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The dynamics of compensation:

When ingroup favoritism paves the way for outgroup praise

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Abstract

Compensation research suggests that when people evaluate their own and another group, the search for positive differentiation fuels the emergence of compensatory ratings on the two fundamental dimensions of social perception, competence and warmth. In two experiments, we tested whether obstacles to positive differentiation on the preferred dimension disrupted compensation. Both experiments showed that high-status (low-status) group members grant the outgroup a higher standing on warmth (competence) when positive differentiation can be achieved on the orthogonal dimension, competence (warmth). Moreover, and in line with the '*noblesse oblige*' effect, Experiment 2 confirmed that, among high-status group members, perceived higher pressures toward non-discrimination were linked to outgroup bias on warmth only when ingroup bias on competence had been secured. The discussion focuses on compensation as one of the factors contributing to cooperative intergroup relations.

Keywords: Intergroup Relations, Stereotyping, Competence & Warmth, Compensation, Noblesse oblige

Compensation is the tendency for people confronted with a group higher than another on one of the two fundamental dimensions of social judgment, i.e., competence and warmth, to consider that this group is also lower on the other dimension (for reviews, see Kervyn, Yzerbyt, & Judd, 2010; Yzerbyt, 2016). Whereas a host of empirical efforts document the prevalence and consequences of people's propensity to compensate, only a few studies examined the conditions giving rise to compensation (Cambon, Yzerbyt & Yakimova, 2015; Yzerbyt, Provost, & Corneille, 2005). Notably, it remains unclear *when* and *how* people end up conceding inferiority on one of the two fundamental dimensions, as is necessitated by compensation. Is compensation conditional upon the possibility of shining on one's preferred dimension? And when people are given a chance to evaluate their group more positively than the other on their preferred dimension, what might explain the fact that they confer to the other group a more positive evaluation on the other dimension? Why in particular would compensation occur when a high status group might be tempted to simply infer its superiority on both of the fundamental dimensions? The present experiments sought to shed light on the role of compensation in regulating intergroup relations by disrupting people's tendency to affirm their group's positivity on their preferred dimension and by checking their willingness to concede ingroup inferiority on the other dimension.

#### *The compensation pattern*

According to social identity theory (SIT), the need for positive and distinctive social identity is at the heart of intergroup relations (Tajfel & Turner, 1979). Still, group members do not discriminate all the time on all possible dimensions. SIT holds that people's appraisal of social groups is constrained by the objective status relations between groups: High-status groups display ingroup favoritism in status-relevant domains, whereas low-status groups manifest ingroup favoritism in status-irrelevant

domains (Bettencourt, Dorr, Charlton, & Hume, 2001; Brewer, 1979; Mullen, Brown, & Smith, 1992; Mummendey & Schreiber, 1983; Reichl, 1997). According to the stereotype content model (SCM; for a review, see Fiske 2015), status-irrelevant and -relevant domains are associated to the trait domains of warmth and competence, respectively (Oldmeadow & Fiske, 2010; Kervyn, Yzerbyt & Fiske, 2015). In addition, Yzerbyt and colleagues (2005, 2008) argued that these two dimensions often turn out to be negatively correlated, a pattern they called *compensation*. In the context of intergroup relations this effect materializes in an ingroup favoritism on one dimension, compensated by an outgroup favoritism on the other dimension.

In an initial test, Yzerbyt et al. (2005) polled French and French-speaking Belgians in a study on linguistic skills. While participants confirmed that French speak a more standard, high-status, variety of French than French-speaking Belgians, they also rated Belgians as warmer and less competent than French. That is, each group considered that it outperformed the other group on one of the two dimensions *at the same time* that it conceded outgroup superiority on the other dimension, thereby actualizing the compensation pattern. These findings have been replicated in a more controlled context, by relying on a minimal group paradigm (Judd et al., 2005).

Over the last decade, a substantial number of studies accumulated to show that compensation is rather common in social perception (Biernat, Sesko & Amo, 2009; for a review, Yzerbyt, 2016). As Yzerbyt and colleagues (2005, p. 292) noted, compensation corresponds to a situation in which “both (groups) would be satisfied with the situation to the extent that all parties involved find a way to achieve a decent level of positivity on some dimension while admitting to being outperformed by the outgroup on another dimension.” Indeed, compensation has been interpreted as a social creativity strategy to re-establish positive social identity for low-status groups and as a magnanimity strategy

to maintain positive social identity for high-status groups (Yzerbyt et al., 2008). In the first case, although disadvantaged groups have to acknowledge ingroup inferiority on the status-related dimension, they would seek to bolster their standing on the other dimension (Niens & Cairns, 2003; Tajfel & Turner, 1979; van Knippenberg, 1978). As for the advantaged groups, they may want to appear non-discriminatory when their superior status is otherwise ensured by showing outgroup bias on the status-irrelevant dimension (Bettencourt, Dorr, Charlton & Hume, 2001; Leach, Snider, & Iyer, 2002; Vanbeselaere, Boen, Van Avermaet, & Buelens, 2006).

As much as the proposed motivational underpinnings of compensation align with existing theoretical knowledge, they have not yet been explored empirically. However, several empirical findings offer suggestions regarding why and when compensation occurs.

#### *The search for positive differentiation*

A first aspect concerns the way group members use each of the two dimensions. Although the high-status group is generally seen as higher on competence and the low-status on warmth, the compensation pattern is not strictly equivalent in magnitude for both groups. In line with Yzerbyt et al.'s (2005) conjecture that each group would seek distinctiveness on its preferred dimension, their French (Belgians) participants differentiated the competence (warmth) of the two groups more than the Belgians (French). Similarly, Judd and colleagues (2005) found a tendency to maximize the difference on the dimension favorable to one's group. Such data suggest that the choice of the specific dimension attached to each group is anything but trivial and that group members compensate only to the extent that they have the opportunity to shine on their preferred dimension. However, to date, this interpretation relies on post-hoc interpretation. The first aim of this article is thus to show experimentally that people's

willingness to concede outgroup superiority on one dimension crucially depends on their being able to affirm ingroup superiority on the other dimension.

*The subjective objectivity of competence*

In a recent set of studies, Oldmeadow and Fiske (2010) asked students from two different universities clearly enjoying a different status to evaluate both groups' competence and warmth. High- and low-status students differentiated their group positively on stereotypes of competence and warmth, respectively but, more importantly, the high-status sample emphasized their competence advantage and minimized differences in warmth whereas the low-status sample did the reverse. Interestingly, only one in the four groups sampled by Oldmeadow and Fiske (2010), namely the low-status sample in Study 1, delivered a clear compensation pattern by which the superiority of one's ingroup in the preferred domain is 'strictly' mirrored by the superiority of the outgroup in the other domain. For these authors, the greater difficulty to interpret competence (in relation to status) compared to warmth provides a possible explanation for this pattern. In our opinion, it is important to collect empirical evidence that competence indeed appears more objective and less 'negotiable' than warmth. A positive answer would go a long way to explain why ingroup bias is more commonly observed among high-status groups than low-status ones. Testing this hypothesis constitutes the second aim of this paper.

*The acceptance of status asymmetry*

But why was there no standard compensation in the other conditions examined by Oldmeadow and Fiske (2010), unlike in Yzerbyt et al.'s (2005) studies and Judd et al.'s (2005) experiments where it emerged in all conditions? Presumably, the competition between their students was higher than between the Belgians and French or between minimal group members, sufficiently so that ingroup favoritism prevailed

even on the non-preferred dimension. In line with this analysis, Cambon and colleagues (2015) proposed that the existence of a generally well-accepted asymmetry between the social groups, often associated with a high level of legitimacy and a low level of conflict, is critical for the emergence of compensatory judgments. These authors asked psychology majors to rate their ingroup and another major, either a very inferior, inferior, equal, superior, or very superior status outgroup. As predicted, compensation increased as a function of status asymmetry between the groups. Additionally, the members of the high-status group proved more willing to concede the superiority of the outgroup on warmth when they also experienced some pressures not to discriminate.

#### *The present experiments*

Our main goal in the present experiments was to provide evidence that people's willingness to concede outgroup superiority on one dimension crucially depends on their being able to affirm ingroup superiority on the other dimension. Experiment 1 provided an initial test of this hypothesis. Experiment 2 sought to replicate this pattern with a larger number of participants and different comparison groups. We were also interested in showing that the different 'objectivity' of the two fundamental dimensions likely influences the expression of compensation versus ingroup bias. Finally, we hoped to delineate the conditions under which pressures to avoid discrimination may be related to compensation.

