weighted in indicating group attraction. The most commonly used definition of diversity is "any attribute that another person may use to detect individual difference" (Williams & O'Reilly, 1998, p. 81), and such attribute can be relations-oriented surface-level category of *race* as well as task-oriented organizational category of *formal credentials* and *title* (Jackson & Joshi, 2011). By crossing the race of the leader with that of the member in Experiment 1, we intended to specify whether racial similarity and difference are weighted equally or unequally and whether racial diversity among leaders can minimize the effect of racial diversity among members in group attraction. By crossing reputation with race of the leader

in Experiment 2, we further investigated whether weight of racial diversity among leaders can be minimized more by presenting them as fair rather than in-group biased (De Cremer, Van Dijke, & Mayer, 2010; see also, e.g., Lind, 2001; van Knippenberg, De Cremer, & van Knippenberg, 2007, for reviews). Thus, ours is the first attempt to answer the theoretical question of whether racial diversity activates social identity processes in the workforce (van Knippenberg & Schippers, 2007) and the practical one of how to minimize the adverse effects of racial diversity (Jackson & Joshi, 2011; Kalev et al., 2006; Mannix & Neale, 2005) on group attraction.

Theory and Research in Diversity

Much of the diversity research in organizations in general and work teams in particular has been guided by social categorization theory (Ashforth & Mael, 1989) and social identity theory (Tajfel & Turner, 1986). According to the first theory, people spontaneously categorize themselves as young *versus* elderly, man *versus* woman, or Indian *versus* Chinese, for example, contingent upon the contexts (see, e.g., Macrae & Bodenhausen, 2000, for a review). The second theory posits that people consider those belonging to their own category as *us* or the *in-group* but those belonging to other categories as *them* or the *out-group* (see, e.g., Hewstone, Rubin, & Willis, 2002, for a review). It is the preference for the in-group over the out-group that has been posing threat to desired outcomes of diversity practices in organizations (van Knippenberg & Schippers, 2007).

Consistent with the foregoing observations, racial similarity was found to draw bosses to subordinates (Tsui & O'Reilly, 1989) and also to make the former evaluate the latter's extra-role act of helping the organization positively (Tsui, Porter, & Egan, 2002). In contrast, racial dissimilarity resulted in a greater likelihood of leaving, to be less satisfied with the job or the organization, and to receive lower performance appraisals by superiors (Tsui, Egan, & O'Reilly, 1992), all behaviors essentially driven by affective attraction (Byrne & Neuman, 1992). Lack of direct assessment of in-group *versus* out-group categorization in most of the published studies, however, led van Knippenberg and Schippers (2007) to raise "… doubts about the extent to which social categorization processes" were really operative (p. 526). The first purpose of our experiments was to dispel such doubts more confidently than ever before, using the information integration approach (Anderson, 1981, 1982).

Access to leadership roles has no doubt been difficult for people of the traditionally excluded groups (see, e.g., Eagly & Chin, 2010, for a discussion), for example, African Americans in the United States, Malays or Indians in Singapore, Chinese in Indonesia and Malaysia, and women all over the world. Contrary to this practice, task-oriented diversity in functional and organizational roles has been found to be more related to positive than negative outcomes for organizations (Jackson & Joshi, 2011; Joshi & Jackson, 2009; Mannix & Neale, 2005). By crossing race of the more powerful leader with that of the less powerful member, therefore, it should be possible to demonstrate the out-group *versus* in-group categorization by race as well as the weaker effect of the member than the leader categorization on group attraction (Anderson et al., 1973). We reason so because social identity theory regards the in-group preference as a motivated step toward creating and maintaining a positive social identity (Hewstone et al., 2002). Specifically, a more positive evaluation of the in-group than the out-group enables the participant to believe that the in-group is more valuable. This belief might be bolstered even more when an in-group, instead of out-group, person also leads the team. Such bolstering may happen because the leader is a constant source of inspiration and self-definition for the led (Hogg et al., 2012).

Anderson et al. (1973) provided the initial evidence for a greater weight of the leader than the member categorization in fostering group attraction. Personality traits varying in values from negative to positive of a leader were crossed with the corresponding traits of his group members. Attraction toward groups increased as the value of the given traits increased from extremely negative to extremely positive. Importantly, the leader traits played a more important role in making the groups attractive than did the member traits. Consistent with this finding, in-group prototypical leaders (i.e., those who made the group special) were also more effective than the non-prototypical in-group ones (Hogg et al., 2012; Platow & van Knippenberg, 2001). As the out-group leader is usually non-prototypical of the in-group, the less endorsement of the out-group than in-group leader was also interpreted as support for the motivated step toward sustaining a positive social identity (e.g., Duck & Fielding, 2003). Given these findings, we predicted that the leader, relative to the member, categorization should have a stronger effect on group attraction (Hypothesis 1).

Hypothesis 1 came directly from the results of Anderson et al. (1973) and from conceptualizations of the out-group and in-group categorizations by race in terms of value and weight of the information given (Anderson, 1981, 2013). According to information

integration theory, people process a piece of information in two terms. One is its value, that is, its location on the response measure. In the present scale, the nominal values for the out-group (-1) and in-group (+1) by race categorization could be the same for the leader and the member. Another is the weight, that is, the relative importance of the categorizations of the leader and the member. Despite the same scale value, the leader categorization may have a greater relative weight than the member categorization, and their relative weights might remain constant or differ across levels of each other. Based on the subjectively estimated values and weights of the information given, judgments are usually rendered according to the *averaging* rule. In the present research, however, our focus was on the relative weights of the leader *versus* member information and their out-group *versus* in-group categorization by race as if the same averaging rule of information integration were operative.

Information integration analysis.

Given the foregoing conceptualizations, we present four hypothetical graphs for the 2 x 2 (Leader categorization x Member categorization) effect in Figure 1. The separation between the two lines represents the effect of the leader categorization; the slope of the line, in contrast, represents the effect of member categorization. The greater the separation between the lines, the stronger is the leader effect. Likewise, the steeper the slope of the line, the stronger is the member effect. Since the nominal values of the out-group and in-group by race are the same for the leader and the member, changes in separation between the lines reflect on the changes in the relative weight of the member categorization. Likewise, changes in the slope of the lines point to the changes in the relative weight of the leader categorization. Notably, the level that reduces either the separation between lines or the slope of the line in factorial plot of the data is considered as relatively more important than the level doing otherwise (e.g., Norman, 1977, 1986; Wills & Moore, 1996). Thus, the pattern in each graph illustrates one way of weighting the manipulated categorizations in group attraction.

Consider the top left graph of Figure 1. The two lines representing the leader categorization differ by a constant value of 2 across the levels of the member categorization. In contrast, the difference between the two levels of the member categorization over both the levels of the leader categorization is by 1. We first generated such differences across the four graphs to show a uniformly greater weight of the leader categorization than the member categorization in group attraction (Anderson et al., 1973). More interestingly, the constant difference between the two lines across the out-group and in-group levels of the member categorization

resulted in a *pattern of parallelism*. Statistically, such pattern is equivalent to a stronger main effect of the row factor than the column factor and the zero interaction effect in analysis of variance (ANOVA). So, the nonsignificant interaction effect indicates that the out-group and in-group categorizations have constant relative weights regardless of what is the status of people in the team (Anderson, 1981, 1982). Put simply, the in-group categorization heightens attraction but out-group categorization dampens it.

