

# Compensation is for real: Evidence from existing groups in the context of actual relations

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## Abstract

Compensation refers to the fact that a group perceived as higher than another on one of the fundamental dimensions of social judgment (competence and warmth) is also perceived as lower than the other group on the other dimension. Relying on a full-crossed design, the present work tested compensation in a real-life situation using existing groups involved in an ongoing relation. As predicted, compensation emerged when (a) the difference between the groups, and thus the perceived legitimacy of the status difference, was large as opposed to small, and (b) the relation between the groups was asymmetrical. In contrast, the smaller the difference (the lesser the legitimacy), the more ingroup bias emerged.

## Keywords

compensation, competence, ingroup bias, intergroup relations, warmth

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Compensation refers to the fact that a group perceived as higher than another on one of the two fundamental dimensions of social judgment (competence and warmth) is perceived as lower than the other group on the other dimension (Yzerbyt, Provost, & Corneille, 2005). Although quite robust (for a review, see Kervyn, Yzerbyt, & Judd, 2010), this phenomenon has been mostly observed in laboratory experiments and its external validity remains an open question (for an illustration, see Judd, James-Hawkins, Yzerbyt, & Kashima, 2005). Here, we enrich the body of research on compensation by turning to a real-life situation in which we solicit existing groups involved in a long-term relation. Importantly, the study relied on a full-crossed design.

## Compensation Effect in Intergroup Relations

Over the last decade, a great number of empirical papers addressed the compensation effect in intergroup relations showing that this pattern emerges (a) for the dimensions of warmth and competence (Yzerbyt, Kervyn, & Judd, 2008); (b)

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in comparative contexts (Kervyn et al., 2010); (c) between groups in asymmetrical relations on one of the fundamental dimensions and in the absence of conflict (Cambon, Yzerbyt, & Yakimova, 2015).

Although compensation has initially been studied with participants directly involved in the situation of judgment in the context of intergroup relations (Yzerbyt et al., 2005), the pattern has been mainly observed when participants are not involved in a relation with the judged target (Judd et al., 2005; but see Oldmeadow & Fiske, 2010). Drawing on the theoretical framework of social identity theory, compensation theorists interpreted compensation in intergroup relations as the manifestation of social creativity and magnanimity strategies for low- and high-status groups, respectively (Cambon et al., 2015). Specifically, and in contrast to a systematic tendency to differentiate, compensation would allow two groups occupying different positions in the social hierarchy to protect their ingroup identity by maintaining an advantage on one of the two fundamental dimensions while at the same time manifesting cooperation through acknowledging the outgroup superiority on the other fundamental dimension (Yzerbyt et al., 2008).

Cambon et al. (2015) proposed that this cooperative strategy is used when the status difference between the groups is perceived as legitimate. This means that, first, members of the low-status group should hardly question the superiority of the outgroup on the dimension related to the status difference, that is, competence. Rather, they should acknowledge their inferior status by showing an outgroup bias in attributing competence to the outgroup members. Given this state of affairs, the members of the low-status group may then try to (re)gain positivity by favoring their group on the dimension unrelated to the status difference, that is, warmth. This also means that, second, the legitimacy of the status structure should allow the members of the high-status group to feel positive and securely positioned at the top of the social hierarchy. As a consequence, they should manifest ingroup bias on the dimension pertaining to the status difference, that is,

competence. At the same time, and importantly, they should also manifest magnanimity toward the low-status group on the dimension unrelated to the status difference, that is, warmth.

The previous rationale has been confirmed at the group level by showing that the more legitimate people perceive the status difference between the groups to be, the more group members compensated; whereas the less legitimate they saw the status difference, the more compensation receded in favor of ingroup bias (Cambon et al., 2015). Evidence for the existence of the two mentioned strategies was also secured at the individual level (Cambon et al., 2015). For low-status groups, social creativity was revealed by the presence of a negative correlation between the ratings of the ingroup on the two dimensions. For high-status groups, the magnanimity strategy—a “*noblesse oblige* effect”; see Vanbeselaere, Boen, van Avermaet, & Buelens, 2006—was evidenced by a positive correlation between the ingroup ratings on competence and the outgroup ratings on warmth. Moreover, this relation was mediated by participants’ sensitivity toward the normative pressures pertaining to the expression of discrimination. As a matter of fact, a situation where the superiority of the high-status group is blatant likely activates the norm of nondiscrimination and, in turn, nondiscrimination pressures. In this context, high-status group members may feel embarrassed to express ingroup bias on both fundamental dimensions and may therefore restrict their partisanship to the most critical dimension in the context, that is, the one on which their domination is undeniable.