We examined these issues by using a deceptively simple yet powerful stratagem: Instead of asking participants to rate the groups on two dimensions, we initially gave them only one dimension without telling that they would subsequently rate the second one. When positive differentiation is feasible – because the stereotypically preferred dimension is initially available, that is, competence and warmth for the high-versus low-status group members, respectively – we expected compensation to emerge. Such cases



can be seen as '*comfortable*' situations. In contrast, when differentiation is hindered – because the preferred dimension is not initially presented (i.e., the warmth-first and competence-first conditions respectively for high- and low-status groups) – compensation should be less likely. Said otherwise, when people are confronted with a dimension that prevents positive differentiation, they find themselves in '*uncomfortable*' situations and should be much less likely to acknowledge outgroup superiority.

As mentioned above, whereas the competence dimension is rather objectively tied to the status of groups (Cuddy et al., 2008), fewer reality constraints prevail for warmth (Tausch, Kenworthy, & Hewstone, 2007). The consequences of this difference are twofold. First, it is more difficult for any given group to downplay the reputation of another group on competence than on warmth. Second, whereas an undue claim for competence by a group could be questioned, an undue claim for warmth is more difficult to question. This places a high-status group at a distinct advantage compared to low-status groups whenever superiority on one's preferred dimension cannot readily be affirmed. Whereas the warmth-first condition is not very problematic for high-status groups, the competence-first condition challenges low-status groups.

Specifically, we would expect ingroup bias for high-status groups when warmth is presented first because the subjectivity of warmth should allow them to claim warmth for themselves and to downplay the warmth of the outgroup. Instead, low-status groups should be confronted with two antagonistic forces when competence is initially presented alone. Given the reality constraints associated with competence, low-status groups might acknowledge the fact that the high-status group is superior on this dimension. But because this clearly triggers a serious threat, low-status groups should not readily favor the outgroup when they are not aware that they will subsequently judge the two groups on warmth. All in all, these forces should result in limited

differences between the evaluations of the two groups on competence. Of course, this dilemma could be resolved more easily when the status difference between both groups is perceived as less marked and the superiority of the high-status group on competence might be challenged.

### Experiment 1

Experiment 1 relied on a procedure clearly leading to compensation, that is, asymmetrical relations in the absence of conflict. We asked participants from a specific group to consider one out of five outgroups varying in their relative status compared to the ingroup. We predicted that compensation would emerge so as to fit the relative status difference between the groups, with the high- and low-status groups more linked to competence and warmth, respectively. In line with Cambon et al. (2015), we expected that compensation would be more marked when the status difference is larger than smaller. More importantly, we examined the importance of being able to express one's superiority on the preferred dimension by asking participants to rate the ingroup and the outgroup under one of two conditions. Depending on condition, the traits pertaining to one of the two fundamental dimensions, competence versus warmth, appeared on a first screen. Only after participants had filled in these ratings, a second screen appeared with the traits concerning the other dimension. We predicted different outcomes depending on the nature of the first dimension and the relative status of the ingroup.

When the first dimension is one allowing positive distinctiveness (competence for high-status groups and warmth for low-status groups), participants should differentiate themselves positively from the outgroup. This should then let participants exhibit outgroup favoritism on the second dimension, in line with compensation. In contrast, when the first dimension departs from what is preferably associated with the ingroup (competence for low-status groups and warmth for high-status groups) positive

differentiation should be more difficult. In this case, because competence and warmth are not entirely equivalent stereotype dimensions in that reality constraints are more marked for competence than for warmth, we expected stronger ingroup bias for high- than for low-status groups on the initially presented dimension.

## Method

### *Participants*

A total of 123 psychology students participated for partial course credit. Three cases were omitted because they doubted the credibility of the manipulation. The final sample consisted of  $N=120$ . Ages ranged between 18 and 45 years ( $M=23.04$ ;  $SD=3.77$ ; females=66%).

### *Procedure and design*

Participants were run in sessions of four or six persons. They came to the laboratory to participate in a survey on the future relocation of different departments of the university on campus. Because the university allegedly wanted to know where each major wished to be located, participants were shown the responses given by a sample of other majors. This procedure was used to five levels of distance between the outgroup relative to the ingroup: a very superior ingroup, a slightly superior one, equal ingroup and outgroup, a slightly inferior ingroup, and a very inferior one. The responses given by the outgroup were clearly not conflicting because the outgroup declared that they did not want to occupy the psychology department, one of the nicest buildings on campus (see Footnote 1).

Participants then filled in the dependent variables allegedly as part of the general survey on relocation and were debriefed. The experiment adopted a 5 (ingroup status: very superior vs. slightly superior vs. equal vs. slightly inferior vs. very inferior) x 2 (order of presentation: warmth-first vs. competence-first) factorial design.

### *Materials*

The groups that we used to manipulate the status of the ingroup relative to the outgroup were auxiliary nurse, special education, sociology, economy, and medical majors and corresponded to the very superior, slightly superior, equal status, slightly inferior, and very inferior ingroup conditions, respectively. These groups were selected on the basis of a pretest so as to significantly differ among them on the status dimension and, with the exception of the equal status condition, also significantly differ from the psychology major.

### *Measures*

First, we measured the perceived status of the ingroup relative to the outgroup on a 9-point scales with 1 (9) corresponding to the perception of a lower (higher) status. Participants then rated the ingroup and the outgroup on 12 positive and negative competence and warmth traits (see Yzerbyt et al., 2008) on a 9-point scale ranging from 1 (=not at all) to 9 (=totally). To facilitate a comparative judgment and avoid counterbalancing the order of the descriptions, participants rated each group on the same scale, using an "I" to tick the scale when describing their ingroup and an "O" when describing the outgroup. Importantly, whereas half of participants were confronted with a first page presenting only the 3 positive and the 3 negative warmth traits, followed by a second page presenting the 3 positive and the 3 negative competence traits, the remaining participants received these pages in the reverse order. We averaged the ratings on the three positive traits and the (reversed) ratings on the three negative traits for each dimension for each group. Cronbach's alphas ranged from .72 to .84.

### *Results*

#### *Manipulation checks*

Confirming the success of the status manipulation, a 5 (ingroup status: very inferior vs. slightly inferior vs. equal vs. slightly superior vs. very superior) x 2 (order of presentation: warmth-first vs. competence-first) ANOVA only revealed a main effect of status,  $F(4,110)=264.80, p<.001$  ( $M_{\text{very inferior}}=1.38, M_{\text{slightly inferior}}=4.08, M_{\text{equal}}=4.96, M_{\text{slightly superior}}=5.83, M_{\text{very superior}}=6.50$ ).

### *Compensation*

We submitted the trait ratings to a 5 (ingroup status: very inferior vs. slightly inferior vs. equal vs. slightly superior vs. very superior) x 2 (order of presentation: warmth-first vs. competence-first) x 2 (target group: ingroup vs. outgroup) x 2 (dimension: competence vs. warmth) mixed-model ANOVA with the first two factors varying between participants and the last two within them.

The target group was the strongest effect,  $F(1,110)=176.98, p<.0001, \eta_p^2=.62$ , with higher ratings given to the ingroup than to the outgroup. More importantly, and on top of several other significant lower-order effects, the four-way interaction confirmed that compensation depended on the combination of status difference and order of presentation,  $F(4,110)=24.26, p<.0001, \eta_p^2=.47$  (see Table 1).

Compensation emerged *every time* participants could show a positive differentiation on their 'favorable' dimension, that is, when participants were in an advantageous (superior ingroup status) position and could differentiate on their preferred dimension of competence (competence-first) and when they were in a disadvantageous position (inferior ingroup status) but could differentiate on their preferred dimension of warmth (warmth-first). In all these '*comfortable*' conditions, compensation took the form of *ingroup favoritism* on the 'preferred' dimension compensated by *outgroup favoritism* on the other.

