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Differential Association of Uniquely and Non Uniquely Human Emotions with the Ingroup and the Outgroup

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According to Leyens et al.'s (2000) theory, intergroup discrimination involves a differential appraisal of the ingroup's and the outgroup's uniquely human characteristics. Four experiments investigated how emotions that are considered uniquely (i.e. secondary emotions) and non uniquely (i.e. primary emotions) human (Demoulin et al., 2001a) are differentially associated with the ingroup and the outgroup. Using the Implicit Association Task (IAT) we found a stronger association of ingroup names with uniquely human emotions and of outgroup names with non uniquely human emotions, than the reverse. Whereas Study 2 used negative emotions, all other experiments used positive emotions. In Study 3, two IAT indices were collected: an emotional index and a standard evaluative one. While the outgroup was constituted by North African names in the first three studies, Study 4 staged French-speaking Belgians (i.e. the ingroup) versus Dutch-speaking Belgians (i.e. the outgroup). The results are discussed within the framework of psychological essentialism, according to which uniquely human characteristics form the essence of the ingroup.

keywords emotions, essentialism, implicit association task (IAT), infra-humanization, prejudice

HISTORICAL accounts of prejudice and discrimination (e.g. Taguieff, 1987; Todorov, 1989) traditionally date the ideological foundation of modern forms of prejudice and discrimination to the 19th century. Prejudice and discrimination arose to justify the discrepancy between the claim of the universal principle in individual

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freedom, on the one hand, and its practical exceptions such as slavery and colonialism, on the other hand. Theories on human origins, such as Darwin's (1871), provided the ideological device to fill in this discrepancy. The idea that the human species was part of the animal kingdom made it easy to translate differences between human groups into different levels of similarity with animals. 'Humans', 'infra-humans' and 'bestial-men' became powerful metaphors to describe humankind and to legitimate differential worth and treatment of human beings (Burgio, 1998).

According to historical analyses, claiming the human nature for one's group and discrediting other groups formed the basis for prejudice and discrimination. In this article, we argue and provide empirical evidence that this differential appraisal of groups' human nature is not limited to ideology but that it also operates as a psychological device in intergroup discrimination.

Are we all humans?

Groups exhibit various differences whether in terms of habits, beliefs, or appearances. According to Rothbart and Taylor (1992), people account for these differences by attributing different essences to groups. Building upon Medin's (1989) analysis of categorization processes, Rothbart and Taylor (1992) suggested that people hold naive causal theories linking superficial or surface properties (e.g. habits) with deeper essentialist properties (e.g. genes) (see also Haslam, Rothschild, & Ernst, 2000; Hirschfeld, 1996; Medin, 1989).

Leyens et al. (2000) have proposed that one result of this tendency to attribute essences to social groups is a differential appraisal of these groups' human nature. They have argued that the human nature is considered the underlying essence of the ingroup. Consequently, when people believe that differences between their ingroup and outgroups are explainable by different essences, perceived humanity of the outgroups becomes questionable. They suggested that believing in different essences (e.g. cultural, biological, religious, etc.) for ingroups and outgroups results in explicitly or implicitly

judging the ingroup to have some human characteristics that the outgroup lacks. This point raises the question of what can be considered human characteristics.

Relying on Schwartz's (1992) value theory, Struch and Schwartz (1989) proposed that the perception of a group's humanity can be conceptualized in terms of possession of traits assumed to distinguish humankind from lower life forms. In their conceptualization, these traits or values are considerateness and compassion for all other beings, concern for the welfare of all society's members and raising children to be humane. Leyens et al. (2000) approached the same issue of perceived humanity from another perspective. They asked Spanish and French-speaking Belgian students to list what characterizes human beings. A content analysis of the responses of both samples resulted in an identical picture of humankind. More than half of the participants in each sample gave the priority to the same three general classes of characteristics: characteristics that relate to human intelligence (e.g. reasoning, thinking, rationality), characteristics that relate to uniquely human emotions (e.g. sentiments, love, regret), and characteristics that relate to the human ability to communicate (e.g. language, writing). Plenty of research has already shown that people discriminate on the basis of intelligence (for a review, see Crocker, Major, & Steele, 1998) and language (Giles & Coupland, 1991). Conversely, and as far as we know, the discriminatory role of emotions has never been investigated. The present paper aims to fill this gap.

