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A Functional Perspective on Competence and Warmth Stereotypes:

A Closer Look at the Compensation Effect

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#### Abstract

The present study investigates whether ingroup identification moderates the compensation effect that occurs when competence and warmth stereotypes are to be allocated over two comparison groups. Because ingroup identification is believed to influence the relative importance of 2 countervailing motives driving the compensation effect (i.e., positive differentiation and fairness) by enhancing the desire for positive differentiation, high identifiers were expected to compensate more strongly than low identifiers in a low competence/status condition but less strongly in a high competence/status condition. An experimental and a correlational study confirmed this hypothesis. In addition, the relevance of the intergroup context was found to enhance the positive differentiation motive in both lowly identifying low competence/status group members and highly identifying high competence/status group members. The finding that the allocation of competence and warmth depends on ingroup status, ingroup identification, and the relevance of the intergroup context suggests that the compensation effect is strategically applied.

#### A Functional Perspective on Competence and Warmth Stereotypes:

## A Closer Look at the Compensation Effect

Recently, renewed attention has been given to the content of group stereotypes. Unlike classic studies on stereotype content (Katz & Braly, 1933), the current research line does not focus on uniformity and over-time stability of stereotype content. Instead, the primary aim is to detect the structure of stereotype content and how this relates to characteristics of the intergroup context (Cuddy, Fiske, & Glick, 2004). It is generally agreed upon that there are two universal stereotyping dimensions: Competence and warmth (Fiske, Cuddy, Glick & Xu, 2002). Additionally, it has been found that, in an intergroup comparison context, these dimensions are applied in a compensatory way. More specifically, when two groups are to be rated on competence and warmth, the group that is rated as less competent will generally be rated as warmer than the more competent group and vice versa (Judd, James-Hawkins, Yzerbyt, & Kashima, 2005). The present study aims to explore whether this so-called compensation effect is influenced by the degree of ingroup identification and the relevance of the intergroup context.

## Dimensions of Stereotyping

Studies on both person (e.g., Abele & Wojciszke, 2007; Rosenberg, Nelson, & Vivekananthan, 1986) and group perception (e.g., Fiske, Cuddy, & Glick, 2006; Phalet & Poppe, 1997) show that people make social judgments on the basis of two fundamental dimensions. Fiske and colleagues (e.g., Fiske, et al., 2002) summarized these findings in their stereotype-content model and labeled these dimensions "competence" and "warmth". Competence refers to the perceived ability to be successful at tasks that are granted high status or prestige and can be derived from the social status that is granted to the target. Warmth refers to the perceived socio-emotional orientation towards others and can be derived from the structural interdependence that is either cooperative or competitive. An important difference between the interpersonal and the intergroup domain lays in how these two dimensions are related.

Whereas, competence and warmth appear positively related in interpersonal comparisons (Rosenberg et al., 1986), they seem negatively related in intergroup comparisons. This negative relation was called "the compensation effect" (Judd et al., 2005; Yzerbyt, Provost, & Corneille, 2005).

The compensation effect was found regardless of whether the ingroup was to be included in the intergroup comparison. Both correlational and experimental studies (Judd et al., 2005; Yzerbyt, Provost, & Corneille, 2005) showed that, when two outgroups need to be compared, generally, when one group is described as higher on one dimension, the other group is rated as higher on the other dimension. A similar finding was observed when the ingroup is involved in the intergroup comparison. In a study by Judd et al. (2005), participants were told that they would be assigned to one of two groups on the basis of a psychological test. In fact, all participants were assigned to the same group. After this, participants received behavioral descriptions of both groups informing them about the relative competence of their ingroup. In this way, two experimental conditions were created with the ingroup being either higher or lower on competence than the outgroup (i.e., high versus low competence condition). In contrast, no information was given about the relative warmth of both groups. After this experimental manipulation, participants had to rate both groups on competence and warmth. It was found that in the high competence condition, the outgroup was rated to be higher on warmth than the ingroup, whereas in the low competence condition the outgroup was rated to be lower on warmth. In line with this, in a correlational study, Yzerbyt, et al. (2005) found that the French have a higher linguistic status than Walloons (= French-speaking Belgians). Because the relative status of groups has been found to be informative for relative competence, it was expected that the high status group would be judged to be more competent than the low status group. In line with this all participants agreed that the high status group was more competent. In addition, compensation occurred since the low status group was judged as warmer by all participants.

## Social Function of Compensation

Following Social identity theory (Tajfel & Turner, 1979), we will argue that stereotyping, and thus

the compensation effect, should not be regarded as a mere information processing bias, but that it is driven by social motives as well. More specifically, we will argue that stereotyping, like intergroup behavior, reflects the resolution of a tension between two opposing social motives: The motive to positively differentiate the own group from another group (= the positive differentiation motive) and the motive to be fair (= the fairness motive). Because we adopt a functional perspective by investigating how these motives drive the compensation effect, we will restrict ourselves to situations in which the ingroup is involved in the intergroup comparison.

The idea that both positive differentiation and fairness motives drive intergroup behavior is not new. Their existence was already acknowledged in the first minimal group experiments. In these experiments, which were designed to investigate the effects of mere categorization on intergroup allocation behavior, participants were categorized in two groups on the basis of an explicitly trivial criterion, and participants did not interact with other ingroup or outgroup members nor did they know who these people were (Billig & Taifel, 1973; Taifel, Billig, Bundy, & Flament, 1971). After the group categorization phase, participants were asked to allocate monetary rewards to a member of the ingroup and a member of the outgroup by means of matrices designed to detect the underlying allocation strategy. The key finding was that, on average, participants displayed a moderate form of ingroup favoritism, allocating more money to the ingroup member than to the outgroup member. This behavior was believed to reflect a motivation to positively differentiate the ingroup from the outgroup. The fact that participants opted for a mild rather than an extreme form of positive differentiation was believed to reflect a compromise between this motive and the motive to treat the other group in a fair way (Taifel et al., 1971). In sum, it was concluded that intergroup behavior was governed by two opposing motives (i.e., positive differentiation & fairness) and that therefore an explanation of intergroup behaviour should not focus on fairness or differentiation alone. Instead, the balance between these motives should be taken into account (Branthwaite, Doyle, & Lightbrown, 1979).

The most intriguing question was why a positive differentiation motive surfaced in a minimal

group situation. Why did people favor members of a (clearly trivial) ingroup? Social identity theory (Tajfel & Turner, 1979) proposed that the answer could be found in the concept of social identity. It was argued that people not only strive for a positive personal identity but for a positive social identity as well. Therefore, whenever group categorization is salient, ingroup identification will activate an urge to positively differentiate the ingroup in intergroup comparisons. Favorable social comparisons would then result in a positive social identity.