The bottom left graph of Figure 1 also has a pattern of parallelism. Given the flatness of both the lines, however, only the main effect of leader categorization would hold. Such pattern illustrates a scenario in which diversity in leadership would be a safeguard against discrimination between subordinates differing in demographic characteristics.

In the top right graph, the separation between the two lines is less with the in-group than out-group member and the slope of the line is shallower for the in-group than out-group leader. The convergence of the lines on the right means that the in-group categorization is weighted relatively more than the out-group one. Stated differently, group attraction is driven more by preference for the in-group than suspicion of the out-group (Brewer, 1999) leader and member. This pattern is suggested by the growing evidence for a stronger in-group preference than out-group suspicion (e.g., Halevy, Bornstein, & Sagiv, 2008; McCaslin, 2010, Experiments 1 and 2; Singh, Choo, & Poh, 1998).

The opposite pattern of divergence in the bottom right graph implies a greater weighting of the out-group than in-group categorization. There is less separation between the two lines at the level of the out-group than in-group member. Similarly, the slope of the line for the out-group leader is shallower than that of the line for the in-group leader. Put simply, group attraction is dampened more by the out-group than in-group categorization of leader and member. This pattern is consistent with rejection of out-group in highly competitive intergroup contexts (Mummendey, Klink, & Brown, 2001; Singh, Yeoh, Lim, & Lim, 1997).

On three grounds, we predicted the pattern of parallelism similar to the one displayed in the top left graph of Figure 1 (Hypothesis 2). First, traits of the leader and those of the member resulted in the same pattern of parallelism in group attraction (Anderson et al., 1973). Second, the evidence for the additive model (i.e., just two main effects) of the cross-categorization effects on intergroup relations[1] is much more voluminous than that for other competing models (see, e.g., Crisp & Hewstone, 2006, for a collection of chapters). Finally, implicit

measures yielded evidence for an equal-size in-group preference and out-group derogation relative to the control condition of unspecified group (McCaslin, 2010, Experiment 3).

Leader reputation as a safeguard.

In the initial experiments on leadership effectiveness, the fair and biased leaders were distinguishable in the interpersonal contexts but not in the intergroup ones (Platow, Hoar, Reid, Harley, & Morrison, 1997). Moreover, the leader fairness was important to only those members who had low identification with the in-group (Platow, Reid, & Andrew, 1998; Platow & van Knippenberg, 2001). However, subsequent studies showed that a fair leader conveys to the members that not only they would be accepted in the group but also their contributions to the group would be properly recognized (Lind, 2001). Supporting this view, the perceived fairness of supervisors was positively related to the perceived respect of the subordinates by those supervisors (e.g., De Cremer & Tyler, 2005). Importantly, the correlation between measures of fairness and effectiveness was higher when the leader prototypicality was low than when it was high (Janson, Levy, Sitkin, & Lind, 2008).

We interpret the foregoing interaction effect as implying that the reputation as fair *versus* in-group favoring should matter more for the out-group (i.e., non-prototypical of the in-group) than for the in-group leader. Besides, fairness--a signal of the socially inclusive and objective outlook of the leader (De Cremer et al., 2010; Lind, 2001)--should attenuate the leader categorization effect much more than in-group favoritism. Accordingly, we predicted the Leader categorization x Reputation effect on group attraction (Hypothesis 3) in Experiment 2. Specifically, the leader categorization should take on less weight with a fair than an in-group favoring reputation, resulting in a convergent pattern in the factorial plot of the Leader categorization x Reputation effect similar to that in the top right graph of Figure 1. The second purpose of our research was to test the leader versus member and fair versus biased categorizations as safeguards against racial differences in group attraction.

Experiment 1

We tested two hypotheses

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Hypothesis 1: The categorization as a leader should be more important than that as a member in making a team attractive.

Hypothesis 2: The out-group and in-group categorizations by race should have constant relative weights over the levels of the leader and across those of the member.

Method

Participants. Eighty Chinese students (40 males, 40 females) from a junior college participated. We selected them randomly from different classes of the final-year students in a 2-year program. Participation was voluntary and in response to an appeal by the college principal. This participant population has a great practical interest, for the first job and organization choices are made by such naïve people (Singh, 1975).

Design. The design was a 2 x 2 x 3 x 3 (Gender of the participants x Order of stimulus presentation x Race of the leader x Race of the member) factorial with repeated measurements on the last two factors. The three races were *Chinese*, *Malay*, and *Indian*. As the participants were Chinese, the Chinese, Malay, and Indian targets would be the in-group, the out-group Malay, and the out-group Indian, respectively.

Stimuli. Following the methods of information integration theory (Anderson, 1982), we prepared experimental booklets consisting of (a) an instruction page, (b) six practice examples, and (c) 20 work teams (i.e., stimuli) in which the participant might work after their graduation. Of them, only nine stimuli that were products of three races of the leader and of the member as specified in the design.

The remaining 11 stimuli consisted of three *anchors* and eight *fillers*. The *anchor groups* included one leader and two members of the same race and were intended to eliminate *ceiling* (i.e., upper-end responding*)* and *floor* (i.e., lower-end responding*)* effects in the response measure provided (Anderson, 1982; Singh, 1996). Among the eight *filler groups*, three had one leader and two members of the same religion (all Hindu, Muslim, or Christian) and five had one leader and one member of either the same religion or gender. Categories other than race in the *filler groups* were intended to disguise the purpose of the study and make the hypothesis nontransparent to the participants. Most of the earlier cited studies that presented the in-group, out-group, and control stimuli in a within-participants design (e.g., McCaslin, 2010) were inadequate because they had no such experimental precautions.

The 20 stimuli were randomly arranged in the last part of booklet and their orders also differed across participants. However, the order of information presentation (leader-member *vs*. member-leader) was counterbalanced across half of the male and female participants. Instructions and materials were in English, the medium of instruction in Singapore.

Our design was novel because it tested the predicted constant relative weighting of the out-group and in-group categorizations by a natural group of race and that also without using a *control condition of unspecified group* (McCaslin, 2010; Singh et al., 1997, 1998). The problem with the control condition of no-information is that it can activate inferences about the missing group information in a within-participants design (Ebenbach & Moore, 2000; Singh, 2011). If so, withholding of information about the group hardly makes the control condition as such. However, crossing of the two categorizations and the resulting pattern of parallelism not only overcome this methodological inadequacy of the past work but also indicate an equal preference of the in-group and suspicion of the out-group (see, e.g., Singh & Ho, 2000, for having used this approach in separating the similarity-attraction from the dissimilarity-repulsion effect of attitudes).

