
Infracommunication or Familiarity? Attribution of Uniquely Human Emotions to the Self, the Ingroup, and the Outgroup

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People attribute more secondary emotions to their ingroup than to outgroups. This effect is interpreted in terms of infracommunication theory. Familiarity also could explain this differential attribution because secondary emotions are thought to be less visible and intense than primary ones. This alternative explanation to infracommunication was tested in three studies. In Study 1, participants attributed, in a between-participants design, primary and secondary emotions to themselves, to their ingroup, or to an outgroup. In Study 2, participants answered for themselves and their ingroup or for themselves and an outgroup. In Study 3, participants made attributions to the ingroup or a series of outgroups varying in terms of familiarity. The data do not support an explanation in terms of familiarity. The discussion centers on conditions not conducting to infracommunication.

Keywords: *infracommunication; essentialism; familiarity; emotions*

There are differences between social groups. These differences are often quite visible, such as in the case of physical appearance, behavioral habits, and clothing. For instance, an Italian University professor will probably be shorter, more exuberant, and more formally dressed than will a Dutch colleague. People spontaneously need explanations for these differences. Stereotypes constitute a privileged kind of explanation (Hegarty & Pratto, 2001; Leyens, Yzerbyt, & Schadrone,

1994). Italians will be stereotyped as warm, artistic, and generous, whereas Dutch will be characterized as strong, organized, and informal. In addition to stereotypes, attributions of different essences to various groups are another way to explain differences between social groups (Demoulin, Leyens, & Yzerbyt, 2002; Haslam, Rothschild, & Ernst, 2000, 2002; Hirschfeld, 1996; Rothbart & Taylor, 1992). The essence is the substratum that makes alike people from the same group and radically differentiates them from individuals belonging to other groups. This essence can be biological (e.g., Mediterranean vs. Nordic), religious (e.g., Muslim vs. Christian), linguistic (e.g., Roman vs. Germanic or Anglo-Saxon roots), or cultural (e.g., individualist vs. collectivist). Given prevalent ethnocentrism (Sumner, 1906), it is not surprising that most people react unconsciously as if their group had a better, more human essence than the

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other groups. In other words, people tend to inhumanize outgroups (Leyens et al., 2000, 2001, 2003).

In this article, we first describe briefly the operationalization of inhumanization and summarize its empirical evidence. We then ask whether the classical difference observed for the ingroup and the outgroup cannot be explained in terms of familiarity (Hartley, 1946; Prentice, 1990). Finally, we report three experiments pitting the inhumanization explanation against the familiarity one.

Inhumanization and Secondary Emotions

Research conducted by Leyens et al. (2000) has demonstrated that intelligence, language, and refined emotions are uniquely human characteristics. Claiming more human essence for one's group, or inhumanizing others, may be achieved by believing that, relative to the outgroup, one's ingroup possesses more of one or several of these three characteristics. Leyens and colleagues (2000, 2003) concentrated on the role of uniquely human emotions. Roman languages such as French and Spanish have two distinct words to distinguish uniquely human (*sentiment, sentimiento*) and nonuniquely human (*émotion, emoción*) emotions, whereas other languages, such as English and Dutch, do not make this linguistic distinction. A study by Demoulin et al. (2004) was conducted in three countries (Belgium, Spain, and the United States) and four languages (English, Dutch, French, and Spanish) to investigate cross-cultural lay conceptions of emotions. Participants received a series of emotional terms and had to rate to which degree each of them was uniquely human versus nonuniquely human (i.e., shared by humans and animals). They also rated these words on several characteristics. The results showed a highly similar conception across languages. Positive and negative uniquely human emotions were rated as less intense and visible, lasting longer, appearing later in life, more linked to morality and cognition, and more internally caused than nonuniquely human emotions. Because nonuniquely human emotions were characterized by features generally attributed to primary emotions (Ekman, 1992, but see Wierzbicka, 1999), we called them primary emotions (e.g., fear, surprise, anger, joy) and reserved the term of secondary emotions for uniquely human emotions (e.g., admiration, resentment, love, melancholy). A series of experiments were conducted on the basis of the distinction between primary and secondary emotions.

Using an adaptation of the Implicit Association Test (Greenwald, McGhee, & Schwartz, 1998), several studies have shown that people associate their ingroup more quickly with positive and negative secondary emotions and associate various outgroups more quickly with posi-

tive and negative primary emotions than the reverse (Paladino et al., 2002). Members of groups with high or low status, with and without history of conflict, also attribute more positive and negative secondary emotions to their ingroup than to outgroups (e.g., Demoulin, Leyens, Rodriguez, et al., 2002; Gaunt, Sindic, & Leyens, in press). Moreover, people are reluctant to attribute secondary emotions to outgroups (Demoulin, Leyens, Rodriguez, et al., 2002; Gaunt, Leyens, & Demoulin, 2002; Gaunt, Leyens, & Sindic, 2004; Leyens et al., 2001, Experiment 3). Finally, individuals are most willing to help, imitate, and approach an ingroup member expressing positive or negative secondary emotions, although they are least likely to adopt these behaviors in the case of an outgroup member who expresses secondary emotions (Vaes, Paladino, Castelli, Leyens, & Giovanazzi, 2003; Vaes, Paladino, & Leyens, 2002).