The main aim of the present study is to extend the research program on compensation by departing from a laboratory situation and testing the hypotheses examined in Cambon et al. (2015) in a real-life setting in order to increase the external validity of this effect.

## Is Compensation Real?

Studies on compensation have mostly been conducted in rather artificial settings using fictitious or minimal groups and only a handful of studies

relied on real categories as target groups. As a case in point, Yzerbyt et al. (2005) asked Belgian and French participants to describe both groups (see also Kervyn, Yzerbyt, Demoulin, & Judd, 2008; Oldmeadow & Fiske, 2010). Although these contributions ventured outside the laboratory, they suffer from a number of shortcomings. First, they use social categories as targets. Social categories are conceptualized as abstract collectives based upon shared characteristics not necessarily dependent on behavioral interactions. Thus, one might argue that compensation effects obtained by using real groups (social categories) were not caused by the process of compensation per se but rather by participants' beliefs regarding the stereotyped characteristics of the groups. For example, it is possible that the descriptions made by Yzerbyt et al.'s (2005) Belgian and French participants simply conveyed their knowledge about stereotypes without necessarily revealing a motivation for compensation anchored in *actual interactions*.

In this paper we will test the compensation hypothesis in a design involving natural groups and not social categories. More precisely, we will ask several occupational groups in a company to describe each other. Although these natural groups may well be stereotyped in participants' minds, we thought that, in contrast to social categories, the fact that the members of these groups interact with each other on a daily basis probably limits the use of abstract stereotypes relative to experiential evidence. Clearly, finding evidence for compensation in a design using natural groups would increase the external validity of compensation effect beyond social categories.

Secondly, with no exception, the studies on compensation relied on students as participants. As Henrich, Heine, and Norenzayan (2010) argued, this constitutes a serious threat to the external validity of a process because there is evidence of substantial variability in results across populations. Of interest here are results showing that belonging to a different social class affect conceptions of the self and also pattern of thinking, feeling, and acting (see e.g., Snibbe & Markus, 2005). Because compensation concerns the

evaluative reaction of groups to asymmetrical relations, differences in the position occupied in the social hierarchy are particularly interesting to study. However, no study to date has used participants with undisputable real-life differences in social status. So, it is critical to know whether the compensation effect observed among students also shows among nonstudent participants who vary in their social status. If compensation emerges, this would underscore the robustness of the phenomenon.

Finally, with the exception of Yzerbyt et al.'s (2005) first study on compensation, no research to date used a full-crossed design whereby members of both groups implied in the comparison provide judgments about their own group members as well as about the outgroup members. Useful features of such a design are that it (a) matches the actual conditions of an intergroup encounter, (b) allows teasing apart target and judge effects in judgments, and (c) reveals whether members of each group agree with each other regarding their representations of the characteristics of the two groups.

## Study

We tested three hypotheses in a situation of real interactions between several occupational groups of different social status. We took great care to select existing groups that would not be the obvious target of social stereotypes. Moreover, we conducted the study in the context of a design that had respondents of low- and high-status groups judge both the ingroup and the outgroup. We also selected occupational groups coming from two different organizations to increase the generalizability of the results (although we did not expect differences between organizations). Finally, as we hypothesized that compensation emerges more in situations of status asymmetry than symmetry, we not only focused on the judgments that respondents made about groups that enjoyed a different status than their own group but we also examined the judgments made by respondents about groups enjoying the same status. Because some groups ended up being involved in more

**Table 1a.** Participants as a function of their type of company and status (Study 1a).

	Type of company	
	Civil servants	Food company
Low status	Street sweepers (12) Road maintenance workers (12)	Unskilled production workers (12) Truck drivers (9)
Intermediate status	Foremen (10)	Foremen (8)
High status	Technical senior managers (12)	Production senior managers (8)

*Note.* Numbers in parentheses indicate the number of respondents in each category.