Whereas, in the minimal group experiments, only one comparison dimension was available to resolve the tension between the two social motivations, the compensation effect occurs when people can allocate characteristics on two dimensions, namely the two fundamental dimensions competence and warmth. In a situation like this, unfavorable intergroup comparisons on one dimension would lead people to seek compensation for this negative outcome by claiming superiority on the second dimension. This can be seen as a form of social creativity intended to overcome a negative social identity (Jackson, Sullivan, Harmish, Hodge, 1996). In this respect, Mummendey and Schreiber (1983, 1984) argued that offering a second dimension allows to satisfy both motivations at the same time. More specifically, participants have the possibility to positively differentiate on one dimension and, at the same time, to compensate for this inequality by granting the other group dominance on the other dimension.

In line with Judd et al. (2005), we believe that the balance between the differentiation and the fairness motive drives this compensation effect. In situations where participants learn or know that their group is either higher or lower in status/competence, it can be argued that their compensatory responses on the warmth dimension result from a desire to bring the positive differentiation and the fairness motive in balance. When participants see the ingroup as less competent than the outgroup, they will try to claim dominance on the warmth dimension in order to regain a positive social identity. Hence, claiming higher warmth for the ingroup seems to result from the positive differentiation motive. In contrast, when participants see their group as more competent than the outgroup, their need to

positively differentiate themselves is already satisfied and they have the option to satisfy their fairness motive by granting more warmth to the outgroup. Hence, allocating more warmth to the outgroup seems to be driven by the fairness motive. However, this reasoning fails to take into account that ingroup identification might influence the relative importance of both motives. Given that the motive for positive differentiation is believed to be stronger for high than for low identifiers (Ellemers, Van Rijswijk, Roefs, & Simons, 1997), we can expect that ingroup identification will amplify the desire for positive differentiation in a low status/competence condition, with high identifiers displaying more compensation than low identifiers. At the same time, we can expect that, in a high status/competence condition, high identifiers will be less inclined to let themselves be guided by a fairness motive, and will be less willing to grant higher status to an outgroup on the warmth dimension compared to low identifiers.

In line with previous studies, our hypotheses were tested in an experimental (Study 1) and a correlational study (Study 2). Because compensatory behaviour was investigated both in a context of higher or lower competence and of higher or lower status (Study 1 and Study 2 respectively), we will asses relative competence and relative status in both studies. In this way, we can make sure that the effects of relative competence and of relative status address the same psychological processes of compensation. Because we believe that investigating possible moderating effects of ingroup identification is more meaningful in a real-life context, both studies investigated stereotyping of real-life groups. Study 1 investigates the compensation effect in an intergroup context that is relatively neutral because the groups involved generally do not engage in intergroup comparisons (i.e., Flemings & Walloons) reside in the same country (Belgium) and have a history of intergroup tension.

#### STUDY 1

Study 1 investigated whether ingroup identification moderates the compensation effect. Compensation was investigated in a Flemish sample by experimentally manipulating (between-subjects) the relative competence of Flemings and Danes by means of vignettes describing the results of a European study comparing Flanders and Denmark. Denmark was chosen as comparison group because Flemings generally do not have clear stereotypes about Danes, enabling differential relative competence manipulations. In the vignettes, participants were told that the European Union finds the comparison between Flanders and Denmark especially relevant because both regions have similar population rates. Because ingroup identification is expected to moderate the compensation effect, we expected a significant Target group x Dimension x Condition x Identification interaction, with target group (i.e., Flemings & Danes) and dimension (i.e., competence & warmth) as within-subject variables and condition (high versus low competence) and identification as between-subjects variables.

## Method

### Participants and Procedure

Participants were 324 Flemish psychology students. The perceived relative position on the competence dimension was manipulated through vignettes describing the results of a fictitious European study on the difference between Denmark and Flanders. In the low competence condition (N = 163; 17.9% male; Mean age = 18.43, SD= .74), participants received a vignette depicting Denmark as higher in competence than Flanders by arguing that Danes are more efficient and organized. Specific exemplar comparisons related to technology, business, and public transport were provided (see Appendix A). In the high competence condition (N = 161; 24.8% male; Mean age = 18.35, SD = .62), a highly similar vignette depicting Flanders as higher in competence (See Appendix B) was used.

After reading the vignette, participants received a reading test to check whether they actually read and understood the vignette. After this, a relative ingroup status measure was administered to check whether the competence manipulation affected the perceived relative status of Flanders compared to Denmark. Next, an ingroup identification measure was administered. We decided to measure ingroup identification after rather than before the competence manipulation because we were interested in possible differences in compensatory behavior between people that identified highly or lowly with the Flemish ingroup after receiving this comparative intergroup information. Possible changes in level of ingroup identification resulting from our competence manipulation fall beyond the scope of the present article. Finally, to asses participants' stereotyping strategy, participants were asked to indicate to which extent a list of seven adjectives characterizes the Flemish ingroup and the Danish outgroup. This list of seven characteristics contained both competence and warmth stereotypes.

## Measures

*Reading test.* Participants indicated for 5 statements to which extent they corresponded with the vignette they had read. Items dealt with topics that were discussed in the vignettes and were scored on 7-point Likert scales, ranging from -3 (*not applicable at all*) to +3 (*very applicable*). Items were 'Flanders has a better commuting system than Denmark', 'Flanders has greater innovative capacities than Denmark', 'Within the European Union, Flemings are considered more capable than Danes', 'Danes are better employees than Flemings' (reverse coded), and 'Flemish industrial areas are going down' (reverse coded). Cronbach's alpha was .79. Positive scores indicate that Flemings were portrayed more competent than Danes.

*Relative Ingroup Status.* Participants completed a 2-item relative ingroup status scale measuring to which extent they considered Flanders to have higher status in the European Union than Denmark. Items were scored on 7-point Likert scales, ranging from -3 (*not applicable at all*) to +3 (*very applicable*). Items were 'Within the European Union, Flanders has higher status than Denmark' and 'Within the European Union, Denmark has higher status than Flanders' (reverse coded). Opposites were questioned because answering negatively on one item doesn't imply answering positively on the other item. The intercorrelation between the items was -.64.