The pattern was very different when positive differentiation was less easy. When participants were in the inferior or very inferior conditions and rated competence first or when they were in the superior or very superior conditions and rated warmth first, there was no compensation. Instead, confirming our predictions for these 'uncomfortable' conditions, ingroup favoritism was found on both dimensions. This was especially the case for very superior and slightly superior ingroups. The only exception was when psychology students judged medical doctors as the outgroup and had to evaluate competence first. In this case, the ingroup was judged non-significantly more competent than the very superior outgroup. In sum, when confronted with an uncomfortable evaluative context, high-status groups were quick to rely on ingroup bias on both dimensions whereas low-status groups appeared to find this strategy trickier.

Regarding the equal status conditions, that is, when none of the two dimensions provides an obvious means to differentiate positively, participants seemed particularly undecided, with a slight preference for overall ingroup favoritism when competence was presented first and no difference in the other condition.

To compare more directly the pattern of means obtained in the comfortable and uncomfortable conditions, we discarded the equal status conditions and conducted a 2 (comfort of the condition: uncomfortable, coded as -1 with 48 participants, vs. comfortable, coded as 1 with 48 participants) x 2 (target group: ingroup vs. outgroup) by 2 (dimension: preferred vs. non-preferred) mixed-model ANOVA with the first factor varying between participants and the last two within them. We took dimension preference as our factor so as to capitalize on the fact that the specific dimensions involved in the compensation swap roles when looking at the very inferior and slightly inferior ingroup conditions or at the very superior and slightly superior conditions.

In line with predictions, the dimension by target group interaction came out very significant,  $F(1,94)=189.85, p<.0001, \eta_p^2=.67$ . More importantly, this effect was qualified by comfort of the condition,  $F(1,94)=67.50, p<.0001, \eta_p^2=.42$ . there was clear compensation in the comfortable conditions,  $F(1,47)=143.45, p<.0001, \eta_p^2=.75$ , whereas no such pattern emerged in the uncomfortable conditions,  $F(1,47)=49.30, p<.0001, \eta_p^2=.51$  (Figure 1). A follow-up analysis on the four comfortable conditions ( $N=48$ ) adopting a 2 (status difference: moderate vs. large) x 2 (target group: ingroup vs. outgroup) by 2 (dimension: preferred vs. non-preferred) mixed-model ANOVA with the first factor varying between participants and the last two within them also revealed that the magnitude of the compensation pattern depended on the status difference between the groups,  $F(1,46)=66.44, p<.0001, \eta_p^2=.88$ , with more compensation when the status difference was large,  $F(1,23)=473.65, p<.0001, \eta_p^2=.95$ , rather than moderate,  $F(1,23)=43.09, p<.0001, \eta_p^2=.65$ .

Interestingly, the target effect,  $F(1,94)=105.80, p<.0001, \eta_p^2=.53$ , was qualified by a target by comfort interaction,  $F(1,94)=66.76, p<.0001, \eta_p^2=.42$ , confirming the presence of a strong ingroup bias in the uncomfortable conditions,  $F(1,47)=113.55, p<.0001, \eta_p^2=.71$ , whereas such a response pattern barely reached significance in the comfortable conditions,  $F(1,47)=4.47, p<.04, \eta_p^2=.09$ . Moreover, a follow-up analysis on the four uncomfortable conditions ( $N=48$ ) adopting a 2 (ingroup status: inferior vs. superior) x 2 (target group: ingroup vs. outgroup) by 2 (dimension: preferred vs. non-preferred) mixed-model ANOVA with the first factor varying between participants and the last two within them supported our hypothesis that the magnitude of the ingroup bias on the initial dimension of comparison depended on the status relation between the groups,  $F(1,46)=5.15, p<.03, \eta_p^2=.09$ , with more ingroup bias when the status of the

ingroup was superior,  $F(1,23)=34.11$ ,  $p<.0001$ ,  $\eta_p^2=.60$ , than when it was inferior to the outgroup,  $F(1,23)=11.88$ ,  $p<.003$ ,  $\eta_p^2=.34$ .

In addition to checking for compensation on the basis of the means, an alternative strategy consists in examining the relations among people's relative ratings of the groups on the fundamental dimensions (Judd et al., 2005; Yzerbyt et al., 2005). We compared the comfortable and uncomfortable conditions with a regression analysis using ingroup bias on the preferred dimension (centered), comfort (coded as above), and the interaction between these variables as our predictors and ingroup bias on the non-preferred dimension as our criterion. The model was significant,  $F(3,92)=84.03$ ,  $p<.0001$ ,  $R^2=.73$ , with  $b=0.02$ ,  $t(92)=0.24$ , *ns.*, for ingroup bias on the preferred dimension,  $b=-0.46$ ,  $t(92)=-4.14$ ,  $p=.0001$ , for comfort, and  $b=-0.65$ ,  $t(92)=-7.33$ ,  $p=.0001$ , for their interaction. Importantly, probing the simple effects of ingroup bias on the preferred dimension on the ingroup bias on the non-preferred dimension for each level of comfort revealed the presence of a negative relation in the comfortable conditions,  $b=-0.63$ ,  $t(92)=-5.43$ ,  $p<.0001$ , but a positive one in the uncomfortable ones,  $b=0.67$ ,  $t(92)=5.00$ ,  $p<.0001$ .

We also checked how outgroup warmth fluctuates with ingroup competence and how outgroup competence relates to ingroup warmth, each as a function of comfort. Depending on participants' initial confrontation with the preferred or non-preferred dimension, we predicted positive and non-significant relations, respectively. For the comfortable conditions, both the regression model using outgroup warmth as the criterion and ingroup competence as the predictor and the one using outgroup competence as the criterion and ingroup warmth as the predictor were significant,  $beta=.73$ ,  $t(46)=7.24$ ,  $p<.0001$ , and  $beta=.33$ ,  $t(46)=2.36$ ,  $p<.03$ . As for the uncomfortable conditions, the first regression model was not significant,  $beta=.06$ ,  $t(46)=0.37$ , *ns*, while



the second was significant,  $\beta=.29$ ,  $t(46)=2.06$ ,  $p<.05$ . In sum, participants rated the groups in a hydraulic manner within each dimension when they were given a chance to shine on their preferred dimension first. The situation was less clear when participants first met their non-preferred dimension.

## Discussion

The primary goal of Experiment 1 was to examine whether the possibility to differentiate positively on the group's preferred dimension would influence group members' tendency to compensate. The data fully corroborate our predictions. When initially presenting participants with only one of the two fundamental dimensions, compensation emerged only when participants had first been able to rate their group more positively than the outgroup. This was the case when high-status groups first evaluated both groups on competence or when low-status groups first rated both groups on warmth. Interestingly, and replicating earlier findings (Cambon et al., 2015; Cambon & Yzerbyt, 2016), compensation proved sensitive to the status difference with larger status differences giving way to stronger compensatory ratings.

When initially confronted with their non-preferred dimension, i.e., warmth for the high-status groups and competence for the low-status groups, and thus finding themselves in an uncomfortable condition, participants relied on ingroup favoritism. Only when the status of the ingroup was very inferior to that of the outgroup did participants fail to express clear ingroup favoritism with respect to competence. In contrast, high-status groups encountered little difficulty to ascertain their superiority on warmth, a dimension commonly seen as the prerogative of low-status groups. Globally, this led to a stronger ingroup bias for high-status groups.

Encouraging as these findings may be, the impact of the order of presentation on compensation requires a replication with a larger number of participants. It would also

be informative to compare the above data with conditions in which both dimensions are presented simultaneously. Moreover, these findings remain silent regarding psychological mechanisms that may accompany compensation. Finally, Experiment 2 aimed at examining the role played by the differential objectivity of the two fundamental dimensions and the pressures not to discriminate.

### Experiment 2

Experiment 2 added conditions in which both fundamental dimensions were presented simultaneously. Another ambition was to better delineate the role played by the difference of objectivity between the two dimensions in the emergence of compensation. We therefore included a measure of the objectivity of the rating dimensions. A third aim was to examine why it is that high-status members judge the low-status group better on the status-irrelevant dimension, namely warmth. A possible explanation for this magnanimity or 'noblesse oblige' pattern (Vanbeselaere et al., 2006) lies in the strong normative pressures pertaining to the manifestation of discrimination (Monteith, Deneen, & Tooman, 1996). In line with this idea, Cambon et al. (2015) found initial evidence that, when high-status group members are made aware of their superiority, the intergroup difference may activate the norm of nondiscrimination. Because high-status group members would feel embarrassed to express ingroup bias on both dimensions, they may restrict their partisanship to the one on which their domination is undeniable.