In the research program mentioned above, the lower associations of secondary emotions with and their lower attribution to outgroup members are interpreted in terms of inhumanization, that is, the tendency to reserve human nature for one's own group. These results, however, could as plausibly be explained in terms of familiarity.

The Familiarity Hypothesis

Because Demoulin and colleagues (2004) showed that people consider primary emotions to be more visible than secondary emotions, one could argue that the differential attribution of secondary emotions to the ingroup and the outgroup is not the result of inhumanization but the consequence of a greater familiarity with the ingroup than the outgroup. The reasoning goes as follows. Secondary emotions are more difficult to observe because they are less visible and less intense than primary emotions (Shaver, Wu, & Schwarz, 1992) and people are aware of this difference (Demoulin et al., 2004). To go beyond these self-reports, participants in a pretest were asked to mimic on their faces two primary and two secondary emotions while an ingroup photographer was taking pictures of them. Nine independent judges, unaware of the hypotheses, rated the emotional intensity of the expressions on our participants' faces (1 = *not at all intense*, 7 = *very intense*). Interjudges' agreement was high ($\alpha = .95$). Consistent with results obtained on self-reported measures (Demoulin et al., 2004), the judges rated the intensity of primary emotions ($M = 4.28$) higher than the one of secondary emotions ($M = 3.01$), $F(1, 34) = 30.87, p < .001$.

If one is more familiar with the ingroup than with the outgroup, one might have more opportunities to detect, with greater ease, secondary emotions in the ingroup

and erroneously think that secondary emotions are more typical of the ingroup than of the outgroup. The same remark was made by Beaupré and Hess (2003). These authors showed participants pictures of ingroup (e.g., White) and outgroup (e.g., African or Asian) members expressing a smile varying in intensity, a neutral face, or a miserable smile (smile with a frown). In three experiments, people attributed a smile more frequently to the ingroup than to the outgroup member. The authors interpret their data in terms of ingroup favoritism bias (for a review, see Brewer & Brown, 1998) but recognize that the results may be due to a sampling bias. "That is, people are more likely to encounter in-group members rather than out-group members in social situations that are conducive to smiling and that is what they report" (Beaupré & Hess, 2003, p. 376). A biased attribution of secondary emotions to the ingroup is also consistent with the ecological perspective defended by McArthur and Baron (1983). According to these authors, it is adaptive to be especially attuned to the familiar ingroup with which one has most interactions.

In the intergroup literature, we know only one study that indirectly deals with the perception of groups' specific characteristics as a function of familiarity. Hartley (1946) asked his participants to distribute positive and negative characteristics to different national groups, including three fictitious ones (e.g., Wallonians). Although participants could not know the latter three nationalities, many of them attributed characteristics to these fictitious countries and most of these characteristics were negative. From this finding, Hartley (1946) concluded that people tend to view groups they do not know in a negative light. Such a conclusion provided evidence for the development of the contact hypothesis (Allport, 1954). According to this hypothesis, "deprovincialized" (Pettigrew, 1997), that is, open-minded, encounters with another group will reduce prejudice and stereotypes. In other words, the more familiar people become with a given group, the less they will perceive its members in stereotypical terms, and the more their perception will be based on specific knowledge about this outgroup (Pettigrew, 1998).

To sum up, whereas Leyens and colleagues' model (2000) interprets the underattribution of secondary emotions to the outgroup as a tendency to infrahumanize the outgroup, the familiarity hypothesis suggests that the underattribution is a consequence of secondary emotions' lower visibility, such that higher access to the target of attribution increases the probability of secondary emotions' visibility and, consequently, of their attribution to the target. In other words, targets of attributions can be rank ordered along a familiarity continuum that will be predictive of secondary emotions' attributions.

Overview of the Studies and Hypotheses

Three studies were developed to test the familiarity explanation. In the first two studies, primary and secondary emotions were attributed to the self, the ingroup, or the outgroup in either a between (Study 1) or mixed (Study 2) design. In the third study, participants described an ingroup or a series of different outgroups varying in their degree of familiarity.

In Studies 1 and 2, the familiarity explanation predicts that individuals will attribute more secondary emotions to the self than to the ingroup, and more secondary emotions to the ingroup than to the outgroup, because the self is more familiar than the ingroup and the ingroup is more familiar than the outgroup. No difference is expected for primary emotions because they are easily observable. In contrast, the infrahumanization hypothesis predicts that individuals will attribute more secondary emotions to the ingroup and the self than to the outgroup (Leyens et al., 2000, 2001). Because people who strongly identify with their group (Demoulin et al., 2003; Rohmann, Niedenthal, Brauer, & Leyens, 2002) also tend to essentialize the differences between groups, they consider outgroups as having fewer uniquely human emotions than themselves (Demoulin et al., 2003; for a review, see Leyens et al., 2003). Such an attribution should be independent of the valence of the secondary emotions: Positive and negative secondary emotions are rated as uniquely human. No difference should be observed for the attribution of primary emotions to the different targets because primary emotions are common to humans and animals.