Ingroup identification. Participants completed a 4-item affective ingroup identification scale assessing the extent to which individuals identify with the Flemish ingroup (Vanbeselaere, Meeus, & Boen, 2007). Items were 'I consider being Flemish as something important to me', 'I am a real Fleming', 'I feel connected with other Flemings', and 'I am proud to be Flemish'. Items were scored on 7-point

Likert scales, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's alpha was .86 (Mean = 3.30; SD = 0.84). Univariate ANOVA-analyses indicated that there was no significant difference in ingroup identification between the high and low competence condition (F(1, 322) = .50, ns), suggesting that the competence manipulation did not affect ingroup identification scores.

*Competence and Warmth.* Participants were asked to indicate to which extent a list of seven adjectives characterizes the Flemish ingroup and the Danish group. Items were scored on 7-point scales, ranging from -3 (*not applicable at all*) to +3 (*very applicable*). Competence was measured with the adjectives competent, confident, capable, and intelligent (Cronbach's alpha = .80 and .83, respectively) and warmth was measured with the adjectives warm, heartily, and friendly (Cronbach's alpha = .88 and .84, respectively).

#### Results

## Preliminary analysis

Univariate ANOVA-analyses on the reading test scores revealed a significant difference between the two conditions (F(1, 320) = 405.28, p < 001; high competence condition: M = 1.14, SD = 0.75; low competence condition: M = -0.76, SD = 0.93). Qualitative differences were as expected: One sample t-tests comparing the mean scores of each group with the zero midpoint of the scale revealed that participants interpreted the vignettes as intended. More specifically, in the high status condition people indicated that Flanders was found to be more competent on the listed issues than Denmark, t(160) = 19.29, p < .001, whereas people in the low status condition convincingly indicated that Flanders was found to be less competent than Denmark, t(160) = -10.29, p < .001.

Univariate ANOVA-analyses on relative status position revealed a significant difference between the two conditions (F(1, 320) = 276.99, p < .001; high competence condition: M = 1.12, SD = 1.11; low competence condition: M = -1.04, SD = 1.21). Qualitative differences were as expected: One sample t-tests comparing the mean scores of each group with the zero midpoint of the scale revealed that participants attributed relative status as intended by the vignettes. More specifically, in the high

competence condition participants endorsed that Europe ascribes more status to Flanders than to Denmark (t(160) = 12.69, p<.001), whereas people in the low competence condition endorsed that Europe ascribes more status to Denmark than to Flanders (t(160) = -10.94, p<.001).

## Primary analysis

Mixed General Linear Model analyses were conducted with target group (i.e., Flemings & Danes), and dimension (i.e., competence & warmth) as within-subject factors, and condition (high versus low competence) and level of ingroup identification (standardized score) as between-subjects factors. In a full model including all possible main effects and all possible two-way, three-way and four-way interactions, there were main effects of target group (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, p < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, q < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, q < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, q < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, q < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, q < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, q < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, q < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, q < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, q < .01,  $\eta^2 = .02$ ), dimension (F(1, 320) = 7.04, q < .01, q < .0320) = 46.38, p<.001, n<sup>2</sup> = .13) and ingroup identification (F(1, 320) = 49.36, p<.001, n<sup>2</sup> = .13) and interaction effects of Target group x Dimension (F(1, 320) = 27.59, p < .001,  $n^2 = .08$ ), Target group x Condition (F(1, 320) = 28.28, p < .001,  $n^2 = .08$ ), Identification x target group (F(1, 320) = 23.71, p < .001,  $n^2 = .07$ ), Identification x Dimension (F(1, 320) = 14, p<.001,  $n^2 = .04$ ), Target group x Dimension x Condition (F(1, 320) = 103.14, p < .001,  $\eta^2 = .24$ ), Target group x Dimension x Identification (F(1, 320) =17.59, p<.001,  $n^2$  = .08), and Target group x Dimension x Condition x Identification (*F*(1, 320) = 4.08, p<.05,  $n^2$  = .01). Results will be discussed in the light of the highest order interaction, that is, the fourway interaction between target group, dimension, condition, and identification. This interaction means that Flemings distribute competence and warmth differently over the two target groups (i.e., Flemings & Danes) depending on condition (i.e., high versus low competence), and that, within each condition, there is a difference between high and low ingroup identifiers. To get a clear view on this interaction we looked at each dimension (i.e., competence & warmth) separately. On the basis of the two betweensubjects variables. Flemish identification (median-split) and competence condition, four categories of participants were created (i.e., low identifiers in the low competence condition, high identifiers in the low competence condition, low identifiers in the high competence condition, and high identifiers in the low competence condition). For each category, we examined how Flemings and Danes were judged on

competence and warmth. Mean levels of alleged competence and warmth stereotypes in function of target group, level of ingroup identification, and condition can be found in Table 1.

First, competence judgments about Flemings and Danes were expected to differ in function of the experimental condition. In line with this, in the low competence condition, both low (F(1, 87) = 16.80, p < .001,  $\eta^2 = .16$ ) and high identifiers (F(1, 74) = 4.69, p < .05,  $\eta^2 = .06$ ) perceived Danes as more competent than Flemings. No interaction with ingroup identification was found (F(1, 161) = 2.83, ns), indicating that the manipulation was equally powerful for low and high identifiers and that they saw similar competence differences. In the high competence condition, both low (F(1, 75) = 79.64, p < .001,  $\eta^2 = .52$ ) and high identifiers (F(1, 84) = 68, p < .001,  $\eta^2 = .45$ ) perceived Flemings as more competent. No interaction with ingroup identifiers, who saw similar competence differences.

Second, and more importantly, the ratings on the unmanipulated warmth dimension were inspected. People in the low competence condition were expected to perceive the Flemish ingroup as warmer than the Danish outgroup in an attempt to enhance their positive social identity. However, when taking ingroup identification into account, we expected that high identifiers would compensate more strongly because high identifiers should experience a stronger need for positive differentiation than low identifiers. In line with this, in the low competence group, the interaction between target group and ingroup identification was significant for warmth judgments (F(1, 161) = 11.19, p<.001,  $\eta^2 = .07$ ), indicating that low and high identifiers perceived different warmth differences. Closer inspection of the main effects revealed that high identifiers perceived Flemings to be warmer than Danes (F(1, 74) = 7.45, p<.01,  $\eta^2 = .09$ ), whereas low identifiers did not see any warmth differences (F(1, 87) = 1.19, ns). People in the high competence condition were expected to perceive Danes as warmer than Flemings in order to make up for the unequal situation resulting from the competence difference. However, when taking ingroup identification into account, we expected that high identifiers would compensate less because of their stronger need for positive ingroup differentiation. In line with this, in the high

competence group, the interaction between target group and ingroup identification was significant (*F*(1, 159) = 24.22, p<.001,  $\eta^2$  = .13), indicating that low and high identifiers perceive different warmth differences. Closer inspection of the main effects revealed that low identifiers saw Danes as warmer than Flemings (*F*(1, 75) = 14.81, p<.001,  $\eta^2$  = .17), whereas high identifiers did not see any warmth difference (*F*(1, 84) = 1.90, *ns*).