When relating to human emotions, Belgian and Spanish participants used the word *sentiments (sentimientos)* and gave examples of such emotions. In Roman languages, the word *sentiment* refers to emotional experiences, but has a special meaning that is not encompassed by the word *émotion*.[1] Such semantic distinction between *émotion* and *sentiment* does not directly exist in the English language. Demoulin et al. (2001a) found that *sentiments* are perceived as uniquely human while *émotions* are perceived as common to humans and animals. Data also showed that this lay distinction appears also in cultures where no semantic label is available for

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it. For example, Americans and Dutch-speaking Belgians could easily classify uniquely and non uniquely human emotions (Demoulin et al., 2001a). This lay distinction is somewhat similar to the distinction made by researchers between primary and secondary emotions (Demoulin et al., 2001a). Thus, we will use the terms *secondary* and *primary* emotions to refer to uniquely human and non uniquely human emotions respectively.

Differential association of primary and secondary emotions with the ingroup and the outgroup

In line with our reasoning, we suggest that people associate secondary emotions with their ingroup and primary emotions with outgroups. We tested this hypothesis using the Implicit Association Task (IAT) designed by Greenwald, McGhee, and Schwartz (1998). In this task, participants have to decide as rapidly as possible between two categories. The stimulus words consist of two kinds of terms: names of the ingroup and of the outgroup, and positive and negative words. In simple tasks, words varying on only one dimension (e.g. ingroup vs. outgroup) are flashed on the computer and people have to decide to which category each word belongs. If they make a wrong decision, a feedback error is sent. In two other more complex tasks, the two kinds of words are randomly presented in an alternate order and, again, the decision is binary; one task is said to be compatible (ingroup-positive vs. outgroup-negative) and the other incompatible (ingroup-negative vs. outgroup-positive). The difference in reaction times between the compatible and incompatible tasks serves as an index of discrimination (the IAT index). Introduced as a method to investigate implicit social cognition (Greenwald & Banaji, 1995), the IAT method thus provides a measure of differential association between two target concepts and an attribute dimension.

Given the positive and negative terms in Greenwald et al.'s method (1998), the differential association is evaluative. To detect a differential association between emotions and groups, the IAT procedure requires that ingroup vs. outgroup and primary vs. secondary emotions discrimination tasks are performed in two different combinations, according to the category key response assignment. In one combination, the ingroup category shares the same response key with the secondary emotions category and the outgroup category shares the same response key with the primary emotions category. In the other combination task, the key assignment for ingroup–outgroup discrimination task is reversed. Now, the outgroup key shares the same response with the secondary emotions, and the ingroup with the primary emotions category. The performances at these two combined tasks are compared. If the ingroup–outgroup differentiation involves a differential appraisal of human emotions, this should be observed in a stronger association of ingroup with secondary emotions and of outgroup with primary emotions, than the reverse. Moreover, these associations should hold true for positive as well as negative emotions. Indeed, secondary emotions are uniquely human characteristics independent of their valence.

Four studies were conducted using the IAT procedure (Greenwald et al., 1998). The ingroup was either Spanish or Belgian depending on the sample. In the first three experiments, the outgroup was represented by North Africans, one of the major, and most controversial, recent groups of immigrants in Europe. In Study 4, Flemish (i.e. Dutch-speaking) Belgians constituted the outgroup. The selection of emotion words for the three studies was based on Demoulin et al.'s (2001a) measurement of lay conception of emotions. Prototypical positive secondary and primary emotions were used in Study 1. Study 2 included only negative primary and secondary emotions, and Studies 3 and 4 controlled precisely the valence of the stimulus words (see Table 1). Participants in Study 3 also completed a second Implicit Associations Task, which replicated the classic paradigm with positive and negative stimulus words. This conjunction allowed a comparison of the effect sizes of the two materials and a look at the correlation between the emotional and evaluative differential associations with ingroup and outgroup.