There was another advantage with our design. The main effects calculated from repeated responses of the individual participant should form the Status x Categorization effect. Whereas the in-group leader, relative to the member, should make the group more attractive, the out-group leader, relative to the out-group member, should turn the group repulsive. Because of the use of two out-groups in our within-participants design, it was further possible to test the differences between the in-group and the out-group as well as between the two out-groups.

Procedure. The experimenter met the participants in a class room. He introduced himself as a psychology student at the national university, and appealed for sincere cooperation for the sake of science.

After distributing the experimental booklets among the participants, the experimenter told the participants to read the first page. Instructions stated that the task was to judge attractiveness of some teams consisting of the same age-sex people. Therefore, they should first form an impression of each group based on its composition and then indicate how attracted they were toward joining the team. It was made clear that there was no right or wrong response, and that the right response was whatever was true with them. After reading the instructions, participants familiarized themselves with task by working on the six practice examples that were presented next in the booklet. When the participants completed the practice examples, the experimenter checked whether the task was clear and answered any questions the participants had.

Before starting the data collection, the experimenter verbally repeated the main points of the instructions to the participants and urged them to judge all 20 groups one by one. Participants indicated how attracted he or she was toward joining in a team described by its leader and member(s). Ratings were made along a 21-point scale, ranging from 0 (*lowest*) to 20 (*highest*). A longer scale is considered to be extremely useful in getting precise differentiation among the stimuli presented in a within-participants design (Anderson, 1982).

Participants worked at their normal pace, and finished the task within 30 min. After collecting the completed booklets, the experimenter debriefed the participants and thanked them for the cooperation rendered.

Results

We present mean group attraction as a function of the leader categorization (curve parameter) and the member categorization (listed on the horizontal axis) in the left graph of Figure 2. To make the pattern stand out, we spaced the three levels of the member categorization on the horizontal axis according to their respective means in ANOVA (Anderson, 1976).

The clear separation between the three curves indicates the predicted main effect of the leader categorization; the positive slope of the three curves, in contrast, shows the predicted main effect of the member categorization. Importantly, the leader effect is seemingly larger than the member effect, and the curves are parallel as envisaged in the top left graph of Figure 1.

Both of the foregoing interpretations were supported by the results from a mixed-model ANOVA. The main effect of the leader categorization was significant, $F(2, 152) = 99.22$, $p < .001$, $\eta^2_p = .57$, so was the main effect of the member categorization, $F(2, 152) = 89.81$, $p < .001$, $\eta^2_p = .54$. However, the interaction between the two categorizations was negligible, $F(4, 304) = 1.31$, $p = .27$, $\eta^2_p = .02$. Thus, we also accepted Hypothesis 2 about a constant relative weighting of the out-group and in-group categorizations in group attraction.[2]

Bonferroni comparisons among the three means indicated that the in-group Chinese leader ($M = 13.40$, $SD = 2.84$) made the group more attractive than did the out-group Malay leader ($M = 9.79$, $SD = 4.26$) or out-group Indian leader ($M = 8.65$, $SD = 4.39$). Of the two out-group leaders, Malay made the group more attractive than did Indian. The same patterns of

differences held when the members were in-group Chinese (M = 12.76, SD = 3.03), out-group Malay (M = 9.95, SD = 3.95), and out-group Indian (M = 9.12, SD = 3.88).

Further test of Hypothesis 1. The leader effect size was slightly larger than the member effect size. To further test Hypothesis 1, we calculated the two main effects at the level of each individual participant. That is, we averaged the main effect of the leader over the three levels of the member (i.e., the leader effect), and the main effect of the member over the three levels of the leader (i.e., the member effect). We then subjected such scores to an ANOVA similar to that reported earlier.

We present mean group attraction driven by status in team (leader and member as the two curves) and social categorization (listed on the horizontal axis) in the right graph of Figure 2. The crossover of the member curve by the leader one was statistically significant, $F(2, 152) = 9.39$, $p < .001$, $\eta^2_p = .11$. Tests of status simple effects were significant at the out-group Indian, $F(1, 76) = 9.62$, $p < .003$, $\eta^2_p = .11$, and the in-group Chinese, $F(1, 76) = 12.33$, $p < .001$, $\eta^2_p = .14$, levels, but not at the out-group Malay level, $F(1, 76) = 1.87$, $p = .18$, $\eta^2_p = .02$. Notably, group attraction was higher when the leader, compared to the member, was the in-group Chinese but lower when the leader, compared to the member, was the out-group Indian. There was no difference between the out-group Malay leader and member.

Taken together, the results support the hypothesis that the categorization of the leader is more important than that of the member in making a group attractive. Moreover, group attraction was highest when the leader was an in-group Chinese and lowest when the leader was an out-group Indian, a result illustrating the negative consequence of demographic diversity for group process (Mannix & Neale, 2005; Williams & O'Reilly, 1998). Had we included just the out-group Malay but excluded the out-group Indian from the design, an erroneous conclusion could have been drawn that the status effect is purely an in-group phenomenon (Brewer, 1999). By including both the out-groups of the Chinese participants, we obtained both the in-group preference and the out-group rejection of the leader.

Majority versus minority status. Our design required participants to join teams in which there were already two persons. After joining a team, therefore, it could naturally be turned into a numerically *minority, majority,* or *homogenous* group for the participant. We averaged the attraction means of teams which conformed to such a classification, and subjected them to a 2 x 3 (Gender of the participants x Status) mixed-model ANOVA. As would be expected from

the left graph of Figure 2, group attraction significantly increased from minority (M = 8.21, SD = 4.55) to majority (M = 11.71, SD = 3.45) and then to homogeneous (M = 15.81, SD = 3.20) team, $F(1, 156) = 119.91$, $p < .001$, $\eta^2_p = .61$. Thus, both similarity versus dissimilarity with the constituents (Byrne, 1971) and own numerical status (Tolbert, Andrews, & Simons, 1995) within the teams made them repulsive or attractive. Less attraction toward (i) dissimilar than similar and (ii) minority than majority and/or homogeneous teams again illustrates the negative consequences of relations-oriented diversity for teams (Mannix & Neale, 2005).

Discussion

We obtained support for Hypotheses 1 and 2. The leader categorization had a stronger effect on group attraction than the member categorization. Whereas the in-group leader made the group more attractive than did the in-group member, the out-group leader made the group more repulsive than the out-group member. Also, the in-group and out-group categorizations of the leader had constant relative weights across the corresponding categorizations of the member. This finding indicates that the in-group categorization in general made the group attractive but the out-group categorization made it repulsive. Accordingly, our results confirm the predicted pattern of parallelism in the top left graph but reject the patterns in the remaining three graphs of Figure 1.

The most and least preferred work groups to the Chinese in Singapore were composed of the same-race Chinese leader and member and the different race Indian leader and member, respectively. Likewise, the teams that rendered the participant as a racially minority constituents were more repulsive than those according the majority status to the in-group. The participants showed inclination of moving toward teams made up of people like them but moving away from teams made up of people unlike them. Thus, race determines group dynamics in Singapore (Velayutham, 2007) as much as it does elsewhere (van Knippenberg & Schippers, 2007).