**Table 1b.** Participants as a function of their organization and status (Study 1b).

	Organization	
	Civil servants	Food company
Low status	<i>Street sweepers</i> (12) Gardeners (13)	<i>Unskilled production workers</i> (12) <i>Truck drivers</i> (9)
High status	<i>Technical senior managers</i> (12) Administrative senior managers (12)	<i>Production senior managers</i> (8) <i>Technical senior managers</i> (9)

*Note.* Numbers in parentheses indicate the number of respondents in each category. Groups in italics also responded in Study 1a (but describing another group).

than one intergroup comparison, we opted for an examination of the data as if we had conducted two separate studies. Specifically, whereas Study 1a pertained to those comparisons between groups with a different status, Study 1b focused on the comparisons between groups with the same status. It should be noted however that all the data were collected simultaneously.

In the first study (Study 1a), we hypothesized that compensation would be stronger and ingroup bias weaker when the difference, and as such the perceived legitimacy of the status difference, between the groups is large as opposed to small. In the second study (Study 1b), because there is no status asymmetry, we did not expect a compensation pattern to emerge. Moreover, for exploratory purposes, we also wanted to compare the results of the groups involved in both Study 1a and Study 1b because this allows to examine the impact of situational factors on the perception of groups, that is, the role played by the symmetrical and asymmetrical relations between the groups on group descriptions.

## Method

### *Participants*

In total, 125 civil servants from a large city and employees in a food industry company were asked to participate. Eighty-two employees (46 civil servants and 36 employees, Table 1a) were asked to participate in Study 1a. In Study 1b, 87 employees (49 civil servants and 38 employees, Table 1b) were recruited. Forty-four participants contributed to both studies. Ages ranged between 18 and 59 years ( $M = 33.4$ ,  $SD = 5.32$ ). Men were overrepresented (82%).

### *Design*

*Study 1a: Different status.* This study adopted a 2 (organization: city civil servants vs. food company employees)  $\times$  2 (status difference: small vs. large)  $\times$  2 (ingroup status: low vs. high) design. In the small status difference condition, two low-status groups (one in each type of organization, that is, road maintenance workers and truck

drivers, respectively) described their ingroup and an outgroup of a slightly higher status, that is, foremen. We also asked the reverse to the foremen. In the large status difference condition, two low-status groups (street sweepers and unskilled production workers) described their ingroup and an outgroup of a clearly higher status, that is, senior managers. Again, these managers (technical senior managers and production senior managers) were asked to do the opposite.

*Study 1b: Equal status.* This study adopted a 2 (organization: city civil servants vs. food company employees)  $\times$  2 (status of both groups: low vs. high) design. In the low-status condition, two low-status groups (one in each type of organization, that is, gardeners and truck drivers, respectively) described their ingroup and an outgroup of the same status (street sweepers and unskilled production workers). In the high-status condition, two high-status groups (administrative senior managers and technical senior managers) described their ingroup and an outgroup (technical senior managers and production senior managers) of the same status. Importantly, for both status conditions, we also collected the descriptions that the groups being described made of themselves and of the group describing them. It is important to note that some of the groups involved in this study are the same as those involved in Study 1a.

### Procedure

We first asked the human resources managers of each organization to list occupational groups which were often in contact with each other but clearly not in conflict. We used this information to construct the pairs of groups that would describe each other. We then contacted participants individually as part of a study on intergroup perceptions and gave them a booklet containing a list of traits and a series of questions. Participants were asked first to describe their ingroup and then to describe the outgroup mentioned in the questionnaire.

### Measures

We relied on a list of 60 traits tested on warmth and competence. For each trait, we secured warmth and competence scores which corresponded to the factorial weight of the traits in a principal component analysis. We proposed this list to the participants and asked them to choose those five traits that best described the ingroup and the outgroup. For each group, we computed one score for each dimension by averaging the warmth and the competence weights of the five traits chosen. We used this measure because it was easier to use for people not well acquainted with rating scales and because it had high external validity.<sup>1</sup>

We also measured the perception of the status of the outgroup relative to that of the ingroup ("In the hierarchy of occupations, what is the level occupied by X relatively to your group?") as well as the legitimacy and stability of the status difference ("Do you think that the status difference between your group and Y is legitimate/stable?") on 9-point scales ranging from 1 (*very inferior/very illegitimate/very unstable*) to 9 (*very superior/very legitimate/very stable*). The correlation between the legitimacy and stability items,  $r_{Study\ 1a} = .70, p < .0001, r_{Study\ 1b} = .46, p < .001$ , allowed creating an index of illegitimacy by reversing and averaging the two items.<sup>2,3</sup>