#### *Design and hypotheses*

Experiment 2 again relied on asymmetrical relations in the absence of conflict, using different groups and a different scenario. Participants considered one of four outgroups varying in their relative status compared to the ingroup. We manipulated the

direction and the size of the status difference between the groups and asked their judgments about both groups under one of three conditions.

In a first condition, the traits belonging to the two dimensions appeared on the same screen. Because this presentation allows differentiating the groups by the strategic use of both dimensions, we expected compensation. We also predicted that a greater status distance between the groups would induce a stronger sense of legitimacy of the social hierarchy and encourage compensation. The two other conditions replicated Experiment 1. The traits pertaining to one dimension appeared on a first screen and only after participants had filled in these ratings a second screen appeared with the traits concerning the other dimension. As before, we predicted that participants would differentiate positively from the outgroup when the first dimension is their preferred one (competence for high-status groups and warmth for low-status groups). Having achieved positive differentiation should then let participants exhibit outgroup favoritism on the second dimension, in line with compensation. In contrast, when the first dimension departs from what is preferably associated with the ingroup (competence for low-status groups and warmth for high-status groups) participants should have a harder time achieving positive differentiation. Again, because the reality constraints are stronger for competence than for warmth, we expected stronger ingroup bias on the initially presented dimension for high- than for low-status groups. To shed light on these conjectures, we measured the perceived importance and objectivity of the traits tapping each dimension. We predicted that competence would be seen as more objective than warmth. Also, in line with the differential impact of reality constraints on these two dimensions, we expected that high-status and low-status groups would give more importance to competence and warmth respectively.

Finally, we wanted to dig into the subjective dynamics of compensation by checking whether differences observed in the means translated into within-participant correlations. That is, compensation corresponds to a strategy used to ensure a sense of worth on one dimension in the presence of a negative comparison on another. Moreover, we expected this reaction to be all the more tempting when the distance of the groups in terms of competence is large as opposed to small and triggers a sense of legitimacy of the status difference. Last but not least, and in line with the 'noblesse oblige' effect, we predicted that the link between pressures toward non-discrimination and the expression of outgroup favoritism on warmth would emerge only when the members of the high-status group have had a chance to secure the superiority of the high-status group on the competence dimension.

## Method

### *Participants*

In total, 261 psychology students from a French-speaking university participated for partial course credit. Eleven cases were omitted from the analyses because they doubted the credibility of the manipulation or guessed that the study investigated ingroup bias or provided nonsensical data. The final sample consisted of  $N=250$ . Ages ranged between 18 and 41 ( $M=20.7$ ;  $SD=2.33$ ; females=65%). In light of earlier work on compensation and of the current design, this number ensured that our phenomena of interest would be examined with adequate power.

### *Procedure and design*

Participants were run individually, allegedly participating in a survey on the creation of a new university degree that would bring together different curricula involved in the health care system and train medicine, biochemist, nurse, and auxiliary nurse majors as well as themselves, i.e., psychology majors. They learned that students

from each major had to rate the other majors and that to facilitate things their questions would only concern one other major. This procedure allowed manipulating the status of the ingroup relative to the outgroup. On the basis of a pretest and depending on conditions, participants found themselves in a very inferior ingroup (when psychology students rated medical doctors), a slightly inferior ingroup (biochemist), a slightly superior one (nurses), or a very superior ingroup one (auxiliary nurses).

Next, participants responded on a computer that controlled the order of presentation of the items. To ascertain that the ingroup used involved a reasonable level of identification, participants first completed a 10-item identification questionnaire taken from Ellemers, Kortekaas, and Ouwerkerk (1999) on scales from 1 (*=do not agree at all*) to 7 (*=strongly agree*) (*Cronbach's alpha*=.88). Next, they rated two groups (the ingroup and one of the four outgroups) on a series of 12 traits, 6 related to warmth (nice, pleasant, sensitive, sincere, sociable, warm) and 6 to competence (ambitious, competent, efficient, intelligent, hard-working, self-assured), using 9-point scales from 1 (*=not at all*) to 9 (*=totally*). *Cronbach alphas* ranged from .82 to .92.

The traits were presented according to one of three orders of presentation. In the *joint condition*, all 12 traits for both groups were presented on the same screen in a fixed random order. In the *warmth-first condition*, the 6 warmth traits were presented first for both groups on the same screen and, only after these traits had been filled in for both groups, then the 6 competence traits appeared, again for both groups on the same screen. In the *competence-first condition*, this order was reversed. Next, participants rated the importance of each of the 12 traits on a 9-point scale from 1 (*=not at all important*) to 9 (*=very important*) and their objectivity from 1 (*=very subjective*) to 9 (*=very objective*). The reliabilities of the perception of the importance of competence

traits (.69), warmth traits (.81), and of the objectivity of competence (.62) and warmth traits (.76) proved acceptable.

Participants then answered questions pertaining to the status difference between the ingroup and the specific outgroup as well as to the legitimacy and stability of the status difference. Next, participants answered several filler questions related to their attitude about the new university degree mixed with questions using 9-point scales that dealt with the perception of pressures toward non-discrimination (“In this study, did you have the impression that you were unable to give your opinion toward the other group in a sincere manner?”) (*Cronbach’s alpha*=.66) and their perception of a conflict between the groups (“Do you feel hostility toward the other group”).

Finally, the purpose of the study was revealed and participants were encouraged to discuss issues related to fairness and discrimination between real life minority and majority groups.

## Results

### *Manipulation checks*

A 4 (ingroup status: very inferior vs. slightly inferior vs. slightly superior vs. very superior) x 3 (order of presentation: joint vs. warmth-first vs. competence-first) ANOVA revealed no effect on identification. Participants expressed a moderately high level of identification,  $M=5.27$ , significantly different from 4, the scales’ midpoint,  $t(249)=21.34$ ,  $p<.0001$ .

The same ANOVA on the status perception scores revealed a status effect,  $F(3,238)=122.66$ ,  $p<.001$ ,  $\eta_p^2=.61$ . Confirming the success of our manipulation, paired comparisons showed that students perceived each group as having a different status ( $M_{very\ superior}=7.15$ ,  $SD=1.75$ ,  $M_{slightly\ superior}=6.17$ ,  $SD=1.12$ ,  $M_{slightly\ inferior}=3.89$ ,  $SD=1.11$ ,  $M_{very$

*inferior*=2.88, *SD*=1.64). Moreover, Student *t* tests revealed that all four means differed from 5, the scale's midpoint.

We created a legitimacy index by averaging the items related to legitimacy and stability,  $r=.71$ ,  $p<.0001$  (see Footnote 2). The same ANOVA on this index revealed the presence of a status effect,  $F(3,238)=21.86$ ,  $p<.001$ ,  $\eta_p^2=.22$ . Paired comparisons showed that participants perceived the difference between the groups as more legitimate and stable when they saw themselves as member of a very superior ( $M=6.83$ ,  $SD=1.76$ ) or very inferior group ( $M=6.19$ ,  $SD=2.25$ ) than as member of a slightly superior ( $M=5.15$ ,  $SD=1.13$ ) or slightly inferior group ( $M=4.65$ ,  $SD=1.12$ ). A set of contrasts confirmed that the very inferior and the very superior conditions were conducive to higher legitimacy scores than the slightly inferior and the slightly superior condition,  $F(1,238)=58.65$ ,  $p<.0001$ ,  $\eta_p^2=.20$ . Whereas the very inferior condition was somewhat different from the very superior condition,  $F(1,238)=4.86$ ,  $p<.03$ ,  $\eta_p^2=.02$ , the slightly inferior and the slightly superior conditions did not differ from each other,  $F(1,238)=2.59$ ,  $p>.10$ . This pattern confirms earlier findings (Cambon et al., 2015) and supports the idea that larger intergroup status differences translate into a more legitimate social hierarchy.

Finally, the situation was not perceived as conflictual ( $M_{\text{very superior}}=2.61$ ,  $SD=1.64$ ,  $M_{\text{slightly superior}}=3.54$ ,  $SD=2.02$ ,  $M_{\text{slightly inferior}}=3.20$ ,  $SD=1.72$ ,  $M_{\text{very inferior}}=2.67$ ,  $SD=1.46$ ).

Student *t*-tests revealed that all four means fell significantly below 5, the scale's midpoint.

