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Dimensions of ''uniquely'' and ''non-uniquely'' human emotions

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Emotion scientists often distinguish those emotions that are encountered universally, even among animals (''primary emotions''), from those experienced by human beings (''secondary emotions''). No attempt, however, has ever been made to capture the lay conception about this distinction and to find the criteria on which the distinction is based. The first study presented in this paper was conducted in three countries involving four languages, so as to allow for cross-cultural comparisons. Results showed a remarkable convergence. People from all samples not only differentiated between ''uniquely human'' and ''non-uniquely human'' emotions on a continuum, but they did so on the same basis as the one used by emotion scientists to distinguish between ''primary'' and ''secondary'' emotions. Study 2 focused on the implicit use of such a distinction. When confronted with a

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human (animal) context, participants reacted faster to secondary (vs primary) emotions. The implications of the human uniqueness of some emotions within the social and interpersonal contexts are discussed.

Some emotions are presumably experienced uniquely by human beings while others can or could also be experienced by animals, or at least by highly evolved primates. This distinction is of utmost importance in much of the emotion literature. To justify their taxonomies, many authors have explicitly used this particular criterion (e.g., Ekman, 1992; Niedenthal, 2000). Most scientists agree on the kind and the number of emotions that are experienced by animals. These emotions are often called ''primary'' (Epstein, 1984) or ''basic'' (Ekman, 1992; Johnson-Laird & Oatley, 1992), and, even if some disagreements remain, the most commonly cited ones are: *anger*, *sadness*, *joy*, *pain*, *fear*, and *disgust*. Unusually, however, no one has questioned the relevance of the ''uniquely human'' feature in folk theory. Despite extensive research of the literature, we were unable to locate a single article dealing with the ''human'' aspect of lay theories of emotions. In particular, nobody has ever questioned the psychological implications of adding the adjective ''human'' to the concept of emotion. What does it mean for an emotion to be called ''human emotion''? In this paper, we will deal with both the explicit and the implicit relevance of the human aspect in lay representations of emotion words. In the first study we will investigate: (1) the extent to which some emotions are explicitly qualified as uniquely reserved to human beings; and (2) the criteria on which people base their judgements. In the second study we will test the implicit relevance of the uniquely human distinction. In the next section, we review five arguments pleading in favour of empirical studies of the perceived humanity of emotion words.

Nonhuman versus human emotions

> *Emotions in humans cannot be understood simply by extrapolation from emotions in subhuman animals* (Epstein, 1984, p.70)

> *The application of emotional concepts to animals is primarily metaphorical and derivative* (Averill, 1980, p. 306)

A first argument that justifies the study of the humanity of emotions is that, unlike other concepts (e.g., personality, intelligence), the term ''emotion'' is almost always referred to in terms of ''human emotion'' (e.g., Johnston, 1999, *Why we feel: The science of human emotions*). If the adjective ''human'' is added to the concept of emotion, it implies that emotions could apply to at least another category (i.e., the animal category). In fact, several emotion scientists (e.g., Davis, 1996) have tried to differentiate and/or to find parallel between

animal and human emotions. One is reminded here of the title of Darwin's (1872) book: *The expression of emotion in man and animals*. As in the case of scientific theories, it could well be that lay theories of emotion include the ''uniquely human'' dimension in the evaluation and interpretation of the emotional world.

Second, even a cursory look at different emotion words suggests a distinction between human and nonhuman emotions. Everyone would probably agree that animals experience emotions like anger, pain, and pleasure. However, not many of us would attribute shame, sorrow, and sensitiveness to animals. It is likely that variability between individuals would appear for the last items. Responses would probably vary as a function of the animal one is thinking about or, at least, as a function of one's relation with it. Even more compelling is the fact that people who attribute such emotions as shame, sorrow, and sensitiveness to their pet, would be viewed as ''humanising'' this animal, just as if they dressed it in baby clothes. Moreover, even for those emotions that are thought to be shared with other species, what is at stake here is a question of meaning. In other words, although people agree that most animals can experience the emotion of fear, many will be reluctant to consider that animals experience the same fear as do human beings.