## Results

### Study 1a

*Preliminary analyses.* We submitted the responses corresponding to the perception of the relative status of the outgroup to a 2 (company: civil servants vs. food company employees)  $\times$  2 (status difference between groups: low status difference vs. high status difference)  $\times$  2 (ingroup status: low vs. high) ANOVA. We found a significant main effect of ingroup status,  $F(1, 74) = 524.36, p < .001$ , that was qualified by a significant interaction between status difference and ingroup status,  $F(1, 74) = 116.20, p < .001$ . Further probing this interaction revealed that, as predicted, the differences

between high- and low-status ingroups were significant although much less so in the small status difference conditions ( $M_{low\ ingroup\ status} = 5.80$ ,  $SD = 0.62$ , and  $M_{high\ ingroup\ status} = 3.78$ ,  $SD = 0.65$ ),  $F(1, 34) = 89.47$ ,  $p < .001$ , than in the large status difference ones ( $M_{low\ ingroup\ status} = 7.67$ ,  $SD = 0.70$ , and  $M_{high\ ingroup\ status} = 2.10$ ,  $SD = 0.91$ ),  $F(1, 40) = 509.67$ ,  $p < .001$ . Moreover, as expected, the relative status of the outgroup was perceived to be higher in the large than in the small status difference condition in the low ingroup status conditions,  $F(1, 40) = 81.82$ ,  $p < .001$ , whereas the reverse held in the high ingroup status conditions,  $F(1, 34) = 41.41$ ,  $p < .001$ .

*Main analyses.* We predicted compensation to emerge more readily in the presence of a large status difference whereas ingroup bias should show up when the status difference is small. We tested these predictions by capitalizing on two indices. The *ingroup bias* index was obtained by adding the difference between the ingroup and the outgroup on warmth to the difference between the ingroup and the outgroup on competence. The more positive this score, the more participants expressed ingroup bias. For the *compensation* index, if the difference between the ingroup and the outgroup on competence was positive then this difference was added to the difference between the outgroup and the ingroup on warmth else we added the difference between the outgroup and the ingroup on competence to the difference between the ingroup and the outgroup on warmth. In line with the definition of compensation, the rationale for this index is to add ingroup favoritism on one dimension (on competence for high-status groups and on warmth for low-status groups) to outgroup favoritism on the other dimension (on warmth and competence, respectively). Thus, the more positive this score, the more participants manifested compensation. Both indices were submitted to a 2 (organization: city civil servants vs. food company employees)  $\times$  2 (status difference: small vs. large)  $\times$  2 (ingroup status: low vs. high) ANOVA (see Table 2a for the raw means).

**Table 2a.** Ratings as a function of status differences between the groups, dimension, status of the ingroup, and target group.

Dimension	Status difference			
	Large		Small	
	C	W	C	W
High status				
Ingroup	0.76 <sub>b</sub>	0.49 <sub>a</sub>	0.72 <sub>b</sub>	0.72 <sub>b</sub>
Outgroup	0.48 <sub>a</sub>	0.71 <sub>b</sub>	0.32 <sub>a</sub>	0.87 <sub>c</sub>
Low status				
Ingroup	0.45 <sub>a</sub>	0.88 <sub>b</sub>	0.44 <sub>a</sub>	0.72 <sub>b</sub>
Outgroup	0.73 <sub>b</sub>	0.49 <sub>a</sub>	0.55 <sub>b</sub>	0.42 <sub>a</sub>

*Note.* For each comparison between ingroup and outgroup and for those between competence and warmth, means with different subscripts are significantly different at  $p < .05$ .

The results concerning the ingroup bias index revealed only the predicted significant main effect of status difference,  $F(1, 74) = 6.75$ ,  $p < .02$ , confirming that ingroup bias was more prevalent when the status difference was small ( $M = 0.22$ ,  $SD = 0.24$ ) as opposed to large ( $M = 0.09$ ,  $SD = 0.18$ ).