### *Compensation*

We submitted the trait ratings to a 4 (ingroup status: very inferior vs. slightly inferior vs. slightly superior vs. very superior) x 3 (order of presentation: joint vs. warmth-first vs. competence-first) x 2 (target group: ingroup vs. outgroup) x 2

(dimension: competence vs. warmth) mixed-model ANOVA with the first two factors varying between participants and the last two within them (See Table 2).

Confirming our central hypothesis, and on top of several significant lower-order effects (see Footnote 3), the four-way interaction proved significant,  $F(6,238)=6.24$ ,  $p<.05$ ,  $\eta_p^2=.14$  (Table 2). Compensation emerged *every time* participants could show a positive differentiation on their 'preferred' dimension, that is, when all traits were presented simultaneously, when participants were in an inferior position but could differentiate on warmth (warmth-first), and when they were in a superior position and could differentiate on competence (competence-first). In all these 'comfortable' conditions, compensation took the form of *ingroup favoritism* on the 'favorable' dimension compensated by *outgroup favoritism* on the other dimension.

In sharp contrast, whenever positive differentiation was not readily possible, that is, when participants were in the very inferior or inferior conditions and had to rate competence first or were in the very superior or superior conditions and were asked to rate warmth first, compensation failed to emerge. Instead, ingroup favoritism emerged on both dimensions, confirming our predictions for these 'uncomfortable' conditions. This was especially the case for very superior and slightly superior ingroups. The only exception was when psychology students judged medical doctors as the outgroup and first had to evaluate competence. In this one case, the competence of the ingroup was judged slightly less than that of the clearly superior outgroup. In sum, when confronted with an uncomfortable evaluative context, high-status ingroups expressed ingroup bias on both dimensions whereas low-status groups appeared to find this strategy less easy to embrace.

To more directly test our specific prediction that participants would show more compensation in comfortable than in the uncomfortable situations, we conducted a 2



(comfort of the condition: uncomfortable, coded as -1 with 88 participants, vs. comfortable, coded as 1 with 162 participants) x 2 (target group: ingroup vs. outgroup) x 2 (dimension preference: preferred vs. non-preferred) mixed-model ANOVA with the first factor varying between participants and the last two within them. We considered dimension preference for this analysis so as to take into account the fact that the predicted compensation pattern reverses when considering a very inferior or inferior ingroup as opposed to a very superior or superior ingroup. A significant three-way interaction confirmed that participants in comfortable conditions expressed significantly more compensation than those in uncomfortable conditions,  $F(1,248)=76.99, p<.0001, \eta^2=.24$  (see Figure 2). Probing this interaction for comfortable and uncomfortable conditions separately showed more pronounced compensation in the comfortable,  $F(1,161)=279.19, p<.0001, \eta^2=.59$ , than in the uncomfortable conditions,  $F(1,87)=7.22, p<.009, \eta^2=.08$ .

As expected, there was also a target effect,  $F(1,248)=108.41, p<.0001, \eta^2=.30$ , which was qualified by a target by comfort interaction,  $F(1,248)=70.58, p<.0001, \eta^2=.22$ , such that participants displayed more ingroup bias in the uncomfortable,  $F(1,87)=70.52, p<.0001, \eta^2=.45$ , than in the comfortable conditions,  $F(1,161)=5.81, p<.002, \eta^2=.04$ . Looking only at the initially presented dimension in the uncomfortable conditions confirmed that ingroup bias depended upon the status of the ingroup,  $F(1,86)=24.66, p<.0001, \eta^2=.25$ . Specifically, ingroup bias emerged when the ingroup enjoyed a superior status,  $F(1,41)=30.69, p<.0001, \eta^2=.43$ , but not when the ingroup was inferior to the outgroup.  $F(1,45)=1.59, p<.21, ns$ .

We used a 4 (ingroup status: very inferior vs. slightly inferior vs. slightly superior vs. very superior) x 3 (order of presentation: joint vs. warmth-first vs. competence-first) x 2 (target group: ingroup vs. outgroup) x 2 (dimension preference: preferred vs. non-

preferred) mixed-model ANOVA as above to look more precisely at the impact of the status difference on compensation. The significant target by dimension preference interaction, embodying compensation,  $F(1,238)=288.54, p<.0001, \eta_p^2=.55$ , was qualified by ingroup status,  $F(3,238)=9.88, p<.0001, \eta_p^2=.11$ , and order of presentation,  $F(2,238)=16.36, p<.0001, \eta_p^2=.12$ . Finally, the four-way interaction was also significant,  $F(6,238)=11.02, p<.0001, \eta_p^2=.22$ .

To probe these interactions, we reran the analysis after having decomposed the ingroup status effect by means of a set of three a priori contrasts. The first contrast opposed the very inferior and the very superior conditions to the slightly inferior and the slightly superior condition. The second compared the very inferior to the very superior conditions. The third one compared the slightly inferior to the slightly superior condition. In line with our legitimacy hypothesis, the first contrast qualified the target by dimension preference interaction,  $F(1,238)=21.06, p<.0001, \eta_p^2=.08$ , confirming that compensation was more marked in the very superior and very inferior conditions than in the remaining conditions.

Next, we evaluated our more specific hypothesis that there would be more compensation when the status difference between the groups is perceived to be larger *and* both fundamental dimensions are considered at the same time. To do this, we checked whether the three contrasts in each of the three order conditions delivered the predicted pattern. As it turns out, the three-way interaction with the first contrast was the only significant one when both dimensions were presented simultaneously,  $F(1,78)=10.83, p<.002, \eta_p^2=.12, F(1,78)<1, ns$ , and  $F(1,78)<1, ns$ , for the three contrasts, respectively. Quite a different pattern emerged when participants evaluated warmth first,  $F(1,80)=1.90, p<.18, \eta_p^2=.02, F(1,80)=33.63, p<.0001, \eta_p^2=.30$ , and  $F(1,80)=31.63, p<.0001, \eta_p^2=.28$ , for the three contrasts, respectively, or competence first,

$F(1,80)=10.30, p<.002, \eta_p^2=.11, F(1,80)=3.99, p<.05, \eta_p^2=.05,$  and  $F(1,80)=12.88, p<.001, \eta_p^2=.14,$  for the three contrasts, respectively. Clearly, participants' initial confrontation with only one of the two dimensions disturbed the link between the expression of compensation and the difference of status between the groups.

### *The phenomenology of compensation*

We also hypothesized that compensation should show as a significant negative relation between the relative group ratings on competence and on warmth (Judd et al., 2005; Yzerbyt et al., 2005). To test this prediction, we conducted a series of regression analyses as a function of order of presentation and ingroup status using the relative group ratings on warmth as the criterion and the relative group ratings on competence as the predictor. As Table 3 shows, compensation depends on the possibility for participants to positively differentiate on their 'preferred' dimension. Indeed, a strong negative relation emerged in all eight comfortable conditions. Turning to the uncomfortable conditions, whereas the relations for the slightly inferior and very inferior group were not significant when only competence traits were initially presented, the data revealed very strong positive relations for the slightly superior and very superior groups when participants were initially presented only with the warmth traits. Thus, members of the slightly superior and very superior groups do not hesitate to manifest ingroup bias on warmth. Said otherwise, when no obvious possibility presents itself for positive differentiation on the 'naturally' favorable dimension, i.e., competence, high-status group members readily see themselves as better than the outgroup even on the non-favorable dimension. No such pattern emerges for the ratings of the low-status groups.

As in Experiment 1, we compared the patterns for the comfortable and uncomfortable conditions, with a regression analysis using ingroup bias on preferred

dimension (centered), comfort (coded as above), and the interaction between these variables as our predictors and ingroup bias on non-preferred dimension as our criterion. The model was significant,  $F(3,246)=96.97, p<.0001, R^2=.54$ , with  $b=-0.02, t(246)=-0.47, ns.$ , for ingroup bias on the preferred dimension,  $b=-0.70, t(246)=-7.22, p=.0001$ , for comfort, and  $b=-0.44, t(246)=-8.25, p=.0001$ , for their interaction. Probing the simple effects of ingroup bias on the preferred dimension on the ingroup bias on the non-preferred dimension for each level of comfort confirmed a negative relation in the comfortable conditions,  $b=-0.46, t(246)=-7.27, p<.0001$ , but a positive one in the uncomfortable ones,  $b=0.41, t(246)=4.86, p<.0001$ .