On two grounds, nonetheless, one may take issue with our interpretation of the in-group bias in group attraction. First, the main effects of race might have arisen more due to the numerical status of Indians (9%), Malays (13%), and Chinese (74%) in Singapore[3] than their out-group *versus* in-group categorization by race. Given such minority and majority status of the three races in Singapore, people come in contact of more Chinese than those of either Malay or Indian race and hence might have developed a more favorable attitude toward the Chinese than the other races. If so, the obtained race effect could be more the familiarity

effect (Moreland & Zajonc, 1982) than the diversity effect. Second, Indians, Malays, and Chinese in Singapore are differently stereotyped as *argumentative, happy-go-lucky*, and *industrious*, respectively (Khoo & Lim, 2004). Since these stereotypes represent the undesirable-desirable continuum of group members, it is possible that the Chinese participants responded more to these stereotypes than out-group *versus* in-group categorization by race (Singh et al., 1998). In addition to testing Hypothesis 3, therefore, Experiment 2 responded to these concerns with the results of Experiment 1.

Experiment 2

The main purposes of Experiment 2 were to retest Hypotheses 1 and 2 and test Hypothesis 3 about an interaction between the leader categorization and reputation. To remove the ambiguity underlying the categorization bias interpretation of the race effect found in Experiment 1, we included participants from two racial groups. If our in-group preference and out-group suspicion interpretations were correct, then race of the participants should not interact with the categorization by race in Experiment 2 (Hypothesis 4a). However, if the hypothesis of either numerical status or stereotypes were correct, then there should be an interaction effect (Hypothesis 4b).

Method

Participants. Thirty-two Chinese and 32 Malay students from a population comparable to that in Experiment 1 participated. We again drew them randomly from different classes of the final-year students in a 2-year program. There were 12 females in each racial group.[4]

Design. The design was a 2 x 2 x 3 x 3 x 2 (Race of the participants: Chinese *vs*. Malay x Order of information presentation: Leader-member *vs*. Member-leader x Member categorization x Leader categorization x Leader reputation: fair *vs*. biased) factorial, with repeated measurements on the last three factors (*n*s = 16 per cell). For the Chinese participants, the in-group leader and member were Chinese but the two out-groups were Malay and Indian, respectively. For the Malay participants, the in-group leader and member were Malays and the two out-groups were Chinese and Indian, respectively. Hence, our manipulation of out-group *versus* in-group by race was much clearer in the present than previous experiment.

Our design was again novel in two respects. First, we explored two task-oriented diversities of leadership position and reputation as safeguards against potential negative consequences of the relations-oriented diversity among workforce. Specifically, the interaction effect of fairness (van Knippenberg et al., 2007) on a new measure of group attraction, instead of the generally studied leadership effectiveness (Hogg et al., 2012) or positive organizational behaviors such as cooperation and organizational citizenship (De Cremer et al., 2010), was investigated. Second, the groups generated by categorization of the people within the team and the leader reputation were again presented in a within-participants design (Hogg et al., 2012). Given such a scope for comparative judgments between the targets, the predicted interaction effect should more appropriately be interpretable as an outcome of the cognitive elaboration processes (Jackson & Joshi, 2011) underlying fairness intervention (Lind, 2001; van Knippenberg et al., 2007) than of the identification with groups (Platow et al., 1998; Platow & van Knippenberg, 2001).

Stimuli and response measure. We prepared the stimuli and measured group attraction in the same ways as in Experiment 1. However, three changes were notable. First, the names of males and females from different races, religion, or gender were used to describe the leader and the member(s) in the *anchor, filler,* and *main* stimuli to make the manipulations of race further non-transparent. Second, the 18 main stimuli were presented randomly with four *anchor* and 18 *filler* stimuli. Finally, the leader was also described as one who gave due credit to all members regardless of their background characteristics (*fair*) or only looked after interests of people of own category well (*in-group biased*).

Procedure. We conducted the study in groups of 15-20 participants at a time. Each session included participants from different races and genders with a teacher always present at each session.

At the beginning of each session, the teacher introduced the experimenter as a university student, and appealed for cooperation in the study. The experimenter then presented the task, the response measure, and the practice examples before conducting the study. The entire session took less than 55 min.

Results

Initial analyses. In a five-way mixed-model ANOVA with repeated measurements on the last three factors, the main effects of leader categorization, $F(2, 120) = 9.77$, $p < .001$, $\eta^2_p = .14$,

and reputation, $F(1, 60) = 78.45$, $p < .001$, $\eta^2_p = .57$, were significant, so were the Order of information presentation x Leader reputation, $F(1, 60) = 6.39$, $p < .01$, $\eta^2_p = .10$, and Leader categorization x Leader reputation, $F(2, 120) = 4.87$, $p < .009$, $\eta^2_p = .08$, effects. Attraction toward the group led by the in-group person ($M = 11.72$, $SD = 3.59$) was higher than that led by the out-group Malay/Chinese ($M = 10.79$, $SD = 3.56$) and Indian ($M = 10.57$, $SD = 3.68$) targets.[5] Given no moderation of any of the effects by race of the participants, Fs(1/2, 60/120) < 1.37, ps > .25, the in-group *versus* out-group categorization by race (Hypothesis 4a) seemed more plausible than the use of the racial information as an indicator of either the numerical status or racial stereotypes in Singapore (Hypothesis 4b).

Test of Hypothesis 1. To contrast the attraction toward the in-group with that toward one out-group (Malay and Indian for the Chinese; Chinese and Indian for the Malays), we first averaged the responses over the two out-groups and did another ANOVA. In the left graph of Figure 3, we present the profile of the Leader categorization x Member categorization effect. Given the significant main effect of the leader categorization, $F(1, 60) = 14.23$, $p < .001$, $\eta^2_p = .19$, but virtually null effects of the member categorization and their interaction, Fs(1, 60) = 0.08, ps = .78, respectively, the obtained pattern matches with the one in the bottom left graph of Figure 1. That is, the supremacy of the leader categorization in making the group attractive or repulsive rendered the racial diversity between members rather redundant. This made the test of Hypothesis 2 ambiguous.

For sake of completeness, we calculated the main effect of leader and that of member categorizations as in Experiment 1 and subjected them to a status by categorization ANOVA. The interaction effect was significant, $F(1, 60) = 12.98$, $p < .001$, $\eta^2_p = .18$. We display the profile of this effect in the right graph of Figure 3. Notably, the crossover interaction is identical on both the sides, $F(1, 60) = 12.98$, $p < .001$, $\eta^2_p = 18$. That is, group attraction was higher when the leader, compared to the member, was from the in-group but lower when the leader from the out-group. Therefore, the previous result of a greater importance of the leader than the member in making a group attractive or repulsive was supported even better.