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Table 1. List of primary-non uniquely and secondary-uniquely human emotions stimuli used in the four studies

Valence	Emotion	Study
	Primary/non uniquely human	
Negative	Cruelty (ferocidad)	2
	Fear (miedo)	2
	Pain (dolor)	2
	Terror (terror)	2
	Rage (rabia)	2
Positive	Desire (désir)	1 & 3
	Lust/enjoyment (jouissance)	1 & 3
	Attraction (attraction)	1, 3 & 4
	Surprise (surprise)	1, 3 & 4
	Pleasure (plaisir)	1, 3 & 4
	Joy (joie)	4
	Excitement (excitation)	4
	Secondary/ uniquely human	
Negative	Despair (despecho)	2
	Disappointment (decepción)	2
	Guilt (culpa)	2
	Remorse (remordimiento)	2
	Shame (vergüenza)	2
Positive	Amazement (émerveillement)	1
	Admiration (admiration)	3
	Compassion (compassion)	3
	Happiness (bonheur)	4
	Empathy (empathie)	4
	Fondness (tendresse)	1 & 3
	Serenity (sérénité)	1 & 3
	Friendliness (amitié)	1 & 4
	Hope (espérance)	3 & 4
	Love (amour)	1, 3 & 4

Study 4 was conducted to allow some generalization of the results by using a different outgroup.

Study 1

Belgian participants completed the five tasks of the IAT (Greenwald et al., 1998). They classified Belgian and North African names, as well as primary and secondary emotions, in single-classification tasks (i.e. North African vs. Belgian; primary vs. secondary emotions) and in combined-classification tasks. The combined tasks were hypothesized to be either associatively compatible (i.e. North African/primary emotions and Belgian/secondary emotions) or incompatible (i.e. North African/secondary emotions and Belgian/primary emotions). Since we wanted participants to deal with only one dimension at a time, we opted for male names and positive emotions only. We expected that participants would show a stronger association of secondary emotions with the ingroup and of primary emotions with the outgroup than vice versa. Stated otherwise, faster reaction times were predicted for North African/primary emotions and Belgian/secondary emotions than for Belgian/primary emotions and North African/secondary emotions.

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Method

Participants   Thirty-four students of the University of Louvain-la-Neuve participated in the experiment for course credits. Two participants did not complete part of the questionnaire measure and their data were excluded from the analysis.

Materials   Twenty stimuli words were used for the IAT: 5 typically North African names, 5 typically Belgian names, 5 secondary emotions, and 5 primary emotions (see Table 1). The primary and secondary emotions were selected on the basis of a previous study (Demoulin et al., 2001a) as prototypical positive exemplars of each category. Although all the stimulus words were clearly positive, pre-test data indicated that secondary emotions (M = 6.4) were judged more positively on a 7-point scale (1 = not at all positive; 7 = very positive) than primary ones (M = 5.8) ($t(39)$ = 5.95, p < .001).

Stimuli were presented via a desktop computer and responses were provided via the keyboard. The participants used the A key for left responses and the 5 key on the right side of the numeric keypad for right responses.

Procedure   The experiment was introduced as an application of reaction time measures to social psychological research. Participants were run individually. All the instructions were provided by the computer.

IAT measure   The IAT measure followed Greenwald et al.'s (1998) procedure. All participants completed the five steps of the IAT method. They started with two single classification tasks (step 1: Belgian vs. North African names and step 2: secondary vs. primary emotions) and went through one of the two combined-classification tasks (step 3). A name-classification task followed (step 4). In this task, the category response-key assignment was reversed in order to prepare the participants to the last combined task (step 5). The presentation order of the associatively compatible and the associatively incompatible combined tasks was counterbalanced, so that the compatible combined task was administered either as the third or fifth task. In the compatible combined task, ingroup and secondary emotions responses were made using the right key, and outgroup and primary emotions using the left key. In the incompatible one, responses for ingroup and outgroup were reversed and differently combined with the primary and secondary emotions. All tasks were introduced by instructions that described the categories to be distinguished and the assignment of response keys to categories. For the emotion tasks, the category labels were the French words *émotion* or *sentiment.*

After the instructions for each task, a practice block was performed, followed by one block of single-classification tasks and two blocks of combined-classification tasks. Each block consisted of 50 trials. During the practice blocks, the category labels remained on the screen positioned to the left or to the right according to key assignments.