In Study 3, participants were asked to describe one of the following four groups: Walloons (ingroup), Flemish, Parisians, and residents of Prague (*Praguois* in French). It was assumed that the three outgroups varied in familiarity for our Walloon participants, with Flemish being the most familiar group and *Praguois* the least familiar one. In addition, three measures were added at the end of the questionnaire: perceived familiarity with the target group (Linville, Fischer, & Yoon, 1996), perceived relevance of the outgroup for the ingroup's situation, and perceived likeability of the target group. According to the familiarity hypothesis, attributions of secondary emotions should vary as a function of familiarity with the outgroup, with the Flemish group receiving the highest number of secondary emotions and the Prague group receiving the lowest. Also, attributions of secondary emotions should correlate, at the individual level, with reported familiarity with the target group. In contrast, according to the infrahumanization hypothesis, differences of secondary emotions attributions should not vary systematically as a function of outgroup familiarity. Specifically, all three outgroups are potential targets of infrahumanization and reported differences in familiar-

ity should be uncorrelated with the actual attributions of secondary emotions. In addition, consistent with previous studies using conflicting and nonconflicting outgroups, attributions of secondary emotions should not correlate with likeability toward the outgroup (Demoulin, Leyens, Rodriguez, et al., 2002). Relevance of the outgroup for the ingroup situation also was added as a potential variable for the explanation of attribution of secondary emotions.

STUDY 1

We asked participants to describe their self, or their ingroup, or an outgroup. According to the familiarity hypothesis, most secondary emotions should be attributed to the self, least to the outgroup, and the ingroup should fall in between the two. Indeed, Prentice (1990) showed that people report more privileged information (feelings, values, likes and dislikes, etc.) to describe themselves than others. Johnson (1987) even found that people believe that they hide their affects more than do other persons. Prentice (1990) and Johnson (1987) also have taken into account the degree of familiarity of others. For instance, Prentice (1990) evidenced that people report 32.69% of privileged information for themselves, 16.69% for a familiar other, and only 8.36% for an unfamiliar other. Infracommunication predicts a different pattern, that is, more secondary emotions for the ingroup and the self than for the outgroup.

Method

PARTICIPANTS

Seventy-three students from the University of La Laguna took part in the study as part of a class. The majority of them were women so that it was impossible to consider gender in the analyses.

PROCEDURE

Participants received a questionnaire that was introduced as part of a study investigating similarities and differences between persons and groups. Participants were informed that they would have to describe a particular target by selecting about 12 characteristics, out of 26, that best applied to the target. In one third of the cases, the target was the self. In another third, it was the ingroup, that is, Canarians. For the remaining participants, the target was an outgroup, that is, the Spanish from mainland Spain. It should be noted that Canarians have a conflicting relation with mainland Spanish, whom they consider snobbish toward them and taking the best jobs on the islands.

After completion of the questionnaire, students were thanked for their participation and the experimenter delivered a brief summary on the aim of the study to them.

MATERIAL

The infracommunication questionnaire was the same as the one used in Experiment 2 of Leyens et al. (2001). Two criteria served to select the positive and negative primary emotions. First, the two kinds of emotions had to be as typical as possible of their category (Demoulin et al., 2004). Second, the positive primary and secondary emotions had to have the same average valence, and this also was true for the negative primary and secondary emotions. Controlling valence was important because otherwise valence could explain any differential attribution of emotions. The list contained three positive secondary emotions (*felicidad*, contentment; *deleite*, delight; and *disfrute*, enjoyment) and three positive primary emotions (*alegría*, happiness; *placer*, pleasure; and *pasión*, passion) that did not differ in average valence ($M_s = 8.41$ and 8.28), $t(19) = .60$, *ns*. There were also three negative secondary (*melancolía*, melancholia; *resignación*, resignation; and *desemparo*, disarray) and three negative primary emotions (*aversión*, aversion; *cólera*, anger; and *irritación*, irritation) with equal valence ($M_s = 3.46$ and 3.55), $t(19) = .79$, *ns*. The other items were fillers, also controlled for valence, that concerned competence, a stereotype of mainland Spanish, and sociability, a stereotype of Canarians (Quiles, Leyens, & Rodriguez, 2001).

Results

A 3 (target: self vs. ingroup vs. outgroup) \times 2 (type of emotion: primary vs. secondary) \times 2 (valence: positive vs. negative) mixed ANOVA showed that all the significant main effects and interactions were qualified by a three-way interaction, $F(2, 70) = 7.90$, $p < .001$. We decomposed the triple interaction for secondary and primary emotions because it was the variable of most relevance for our purpose.

Secondary emotions. As expected, there was a main effect for the target, $F(2, 70) = 9.18$, $p < .001$. Most secondary emotions were attributed to the ingroup ($M = 1.50$, $SD = .48$) and least secondary emotions were given to the outgroup ($M = .90$, $SD = .48$). Attributions to the self ($M = 1.18$, $SD = .48$) fell between these two extremes (see Figure 1). The differences between the three targets were significant. More secondary emotions were attributed to the self than to the outgroup, $t(48) = 2.03$, $p < .05$, and less secondary emotions were received by the self than by the ingroup, $t(46) = 2.27$, $p < .03$. These results do not support the familiarity hypothesis.