Test of Hypothesis 3. Given the nonsignificant effects of race of the participants and the member categorization in the ANOVAs reported above, we dropped both of these factors from the design. Accordingly, the reported results are from a 2 x 2 x 2 (Order of information presentation x Leader categorization x Leader reputation) mixed-model ANOVA, with repeated measurements on the last two factors (ns = 32 per cell).

Social categorization x Reputation effect. In the left graph of Figure 4, we present the profile of the Leader categorization x Leader reputation effect, $F(1, 62) = 6.16$, $p = .02$, $\eta^2_p = .09$. The reputation effect was slightly stronger with the out-group, $F(1, 63) = 73.00$, $p < .001$, $\eta^2_p = .54$, than the in-group, $F(1, 63) = 62.18$, $p < .001$, $\eta^2_p = .50$, leader as suggested by the correlational finding of Janson et al. (2008). Importantly, the difference between attraction toward the in-group ($M = 9.14$, $SD = 4.88$) and out-group ($M = 7.60$, $SD = 4.02$) leaders in the condition of in-group bias, $F(1, 63) = 12.96$, $p < .001$, $\eta^2_p = .17$, was about two times as large as the difference between attraction toward the in-group ($M = 14.33$, $SD = 4.02$) and out-group ($M = 13.77$, $SD = 4.31$) leaders in the condition of fairness, $F(1, 63) = 5.83$, $p = .02$, $\eta^2_p = .09$. Supporting Hypothesis 3, therefore, the leader fairness lessened racial differences between leaders in group attraction.

Order of information presentation x Leader reputation effect. Unlike in Experiment 1, there was no effect of the member categorization on group attraction. This null effect agreed more with our hypothesized buffering by the leader categorization against the negative effect of racial diversity among members than the failure of the manipulation about the member. Has there been the manipulation failure, there might not have been the moderation of the leader reputation effect by the order of information about the group composition, $F(1, 60) = 6.39$, $p = .01$, $\eta^2_p = .10$, as displayed in the right graph of Figure 4.

The difference between attraction toward the *fair* ($M = 14.56$, $SD = 3.95$) and *biased* ($M = 7.18$, $SD = 4.41$) leaders at the leader-member order, $F(1, 31) = 76.32$, $p < .001$, $\eta^2_p = .71$, was about two times as large as the corresponding difference between the *fair* ($M = 13.54$, $SD = 4.17$) and *biased* ($M = 9.56$, $SD = 4.42$) leaders at the member-leader order, $F(1, 31) = 17.99$, $p < .001$, $\eta^2_p = .37$. The order effect was nonsignificant when the leader was *fair*, $F(1, 62) = 1.02$, $p = .32$, $\eta^2_p = .02$, but significant when the leader was *biased*, $F(1, 62) = 4.65$, $p = .04$, $\eta^2_p = .07$. Essentially, then, the in-group favoring reputation of the leader made the group more repulsive particularly when such information was presented first than when it was presented after the member categorization, a kind of *primacy effect* (Anderson, 1981) of the leadership fairness heuristic (Lind, Kray, & Thompson, 2001).

Discussion

Experiment 2 yielded four results. First, both the Chinese and Malay participants were more attracted to groups led by the in-group than the out-group. Such a main effect of the leader categorization, independent of race of the participants, indicates that the racial information

was processed as in-group *versus* out-group instead of a cue to the numerical status or stereotypes of Chinese, Malays, and Indians in Singapore. Second, the leader categorization alone determined group attraction, replicating the greater importance of the leader than the member in making any work group attractive or repulsive. Third, the leader reputation moderated the effect of out-group *versus* in-group categorization by race. Although the groups led by the in-group person were more attractive than those led by the out-group person, fairness of the leader minimized such a difference. Finally, the no-member categorization effect on group attraction was because of its redundancy with the two given pieces of information about the leader. Since the order of presentation of information about the member moderated the leader reputation effect, the member categorization was attended to but totally discounted. These results show that the leader and fair categorizations could indeed be effective safeguards against the negative effect of racial diversity within group members and between leaders, respectively.

General Discussion

Two Key Contributions

Findings of the current research enrich the diversity and leadership literatures in at least two key ways. First, people of different races in a team are basically categorized as in-group *versus* out-group. The former categorization makes the group attractive; the latter categorization, by contrast, makes the group repulsive. Apparently, people do get initially drawn to those teams that are made up of others like themselves (Byrne, 1971). So, there should be no doubt about activation of positive social identity motivations in teams consisting of people of diverse races and positions (van Knippenberg & Schippers, 2007).

Second, task-oriented interventions of leadership status and fairness can be effective safeguards against the negative effect of the relations-oriented diversity of race on group attraction. In Experiment 1, the leader categorization was more important than the member categorization in group attraction. When information about leadership status and fairness were readily accessible, the former eliminated the racial differences among members and the latter minimized the racial differences among leaders perhaps because of the activation of cognitive elaboration processes (Jackson & Joshi, 2011).

Overall, then, our integration-theoretical analyses of group attraction succeeded not only in showing the motivated intergroup biases activated by racial diversity but also in offering two

ways of reducing racial differences in group attraction. In fact, we are the first to demonstrate that the negative consequences of relations-oriented diversity of race among peers for group attraction can be reduced and/or eliminated by placing people of different backgrounds in leadership roles and that among the leaders can be minimized by requiring them to be fair (De Cremmer et al., 2010; Lind, 2001: Kalev et al., 2006; van Knippenberg et al., 2007). Given such evidence for the moderating effect of the leader fairness, we agree with van Knippenberg et al.'s (2007) observation that "… remarkably little research has been done on the interactive effects of leader fairness and other aspects of leadership … and here potentially lies the greatest challenge for research in leadership and fairness" (p. 129). Our research and that of De Cremer et al. (2010) can be regarded as responses to that challenge.

Given no fillers to hide the manipulated fair *versus* in-group biased reputation, however, one may doubt whether the leader reputation was an effective safeguard against the adverse effect of the leader categorization on group attraction or a mere result of the *reactive method* used. We dismiss such a doubt about the internal validity of the moderating effect of the reputation intervention made on two grounds. First, the pattern of convergence displayed in the left graph of Figure 4 is a convincing demonstration of the simultaneous operation of the motivational and cognitive processes in group attraction. The in-group leader was consistently preferred to the out-group one, replicating the well-known in-group bias driven by motivational considerations (Hewstone et al., 2002; Hogg et al., 2012) in leadership endorsement (Platow et al., 1997, 1998; Platow & van Knippenberg, 2001). Besides, the reputation effect was stronger with the out-group leader than with the in-group one. Such a pattern of convergence in the interaction effect agrees with a simple (i.e., *they all are alike*) *versus* complex (i.e., *we are so different from each other*) cognitive representation of the out-group *versus* the in-group (see, e.g., Ostrom & Sedikides, 1992, for a review). Considered from such cognitive representation of groups, a larger effect of the given reputation information is theoretically expected for attraction toward the out-group rather than the in-group. Second, the literature also reported the primacy effect of the leadership heuristic (Lind et al., 2001). That is, the information about the justice orientation of the leader is more effective when it is presented first than last. The right graph of Figure 4 conformed to such a primacy effect at least in the condition of in-group bias.