To further unpack group ratings on the two dimensions, we examined how outgroup warmth varies with ingroup competence and how outgroup competence relates to ingroup warmth as a function of comfort. Depending on participants' initial confrontation with the preferred or non-preferred dimension, we expected positive and non-significant relations, respectively. Turning to the comfortable conditions first, both the regression model using outgroup warmth as the criterion and ingroup competence as the predictor and the one using outgroup competence as the criterion and ingroup warmth as the predictor were significant,  $beta=.54, t(160)=8.04, p<.0001$ , and  $beta=.53, t(160)=7.51, p<.0001$ . The same regression models failed to reach significance for the uncomfortable conditions,  $beta=.05, t(86)=0.43, ns.$  and,  $beta=.10, t(86)=0.96, ns.$  In sum, participants rated the groups in a hydraulic manner within each dimension only to the extent that they were given a chance to shine on their preferred dimension first.

Next, we checked the viability of our 'noblesse oblige' account. As argued elsewhere (Cambon et al., 2015; Yzerbyt et al., 2005, 2008), this reaction should take place among high-status groups when their members feel securely positioned at the top of the hierarchy. Under those circumstances, superiority to the members of the low-

status group may be conceded on aspects irrelevant to the key comparison dimension, i.e. warmth. It is this magnanimity that supposedly gives rise to the negative correlation observed for the high-status groups in the above analysis. One issue is that high-status groups are not the only ones displaying a negative correlation. However, what characterizes the noblesse oblige effect is that it is likely linked to the concurrent experience of pressures to non-discrimination by members of high-status groups.

In line with this reasoning, we first tested our data for the presence of stronger subjective pressures of non-discrimination among high-status than among low-status groups with a 4 (ingroup status: very inferior vs. slightly inferior vs. slightly superior vs. very superior) x 3 (order of presentation: joint vs. warmth-first vs. competence-first) ANOVA and found a status effect,  $F(3,238)=31.33$ ,  $p<.0001$ ,  $\eta_p^2=.28$ . As expected, the means *only* revealed a significant linear pattern,  $F(1,238)=92.17$ ,  $p<.0001$ ,  $\eta_p^2=.28$ . The very inferior conditions triggered the least pressures ( $M=3.82$ ,  $SD=1.16$ ), followed by the slightly inferior ( $M=4.32$ ,  $SD=0.80$ ), the slightly superior ( $M=4.97$ ,  $SD=0.98$ ), and the very superior ( $M=5.99$ ,  $SD=2.01$ ). All these means differed from each other, all  $F_s>4.78$ , all  $p_s<.03$ .

Although a stringent test of the noblesse oblige hypothesis would require a mediational rationale (Judd, Yzerbyt, & Muller, 2014), the present design precludes such an analysis. Still, we decided to look at the relation between the relative ratings of both groups on competence and on warmth after controlling for the pressures toward non-discrimination using a series of multiple regressions. Looking first at the regressions using pressures toward non-discrimination as the criterion and the relative ratings on competence as the predictor, only five of the twelve regressions indicate the presence of a positive impact of the predictor, namely, the two 'comfortable' slightly superior conditions and the three very superior conditions (see Table 3). Restricting our

examination of the covariate to the slightly superior and very superior situations revealed that, in all four comfortable conditions, the inclusion of the covariate in the model rendered the relation between the relative ratings on the two dimensions non-significant, in accordance with our noblesse oblige hypothesis. When all four comfortable conditions are collapsed, the predicted negative relation between the relative ratings,  $\beta = -.61$ , drops significantly,  $\beta = -.27$ , when pressures are included in the model,  $\beta = -.56$ . In sharp contrast, the two uncomfortable conditions in which high-status groups were initially confronted with warmth traits failed to show any impact of pressures toward non-discrimination. A model collapsing these two uncomfortable conditions revealed that the initial relation between the relative ratings of the groups,  $\beta = .62$ , remained totally unchanged,  $\beta = -.02$ , after the inclusion of the pressures toward non-discrimination in the model.

#### *Importance and objectivity*

A 4 (ingroup status: very inferior vs. slightly inferior vs. slightly superior vs. very superior) x 3 (order of presentation: joint vs. warmth-first vs. competence-first) x 2 (dimension: competence vs. warmth) mixed-model ANOVA on importance with the last factor varying within participants revealed that competence was judged more important ( $M = 5.59$ ,  $SD = 0.97$ ) than warmth ( $M = 5.38$ ,  $SD = 1.04$ ),  $F(1, 238) = 7.19$ ,  $p < .008$ ,  $\eta_p^2 = .03$ . In line with predictions, the ingroup status by dimension interaction was significant,  $F(3, 238) = 5.25$ ,  $p < .002$ ,  $\eta_p^2 = .06$ , confirming that the relative importance of both dimensions proved sensitive to the difference of status between the groups. Specifically, participants saw warmth and competence as equally important when the status of the ingroup was very inferior (*mean difference* =  $-0.13$ ,  $SD = 1.30$ ) or slightly inferior (*mean difference* =  $-0.04$ ,  $SD = 1.11$ ) to that of the outgroup,  $t(67) < 1$ , *ns*, and  $t(64) < 1$ , *ns*, respectively. In contrast, competence was judged more important than warmth when

the ingroup was slightly superior (*mean difference*=0.51, *SD*=1.35) or very superior (*mean difference*=0.56, *SD*=1.43) to the outgroup,  $t(59)=2.93$ ,  $p<.005$ , and  $t(60)=3.04$ ,  $p<.004$ , respectively. There was also an ingroup status and order of presentation interaction,  $F(6,238)=2.43$ ,  $p<.03$ ,  $\eta_p^2=.06$ , in that participants in the slightly superior condition gave more importance to both competence and warmth traits in the warmth-first condition than in the other conditions,  $F(2,56)=4.51$ ,  $p<.02$ ,  $\eta_p^2=.14$ .

Concerning objectivity, the same ANOVA showed that participants judged competence ( $M=5.79$ ,  $SD=1.07$ ) to be much more objective than warmth ( $M=4.11$ ,  $SD=1.34$ ),  $F(1,238)=242.35$ ,  $p<.0001$ ,  $\eta_p^2=.50$ . This main effect was again qualified by a significant ingroup status and dimension interaction,  $F(3,238)=5.03$ ,  $p<.003$ ,  $\eta_p^2=.06$ . Follow-up analyses indicated that the greater objectivity seen for competence than for warmth, although always significant, was somewhat less present in the slightly superior condition (*mean difference*=1.09,  $SD=1.55$ ),  $t(59)=5.41$ ,  $p<.0001$ , and most marked in the very inferior condition (*mean difference*=2.17,  $SD=1.70$ ),  $t(67)=10.50$ ,  $p<.0001$ , with the slightly inferior (*mean difference*=1.52,  $SD=1.19$ ) and very superior (*mean difference*=1.89,  $SD=2.14$ ) conditions falling in between,  $t(64)=10.20$ ,  $p<.0001$ , and  $t(60)=6.85$ ,  $p<.0001$ , respectively. Pairwise comparisons between these four mean differences revealed that only the two extreme values differed significantly from each other.

## Discussion

This second experiment aimed at replicating the finding that group members compensate only to the extent that they can position their group in a relatively superior position on their preferred fundamental dimension. Nicely supplementing Experiment 1, participants simultaneously confronted with traits related to both competence and warmth showed a clear compensation pattern such that they attributed more (less)

competence but less (more) warmth to the superior (inferior) ingroup than to the outgroup. Our key prediction however concerned the situations where participants were initially confronted with only one of the two dimensions. We expected compensation in what we called comfortable situations, that is, situations that allow group members to indicate their superiority on their preferred dimension, i.e., competence for the superior groups and warmth for the inferior groups. Upon later meeting the other dimension, these participants totally complied with the compensation pattern and gave higher ratings to the outgroup on this dimension. An even more interesting situation was created by initially providing participants with their non-preferred dimension. In these uncomfortable situations, the otherwise robust compensation pattern failed to emerge. Participants proved reluctant to concede superiority to the outgroup on either dimension and, in the case of superior ingroup, displayed outright ingroup bias. When the second, preferred, dimension was eventually presented, they again expressed ingroup favoritism.