#### Discussion

The present study replicates the finding that, when an ingroup and an outgroup are compared on the competence dimension, warmth judgments covary in a compensatory way (Judd et al., 2005). Moreover, the study confirmed the idea that the relative competence position is informative for relative ingroup status (Fiske, Xu, & Cuddy, 1999) in the sense that people who learn that others (i.e. the European Union) perceive the ingroup as more competent than an outgroup generalize this dominance in competence to dominance in status. Likewise, people who learn that their ingroup is perceived less competent also indicate that their ingroup has lower status.

Our study adds to past findings by showing that the variation in warmth judgments depends on the extent to which someone identifies with the ingroup. This provides more insight in why the compensation effect does or does not occur. When people are told that they belong to a low competence group, they will be motivated to compensate for this lack of competence by positively differentiating the ingroup on the warmth dimension. In this way, a positive social identity can be restored. However, the present study shows that only strongly identifying individuals are sufficiently motivated to do so. Lowly identifying individuals do not create warmth differences as a cognitive compensation mechanism. In contrast, when people are told that they belong to a high competence group, they seem motivated to grant the other group dominance over the warmth dimension. However, the present study shows that only lowly identifying individuals are motivated enough to do so. For highly identifying individuals, the motivation to positively differentiate seems to suppress the fairness motive, restraining them from creating a warmth difference. In spite of this, we do want to stress that, apparently, high identifiers still show a mild form of compensation by not attempting to claim dominance on the warmth dimension as well.

## STUDY 2

To our knowledge, the compensation effect has always been investigated in a relatively neutral intergroup comparison context. In a similar vein, Study 1 investigated the allocation of competence and warmth stereotypes across two groups that generally not engage in intergroup comparison. Although the intergroup comparison in Study 1 was framed as meaningful within the European Union, Danes are a relatively neutral outgroup for Flemings. Because neither Danes nor the European Union is of great (psychological) importance in participants' daily life, it is not likely that participants were deeply emotionally involved in the intergroup comparison. In Study 2, we decided to investigate whether the compensation effect also occurs in a more relevant intergroup comparison is highly relevant as they live in one single country (Belgium) and have a long history of intergroup context, it did not seem meaningful to experimentally manipulate relative ingroup competence. Therefore, a correlational instead of an experimental study was conducted, in which both the Flemish and the Walloon group were investigated. The fully crossed design in which both groups rated their ingroup and the outgroup on competence and warmth is one of the strengths of Study 2.

Because the economical conditions in Flanders are better than those in Wallonia, we expected that, within Belgium, Flanders would enjoy a higher status. In line with the results of Study 1, we expected that a higher relative ingroup status would translate into higher relative competence. In other words, we expected that both Flemings and Walloons would judge the Flemish group as more competent than the Walloon group. In this case, compensation would have to occur on the warmth dimension. For the low status group, we expected Walloons to compensate for their lower competence by perceiving their own group as warmer than the Flemish. In line with Study 1, we expected that high

identifiers would compensate to a larger extent than low identifiers. However, because the intergroup comparison of Study 2 is more important than the one in Study 1, we expected that low identifiers would also be sufficiently motivated to compensate for the competence deficit. For the high status group, we predicted Flemings to grant the Walloons more warmth in order to compensate for their higher competence. In line with Study 1, we expected that high identifiers would compensate to a lesser extent than low identifiers. In fact, because the intergroup comparison is so relevant, we were unsure as to whether high identifiers would compensate at all. Instead, they might prefer to claim dominance on the warmth dimension as well.

Additionally, Study 2 allows addressing a question that has not yet been addressed in previous studies on the compensation effect. Specifically, because Flemings and Walloons share a common superordinate category, we can investigate whether compensation at the level of ingroup/outgroup stereotypes also influences the allocation of competence and warmth stereotypes to the superordinate (i.e., the Belgian) category. In this respect, the ingroup projection model (Mummendey & Wenzel, 2001) states that each subgroup evaluates itself in the light of its relative prototypicality for the superordinate category. In order to achieve relative ingroup prototypicality, every subgroup has a tendency to project its own central characteristics onto the superordinate category. Hence, in combination, the ingroup projection model and the compensation effect predict that each subgroup will project the characteristics on which they excel to a greater extent onto the superordinate category (= differential ingroup projection). Specifically, we expected Flemings (i.e., the high status/competence group) to project more competence onto the superordinate category than Walloons. In contrast, we expected Walloons (i.e., the low status/competence group) to downplay the importance of competence in favor of warmth. Because it has been found that relative ingroup prototypicality tends to be higher when identification with both the superordinate group and the subgroup is high (Waldzus, Mummendey, Wenzel, & Weber, 2003), we will investigate whether differential ingroup projection is more pronounced among dual high identifiers than among other categories (low on both national and subnational identification, high on either national or subnational identification). This comes down to the question whether a four-way interaction occurs between dimension (i.e., competence & warmth), judging group (i.e., Flemings & Walloons), national (standardized scores) and subnational identification (standardized scores) occurs, indicating that the differential ingroup projection is moderated by both forms of ingroup identification.

### Participants and Procedure

Participants were high-school students following an academic track who were recruited from schools in Flanders (N = 224; 31% male; mean age = 16.46) and Wallonia (N = 181; 56% male; mean age = 16.70). All participants had the Belgian nationality, and took part in our research during regular class hours. Participants were asked to fill out a questionnaire assessing relative ingroup status, ingroup identification, and competence and warmth judgments about the Flemings, Walloons, and Belgians. In Flanders, measures were administered in Dutch. In Wallonia measures were administered in French.

### Measures

*Relative Ingroup Status.* A single item was used to measure the perceived status relation of Flanders and Wallonia within the Belgium context. This item was "Within Belgium, the status (= prestige) of (Flemings/Walloons) compared to (Walloons/Flemings) is ...". Participants could then complete the item with a scale ranging from -3 (*much lower*) over 0 (*equal*) to +3 (*much higher*). Positive scores indicate that the ingroup is perceived to have higher status than the outgroup, while negative scores indicate that the ingroup is perceived to have lower status than the outgroup.