The main effect for valence of secondary emotions also was significant, $F(1, 70) = 17.39$, $p < .001$. Not surprisingly, more positive ($M = 1.51$, $SD = .82$) than negative ($M = .88$, $SD = .79$) secondary emotions were selected overall. Of interest, the interaction between targets and

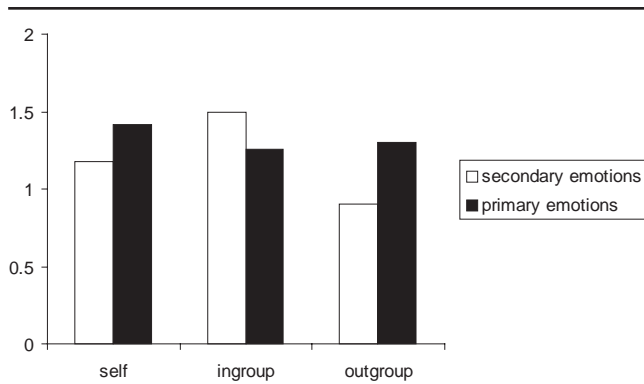


Figure 1 Mean number of primary and secondary emotions attributed to the self, the ingroup, and the outgroup, Study 1.

valence of the secondary emotions was not significant, $p > .13$.

Primary emotions. The usual main effect for valence was significant, $F(1, 70) = 60.54, p < .001$. More positive ($M = 1.90, SD = .80$) than negative ($M = .76, SD = .81$) primary emotions were selected. There was no main effect for target, $F < 1, ns$ (see Figure 1). Target interacted however with the valence of the primary emotions, $F(2, 70) = 9.08, p < .001$. Fewer negative ($M = .72, SD = .81$) than positive primary emotions ($M = 2.12, SD = .81$) were attributed to the self, $t(24) = 8.70, p < .001$. Also, fewer negative ($M = .39, SD = .81$) than positive primary emotions ($M = 2.13, SD = .81$) were attributed to the ingroup, $t(22) = 11.64, p < .001$. No such effect was present in the case of the outgroup ($M_s = 1.44$ and $1.16, SD_s = .81$, for positive and negative primary emotions, respectively), $t(24) < 1, ns$.

Discussion

Because people are supposed to know themselves better than their group (e.g., Prentice, 1990), the familiarity explanation expected more attributions of secondary emotions to the self than to the ingroup. This was not the case. Although the results for the ingroup and the outgroup reproduced exactly earlier findings (Leyens et al., 2001, Experiment 2), the average for the self fell in between. In agreement with the infrahumanization view (Demoulin, Leyens, Rodriguez, et al., 2002; Gaunt et al., 2002; Leyens et al., 2001; Paladino et al., 2002; Vaes et al., 2002, 2003), valence of secondary emotions did not play a role. Both positive and negative secondary emotions were more frequently attributed to the ingroup and the self than to the outgroup. This finding is in sharp contrast with the results obtained for the primary emotions. Because primary emotions are experienced by everybody, including animals (Demoulin et al., 2004), they should not differentiate the ingroup from the outgroup

(see Vaes et al., 2002, 2003). This is what was observed. Moreover, the same number of primary emotions was attributed to the self and to the two groups. Valence of the primary emotions had an impact as a function of the target. Whereas the self and the ingroup were said to be described by more positive than negative primary emotions, the same number of positive and negative primary emotions was attributed to the outgroup. This difference in valence for primary emotions might be due to the “Primus inter Pares” effect (Codol, 1975), self-presentation (Sedikides & Strube, 1997), or ingroup favoritism bias (Brewer & Brown, 1998). However, one should not overinterpret the finding because this difference is not reliable (for groups) (Gaunt et al., in press; Leyens et al., 2001, Experiments 1 & 2).

Significantly fewer secondary emotions were attributed to the self than for the ingroup. It should be noted that the level of secondary emotions attributed to the ingroup was unusually high in Study 1 (see, for instance, Leyens et al., 2001, Experiment 2, which used the same secondary emotions). Study 2 should shed light on this issue.

STUDY 2

This second study tested the familiarity hypothesis versus the infrahumanization one in a within-participant design instead of a between-participants one. Such a procedure constitutes a stronger test of the familiarity hypothesis. When participants are warned that they will have to describe themselves and their ingroup, they often wish to distinguish the two targets in terms of knowledge about them (Codol, 1979). Were the familiarity hypothesis correct, more secondary emotions should be attributed to the self than to the ingroup and to the ingroup than to the outgroup. Infrahumanization leads to a different prediction when the self is compared to the ingroup and to the outgroup. Alerting individuals that they will have to describe themselves and a group (ingroup or outgroup) may induce people to think more of themselves as a member of the ingroup. Thus, the self and the ingroup are predicted to receive about the same number of attributions of secondary emotion. Also, more secondary emotions are expected for the self than for the outgroup.