The data of Experiment 2 again suggest that low-status groups may have been confronted with two opposing forces in the competence-first condition. Because differences of competence appear rather objective, low-status groups may find it hard to dispute the superiority of the high-status group. Still, accepting the outgroup's superiority constitutes a serious threat. So, in order to secure some positive differentiation, participants will likely not favor the outgroup on the dimension of competence. At the same time, they should also hesitate to express strong ingroup favoritism on this dimension because they should recognize the superiority of the high-status group. Together, these considerations should result in mild differences between the group ratings. One window of opportunity may present itself when the status difference appears less legitimate, i.e., in the slightly inferior condition. Then, the



superiority of the high-status group on competence could be questioned and some degree of ingroup bias may emerge even on the competence dimension. Sure enough, the second set of traits, i.e., on warmth, allows low-status participants to express strong ingroup favoritism.

In sharp contrast, if high-status group members want to differentiate positively in the warmth-first condition, they can easily do so. That low-status groups are often perceived as warmer than high-status ones does not refrain the latter from expressing ingroup favoritism, given the subjectivity of warmth. Upon meeting the competence traits and because their superiority on competence is hardly questionable, high-status group members will again self-promote on this dimension. The net result is that ingroup bias emerges on both dimensions rather than compensation.

Beyond the observed impact of status on the expression of ingroup bias, especially on the first encountered dimension in the uncomfortable conditions, the intra-individual relation between the competence and the warmth judgments fully corroborates the above analysis. Whereas a negative relation emerged in all 'comfortable' conditions, the relation was not significant for low-status groups and positive for high-status groups for the uncomfortable conditions. The fact that warmth could be seen as 'less objective' than competence may explain these differences of adjustment at the subjective level. That such an idiographic analysis on the data again fully validated our predictions lends additional credence to the proposed compensatory dynamics.

A final lesson of our experiment concerns the role of the pressures toward non-discrimination as contributing to the emergence of compensation. Our data strongly suggest that the propensity of members of high-status groups to grant members of the outgroup some superiority on the dimension of warmth is related to how they self-

attribute competence and, as a consequence, experience strong pressures toward non-discrimination. It is worth mentioning that the pressures toward non-discrimination were only experienced by high-status groups. This means that these pressures are not simply associated with the expression of ingroup bias on any dimension of judgment but would seem to accompany the attribution of higher levels of competence, a dimension that directly ties into status differences. This finding goes a long way to suggest that the preoccupation of low-status groups is not so much with their higher position on warmth but rather with their lower position on competence. In sharp contrast, the high-status groups appear to be much more concerned with their privileged position on the competence dimension. To the extent that there is no conflict and that the social hierarchy appears legitimate and stable, members of high-status groups are likely to experience pressures to avoid discrimination. Although firmer evidence remains to be collected, we would like to conjecture that this is one of the factors that may encourage them to attribute more warmth to the low-status outgroup than to themselves.

#### General discussion and conclusion

In line with a long tradition in social psychology of intergroup relations and group perception (for reviews, see Fiske, 2015; Yzerbyt, 2016), the present experiments confirm that, provided people find themselves in a context of legitimate status differences and non-conflictual relations, status differences readily translate into differential levels of competence. This leads low-status groups to claim higher standing on warmth, something high-status groups readily accept. The result is that ratings are in line with a compensation pattern by which the group rated higher than the other on competence is also rated lower than the other on warmth.

The key message of this contribution, however, is that people are willing to concede superiority to the outgroup on a non-preferred dimension only as long as they

can secure higher standing on their preferred dimension. We further replicated the finding that compensation on the part of high-status groups is potentially fueled by the presence of pressures to avoid discrimination (Cambon et al., 2015). In all likelihood, the psychological mechanisms underlying compensation in members of low-status groups are of a different nature. We can only conjecture at this point but the existing work on intergroup relations points to self-esteem as being the prime concern of low-status group members (for a review, see Yzerbyt & Demoulin, 2010).

As a set, the present efforts go a long way to show that compensation on the part of group members is not as obvious a response pattern as one would think. The existing data may well depict compensation as a robust phenomenon, a series of conditions contribute to its emergence. Here, we explored an important factor, namely the possibility to establish a clear superiority vis-à-vis the outgroup in light of the existing status relationship. Clearly, compensation will fail to show up if group members are denied the possibility to shine on their preferred dimension.

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Footnotes

1. Experiment 1 also included a conflict condition to test and replicate Cambon et al.'s (2015) finding that the presence of conflict eliminates the willingness to compensate even when participants are initially confronted with their preferred dimension. The data corroborated this prediction. However, because this hypothesis was not directly relevant to the present argument, both a reviewer and the editor suggested dropping this portion of the design. Information about this condition is available from the authors upon request.

2. Theoretically, stability and legitimacy are independent constructs. Still, Tajfel (1981, p. 250) noted the possibility of covariation. As a matter of fact, Bettencourt et al. (2001) reported a correlation of .61 in their meta-analysis and Cambon et al. (2015) found a correlation of .78.

3. For the sake of space and because higher-order effects were at the heart of the predictions, we decided not to dwell on every lower-order effect. The complete ANOVA table can be obtained from the authors upon request.



Table 1. Ratings as a function of order of presentation, dimension, ingroup status, and target group

		Order of Presentation			
		Competence-first		Warmth-first	
Dimension		Competence	Warmth	Competence	Warmth
Ingroup very inferior	<i>ingroup</i>	<b>6.57a (0.74)</b>	<b>6.32a (0.82)</b>	<i>5.22b (0.60)</i>	<i>7.35a (0.33)</i>
	<i>outgroup</i>	<b>6.32a (0.34)</b>	<b>5.61b (0.67)</b>	<i>7.31a (0.35)</i>	<i>5.46b (0.48)</i>
Ingroup slightly inferior	<i>ingroup</i>	<b>5.42a (0.29)</b>	<b>6.24a (0.70)</b>	<i>5.10b (0.52)</i>	<i>6.28a (0.36)</i>
	<i>outgroup</i>	<b>4.64b (0.21)</b>	<b>4.85b (0.59)</b>	<i>5.57a (0.51)</i>	<i>4.76b (0.35)</i>
Ingroup equal	<i>ingroup</i>	5.31a (0.34)	6.01a (0.59)	4.90b (0.47)	5.50b (0.35)
	<i>outgroup</i>	4.99b (0.46)	5.76b (0.50)	4.78b (0.57)	5.31b (0.50)
Ingroup slightly superior	<i>ingroup</i>	<i>5.50a (0.68)</i>	<i>4.83 b (0.42)</i>	<b>5.17a (0.62)</b>	<b>5.39a (0.32)</b>
	<i>outgroup</i>	<i>4.83b (0.46)</i>	<i>5.49a (0.38)</i>	<b>3.44b (0.51)</b>	<b>4.71b (0.23)</b>
Ingroup very superior	<i>ingroup</i>	<i>6.96a (0.31)</i>	<i>4.99b (0.30)</i>	<b>6.35a (0.69)</b>	<b>7.01a (0.44)</b>
	<i>outgroup</i>	<i>4.60b (0.30)</i>	<i>7.15a (0.32)</i>	<b>4.07b (0.44)</b>	<b>5.61b (0.89)</b>

Note: Means with different subscripts indicate a significant difference between ingroup and outgroup. Numbers in italics indicate compensation. Numbers in boldface indicate uncomfortable situations. All tests were conducted using  $p < .05$ . Standard deviations are in parentheses.