The stimuli were presented vertically and horizontally centered on the display and remained on the screen until a response was provided or until 3000 ms had elapsed. The intertrial interval was 400 ms, except for the second block of combined tasks where it was 200 ms. The only aim of this change was to verify whether one type of intertrial interval would give better results than the other (see also Greenwald et al., 1998). In the case of an incorrect response, the word 'Error' replaced the stimulus during 300 ms.

For the single-classification tasks, the stimuli were selected randomly and without replacement. Each stimulus appeared five times in each block. In order to counterbalance the order of presentation, five different lists of stimuli were created. Each list was conceived so that names and emotions appeared on alternating trials and without replacement until the available stimuli were exhausted. Thereupon the stimulus pool was replaced for new trials. For the two blocks of combined tasks, each stimulus appeared five times. We paid special attention to not repeating stimuli sequences in the same list.

Results and discussion

Only the combined tasks (7.03% errors) were analyzed. Latencies for errors and for the first three trials in each block were excluded from the statistical analysis. A 2 (order of combined

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tasks: compatible–incompatible vs. incompatible–compatible) $\times$ 5 (stimuli lists) $\times$ 2 (combined tasks: compatible vs. incompatible) $\times$ 2 (intertrial interval: 400 ms vs. 200 ms) mixed analysis of variance (ANOVA) with the last two factors as within-participant variables was conducted on the mean log-transformed and raw latencies for the combined tasks responses. Given that in this experiment and in all the other ones, both analyses provided the same results, only the results for the log-transformed latencies will be reported. The order $\times$ intertrial interval interaction reached significance (F (1, 22) = 9.35, p < .006), but this effect was qualified by the three way list $\times$ order $\times$ intertrial interval interaction[2] (F (4, 22) = 3.78, p < .02).

Most importantly, and as expected, the main effect for combined tasks was significant (F (1, 22) = 12.80, p < .002). Participants reacted faster to North African/primary emotions and Belgian/secondary emotions (M = 826 ms) stimuli than to Belgian/primary emotions and North African/secondary emotions (M = 883 ms) stimuli. This main effect was not qualified by any of the procedural variables. Collapsing all factors other than compatibility of the task, the effect size is d = .66.

Study 1 was designed to serve as a preliminary test of the hypothesis that primary and secondary emotions constitute a dimension for intergroup differentiation. The results show that the ingroup and the outgroup were differentially associated with primary and secondary emotions. Indeed, Belgian participants were faster in responding to the outgroup/primary emotions and ingroup/secondary emotions task than to the ingroup/primary emotions and outgroup/secondary emotions task. Consistent with the idea that secondary emotions are more an ingroup than an outgroup feature, the difference between response times in these two tasks indicates that the ingroup is more strongly associated with secondary emotions and the outgroup with primary emotions than the reverse. The selection of emotions for this experiment was based on a preliminary study (Demoulin et al., 2001a) that measured the perceptions of a series of emotional terms on different dimen-

sions. The main criterion for selection of emotions for Study 1 was their prototypicality for the categories of secondary and primary emotions. Because of that, secondary emotions were more positive than primary ones, although all the emotions used in this experiment were clearly positive. This problem will be addressed in the following studies.

Study 2

In Study 1, we showed that people implicitly differentiate their ingroup from a disliked outgroup on the basis of primary and secondary emotions. The purpose of Study 2 was to extend these results to negative emotions. According to our hypothesis, the ingroup and outgroup are differently associated with primary and secondary emotions, because secondary emotions and not primary emotions are considered uniquely human, independently of their valence. Indeed, when asked to list the uniquely human characteristics, participants responded *sentiments* and not positive or negative *sentiments*. If our hypothesis is correct, the negativity of the emotional experience should not make any difference and the results of Study 1 should be replicated.

Method
Participants Twenty-two students of the University of La Laguna in Tenerife participated in the experiment on a voluntary basis.

Materials As in Study 1, 20 stimulus words were used: five Spanish male names; five Arabic male names; five undesirable primary emotions and five undesirable secondary emotions (see Table 1). As in the first experiment, the selection of emotions was based on their prototypicality for their categories as it was measured in a previous study (Demoulin et al., 2001a). However, this time, the valence of the two categories was almost equal. On a 7-point scale (1 = not at all desirable; 7 = totally desirable), pre-test data indicated that secondary emotions (M = 1.65) were judged somewhat less desirable than primary emotions (M = 1.87) (t(36) = –1.94, p < .06).