Method

PARTICIPANTS

Eighty-four students from the University of La Laguna took part in the study as part of a class. The majority of them were women so that it was impossible to consider gender in the analyses.

PROCEDURE

The procedure was identical to the one used in Study 1 with two exceptions. After completion of the main questionnaire, participants answered five items concerning potential reference groups they had in mind while describing each of the targets. A first question asked whether participants had thought of a group during their description. If they had, they were asked if the group was Canarian, Mainland Spanish, European, African, or other. The second and main change concerned the infrahumanization questionnaires that always contained two targets to be described. About half of the participants received questionnaires for the self and the ingroup as targets. The other half received questionnaires for self and outgroup. In each case, the order was counterbalanced. Because order had no effect, it will be dropped from the analyses. Also, primary emotions will not be reported because they did not lead to a significant result other than the trivial attribution of more positive than negative emotions.

Results and Discussion

We will report only the results for the secondary emotions because, overall, primary emotions were mainly characterized by a greater attribution of positive than negative stimuli ($ps < .001$). The only other significant result appeared in the self-outgroup questionnaire for the interaction between valence and target, $F(1, 40) = 17.83, p < .001$. Such a result was due to the very few negative primary emotions attributed to the self ($M = .39$) as compared to the other conditions ($Ms = 2.15, 1.61, \text{ and } 1.24$, for self-positive, outgroup-positive, and outgroup-negative, respectively).

Attributions of secondary emotions. Because the self was evaluated in two different contexts (ingroup and outgroup), we computed a 2 (target: self vs. group) \times 2 (valence: positive vs. negative emotions) \times 2 (context: ingroup vs. outgroup) mixed ANOVA with the last variable as a between-subject factor.¹ The three main effects were significant. First, there were more attributions of secondary emotions to the self ($M = 1.29, SD = .43$) than to groups ($M = 1.07, SD = .47$), $F(1, 82) = 11.70, p < .002$. Second, more positive ($M = 1.56, SD = .67$) than negative ($M = .80, SD = .56$) secondary emotions were attributed in general, $F(1, 82) = 46.34, p < .001$. Third, more secondary emotions were attributed in the ingroup context ($M = 1.32, SD = .48$) than in the outgroup one ($M = 1.04, SD = .49$), $F(1, 82) = 13.87, p < .001$. More important and consistent with our hypothesis, the only significant interaction is the Target \times Context one, $F(1, 82) = 6.30, p < .02$. Next, we analyzed simple effects for each context separately.

TABLE 1: Mean Number of Positive and Negative Secondary Emotions Attributed to the Self and to the Ingroup and to the Self and the Outgroup, Study 2

	Ingroup Context		Outgroup Context	
	Self	Ingroup	Self	Outgroup
Positive	1.65	1.63	1.68	.78
Negative	1.05	.95	1.29	.42

The self-ingroup questionnaire. A 2 (target: self vs. ingroup) \times 2 (valence of secondary emotions: positive vs. negative) ANOVA with two within-participant factors was conducted. The only significant effect concerned the valence, $F(1, 42) = 17.59, p < .001$, with a greater selection of positive ($M = 1.64, SD = .63$) than negative secondary emotions ($M = 1.00, SD = .62$). No difference appeared for the target, $F < 1$ ($Ms = 1.35$ and $1.29, SDs = .41$ and $.52$ for self and ingroup, respectively). The means as a function of valence are reported in Table 1. These results contradict the familiarity hypothesis.

Only 4 four participants out of 43 reported having thought of a group while answering the self part of the questionnaire and all thought of the Canarian ingroup. When answering the ingroup part, 26 reported a contrasting reference group, which was in most cases the Peninsulars ($n = 16$), followed by the Europeans ($n = 6$).

The self-outgroup questionnaire. The same ANOVA as before was computed for the self-outgroup questionnaire. Analyses revealed two significant main effects, $F(1, 40) = 30.40, p < .001$, and $F(1, 40) = 20.58, p < .001$, for valence and target, respectively. More positive secondary emotions ($M = 1.49, SD = .71$) than negative ones ($M = .60, SD = .49$) were selected, and as expected, more secondary emotions were attributed to the self ($M = 1.23, SD = .45$) than to the outgroup ($M = .85, SD = .39$). Of interest, valence did not interact with target, $F < 1$. Table 1 provides the means for the targets, taking into account the valence of the secondary emotions.

The only available data concerning the reference groups while completing the infrahumanization questionnaire have to do with the groups evoked while answering the outgroup part. Twenty-six participants thought of a contrast group, which was the ingroup (i.e., Canarians) for 25 of them.

All of these results are in accordance with the theory of infrahumanization and contradict the familiarity hypothesis. First, more positive and negative secondary emotions are attributed to the self and the ingroup than to the outgroup. Second, primary emotions are distributed equally among the different targets. Although the data from the postquestionnaires about the groups spontaneously evoked during the main task are very frag-

mentary, the present results may shed light on the difference between self and ingroup obtained in Study 1. This difference disappeared in the present study. Data for the self slightly increased, whereas those for ingroup decreased. This absence of difference may derive from the fact that the self was now perceived as part of the ingroup, or more plausibly, to the fact that the results obtained for the ingroup in Study 1 were unusually high for an unknown reason.