Future Directions

Given the high internal validity of our results and the success of the previous integration-theoretical analyses of applied problems (e.g., Ebenbach & Moore, 2000; Norman, 1977, 1986; Wills & Moore, 1996), we recommend more and more use of experimentation (Anderson, 1981, 1982) in diagnoses of the weighting patterns in the effects of diversity in organizations. In the present research, we used one visible category of race in operationalizing the relations-oriented diversity and two task-oriented diversities of leadership position and leader reputation in mitigating the negative consequences of racial diversity for group attraction. However, diversity can be in multiple surface-level categories of age, race, and sex as well as deep-level categories of attitudes, knowledge, and values (Mannix & Neale, 2005), so can be the multiple task-oriented interventions of the leader fairness (Lind, 2001; van Knippenberg et al., 2007) and vision (Greer, Homan, De Hoogh, & Den Hartong, 2012), assigning greater responsibility to managers (Kalev et al., 2006), requiring chief executive officers (CEOs) to be inclusive (Groysberg & Connolly, 2013), and pro diversity policy in the country (Guimond et al., 2013) in minimizing or eliminating the negative consequences of diversity for organizations.

The patterns of parallelism and nonparallelism that we used to diagnose weights of the diversities manipulated can now be used to investigate complex processes activated by other experimental manipulations. For example, the majority in-group members but minority out-group members or vice versa with same in-group or out-group leader of teams (Tolbert et al., 1995) can trigger different level of cognitive elaboration processes and social identity concerns. Nevertheless, those processes can be tracked down by similar patterns of parallelism, convergence, divergence, and crossovers arising out of the constant or changing relative weights within the averaging model (Anderson, 1981). Further, the weights can be expected to change depending upon whether the participant is going to be a member or the leader (Norman, 1977) in the team or the organization. In the current research, we studied only the member role for the participant. In the future research, it might be more profitable to manipulate both the roles of leader and member for the participants in teams varying in the number of the in-group and out-group members as in contemporary global corporations.

Guimond et al. (2013) showed that the success of the diversity practices also depends upon the public policy of a country. Given this finding, the demonstrated effectiveness of leadership position and reputation as safeguards against the negative consequences of racial

diversity in our research might have arisen also from the high commitment of the Government of Singapore to meritocracy and fairness (Singh & Kaur, 2002) in a society promoting separate racial identities (Lee, 1995). Accordingly, future work on group attraction should include participants from more than one nation.

We now advocate a combined field-experimental approach to studying group performance in applied field situations of business and government. Hands-on field experiences are essential to understand goals and motivations of different members of any group. Such experiences, however, are basically correlational with inevitable ambiguities as we pointed out in the introduction (Jackson & Joshi, 2011; van Knippenberg & Schippers, 2007). Development of diversity theory would require experimental analyses with systematic manipulations of variables that seem important in field situations. Such experimental work can yield causal conclusions to extend correlational suggestions. Moreover, controlled experiments have the notable advantage of allowing study of variables poorly represented in actual field situations as potential guides to improvement of group interaction.

When the same stimuli prepared from a factorial design are presented more than once in either the laboratory or field study, the integration-theoretical analysis allows diagnosis of the rule at the level of individual participants (Anderson, 1982). Individual differences might be in the integration rules or in the subjective values assigned to the information given (Anderson, 1976). Given only one rating of the stimuli presented, it was impossible to undertake such individual analysis in the present study. Nevertheless, future combined field-experimental research should take advantage of this leverage provided by the integration-theoretical analysis (Ebenbach & Moore, 2000; Singh, 1996).

Implications

Conceptual. Brewer (1999) argued that the in-group love does not necessarily require the out-group hate. Our findings suggest a modification in her conception of the intergroup bias. In the present study of group attraction, attraction to the in-group seemed to be as pervasive as repulsion from the out-group. Thus, a positive social identity is affirmed and maintained in teams or organizations by both upward and downward comparisons of the in-group with the relevant out-group (Singh et al., 1997, 1998). It was the overemphasis on only the positive distinction between groups that led McCaslin (2010) to show that out-group derogation is as important as is in-group preference in intergroup attitudes. Our finding of the parallelism

pattern in Experiment 1 confirms his result and extends it from North Americans to South-East Asians.

On the other hand, our findings cast doubt on group identification as a critical moderator of the social categorization effect on leadership effectiveness. In previous studies (Platow et al., 1998; Platow & van Knippenberg, 2001), only participants who had low identification with the in-group endorsed a fair leader more than an in-group favoring one. In our Experiment 2, participants might have had high identification with their races because the Government of Singapore has been aiming at *one society* but *separate racial identities* (Lee, 1995). Nonetheless, both the Chinese and Malay participants were more attracted to the group led by a fair than an in-group biased leader. To us, therefore, identification may be sufficient but not necessary for moderating the social categorization effect on at least group attraction.

Applied. The applied implications of our findings lie in offering two task-oriented interventions for effective management of the diversity practices in organizations. One is the placement of more and more people from the traditionally unrepresented groups in leadership roles. As we showed, leadership roles to people of different races reduced the racial differences among members in Experiment 1 and altogether eliminated it in Experiment 2.

Another intervention for organizations would be to make fairness mandatory for managers and leaders of teams, departments, and organizations. As we showed, the difference between the in-group and out-group leaders was less when they were fair to all than when they were prototypical of their respective in-groups. Therefore, we endorse strict enforcements of the fairness and inclusive practices by the 24 CEOs in their respective organizations (Groysberg & Connolly, 2013).

Conclusion

In sum, inadequate attention to contexts such as leaders and culture of transparency and meritocracy might not only obscure “the important consequences of diversity in organizations” but also hamper “efforts to synthesize and integrate the cumulative evidence from the past…” (Joshi & Jackson, 2009, p. 622). By performing two controlled laboratory experiments, we first show that the relations-oriented diversity in race does produce repulsion from groups that are made up of dissimilar people, and hence poses a threat of turning the otherwise desired diverse organizations into homogenous ones (Scheider et al., 1998). Our

contribution lies in demonstrating that such negative consequences of the racial diversity for workgroups can be minimized by promoting task-oriented diversities of leadership and fairness.

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Footnotes

1. Both the adding and category dominance models imply the two main effects and hence the pattern of parallelism (Crisp & Hewstone, 2006). However, the two main effects are of the same size in the former but of unequal size in the latter. In the extreme case of category dominance, only one category is used as displayed in the bottom left graph of Figure 1.
2. None of the two key results was moderated by the two between-participants factors. However, the leader effect was stronger with males than females at the leader-member order, $F(2, 76) = 3.13$, $p = .05$, $\eta^2_p = .08$, but not at the member-leader order, $F(2, 76) = 1.50$, $p = .23$, $\eta^2_p = .04$. Thus, the Gender of the participants x Order of information presentation x Social categorization of the leader effect reached significance, $F(2, 152) = 3.12$, $p = .05$, $\eta^2_p = .04$.
3. (http://en.wikipedia.org/wiki/Race_in_Singapore) downloaded on July 7, 2014.
4. There was no gender effect at all in Experiment 2. So, it was dropped from the design.
5. No difference between the out-group Indian and the other out-group (i.e., Malay for the Chinese and Chinese for Malays) may be due to the activation of only the in-group *versus* out-group categorization. In Experiment 1, all participants were Chinese. In contrast, participants from both the Chinese and Malay races were present in each data gathering session. Given the context-sensitivity of the self-categorization process, our results should not be surprising.