Table 2. Ratings as a function of order of presentation, dimension, ingroup status, and target group

Dimension	Order of presentation					
	Joint		Competence-first		Warmth-first	
	Competence	Warmth	Competence	Warmth	Competence	Warmth
Ingroup very inferior						
ingroup	5.87b (1.12)	6.97a (1.27)	<b>6.58b (0.88)</b>	<b>7.20a (0.97)</b>	5.58b (1.06)	6.10a (1.47)
outgroup	7.74a (0.77)	4.65b (1.52)	<b>6.75b (0.99)</b>	<b>5.01b (1.36)</b>	7.49a (0.79)	4.67b (1.14)
Ingroup slightly inferior						
ingroup	5.21b (0.84)	6.67a (1.00)	<b>5.78a (0.68)</b>	<b>6.02a (1.50)</b>	4.88b (0.93)	6.66a (0.99)
outgroup	6.27a (0.93)	5.23b (1.30)	<b>5.29b (1.09)</b>	<b>4.94b (1.41)</b>	6.08a (0.63)	5.08b (1.16)
Ingroup slightly superior						
ingroup	6.03a (0.93)	5.17b (1.31)	6.30a (1.22)	4.82b (1.21)	<b>6.40a (1.22)</b>	<b>6.97a (1.19)</b>
outgroup	4.82b (0.89)	6.05a (1.05)	4.95b (0.96)	6.14a (1.04)	<b>5.58b (1.24)</b>	<b>5.40b (1.18)</b>
Ingroup very superior						
ingroup	6.72a (0.68)	5.59b (1.21)	6.40a (1.25)	5.88b (1.18)	<b>6.49a (1.18)</b>	<b>6.79a (1.06)</b>
outgroup	4.68b (1.39)	7.48a (1.02)	4.24b (1.38)	7.21a (1.07)	<b>4.82b (1.32)</b>	<b>4.99b (1.40)</b>

*Note:* Means with different subscripts indicate a significant difference between ingroup and outgroup. Numbers in italics indicate compensation. Numbers in boldface indicate uncomfortable situations. All tests were conducted using  $p < .005$ . Standard deviations are in parentheses.

*Table 3. Regression analyses as a function of order of presentation, criterion, ingroup status, and predictor(s).*

Criterion	Order of presentation									
	Joint			Competence-first			Warmth-first			
	BiasW <sup>1</sup>	Press <sup>1</sup>	BiasW <sup>2</sup>	BiasW	Press	BiasW	BiasW	Press	BiasW	
Ingroup very inferior										
BiasC	-.53*	-.06	-.54*	.23	-.38°	.30	-.54*	-.37°	-.52*	
Press	-	-	-.23	-	-	.19	-	-	.04	
Ingroup slightly inferior										
BiasC	-.53*	-.34	-.48*	-.11	-.21	-.05	-.51*	-.25	-.50*	
Press	-	-	.15	-	-	.31	-	-	.04	
Ingroup slightly superior										
BiasC	-.46*	.55*	-.23	-.70*	.62*	-.41°	.51*	.34	.50*	
Press	-	-	-.43°	-	-	-.45*	-	-	.04	
Ingroup very superior										
BiasC	-.65*	.65*	-.29	-.56*	.60*	-.11	.68*	.50*	.68*	
Press	-	-	-.55*	-	-	-.75*	-	-	.00	

Note: BiasC = ingroup bias on competence. BiasW = ingroup bias on Warmth. Press = pressures to non-discrimination. Standardized regression coefficients with a \* are significant at  $p < .05$  and those with a ° are significant at  $p < .10$ . <sup>1</sup> The criterion, either BiasW or Press, is regressed only on BiasC. <sup>2</sup> The criterion, BiasW, is regressed on both BiasC and Press.

Figure 1. Ratings of the ingroup and the outgroup on the preferred and non-preferred dimension in comfortable (top panel) versus uncomfortable (bottom panel) conditions (Experiment 1)

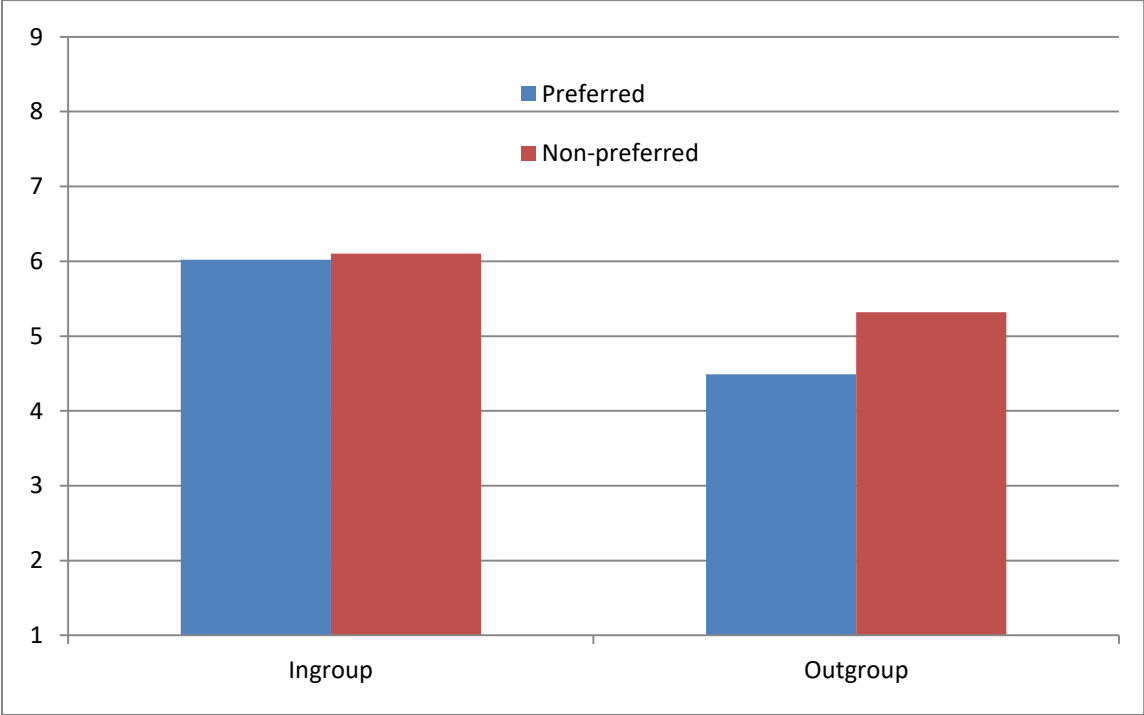
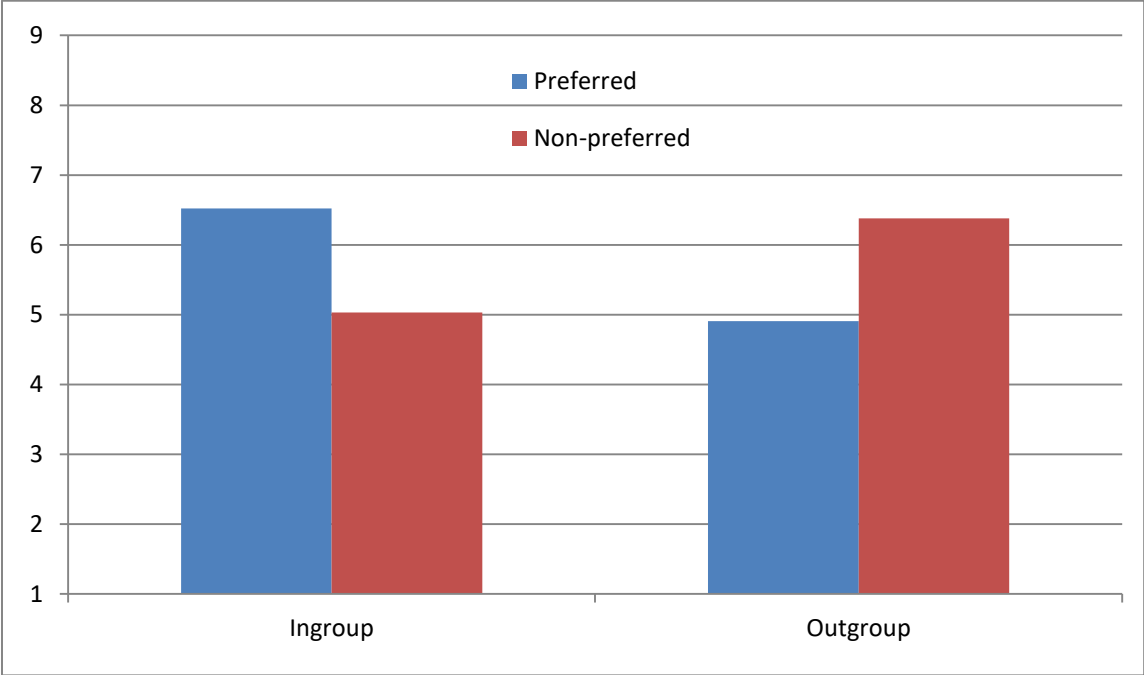


Figure 2. Ratings of the ingroup and the outgroup on the preferred and non-preferred dimension in comfortable (top panel) versus uncomfortable (bottom panel) conditions (Experiment 2)