Regarding the compensation index, we found a significant main effect of status difference,  $F(1, 74) = 6.64$ ,  $p < .02$ , in that there was more compensation in the large status difference condition ( $M = 0.59$ ,  $SD = 0.30$ ) than in the small one ( $M = 0.40$ ,  $SD = 0.39$ ). This effect was qualified by a significant Ingroup Status  $\times$  Status Difference interaction,  $F(1, 74) = 10.03$ ,  $p < .003$ . Follow-up analyses revealed that there were significant differences between low-status groups in the small status difference ( $M = 0.26$ ,  $SD = 0.45$ ) and all other groups ( $M_{low\ status / large\ difference} = 0.68$ ,  $SD = 0.28$ ,  $M_{high\ status / large\ difference} = 0.48$ ,  $SD = 0.27$ ,  $M_{high\ status / small\ difference} = 0.55$ ,  $SD = 0.25$ ) as well as between high-status groups and low-status groups in the large status differences. Interestingly, although compensation emerged both in situations of large and of small status differences, participants in the large status difference condition manifested a different form of compensation than those in the small status difference. In the large status difference, the ingroup favoritism on one

dimension was of approximately the same magnitude as the outgroup favoritism on the other dimension. In contrast, participants in the small status difference condition exacerbated the group difference on the dimension that characterized them best and minimized the group difference on the other dimension, such a pattern possibly reflecting the higher level of perceived conflict and the resulting intrusion of ingroup bias in the trait ratings (see Table 2a).

To further explore this interpretation, we conducted a follow-up analysis by which we examined the compensation index after having subtracted the ingroup bias index. Indeed, one drawback of the compensation index is that it does not distinguish between a situation where there is versus there is no ingroup bias (e.g., strong ingroup favoritism on one dimension and parity on the other vs. moderate ingroup favoritism on one dimension and moderate outgroup favoritism on the other). These two situations produce an equal level of compensation even though ingroup bias is more important in the first than in the second situation. By subtracting the ingroup bias index from the compensation index, one can thus gauge the presence of people's relative preference for compensation over ingroup bias (see Cambon et al., 2015).

The analysis on this *preference for compensation* index revealed the presence of a significant main effect of status difference,  $F(1, 74) = 15.83, p < .001$ . It confirmed that compensation devoid of ingroup bias was more prevalent in the large status difference situation ( $M = 0.49, SD = 0.24$ ) than in the small status difference situation ( $M = 0.18, SD = 0.45$ ). Interestingly, the Ingroup Status  $\times$  Status Difference interaction was also significant,  $F(1, 74) = 5.34, p < .05$ , indicating that the effect of status difference was more marked for low-status groups than for high-status ones. Follow-up analyses revealed that there was no significant difference between the high- ( $M = 0.41, SD = 0.18$ ) and the low-status group ( $M = 0.56, SD = 0.27$ ) in the large status difference,  $F(1, 74) = 1.69, p = .20$ , whereas this difference tended to be significant in the small status difference ( $M_{high-status} = 0.29, SD = 0.20$ ;  $M_{low-status} = 0.07, SD = 0.58$ ),  $F(1, 74) = 3.79,$

$p = .055$ . This result could reflect the fact that the small status difference is a situation that low-status groups perceive as more conflicting than high-status groups do.<sup>4</sup>

In order to check if status difference stands as a good proxy of legitimacy, we analyzed participants' illegitimacy score using the same 2 (organization: city civil servants vs. food company employees)  $\times$  2 (status difference: small vs. large)  $\times$  2 (ingroup status: low vs. high) ANOVA as before. The analysis only revealed a main effect of the status difference,  $F(1, 74) = 61.79, p < .001$ , confirming that participants perceived more illegitimacy when there was a small ( $M = 4.45, SD = 0.94$ ) rather than a large difference of status between groups ( $M = 2.73, SD = 1.07$ ).

To examine the relation between perceived illegitimacy and compensation, we conducted a mediational analysis with the perception of the status difference<sup>5</sup> as the independent variable, the illegitimacy index as the mediator, and the preference for compensation index as the dependent variable. The total effect proved significant,  $b = 0.085, \beta = 0.25, SE = 0.036, t(80) = 2.34, p < .03$ . Also, echoing the aforementioned ANOVA, the perception of status difference influenced the perceived illegitimacy,  $b = -0.523, \beta = -0.45, SE = 0.114, t(80) = -4.58, p < .0001$ . When the mediator was included in the model, the full model proved significant,  $R = 0.31, F(2, 79) = 4.31, p < .05$ , and there was a moderately significant impact of perceived illegitimacy on the preference for compensation,  $b = -0.061, \beta = -0.20, SE = 0.035, t(79) = -1.73, p = .09$ . More importantly, the direct effect became nonsignificant,  $b = 0.053, \beta = 0.15, SE = 0.04, t(79) = 1.32, p = .19$ . A bootstrap analysis (5,000 samples) confirmed that the indirect effect was significant,  $b = 0.032, SE = 0.016$ , bias-corrected 95% CI [0.005, 0.069].