*Ingroup Identification.* Participants completed a 3-item affective ingroup identification scale, assessing the extent to which individuals self-identify with the (subnational) Flemish/Walloon ingroup. Items were: 'I consider being a Fleming/Walloon as something important to me', 'I feel connected with other Flemings/Walloons', and 'I am proud to be a Fleming/Walloon'. Items were scored on 7-point Likert scales, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's alpha was .78 (Mean = 4.42; SD = 1.18) for Flemings and .81 (Mean = 4.28; SD = 1.35) for Walloons. One sample t-tests comparing the mean scores of each group with the zero midpoint of the scale indicated that, for both

groups, the subnational identity is a relevant category. Specifically, both Flemings (t(223) = 5.35, p < .001) and Walloons (t(180) = 2.76, p < .01) have a mean subnational identification score above the midpoint of the scale. Univariate ANOVA-analyses indicated no significant difference in level of subnational ingroup identification between Flemings and Walloons (F(1, 403) = 1.29, ns). In addition, participants completed the same scale applied to the common ingroup in order to assess the extent to which individuals self-identify with the superordinate category (i.e., the Belgium ingroup). An item example is 'I consider being a Belgian as something important to me'. Cronbach's alpha was .77 (Mean = 4.46; SD = 1.15) for Flemings and .81 (Mean = 5.41; SD = 1.30) for Walloons. One sample t-tests comparing the mean scores of each group with the zero midpoint of the scale indicate that, for both groups, the superordinate identity is a relevant category. Specifically, both Flemings (t(223) = 5.94, p < .001) and Walloons (t(180) = 14.60, p < .001) have a mean national identification score above the midpoint of the scale. Univariate ANOVA-analyses indicated that Walloons identify more strongly with the Belgian identity than Flemings (F(1, 403) = 61.52, p < .001).

*Competence and Warmth.* Participants were asked to indicate to which extent a list of five adjectives characterizes Flemings, Walloons, and Belgians. Items were scored on 7-point scales, ranging from -3 (*not applicable at all*) to +3 (*very applicable*). Competence was measured with the adjectives orderly and disciplined, and warmth was measured with the adjectives cordial, heartily, and tolerant. For ratings of Flemings, Walloons, and Belgians, respectively, competence adjectives intercorrelated .45, .42, and .39 in the Flemish group and .62, .62 and .51 in the Walloon group, and warmth adjectives had a Cronbach's alpha of .77, .75 and .77 among Flemings and of .60, .61 and .60 among Walloons. The adjectives measuring competence and warmth were chosen on the basis of their relevance in the discourse on Flemish-Walloon intergroup relations.

#### Results

## Preliminary analysis

Univariate ANOVA-analyses indicated that Flemings obtained higher relative ingroup status

scores than Walloons (F(1, 398) = 240.27, p<.001). Additionally, one sample t-tests comparing the mean scores of each group with the zero midpoint of the scale indicated that Flemings (t(221) = 17.54, p<.001) displayed a significantly positive relative ingroup status scores (Mean = 1.17, SD = .99), implying that they perceive the ingroup to have higher status than the Walloons. In contrast, Walloons (t(175) = -4.36, p<.001) displayed a significantly negative relative ingroup status scores (Mean = -.40, SD = 1.21), implying that they perceive the ingroup to have a lower status than the Flemings. Hence, both groups agree on the fact that, within Belgium, Flemings have higher status than Walloons.

## Primary analysis concerning compensation

Compensation was investigated by conducting a Mixed General Linear Model analyses with target group (i.e., Flemings & Walloons) and dimension (i.e., competence & warmth) as within-subject factors, and judging group (i.e., Flemings & Walloons) and level of subnational ingroup identification (standardized score) as between-subjects factors. In a full model, including all possible main effects and all possible two-way, three-way and four-way interactions, there were significant main effects of target group (F(1, 401) = 21.53, p < .001,  $n^2 = .05$ ) and ingroup identification (F(1, 401) = 22.03, p < .001,  $n^2 = .05$ ) .05), and significant interaction effects of Target group x Dimension (F(1, 401) = 241.64, p < .001,  $\eta^2 =$ .38), Target group x Judging group (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, p < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, P < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, P < .001,  $n^2 = .04$ ), Identification x Dimension (F(1, 401) = 14.77, P < .001, 401) = 4.85, p<.05,  $n^2$  = .01), Target group x Dimension x Judging group (F(1, 401) = 33.08, p<.001,  $n^2$ = .08). Target group x Judging group x Identification (F(1, 401) = 22.16, p < .001,  $n^2 = .05$ ), and Target group x Dimension x Judging group x Identification (F(1, 401) = 4.40, p < .05,  $n^2 = .01$ ). Results will be discussed in the light of the highest order interaction (i.e., the four-way interaction between target group, dimension, judging group, and identification). This four-way interaction means that Flemings and Walloons distribute the two dimensions (i.e., competence and warmth) differently over the two target groups, and that, within each judging group, there is a difference between high and low identifiers. To get a more clear view on this four-way interaction we will look at each dimension (i.e., competence and warmth) separately. For this purpose, on the basis of the between-subjects variables, four categories

were created (i.e., low identifying Walloons, high identifying Walloons, low identifying Flemings, and high identifying Flemings). For each category, we will inspect how the Flemish and the Walloon group are judged. Mean levels of alleged competence and warmth stereotypes as a function of target group, level of ingroup identification, and judging group can be found in Table 2.

First, as for competence, both groups perceive Flemings as more competent than Walloons. In the Walloon group, both high (F(1, 85) = 25.87, p < .001,  $\eta^2 = .23$ ) and low (F(1, 94) = 43.86, p < .001,  $\eta^2 = .32$ ) identifiers perceived Flemings as more competent than Walloons. No interaction with ingroup identification was found (F(1, 179) = 1.42, ns), indicating that low and high identifiers perceived similar competence differences. Likewise, in the Flemish group, both high (F(1, 109) = 73.23, p < .001,  $\eta^2 = .40$ ) and low (F(1, 113) = 48.01, p < .001,  $\eta^2 = .30$ ) identifiers perceived Flemings as more competent than Walloons. Again, no interaction with ingroup identification was found (F(1, 222) = 3.61, ns), indicating that high and low identifiers perceived similar competence differences.