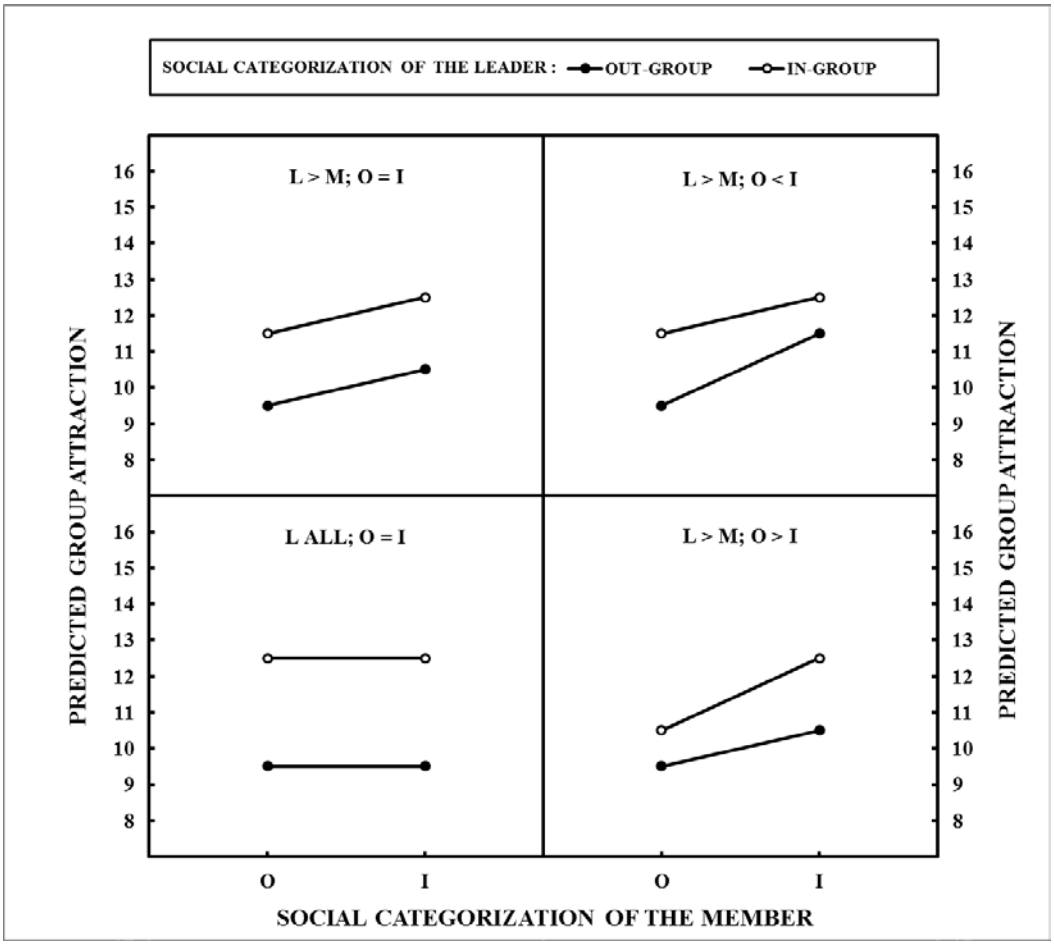

Figure 1. Hypothetical patterns of predicted mean group attraction in the Leader's categorization x Member's categorization effects. In each graph, mean group attraction varies as a function of the leader's categorization (curve parameter) and the member' categorization (listed on the horizontal axis). The graphs on the left represent two cases of constant relative weights; those of the right, in contrast, reflect on opposite changes in relative weights over levels.

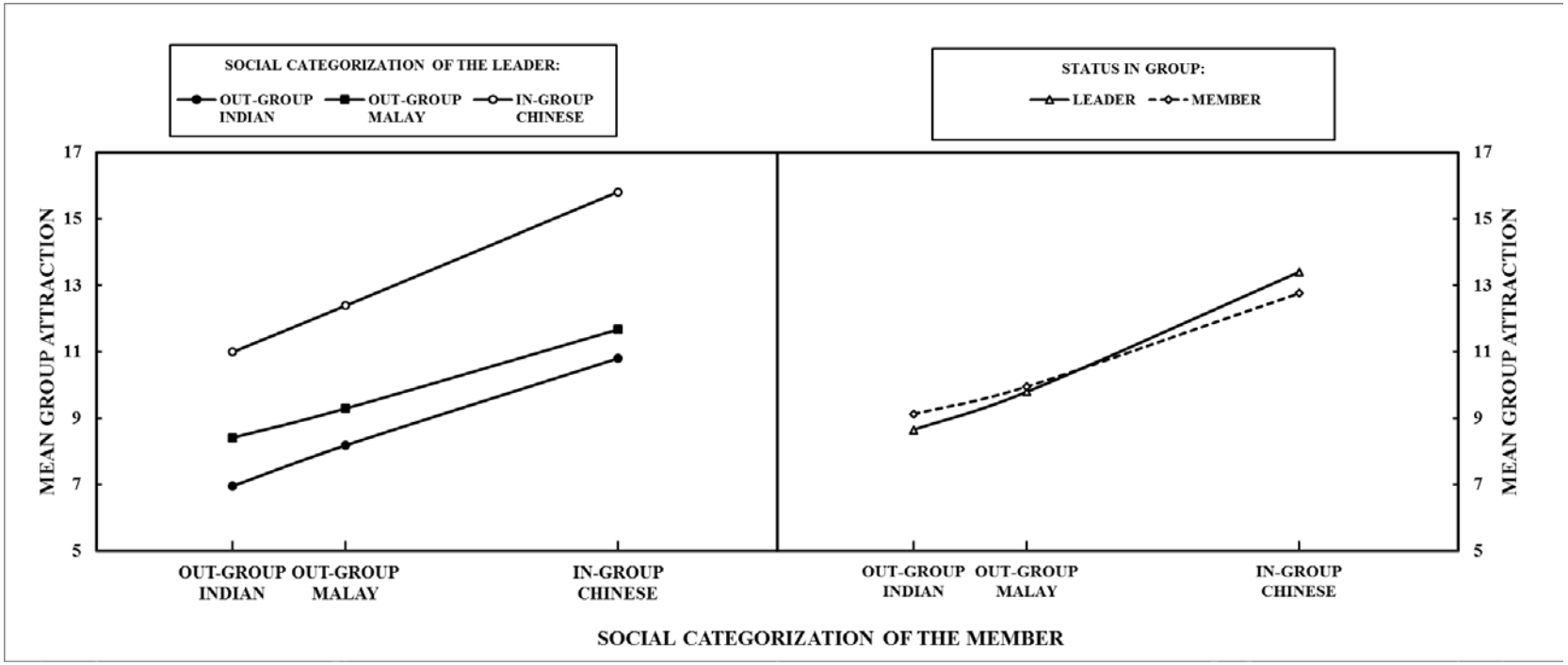

Figure 2. Mean group attraction in the left graph varies as a function of the leader's categorization (curve parameter) and the member's categorization (listed in horizontal axis). Mean group attraction in the right graph varies as a function of status in the team (curve parameter) and social categorization (listed on horizontal axis). Results from Experiment 1.