### Study 1b

*Preliminary analyses.* We submitted the responses corresponding to the perception of relative status of the outgroup to a 2 (organization: city civil servants vs. food company employees)  $\times$  2 (status of both groups: low vs. high) ANOVA and

confirmed the absence of significant effects. The average perception of relative status was 4.79 ( $SD = 0.84$ ) which was not different from the midpoint of the scale (5) and confirmed that respondents conceived of both groups as being of similar status.

*Main analyses.* We submitted the ingroup bias, the compensation, and the preference for compensation index to a 2 (organization: city civil servants vs. food company employees)  $\times$  2 (status of both groups: low vs. high) ANOVA. Turning to our ingroup bias index, none of the effects managed to reach a conventional level of significance (all  $ps > .56$ ). The average ingroup bias index turned out to be different from zero,  $M = 0.087$ ,  $SD = 0.27$ ,  $t(86) = 2.98$ ,  $p = .004$ , indicating the presence of a modest albeit effective trend to evaluate the ingroup better than the outgroup even when both are thought to enjoy the same status.

Regarding our compensation index (see Table 2b for the raw means), the ANOVA revealed a theoretically uninteresting and only marginally significant interaction between the organization and the status of both groups ( $p < .07$ ). Again, the average compensation index differed from zero,  $M = -0.185$ ,  $SD = 0.34$ ,  $t(86) = -5.12$ ,  $p > .0001$ , indicating the presence of compensation when the group describing and the group described both enjoyed the same status.

Finally, looking at the preference for compensation index, the ANOVA showed that no effects reached significance (all  $ps > .16$ ). Interestingly, the average score was marginally different from zero,  $M = 0.098$ ,  $SD = 0.47$ ,  $t(86) = 1.95$ ,  $p = .054$ , showing that participants tended to prefer compensation over ingroup bias.

### Comparison Between Studies 1a and 1b

Our data revealed quite different patterns of compensation and ingroup bias depending on whether groups were in asymmetrical (Study 1a) as opposed to symmetrical (Study 1b) status relations. This suggests that the descriptions reported by our participants were constrained by the nature of relationships between the groups. In

**Table 2b.** Ratings as a function of dimension and status of both groups (Study 1b).

	Dimension	
	C	W
High status		
Ingroup	0.83 <sub>a</sub>	0.64 <sub>a</sub>
Outgroup	0.79 <sub>a</sub>	0.61 <sub>a</sub>
Low status		
Ingroup	0.52 <sub>a</sub>	0.70 <sub>b</sub>
Outgroup	0.51 <sub>a</sub>	0.62 <sub>a</sub>

*Note.* For each comparison between ingroup and outgroup, means with different subscripts are significantly different at  $p < .05$ .

fact, one may wonder if these relationships constrained the descriptions to the point of distorting the reality. The comparison of the data obtained in the two studies allows disentangling these two interpretations. As a matter of fact, several of the target groups that provided descriptions in Study 1a were also involved in another set of descriptions with other target groups of similar status in Study 1b. It is thus possible to compare the description of target groups obtained from groups of a different status with the description of these very same target groups obtained from groups of similar status to see whether the descriptions hang more on the relational aspects or some sort of reality of what the groups are. If the descriptions of a described group differ as a function of the group describing it, the ratings likely prove sensitive to the relation between the two groups. In contrast, if the descriptions of a group do not differ, then some kernel of truth would seem to prevail.