STUDY 3

In the first two studies, the familiarity hypothesis was tested rather indirectly by assuming that the self is more familiar than the ingroup, which is, itself, more familiar than the outgroup. In the present experiment, we propose to pit the familiarity hypothesis against the infrahumanization one in a more direct way. Specifically, participants in Study 3 had to describe the ingroup, or three different outgroups varying a priori, in terms of familiarity. In addition, a manipulation check of familiarity was introduced at the end of the questionnaire to account for interindividual differences. Finally, measures of perceived relevance of the outgroup for the ingroup's situation and of perceived likeability of the outgroup were added for explanatory purposes.

Method

PARTICIPANTS

The participants were 25 male and 31 female pedestrians who were solicited to take part in a short study while walking down a street in Louvain-la-Neuve, Belgium. The average age of the sample was 22.1 years (range = 17 to 57).

PROCEDURE

Participants received a questionnaire that was presented as part of a study investigating differences and similarities between groups. Participants were warned that they would have to describe a particular target by selecting about 12 characteristics, out of 26, that best applied to the target. In one quarter of the cases, the target was the ingroup, Walloons. For the remaining participants, the target was an outgroup with a different degree of proximity, that is, Flemish, Parisians, and residents of Prague (*Praguois*, in French).² After completing the infrahumanization task, participants reported their familiarity with the target group, its relevance for the ingroup situation, and its likeability.

After completion of the questionnaire, participants were thanked for their participation and the experimenter delivered a brief summary on the aim of the study to them.

MATERIAL

Infrahumanization. Two criteria served to select the positive and negative emotions. The list contained three positive secondary emotions (*admiration*, admiration; *r  jouissance*, delight; and *passion*, passion) and three positive primary emotions (*excitation*, excitement; *calme*, calm; and *amusement*, amusement) that did not differ in terms of valence ($M_s = 5.95$ and 5.98), $t(2) = .04$, *ns*. There were also three negative secondary (*embarras*, embarrassment; *rancoeur*, rancor; and *tourment*, worry) and three negative primary emotions (*panique*, panic; *  puisement*, exhaustion; and *agressivit  *, aggressiveness) with equal valence ($M_s = 1.86$ and 1.87), $t(2) = .13$, *ns*. The other items were fillers, also controlled for valence, which again concerned competence and sociability.

Familiarity. The familiarity measure was adapted from Linville and colleagues (1996) and comprised three items: Approximately how many people of the [name of the group] do you know? Approximately how many people of the [name of the group] would you consider good friends of yours? Approximately how many minutes per month do you spend interacting with people of the [name of the group]? Similar to Linville et al.'s procedure, these items were treated separately in all analyses.

Relevance. Three items assessed the perceived relevance of the outgroup for the ingroup situation: To what extent are [name of the group] important for the Walloons? To what extent do the [name of the group] have an influence on Walloons' life? To what extent are the [name of the group] irrelevant for the Walloons? (reverse-coded) ($\alpha = .67$).

Likeability. Three items assessed the perceived sympathy of the outgroup: To what extent are the [name of the group] friendly? To what extent are the [name of the group] nice? To what extent are the [name of the group] not likable? (reverse-coded) ($\alpha = .79$).

Results and Discussion

As in Study 2, we will only report analyses concerning the attribution of secondary emotions because, as can be seen in Figure 2, the attribution of primary emotions did not differ across conditions. The only significant effect is the classic greater attribution of positive than negative primary emotions.

Familiarity. Our manipulation assumed that people would report being more familiar with the Flemish outgroup than with the Parisian one, and more familiar with the Parisian group than with the residents of Prague. ANOVAs were performed on each of the three measures of familiarity. Results are reported in Table 2. As predicted, simple effects showed that for all the items,

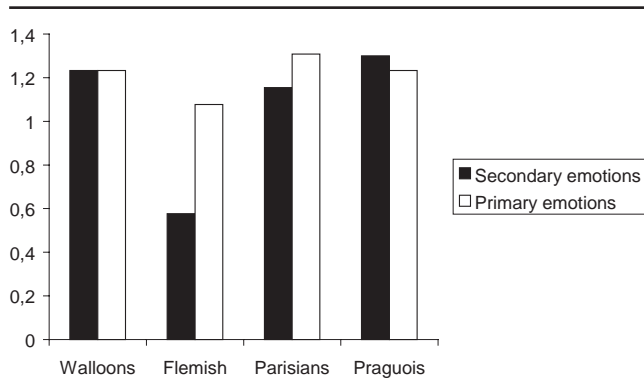


Figure 2 Mean number of primary and secondary emotions attributed to the Walloons, Flemish, Parisians, and residents of Prague, Study 3.

participants are most familiar with the Flemish group and least familiar with the residents of Prague.