IAT measure The study was identical to the previous one, except for the order of the combined tasks and the stimuli presentation. All participants completed first the ingroup + primary emotions and outgroup + secondary emotions task, followed by the outgroup + primary emotions and ingroup + secondary emotions task. This procedural simplification should not affect the results because, as was shown in Study 1, the order of combined tasks had no influence on the IAT index.

Results and discussion
As in Study 1, reaction times for errors (3.85%) and the first three trials of each block were not considered in the statistical analysis. As expected, Spanish participants were faster in responding to Spanish/ secondary emotions and North African/primary emotions stimuli (M = 759 ms) than to North African/ secondary emotions and Spanish/primary emotions stimuli (M = 800 ms) ($F(1, 21)$ = 9,56, p < .006). Consistent with the idea that uniquely human emotions are considered more an ingroup than an outgroup feature, the IAT index (IAT = 41 ms) and the effect size (d = .67) reveal again that the ingroup is more strongly associated with secondary-uniquely human emotions and the outgroup with primary-non uniquely human emotions than the reverse, even when the emotional experience is unpleasant. It is worth noting that, differently from Study 1, the valence of the primary and secondary emotions was not different in this study; in fact, the primary emotions were perceived as somewhat more desirable than the secondary ones.

Study 3
Study 3 had two aims. First, we wanted to control for the role of valence in the differential association of pleasant primary and secondary emotions. As we did in the previous study, we selected for the third experiment stimuli that were equivalent in their valence according to a pre-test. In addition, we measured the desirability of the emotion stimuli by asking the participants themselves to fill out a short questionnaire before performing the computer tasks.

As a second aim, we wanted to compare our emotional IAT with the (classic) evaluative IAT (Greenwald et al., 1998) involving positively and negatively valenced words. Belgian participants completed first the five IAT steps involving Belgian and North African names, and primary and secondary emotions of equal valence. In a second stage, emotions were replaced by positive and negative words, and a new set of single and combined classification tasks was accomplished by the same participants.

Method
Participants Twenty-two students of the University of Louvain-la-Neuve took part in the experiment and received a lottery ticket for their participation. Data from one participant were excluded from the IAT analyses because of random responding (an error rate of 50%) in the last combined task.

Materials In order to balance the valence of the primary and secondary emotions, we created two different lists. The valence of the selected primary and secondary emotions was measured in a pre-test study and during the experiment on a 7-point scale (1 = not at all positive; 7 = very positive). Both sets of results indicated that the valence of primary and secondary emotions within each list did not differ. In each case, the evaluations of primary and secondary emotions were analyzed by a 2 (stimuli list: 1 vs. 2) × 2 (stimuli: primary emotions vs. secondary emotions) ANOVA with the last factor as a within-participant variable. For the pre-test data, only a main effect of list was significant ($F(1, 23)$ = 13.65, p < .05). Emotions of list 1 (M = 5.98) were rated more positively than emotions of list 2 (M = 5.61). No other effect was significant. A similar picture emerged from the participants' evaluation. The main effect of list was marginally significant ($F(1, 19)$ = 3.77, p = .07). Again, the emotions of list 1 (M = 6.17) were judged more positive than those of list 2 (M = 5.71). No other effect was significant.

For the second, evaluative IAT measure, three positive and three negative stimuli were used. Pre-test data indicated that the negative stimuli were evaluated much more negatively (M =

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2.00) than the positive stimuli ($M = 6.08$) on a 7-point scale.

Procedure

IAT measures The first five computer tasks were identical to those of Study 1, except for the order of the initial discrimination tasks. In Study 3, participants first classified emotions (primary emotions vs. secondary emotions) and then names (North African vs. Belgian). Four more steps were added to the first five in order to measure the implicit evaluative attitude toward Belgians and North Africans. First, participants went through positive and negative words in a single-classification task (step 6), and then they classified these words in combination with Belgian and North African names (step 7). The response keys for Belgian and North African names were reversed in the following single-classification task (step 8) to prepare the participants for the last combined task (step 9). Compatible and incompatible combined tasks were counterbalanced. All the participants completed first the emotional IAT and then the evaluative IAT. To shorten as much as possible the computer session, the order of compatible and incompatible tasks involving positive–negative words was always contrary to the order of combined tasks involving emotions.