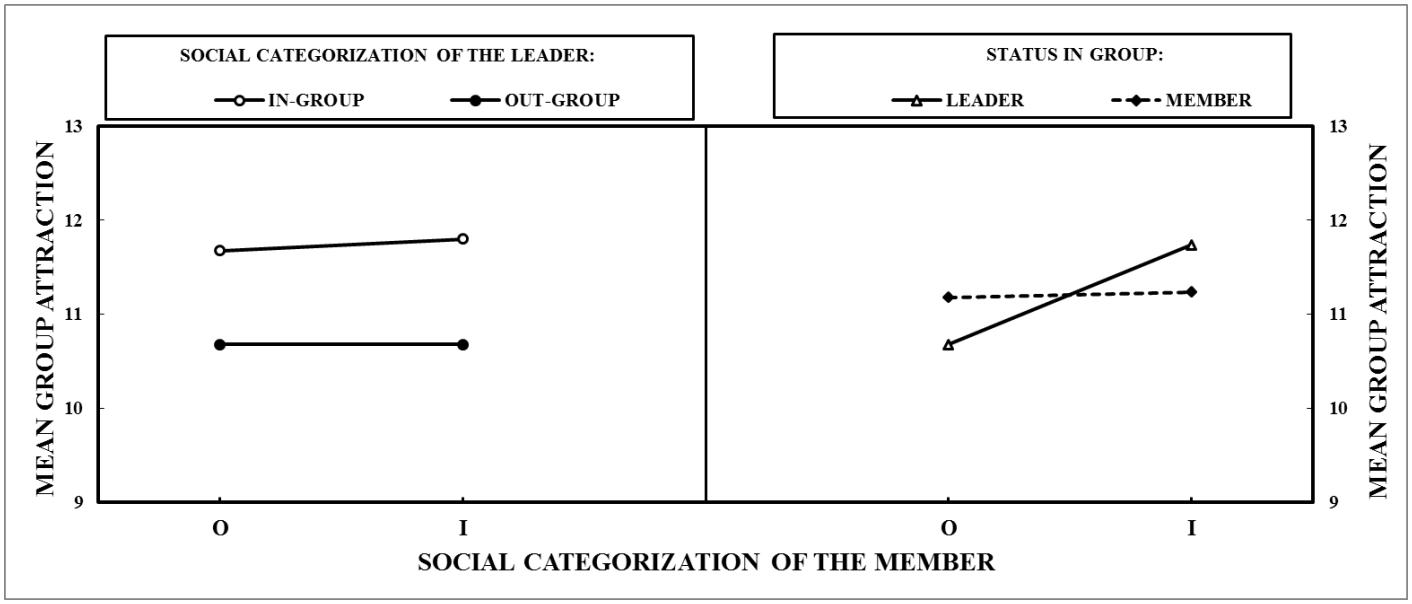

Figure 3. Mean group attraction in the left graph varies as a function of the leader's categorization (line parameter) and the member's categorization (listed in horizontal axis). Mean group attraction in the right graph varies as a function of status in the team (line parameter) and social categorization (listed on horizontal axis). Results from Experiment 2.

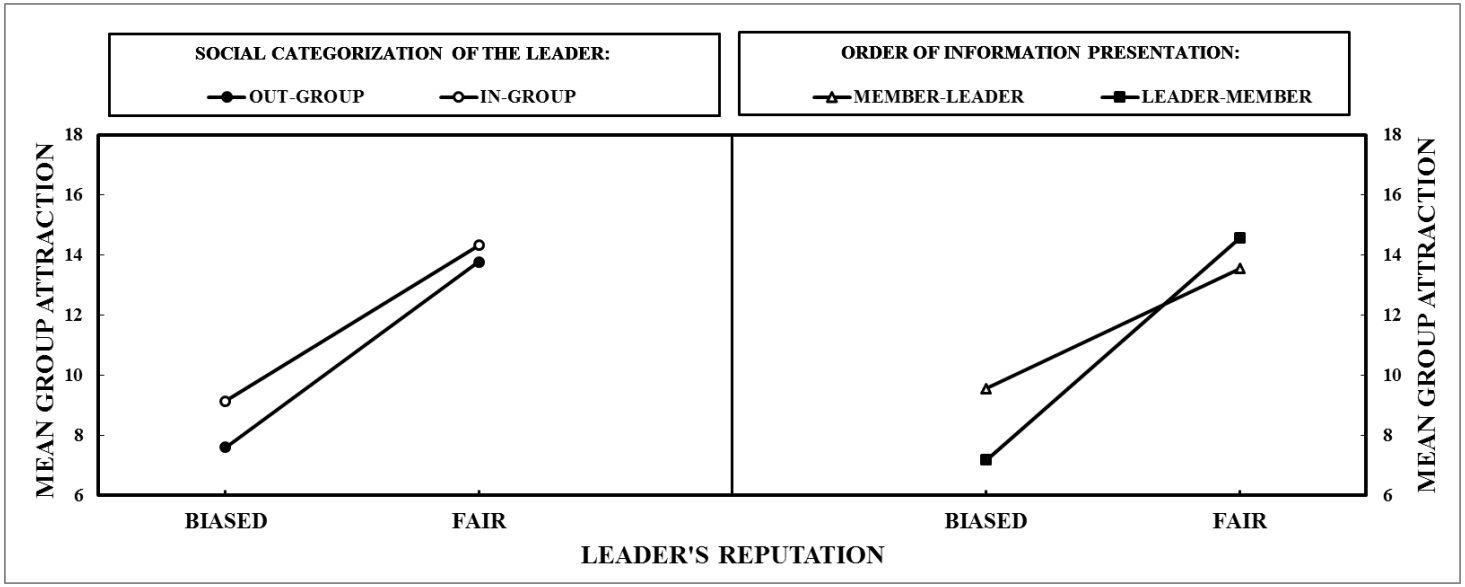

Figure 4. Mean attraction toward groups led by in-group and out-group leaders (line parameter) and the leader's reputation (listed in horizontal axis) in the left graph. Mean attraction toward groups led by leaders with information presented before and after the member's categorization (line parameter) and the leader's reputation (listed in horizontal axis) in the right graph. Results from Experiment 2.