To address this question, we examined the five groups implied in both studies (technical senior managers, street sweepers, unskilled production workers, truck drivers, and production senior managers) and compared their descriptions by outgroups in an asymmetrical (Study 1a) versus symmetrical (Study 1b) relation. For each target group, we conducted a 2 (type of relation: asymmetrical vs. symmetrical)  $\times$  2 (dimension: warmth vs. competence) mixed-design ANOVA. A (lack



**Table 3.** Ratings as a function of type of relation and dimension for those target groups involved in both studies.

Dimension	Type of relation			
	Asymmetrical		Symmetrical	
	C	W	C	W
Production senior managers	0.83 <sub>b</sub>	0.47 <sub>a</sub>	0.80 <sub>a</sub>	0.71 <sub>a</sub>
Technical senior managers	0.63 <sub>b</sub>	0.50 <sub>a</sub>	0.70 <sub>a</sub>	0.71 <sub>a</sub>
Street sweepers	0.47 <sub>a</sub>	0.69 <sub>b</sub>	0.48 <sub>a</sub>	0.43 <sub>a</sub>
Unskilled production workers	0.48 <sub>a</sub>	0.72 <sub>b</sub>	0.48 <sub>a</sub>	0.77 <sub>b</sub>
Truck drivers	0.39 <sub>a</sub>	0.81 <sub>b</sub>	0.62 <sub>a</sub>	0.69 <sub>a</sub>

*Note.* For each comparison between competence (C) and warmth (W), means with different subscripts are significantly different at  $p < .05$ .

of) significant interaction should show that the description of the target group is (not) dependent upon the type of relation. Except for the unskilled production workers,  $F(1, 18) < 1$ , *ns*, all interactions proved significant,  $F_{\text{technical senior managers}}(1, 22) = 4.92, p < .05$ ;  $F_{\text{street sweepers}}(1, 23) = 5.37, p < .05$ ;  $F_{\text{truck drivers}}(1, 18) = 9.61, p < .01$ ;  $F_{\text{production senior managers}}(1, 19) = 15.70, p < .001$ . Moreover, in all these cases, the difference between warmth and competence was significant in the asymmetrical relation but not in the symmetrical relation (see Table 3). These changes as a function of the descriptor very much stress the role of the intergroup relations as a guide to social perception (see Kervyn et al., 2008, for similar results).

### Discussion

Our main aim was to test a series of key hypotheses in a real-life situation in order to increase the external validity of the compensation effect. The results nicely extend earlier findings obtained with stereotyped social categories (Kervyn et al., 2008; Yzerbyt et al., 2005) or in the laboratory (Cambon et al., 2015; Judd et al., 2005). Clearly, compensation emerged and showed that people tend to see the high-status group as more competent than warm and the low-status group as more warm than competent. Also, not only was compensation more pronounced when the status difference was

large rather than small, but the lesser the status difference between groups, the more members of each group exhibited ingroup bias.

In line with predictions, and as the mediation analysis confirmed, the hierarchical distance between the groups shaped the perception of the legitimacy of the status difference between them. Thus, a large status difference was interpreted by participants as an indication of the existence of legitimate relations in which groups are better off developing strategies favoring their ingroup and the outgroup *to the same extent*. In contrast, a small status difference encouraged the perception that the difference was potentially illegitimate, leading group members to instill more ingroup favoritism in their descriptions. In the present study, favoritism was rather mild and was characterized by moderate deviations from the compensation pattern that was observed when the status difference was large. Specifically, group members accentuated the ingroup bias on one dimension and reduced the outgroup bias on the other dimension.

The fact that the small status difference condition only gave rise to moderate compensation effect and not to outright ingroup bias probably results from the fact that the level of intergroup conflict was limited in the present setting (see Endnote 4). However, it is striking to note that low-status groups relied on this strategy of moderate compensation more than high-status ones.

Such a pattern nicely dovetails with the repeated observation that members of low-status groups exhibit more ingroup bias when status differentials are perceived as unstable and/or illegitimate (Ellemers, Wilke, & van Knippenberg, 1993) and especially so on dimensions unrelated to status differences which, in the present setting, corresponds to the warmth dimension (Brewer, Manzi, & Shaw, 1993; Reichl, 1997).

A major interest of the present study resides in its ability to drastically increase the external validity of earlier compensation findings. Real occupational groups which interact daily in the same company were asked to describe each other on a set of competence and warmth traits. We argued that an advantage associated with the use of these groups is that they are probably less characterized by a stereotyped set of traits than social categories are. This possibly allows us to disentangle an interpretation of compensation in terms of shared stereotypes from an interpretation in terms of a specific process (i.e., compensation). The fact that we obtained compensation with these natural groups constitutes a strong argument in favor of the latest interpretation.