The stimuli were presented in blocks of 30 trials for single discrimination tasks and of 50 trials for combined tasks. All tasks consisted of one practice block followed by one data collection block. For the practice block, the stimuli remained on the display until a correct response was given. In case of incorrect responses, the word 'Error' appeared until a correct response was provided. For the data collection blocks, the stimuli presentation was identical to Study 1. All blocks of trials were conducted with a 200 ms intertrial interval.

Results and discussion

As in previous studies, reaction times for the errors (5.85% and 4.30% for the emotional and evaluative IATs, respectively) and the first three trials of each block were not considered in the statistical analyses.

The IAT indices For the sake of clarity, the performance for emotions and positive–negative words were analyzed separately. In both cases, a 2 (list: 1 vs. 2) $\times$ 2 (order of combined tasks: compatible–incompatible vs. incompatible–compatible) $\times$ 2 (combined task: compatible vs. incompatible) mixed ANOVA with the last factor as within-participant variable was conducted.

Emotional IAT index As expected, participants were faster in responding to the outgroup/primary emotions and ingroup/secondary emotions task ($M = 802$ ms) than to the ingroup/primary emotions and outgroup/secondary emotions one ($M = 875$ ms) ($F (1, 17) = 12.35$, $p < .01$). Collapsing all factors other than compatibility of the task, the effect size is $d = .85$. Thus, even when we control for the desirability of primary and secondary emotions, the magnitude of the difference ($IAT = 73$ ms) and the effect size for the emotional IAT index remain very similar to the previous ones. Actually, the effect size ($d = .85$) is even higher than in Study 1 ($d = .66$) where the emotions were unequally positive, and than in Study 2 ($d = .67$) where the emotions had an equal negative valence.

Evaluative IAT index Here again, the main effect for combined task was significant ($F (1, 17) = 22.62$, $p < .0002$). A better performance was observed for outgroup/negative words and ingroup/positive words ($M = 711$ ms) than for ingroup/negative words and outgroup/positive words ($M = 784$ ms), revealing an implicit prejudice toward North Africans. The magnitude of the IAT index ($IAT = 73$ ms) was identical to that obtained in tasks involving emotions, and the effect size ($d = 1.11$), although larger, was not significantly so ($z = .46$, $p = .32$).

Correlation between emotional and evaluative IAT index Even when excluding the data of a clear outlier, the correlation between the two IAT indices was not significant ($r(20) = .37$, $p = .10$). This level of correlation between the emotional and the evaluative IAT index is somehow comparable to those observed in other studies investigating the relations between associative

and other implicit group-related measures (Dovidio, Kawakami, Johnson, Johnson, & Howard, 1997, Experiments 2 and 3).

Study 4

The main aim of this fourth experiment is to generalize the different findings to a different outgroup. Indeed, in all our previous studies using the IAT, the outgroup was North African, a very stigmatized minority and low-status group in Belgium and in the Canary Islands as well. To further ground our hypothesis, it was necessary to show that the same results would be obtained with a different outgroup. French-speaking Belgian students being the participants of Study 4, Flemish people were selected as the outgroup. There is a long history of political and institutional conflicts between Flemish and French-speaking Belgians. However, it cannot be said that the antagonism is important at the interpersonal level and Flemish people certainly do not suffer from a stigma. On the contrary, Flemish people constitute the majority in Belgium and they have more political and economical power than French-speaking ones. One may say that their status is higher than the one of French-speaking Belgians.

Because generalization was the main purpose of the study, we kept the paradigm to its minimum. Because the order of compatible and incompatible tasks did not produce different results in previous experiments, we did not stage the whole gamut of the possible procedural variables of the IAT, but opted for a single order of tasks.

Method

Participants   Fifteen French-speaking students at the University of Louvain-la-Neuve took part in the experiment on a voluntary basis. They were fully debriefed after the study was over.