Second, as for warmth, the Walloons were expected to perceive themselves as warmer than Flemings. However, when taking ingroup identification into account, we expected high identifiers to do so to a greater extent than low identifiers. This hypothesis was confirmed. A significant Target group x Ingroup identification interaction was found for warmth judgments (F(1, 179) = 4.25, p < .05,  $n^2 = .02$ ), indicating that high and low identifiers perceive different warmth differences. In line with the results of Study 1, high identifying Walloons perceived Walloons as warmer than Flemings (F(1, 85) = 52.79, p < .001,  $n^2 = .38$ ). However, low identifying Walloons also displayed the compensation effect albeit to a smaller extent than high identifiers by perceiving Walloons to be warmer than Flemings (F(1, 94) = 41.85, p < .001,  $n^2 = .31$ ). For Flemings, a significant target group x ingroup identification interaction was found for warmth judgments (F(1, 222) = 26.97, p < .001,  $n^2 = .11$ ), indicating that high and low identifiers perceive different warmth differences. In line with the results of Study 1, lowly identifying Flemings perceived Walloons as warmer than Flemings (F(1, 113) = 5.19, p < .05,  $n^2 = .04$ ). However, highly identifying Flemings as warmer than Walloons (F(1, 109) = 7.86, p < .01,  $n^2 = .07$ ),

hence not displaying a compensation effect.

## Primary analysis concerning ingroup projection

Finally, we expected that the compensation effect that occurs at the level of the ingroup/outgroup stereotypes would also influence the stereotypes at the level of the superordinate category. Therefore, we first inspected which dimension is seen as the most central ingroup characteristic by conducting a Mixed General Linear Model analysis with dimension (i.e., competence & warmth levels of the own ingroup) as within-subject factors, and judging group (i.e., Flemings & Walloons) and level of subnational ingroup identification (standardized score) as between-subjects factors. A full model including all possible main effects and all possible two- and three-way interactions revealed significant main effects of dimension (F(1, 401) = 17.24, p < .001,  $\eta^2 = .04$ ), judging group (F(1, 401) = 11.27, p<.001,  $n^2$  = .03), and ingroup identification (*F*(1, 401) = 49.71, p<.001,  $n^2$  = .11), as well as significant interaction effects of Dimension x Judging group (F(1, 401) = 134.25, p < .001,  $n^2 = .25$ ), Dimension x Ingroup identification (F(1, 401) = 9.06, p < .01,  $n^2 = .03$ ), and Dimension x Judging group x Ingroup identification (F(1, 401) = 4.45, p < .05,  $n^2 = .01$ ). Results will be discussed in the light of the highest order interaction (i.e., the three-way interaction between dimension, judging group, and identification). This three-way interaction means that Flemings and Walloons distributed the two dimensions (i.e., competence & warmth) differently over the own subnational ingroup, and that, within each judging group, there is a difference between high and low identifiers. To get a more clear view on this three-way interaction, we created four categories of participants (i.e., low identifying Walloons, high identifying Walloons, low identifying Flemings, and high identifying Flemings) on the basis of the between- subjects variables (i.e., judging group & ingroup identification). For each category, we inspected how Flemings and Walloons judged their own subnational group on competence and warmth.

In the Walloon group, both high and low identifiers perceived warmth to be more central to their ingroup than competence. The absence of a significant Dimension x Ingroup identification interaction (F(1, 179) = .387, ns) pointed at the fact that both high and low identifiers do this to the same extent. In

the Flemish group, both high and low identifiers perceive competence to be more central for the ingroup than warmth. However, a significant Dimension x Ingroup identification interaction (F(1, 222) = 13.58, p < .001,  $\eta^2 = .06$ ) indicates that low identifiers (Mean difference = 0.58) perceive larger differences between competence and warmth ratings of the Flemish ingroup than high identifiers (Mean difference = 0.25).

Subsequently, we expected each group to project its most important characteristic to a greater extent to the superordinate category. More specifically, we expected Flemings to project more competence than Walloons, and Walloons to project more warmth. Because subnational and national identification are possible moderators of ingroup projection, we conducted a mixed General Linear Model analysis with dimension (i.e., rating of the Belgian group in terms of competence and warmth) as within-subject factor, and judging group (i.e., Flemings & Walloons), subnational ingroup identification (i.e., Flemish or Walloon identification), and national ingroup identification (i.e., Belgian identification) as between-subjects factors. A full model including all possible main effects and all possible two- and three-way interactions revealed a significant main effect of dimension (*F*(1, 397) = 6.19, *p*<.05,  $\eta^2$  = .02), as well as a significant interaction effect of Dimension x Judging group (*F*(1, 397) = 15.72, *p*<.001,  $\eta^2$  = .04). The dimension x judging group interaction can be understood by looking at the difference between Flemings and Walloons on each dimension separately.

On the competence dimension, a significant difference between Flemings and Walloons was found (F(1, 403) = 12.66, p < .001,  $\eta^2 = .03$ ). Flemings (Mean = 4, 83) ascribed higher levels of competence to Belgians than Walloons (Mean = 4, 53). On the warmth dimension, a significant difference between Flemings and Walloons was also found (F(1, 403) = 12.20, p < .001,  $\eta^2 = .03$ ), with Walloons (Mean = 4.96) ascribing higher levels of warmth to Belgians than Flemings (Mean = 4.65). Hence our differential ingroup projection hypothesis was confirmed: Whereas Flemings project more competence onto Belgians than Walloons, Walloons project more warmth than Flemings.

When we investigate the two-way Dimension x Judging group interaction by looking at the

difference between competence and warmth levels of Belgians for each judging group separately, we get a more detailed view of the differential ingroup projection mechanism. In the Flemish group, there was a significant difference between the competence and warmth levels of Belgians (F(1, 223) = 6.85, p<.01,  $\eta^2 = .03$ ), with Flemings perceiving Belgians as more competent (Mean = 4. 83) than warm (Mean = 4. 65). In the Walloon group, there was also a significant difference between the competence and warmth levels of Belgians (F(1, 180) = 35.91, p<.001,  $\eta^2 = .17$ ), with Walloons perceiving Belgians to be more warm (Mean = 4.96) than competent (Mean = 4.53). The fact that Flemings judged Belgians to be more warm than warm in combination with Walloons judging Belgians to be more warm than competent means that each group perceives its own central characteristic as the most central characteristic of the superordinate category.