Moreover, the combination of our two studies allowed comparing the description of target groups obtained by groups of a different status with the description of these same target groups obtained by groups of similar status. This feature of the present set of studies proves most interesting because it allows checking for the presence of a motivated perception of groups as opposed to a consensual description of reality. The comparison of the two sets of descriptions (i.e., in an asymmetrical and a symmetrical relation) shows that, except for one group (unskilled production workers), the pattern of descriptions changes substantially as a function of the descriptor, making us confident to suggest that the descriptions obtained in the present studies depart from a consensual description of reality.

Yet another remarkable characteristic of the present endeavor resides in the fact that participants were not student but, for the first time in research on compensation, blue- and white-collar workers who experienced unmistakable

differences in their respective social statuses. This means that compensation can hardly be interpreted as a strategy used only by a restricted set of (nonrepresentative) people. Just like students, blue- and white-collar people seem to rely on compensation as a strategy to protect their ingroup identity in a cooperative context.

Last but not least, the fact that the present effort relied on a full-crossed design between groups that have real and frequent encounters shows that compensation is not only a "cold" strategy used by groups that never have the occasion to meet. In contrast, compensation is for real and concerns a wide array of people in a variety of settings. Future research should help us to further delineate the conditions and consequences of compensatory perception in intergroup relations.

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### Notes

1. In order to test for the internal validity of the measure, we designed two pretests. In a first pretest, we presented one of two measurement conditions to 20 participants each. Whereas participants in the first condition had to describe two national groups by means of three traits chosen from a list of 24, those in the other condition had to rate the same groups on 24 7-point scales corresponding to the 24 traits presented to the first sample. The scores of the first condition were obtained by averaging the warmth and competence weights of the traits chosen by each participant. The scores of the second condition were obtained by averaging the ratings on the warmth and competence traits. The warmth and competence ratings (mean-centered) obtained for each national group showed no significant differences between the conditions ( $F_s < 1$ ). In a second pretest, we asked another two samples (one of 21 and another of 24 students) to describe two national groups at two different times, 2 weeks apart. The first sample had to describe the groups with three traits chosen from the list, and then, 2 weeks later, to rate them on the 24 traits using 7-point scales. The second sample was confronted with the same

measures in the reverse order. Very high positive correlations emerged in both samples ( $r_s > .92$ ). It should be stressed that a similar kind of measure has been used recently by Rocklage and Fazio (2015) in order to measure the valence and the emotionality of attitudes.

2. Although, theoretically, stability and legitimacy are independent constructs, they are often empirically linked. For example, Bettencourt, Dorr, Charlton, and Hume (2001) in their meta-analysis reported a correlation of .61. For these reasons, we chose to measure both constructs. It should be noted that using only the legitimacy measure did not change the results for both analyses (the ANOVA and the mediational analysis).
3. It should be noted that we also measured two other constructs: participants' perceived pressure toward nondiscrimination (Cambon et al., 2015) and perceived conflict between the groups. The results pertaining to these measures will not be presented here for the sake of brevity and because, for the first one, the sample size for the analyses ended up being too small, rendering the results unreliable.
4. Participants experienced very low levels of conflict (see Endnote 3) with a mean rating of 2.06 in Study 1a, and 1.77 in Study 1b. As would be expected, the level of conflict in Study 1a was perceived as somewhat higher when there was a small difference of status ( $M = 2.37$ ,  $SD = 1.00$ ) than a large one ( $M = 1.80$ ,  $SD = 0.79$ ),  $t(80) = -2.89$ ,  $p < .005$ .
5. We transformed the perception of the status difference variable because this measure was problematic in that it conveys the difference between two groups with a different score when this difference is seen from the perspective of a low-status group (a score going from 1 to 5) or from the perspective of a high-status group (a score going from 5 to 9), thus preventing the use of correlational analyses to examine the link between status difference and any other measure implying a linear bipolar construct (as it is the case for perception of legitimacy and the compensation index). Thus, in order to secure the equivalence between the perceptions of the status difference of low-status groups on the one hand and high-status groups on the other, we computed, for each participant, the difference between his/her perception of the status and the midpoint of the scale (5) in absolute terms.

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