Procedure   The procedure was identical to the one of Study 2 with three exceptions. First, only positive emotions were used, and the valence between secondary ($M = 6.25$) and primary ($M = 6.02$) emotions was not significantly different, ($t(22) = –1.715$, *ns*). Second, Spanish first names

were replaced by typical French names (e.g. Pierre, Luc), and North African names were substituted by typical Flemish first names (e.g. Jeroen, Jos). Third, there was no intertrial interval.[3]

Results and discussion

Only log-transformed latencies for combined classification tasks are considered in the analysis of data. Time reactions for errors (8%) were excluded from the ANOVA.

As expected, French-speaking Belgians were faster at responding to French/secondary emotions vs. Flemish/primary emotions ($M = 1086$ ms) stimuli than to Flemish/secondary emotions vs. French/primary emotions ($M = 1248$ ms) stimuli ($F(1, 14) = 16.58$, $p < .005$). Like in the three previous studies, the IAT index (162 ms) and the effect size ($d = 1.05$) indicate that the ingroup is more strongly associated with secondary emotions and the outgroup with primary emotions than the reverse. These results are particularly interesting. Contrary to North Africans, Flemish people are not a stigmatized minority and their status is higher than that of French-speaking persons. Thus, differential associations to secondary and primary emotions are not restricted to a denigrated low-status outgroup.

General discussion

Claiming the human nature for one's group while discrediting other groups provides an ideological support for any form of discrimination and prejudice (e.g. Burgio, 1998; Guillaumin, 1972; Taguieff, 1987; Todorov, 1989). Recently, Leyens et al. (2000) suggested that such a process can be conceived of as a psychological device in intergroup differentiation. Their rationale derives from an essentialist perspective (e.g. Haslam et al., 2000; Hirschfeld, 1996; Medin, 1989; Rothbart & Taylor, 1992). Leyens et al. (2000) proposed that the human nature is believed to be the underlying essence of the ingroup. Consequently, when the ingroup and the outgroup are thought to have different essences, the human nature of the outgroup becomes questionable. This rationale should be

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empirically observed in a differential association of uniquely human characteristics, such as intelligence, language, and human emotions (Demoulin et al., 2001a; Leyens et al., 2000) to ingroup and outgroup.

Because the links between intelligence (e.g. Crocker et al., 1998) and language (e.g. Giles & Coupland, 1991), on the one hand, and prejudice, discrimination, or racism, on the other hand, have already been largely investigated, we focused on uniquely and non uniquely human emotions in intergroup differentiation. In the four studies presented in this article, we used the IAT paradigm (Greenwald et al., 1998) and, as expected, showed that people differentially associate the ingroup and the outgroup with primary and secondary emotions. The magnitude of the IAT indices and the different effect sizes indicated that our participants associated more strongly the ingroup with secondary emotions and the outgroup with primary emotions, than the reverse. Whether the emotions were positive (Studies 1, 3, and 4) or negative (Study 2), whether the stimuli valence was slightly different (Study 1) or equivalent (Studies 2, 3, and 4), and whether the outgroup had a lower (Studies 1, 2, and 3) or a higher (Study 4) status, the same pattern of results emerged consistently. Comparing the effect size estimations by a meta-analytic procedure (Rosenthal & Rosnow, 1991) shows a clear homogeneity between studies ($\chi^2(3) = 1.13$, *ns*). These results support our theoretical account.

The IAT paradigm does not allow singling out which association or combination of associations is responsible for the difference between compatible and incompatible tasks. Further research with other paradigms is still needed. However, given that the difference between primary and secondary emotions is that only the latter ones, and not the former ones, are considered a uniquely human expression, we can conclude that human characteristics are, at least tacitly, considered more an ingroup than an outgroup feature.

Along these lines, we collected in Study 3 data for two different types of IAT: the emotional one and the (standard) evaluative one. The results showed that there was no difference of magnitude nor of effect size between these two indices. Although the correlation between them explained 14 percent of the variance, it did not reach significance. Obviously, this lack of statistical significance is partly due to the limited number of participants. In addition, it may be that the two IAT indices measure partially different things. Along this reasoning, the correlation between the two IAT indices could be interpreted in terms of discriminant validity. Evaluation and emotions could correspond to two different aspects of associations leading to different behavioral responses (see Mierke & Klauer, 1999). This hypothesis is certainly worth pursuing.