Attributions of secondary emotions. A 4 (condition: Walloon vs. Flemish vs. Parisians vs. Praguois) \times 2 (valence: positive vs. negative emotions) ANOVA, with the last measure as a within-participant factor, was performed on the number of secondary emotions attributed to the target group. The main effect of valence was significant, $F(1, 52) = 7.58, p < .01$. More positive ($M = 1.32, SD = .13$) than negative ($M = .81, SD = .12$) secondary emotions were attributed to the groups. Also, the interaction between valence and condition was significant, $F(3, 52) = 4.34, p < .01$. Of importance, the main effect of condition was significant, $F(1, 52) = 3.96, p < .02$. Consistent with both the inhumanization and the familiarity hypotheses, secondary emotions were attributed differentially to the different targets (see Figure 2). Of interest, however, the most familiar outgroup, that is, the Flemish group, was also the one receiving the fewest secondary emotions. Simple effects analyses show that the Flemish ($M = .57$) condition is the only condition where the number of secondary emotions attributed is lower than in the ingroup ($M = 1.23$) condition, $F(1, 26) = 8.34, p < .01$.

Familiarity and secondary emotions. To further test the impact of familiarity with the outgroup on the attribution of secondary emotions, correlations between the number of secondary emotions attributed to the outgroups³ and the three measures of familiarity were computed. The attributions of secondary emotions to outgroups correlated with two of our three measures of familiarity, that is, the number of people known and the time spent interacting with people. Contrary to the familiarity hypothesis, however, these correlations were negative. In other words, the more people know members of the outgroup, the less they attribute secondary emotions to the outgroup, $r(41) = -.38, p < .02$. Similarly,

TABLE 2: Mean Number of Reported Familiarity With Members of the Outgroup as a Function of Condition, Study 3

Familiarity Measure	Flemish	Parisians	Praguois	F
Contact hours per month	153.85 (269.72)	29.62 (29.89)	16.54 (50.06)	3.04*
No. of known friends	22.85 (26.45)	4.69 (4.96)	1.08 (2.81)	7.25***
No good friends	3 (3.44)	1.08 (1.55)	.34 (1.39)	4.43**

NOTE: Numbers in parentheses are standard deviations.
* $p < .06$. ** $p < .02$. *** $p < .002$.

the more people report interacting with members of the outgroup, the less they attribute secondary emotions to it, $r(41) = -.40, p < .02$. The number of friends of the outgroup people report to have is not correlated with their attribution of secondary emotions, $r(41) = -.211, p > .10$.

Familiarity within each outgroup. Even if the familiarity hypothesis cannot account for the differential results between different outgroups, it could still be the case that interindividual differences within each outgroup condition could predict the attribution of secondary emotions to the target group. Correlations between the attribution of secondary emotions and familiarity scores were performed for each outgroup separately. None of these correlations turned out to be significant. Of interest, however, the amount of time spent interacting with ingroup members is correlated positively with the amount of secondary emotions attributed to the ingroup, $r(15) = .59, p < .04$.

Relevance and likeability. For explanatory purposes, we computed correlations between the number of secondary emotions attributed to the outgroups, on one hand, and relevance and sympathy, on the other hand. Relevance of the outgroup correlates negatively with attributions of secondary emotions, $r(41) = -.34, p < .03$. In other words, the more the outgroup is perceived as relevant for the ingroup, the less it will receive secondary emotions. Similarly to previous studies (Demoulin, Leyens, Rodriguez, et al., 2002), perceived likeability of the outgroup does not correlate significantly with attributions of secondary emotions, $r(41) = .23, p > .10$.

All of the reported results disconfirmed the familiarity hypothesis. Even if familiarity correlates significantly with the attribution of secondary emotions to outgroups, it does so negatively. In other words, the attribution of secondary emotions cannot be explained by the higher experience at observing secondary emotions in members of a target group. Of interest, another variable explaining the attribution of secondary emotions to outgroups could be the perceived relevance of the outgroup. That is, the more an outgroup is perceived as

relevant for the ingroup, the more it could have an impact on the ingroup, the less it will be attributed secondary emotions. Further research is needed to examine the moderating and mediating effects of this variable on infrahumanization.

GENERAL DISCUSSION

Infrahumanization theory (Leyens et al., 2000) predicts that groups will claim a more human essence for themselves than for (some) outgroups. Because secondary emotions are uniquely human emotions, they are more frequently attributed to the ingroup than to outgroups (for reviews, see Demoulin et al., in press; Leyens et al., 2003). Secondary emotions, however, are less visible than primary emotions that are shared with animals (Demoulin et al., 2004). As a consequence, they should be more difficult to detect (Shaver et al., 1992; see also the pretest in the present article). Because the ingroup is more familiar than the outgroup, people might have more opportunities to detect with ease secondary emotions in the former than in the latter (McGuire & McGuire, 1988; Prentice, 1990). This difference in familiarity might itself explain why ingroups receive more secondary emotions than outgroups.