#### Discussion

Study 2 investigated whether compensation also occurs in a relevant intergroup comparison context. For this purpose, Flemings and Walloons were chosen as comparison groups. Results showed that Flemings had a higher status and were rated as more competent than Walloons. Subsequently, compensation was investigated on the warmth dimension. Again, the compensation effect was found to be moderated by ingroup identification. In the low status group (i.e. Walloons), both high and low identifiers compensated for the competence deficit by granting their ingroup more warmth. In line with the results of Study 1, this compensation effect was stronger among high than among low identifiers. Contrary to the results of Study 1, low identifiers also displayed compensation. Given that the intergroup context is highly relevant, this might be the case because even low identifiers are emotionally involved in the intergroup comparison and are therefore also motivated to enhance the own social identity through compensation. In the high status group (i.e. Flemings), only low identifiers were sufficiently motivated to grant Walloons more warmth in order to compensate for the unequal competence situation. High identifiers perceived the Flemish ingroup not only as more competent but also as warmer than the Walloons. In other words, because the intergroup comparison is so relevant, the tendency to enhance

the own social identity seems to overrule the fairness motive among high identifiers.

Additionally, Study 2 investigated whether the compensation effect at the level of the ingroup/outgroup stereotypes influences the allocation of competence and warmth at the superordinate (i.e., Belgian) category. First, we expected that each group would regard the characteristic in which they excel as more central for the own ingroup. The high status group (i.e. Flemings), on the one hand, was found to perceive competence to be their most important characteristic. This was especially the case among low identifiers, who perceived larger differences between ingroup competence and warmth than high identifiers. This result is in line with the fact that, in the high status group, compensation was only found for low identifiers. Whereas low identifiers perceived their group to only excel on the competence dimension, high identifiers perceived dominance on both dimensions. Therefore, high identifiers might consider both competence and warmth as important characteristics of the ingroup. Nevertheless, both high and low identifiers perceived competence to be the most central characteristic of the Flemish ingroup. The low status group (i.e. Walloons), on the other hand, perceived warmth to be their ingroup's most important characteristic. This effect was not moderated by subnational ingroup identification. Despite the fact that, in the intergroup comparison, high identifiers perceived larger warmth differences between Flemings and Walloons than low identifiers (i.e. high identifiers compensate more than low identifiers), high and low identifiers converged in perceiving warmth as the most central characteristic of the Walloon group. In line with the idea that each group would project its most central characteristic onto the superordinate category, it was found that Flemings projected more competence than Walloons, whereas Walloons projected more warmth than Flemings. When looking at which characteristic is most important for the superordinate category, we found that Flemings perceived Belgians to be more competent than warm, while Walloons perceived Belgians to be more warm than competent. Hence, the compensation effect seems to influence the stereotyping of the superordinate category, leading to a differential ingroup projection process.

#### GENERAL DISCUSSION

The primary aim of the present studies was to investigate whether ingroup identification is a moderator of the compensation effect that occurs when two groups are compared. Ingroup identification was believed to moderate this effect because stereotyping was conceived to reflect a resolution between two opposing motives, a positive differentiation motive and a fairness motive. More specifically, it was expected that ingroup identification would increase the relative importance of the positive differentiation motive (Ellemers, et al., 1997). Study 1 tested our hypotheses in a relatively neutral intergroup context (i.e., Flemings & Danes). Because up to now, compensation has always been studied in relatively neutral research contexts, Study 2 tested our hypotheses in a more relevant intergroup context (i.e., Flemings & Walloons). Because Flemings and Walloons constitute the two major cultural and linguistic subgroups of Belgium and because they have a history of intergroup tension, participants were likely to be emotionally involved in the intergroup comparison.

Both Study 1 and Study 2 confirmed our hypotheses. In the low competence/status group, the positive differentiation motive was expected to dominate the warmth allocation responses. Hence, people were expected to compensate for the competence/status deficit by indicating that their ingroup is warmer than the outgroup. Taking ingroup identification into account, we expected high identifiers to compensate more than low identifiers because, for them, the relative importance of the differentiation motive would be stronger than for low identifiers. As expected high identifiers only resorted to positive intergroup differentiation in a highly relevant intergroup context (i.e., in Study 2). In a less relevant intergroup context (i.e., Study 1), low identifiers were apparently not sufficiently motivated to display the compensation effect. In contrast, in the high status condition, the fairness motive was expected to dominate the warmth allocation responses. Hence, people were expected to compensate for the unequal competence/status situation by granting the outgroup dominance over the warmth dimension. Taking ingroup identification into account, we expected high identifiers to compensate less

than low identifiers, because high identifiers are expected to have a stronger need for positive ingroup differentiation, and this is expected to diminish the relative importance of the fairness motive. Study 1 and Study 2 converged on the finding that, in the high competence/status condition, only low identifiers display the compensation effect. In a highly relevant context, high identifiers increase intergroup inequality by claiming dominance over the warmth dimension too suggesting that the positive differentiation motive overrules the fairness motive.

In sum, our studies suggest that the compensation effect is affected by level of ingroup identification and by the relevance of the intergroup context. The fact that in- and outgroup stereotyping varies as a function of ingroup status, ingroup identification, and relevance of the intergroup context, even when the same comparison groups are involved (Study 1), sheds some light on the nature of stereotyping. In line with the social identity approach, stereotypes should not merely be seen as a consequence of the inability to deal with the complex social reality, but also as strategical tools to obtain certain group goals.

Additionally, Study 2 investigated whether the compensation effect that occurs at the level of ingroup/outgroup stereotypes also influences stereotyping at the level of the superordinate category. In this respect, it was found that compensation influences which characteristic is considered most central for the ingroup. More specifically both Walloons and Flemings rated the characteristic in which they excelled to be the most important characteristic (warmth and competence respectively) for their ingroup. At the level of the superordinate category, each group projected its own central characteristic to a greater extent onto the superordinate category. Whereas Walloons perceived Belgians to be warmer than competent, Flemings perceived Belgians to be more competent than warm. The finding of differential ingroup projection is in line with the ingroup projection model (Mummendey & Wenzel, 2001), which states that each subgroup evaluates itself in the light of the superordinate category. Differential ingroup projection helps to ensure relative ingroup prototypicality, enhancing positive group-evaluation outcomes. Contrary to what was expected from the ingroup projection model, the process of differential

ingroup projection was not moderated by national and subnational ingroup identification. Both highly and lowly identifying Flemings (high status group) similarly perceived the Belgian group as more competent than warm, and both highly and lowly identifying Walloons (low status group) similarly perceived the Belgian group to be more warm than competent. In this case, the differential ingroup projection might have been similar for high and low identifying participants to also display high levels of relative ingroup prototypicality. More research seems needed to clear this out. Nevertheless, the process of differential ingroup sagree on the dimensions in which they are superior, they will still project different qualities onto the superordinate category. In this way, the difference in self-stereotyping is reflected in a struggle over the content of the identity of the superordinate category.