Emotions as part of the human essence

Three major implications of the present perspective are worth further discussion. The first implication refers to the prejudicial role of emotions. Contrary to other characteristics linked to some objective standard, emotions depend strongly upon the observers' interpretation. If we take the example of intelligence and language, it is difficult to imagine that these two uniquely human characteristics will be denied to groups that have power and education. As recently illustrated by Fiske, Xu, Cuddy, and Glick (1999; Glick & Fiske, 1999), high-status groups are generally perceived as competent, even if people do not like them. Conversely, low-status groups are perceived as incompetent, even when they are considered nice. To the same extent that group status does not determine the 'niceness' of groups, we predict that it will not affect the perceived ability to experience secondary emotions. Thus, emotional discrimination can occur independently of status. In this perspective, denying secondary emotions can be considered an available strategy for low-status groups in order to discredit the human nature of high-status groups (see Leyens et al., 2001; Demoulin et al., 2001b). On the other hand, attribution of secondary emotions may be one of the means to overcome discrimination toward low-status groups. For instance, Batson and his colleagues (1997) have shown that thinking of a group member's emotional experience induces empathy toward

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him or her and reduces the prejudice toward the whole group. More direct evidence for the role of secondary emotions on prosocial behavior comes from a study conducted by Vaes, Paladino, and Leyens (in press). This study showed that people react with more solidarity toward an (ingroup) individual who expressed a secondary rather than a primary emotion.

The second implication concerns whether the lack of one uniquely human characteristic can disrupt the perceived human nature of a group. According to our thesis (Leyens et al., 2000), every uniquely human characteristic is necessary, and none is sufficient, to attest a full human nature. Therefore, restricting the full human nature to ingroups leads to 'infrahumanize' outgroups. The concept of infrahumanization has antecedents in the sociopsychological literature. For instance, reserving for oneself the sense of humanity, by moral exclusion (Staub, 1989, 1990), is considered a means to express and to justify the exclusion of outgroup members from 'the boundary in which moral values, rules and considerations of fairness apply' (Opotow, 1990, p. 1). When the human nature of an outgroup is discredited or denied, harming its members appears acceptable and any moral concern becomes unnecessary (see also Bar-Tal, 1989, 1990; Schwartz & Struch, 1989).

The third implication derives from the second one. When do people believe that ingroups and outgroups have a different nature? From a theoretical point of view, categories that are believed to be unalterable, such as ethnicity, gender, and race, should be the designated targets of this kind of discrimination. Indeed, the perceived impermeability of boundaries between these categories calls for an explanation of their radical differences. This explanation is likely to be an essentialist one (Hoffman & Hurst, 1990; Leyens, Yzerbyt, & Schadron, 1994; Rothbart & Taylor, 1992). As it has been shown by other research (e.g. Leyens et al., 2001; Demoulin et al., 2001b), 'infrahumanization' may also occur in the case of national or linguistic groups, even when there is no conflict between these groups. Assuredly, conflict is a facilitating factor, but it is not a

necessary one. People may be likely to 'essentialize' when identification with their ingroup is made salient and when they feel the need to differentiate their ingroup from outgroups. We are currently conducting research to see whether these two conditions suffice for essentialism to take place.

Notes

1. This lay conception was investigated in another study (Demoulin et al., 2001a) in which American, Spanish, and French and Dutch-speaking Belgian students were asked to judge on several dimensions a series of *a priori émotions* and *a priori sentiments*, half being positive and the rest negative. The first dimension was the extent to which participants considered the stimulus word uniquely or not uniquely human. Other dimensions were valence, desirability, intensity, duration, visibility, origin of causation, morality, cognition, informativeness, and age. A factorial analysis validated the choice of stimuli. The first factor could be interpreted in terms of humanity and the second one in terms of valence.

2. Means for the three way interaction:

| | Order of combined tasks | | | |
| | Compatible first | | Incompatible first | |
List	*400 ms*	*200 ms*	*400 ms*	*200 ms*
1	806,604	861,258	882,236	871,813
2	850,883	813,997	791,159	818,043
3	770,388	847,271	968,033	920,787
4	856,299	940,193	861,733	821,452
5	802,085	828,72	928,488	927,288

3. The absence of an intertrial interval may explain the somewhat higher rate of errors and the longer reaction times in Study 4.

Acknowledgments

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