To test the familiarity interpretation, three studies with two strategies were conducted. The first two studies compared the numbers of primary and secondary emotions attributed to the self, the ingroup, and an outgroup. Because the self is most well-known to participants (e.g., Prentice, 1990), it should have received the highest amount of secondary emotions according to the familiarity explanation. The between-participants design of Study 1 was chosen because it is typical of infrahumanization research (e.g., Leyens et al., 2001). The within-participant design of Study 2 was used because it is most common in familiarity experiments. The second strategy, illustrated in Study 3, compared the ingroup and outgroups differing in familiarity. In none of the experiments was the familiarity explanation supported. In contrast, the results of the three studies support the infrahumanization model.

If the familiarity hypothesis can be discarded to explain previous results, the data of the present studies raise two interesting issues for the infrahumanization explanation. The first one concerns the intergroup feature of the infrahumanization phenomenon, and the second one deals with conditions for the absence of infrahumanization of (some) outgroups. On the basis of several pieces of research (see Demoulin et al., in press; Leyens et al., 2003), we have always assumed that infrahumanization only occurred at the group level. As suggested by a reviewer, why could infrahumanization not apply to the self if it reflects a superior human

essence? In Study 1, when intergroup relations were not mentioned, attributions of secondary emotions were significantly greater for the ingroup than for the self (and significantly greater for the latter than for the outgroup). Such a difference disappeared in Study 2 when the intergroup context became salient. In such a context, it is likely that the meaning of the self changed from the one in Study 1. In Study 2, the self was probably perceived more as a member of the ingroup than in Study 1. However, there was no significant increase of attributions of secondary emotions to the self from Study 1 to Study 2. As suggested earlier, the difference observed between self and ingroup in Study 1 was probably due to the unusual high number of attributions to the ingroup. Such an explanation should, however, be tested in subsequent studies.

The issue of relevance is also present in the results of Study 3. In this experiment, no infrahumanization occurred for inhabitants of Paris and Prague. This absence of infrahumanization is sufficiently rare that it deserves some discussion. Whereas the Flemish group has obvious relevance for French-speaking Belgians (i.e., Walloons), it is likely that inhabitants of Paris and Prague do not constitute an outgroup that affects them. Such an explanation also may explain why Canarian participants did not make differences between Poles and Hungarians in a within-participant design (see Leyens et al., 2003). This explanation was supported by the negative correlation obtained between our relevance measure and the attributions of secondary emotions in Study 3. The more participants reported an outgroup to be relevant for the ingroup situation, the less they attributed secondary emotions. The relevance variable is of utmost importance for further research on infrahumanization. We are, indeed, currently looking for conditions that would *not* lead to infrahumanization (see Leyens et al., 2003), and “relevance” could prove to be one of the variables moderating infrahumanization biases.

This reasoning is also in accordance with Struch and Schwarz's (1989) finding about the judgments of non-ultraorthodox Jews concerning ultraorthodox Israeli. These authors obtained a significant negative correlation between perceived group permeability and trait humanity. In other words, the more Israeli adults felt threatened by the ultraorthodox group and did not want to be assimilated with it, the more inhumane they rated the outgroup on humanity values. Conversely, when Israeli adults did not care about the difference between their religious ingroup and the ultraorthodox one, they considered the latter humane in terms of values (see also Goldenberg, Pyszczynski, Greenberg, & Solomon, 2000). Against the above reasoning, one could argue that the outgroups used in the studies were all known to

the participants. Would distant and unknown societies (i.e., not-relevant groups) not lead to infrahumanization? Suppose the Maoris in New Zealand or the Aymaras from Bolivia were unheard of by participants, would they not be infrahumanized because they are so unknown that they can only have a less human essence? If it was the case, the hypothesis of relevance could no longer be defended because an outgroup cannot be relevant to the ingroup if its existence is not known. Research focusing on the link between relevance and infrahumanization should certainly test unknown groups. We doubt, however, that such groups would be infrahumanized like we have operationalized this concept. Just before the Olympic games in Australia, we asked Canarian students to distribute emotional terms to Australians and New Zealanders. Our aim was to test the hypothesis that the differential attribution of secondary emotions was the only way to distinguish between groups (A. Mummendey, 2000, personal communication). We assumed that the participants had only a vague idea about the two groups but that Australia would be thought as well-known because of the constant television spots about the Olympic Games. No group was infrahumanized but Australia received all the positive (primary and secondary) emotions and New Zealand received all the negative ones. Such a result is in agreement with the negative stereotypes obtained by Hartley (1946) for fictitious groups.

To conclude, familiarity does not seem to account for infrahumanization biases, that is, the lower attribution of secondary emotions to outgroups. It is not because secondary emotions are less likely to be observed in outgroups that they are less attributed to these groups. Relevance of the outgroup for the ingroup situation seems, however, to explain attribution of secondary emotions to outgroups. The more an outgroup is relevant (and familiar), the less it will be attributed secondary emotions. Further research is needed to test this hypothesis.

NOTES

1. We are grateful to an anonymous reviewer for suggesting this analysis.

2. Given the linguistic divide in Belgium, the ingroup (Walloon) constitutes an intranational group. We therefore selected outgroups that would also be intranational while varying in familiarity.

3. The ingroup was not included in these analyses or in the subsequent ones.

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