Finally, we wish to make a note on the fairness motive. Although Tajfel and colleagues (1971) stated that both the positive differentiation and the fairness motive seem to drive the allocation behaviours in the minimal group experiments, the fairness motive has relatively been neglected in the intergroup relations research tradition. Social identity theory focused mainly on the positive differentiation motive in order to explain why participants, who were in fact strangers to each other, didn't allocate monetary rewards equally over the in- and outgroup members in the minimal group paradigm. In line with this, subsequent research rightfully focused on intergroup bias and prejudice, since they constitute one of the most prominent problems of today's societies. Following Mummendey and Wenzel (1999), we want to raise the question, however, whether the fairness motive and subsequent tolerant intergroup behaviours don't deserve more scientific endeavors in their own right. As the results of the present research show, fairness also seems to be an important social motive at the intergroup level. More research seems required to explore the nature of fairness and the conditions in which it will occur.

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# Appendix A

# Study 1, High competence condition

Since its establishment in 1992, the European Union (EU) has evolved from an institution with mainly economic power into an institution with political power. As a consequence, the influence of the EU on the daily lives of its citizen has increased. The most important and most visible signs of this increased influence are the introduction of the euro and of free movement of persons within the EU. In addition, numerous European institutions have been created to deal with topics such as mobility, the environment, energy resources, education, and culture. Now that the EU has grown more powerful, the question is raised as to what EU citizens have in common and how they differ. In order to gain more insight in these similarities and differences, studies were carried out in the individual EU member states. The present study aims to investigate how the results of these previous studies are perceived by the Flemish citizens. In the current phase of the present study, we will focus on the differences that have been shown between Denmark and Flanders. The comparison between Denmark and Flanders is particularly relevant because both regions are highly comparable in terms of size and number of inhabitants.

The research report has made it clear that Flanders exceeds Denmark in thoroughness, efficiency and organizational capacity. In spite of the fact that Denmark is making extra efforts in this respect, large differences with Flanders continue to exist. A first example of this resides in the technological innovation that characterizes Flanders compared to Denmark. While Flanders has been able to successfully counter this problem by investing in the latest technology and in medical and pharmaceutical research, plenty of Danish companies move away to China or to countries in Eastern Europe because of the lower labor costs. As a result of this, Flemish companies continue to have a high worldwide ranking, whereas the Danish industry continues to go downhill. This evolution is also partly attributed to the work ethic and the professionalism of Flemish employees. A second example in which Flanders performs way better than Denmark is in the organization of its educational system. Due to an efficient education policy, Flemish universities and colleges manage to provide a qualitatively high-standard education that is accessible to everyone, hence offering equal opportunities to everyone. Denmark, in contrast, is performing a lot worse in this respect. Apart from this, research has also pointed out large differences in road infrastructure and in the organization of public transport. In Flanders, commuting between home and workplace is organized in a highly efficient and precise way. Finally, differences between Flanders and Denmark are reflected on an individual level. Flemings are clearly much more efficient, punctual and down-to-earth than Danes.

# Appendix B

## Study 1, Low competence condition

Since its establishment in 1992, the European Union (EU) has evolved from an institution with mainly economic power into an institution with political power. As a consequence, the influence of the EU on the daily lives of its citizen has increased. The most important and most visible signs of this increased influence are the introduction of the euro and of free movement of persons within the EU. In addition, numerous European institutions have been created to deal with topics such as mobility, the environment, energy resources, education, and culture. Now that the EU has grown more powerful, the question is raised as to what EU citizens have in common and how they differ. In order to gain more insight in these similarities and differences, studies were carried out in the individual EU member states. The present study aims to investigate how the results of these previous studies are perceived by the Flemish citizens. In the current phase of the present study, we will focus on the differences that have been shown between Denmark and Flanders. The comparison between Denmark and Flanders is particularly relevant because both regions are highly comparable in terms of size and number of inhabitants.

The research report has made it clear that Denmark exceeds Flanders in thoroughness, efficiency and organizational capacity. In spite of the fact that Flanders is making extra efforts in this respect, large differences with Denmark continue to exist. A first example of this resides in the technological innovation that characterizes Denmark compared to Flanders. While Denmark has been able to successfully counter this problem by investing in the latest technology and in medical and pharmaceutical research, plenty of Flemish companies move away to China or to countries in Eastern Europe because of the lower labor costs. As a result of this, Danish companies continue to have a high worldwide ranking, whereas the Flemish industry continues to go downhill. This evolution is also partly attributed to the work ethic and the professionalism of Danish employees. A second example in which Denmark performs way better than Flanders is in its energy resources policy. Whereas Flanders continued to stick to traditional energy resources, making it growingly dependent upon oil producing countries, Denmark decided years ago to invest in alternative energy resources such as wind and water. As a result, Denmark managed to build an economic and environment friendly energy production system. Apart from this, research has also pointed out large differences in road infrastructure and in the organization of public transport. Flanders will have to do guite some efforts to deal with the daily traffic jams and the train delays. Denmark, in contrast, has managed to organize commuting between home and workplace in a highly efficient and precise way. Finally, differences between Flanders and Denmark are reflected on an individual level. Danes are clearly much more efficient, punctual and down-to-earth than Flemings.

# Author note

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# Table 1

Mean competence and warmth ratings as a function of judging group (high and low competence condition [COMP COND], level of identification (low and high identifiers [ID]), dimension (competence and warmth) and target group (Flemings and Denish [TARGET])

				JUDGING GROUP				
				HIGH COMP COND		LOW COMP COND		
				LOW ID	HIGH ID	LOW ID	HIGH ID	
D – M E N S – O N	COMPETENCE	T A R G E T	FLEMINGS	1.95	2.13	1.35	1.73	
			DENISH	1.17	1.44	1.63	1.91	
	WARMTH	T A R G E T	FLEMINGS	1.07	1.73	1.01	1.77	
			DENISH	1.56	1.62	1.12	1.53	

# Table 2

Mean competence and warmth ratings as a function of judging group (Flemings and Walloons), level of identification (low and high identifiers [ID]), dimension (competence and warmth) and target group (Flemings and Walloons [TARGET])

				JUDGING GROUP				
				FLEMINGS		WALLOONS		
				LOW ID	HIGH ID	LOW ID	HIGH ID	
D – M E N S – O N	COMPETENCE	T A R G E T	FLEMINGS	4.92	5.26	4.98	5.24	
			WALLOONS	4.22	4.27	4.04	4.26	
	WARMTH	T A R G E T	FLEMINGS	4.35	5.01	4.14	4.24	
			WALLOONS	4.64	4.67	4.86	5.28	