The third argument is the fact that generic terms referring to the distinction between ''uniquely human'' emotions and ''non-uniquely human'' emotions exist in some languages—yet not in all. This is especially the case in Roman languages, and, to a lesser extent, in Germanic languages. For instance, French-speakers use the word *sentiment*[1] for uniquely human emotions and *émotion* for other emotions that are not ''uniquely human''. Similarly, Spanish-speakers talk about *sentimiento* and *emoción*. Not so obvious is the German plural term *Gefühle*, used mainly for the ''thought-related feelings'', compared to other German terms like the singular *Gefühl*, ''mental and physical feeling'' or the more direct *Gemütsbewegung*, ''movement of the mind'' (Wierzbicka, 1999). The intuitively based distinctions that exist in some languages plead for further empirical investigation because, most likely, people will not use indifferently one term for another in any situation or to refer to any particular affective state. To take an example, a French-speaker would generally say that *amour* (love) is a *sentiment* while *plaisir* (pleasure) is an *émotion*, unless *amour* (love) refers to a context that makes salient ''non-uniquely human'' features (such as in the expressions of making love or fun-loving).

[1] Our view of the French concept of ''sentiment'' is slightly different from the definition proposed by Wierzbicka (1999). We believe that the French concept of ''sentiment'' is more closely related to the idea that those feelings are considered ''uniquely human'' rather than ''thought-related feelings with no bodily based events''. The results presented in this paper allow us to favour our definition over hers. However, for the German and Russian definitions, we have currently no results that could account for one definition rather than the other as we did not study those populations.

Even if the lay terms of *émotion* and *sentiment* do not exist in languages, such as English, emotion scientists refer to it when differentiating between basic and nonbasic emotions, or between primary and secondary emotions (e.g., Ekman, 1992; Epstein, 1984). To quote Ortony and Turner (1990, p. 316): ''The most common reason for proposing basic emotions is to provide an explanation of some routine observations about emotions. These observations include the fact that some emotions appear to exist in all cultures and *in some higher animals* (...) and that (some emotions) appear to serve identifiable biological functions related to the survival needs of the individual and of the species'' (italics added). In other words, primary emotions are said to have not only an ontogenetic primacy, but also a phylogenetic one. Our purpose is not to enter the debate between the researchers who favour or oppose the concept of basic emotions. Because we are interested in lay theories of emotions, we would prefer examining whether the criteria used in the scientific literature to differentiate between ''primary'' and ''secondary'' emotions are also used by lay people. If this were the case, a naive distinction would reflect a scientific one and vice versa.

The fifth and final argument is a social one whose relevance is crucial for our purpose. It concerns the applicability of the unique humanity to the social context of interpersonal and intergroup relations. Choosing a ''uniquely human'' emotional term rather than a ''non-uniquely human'' one with a similar meaning (e.g., indignation instead of anger) in a particular social situation could reveal the underlying motivation of the speaker. Let us assume that the word ''indignation'' is more human than ''anger''. Using the word ''anger'' to describe a particular person or group could imply that the person or group is defined in terms of a characteristic not pertaining to its human nature. Stated otherwise, a person or group experiencing anger would be less human than a person or group feeling indignation. With this distinction, Leyens et al. (2000b) have defended the idea that secondary emotions are part of human nature. They showed Gaunt, Leyens, Demoulin, 2002; Leyens et al., 2001; Paladino et al., 2002) that, compared to ingroups, outgroups were somehow denied the status of human by receiving fewer secondary emotions, that is, uniquely human characteristics.

All these issues provided support in our study of the ''uniquely human'' dimension of the lay representation of emotions. As stated earlier, we wanted to discover if lay persons differentiate between ''uniquely human'' emotions and ''non-uniquely human'' emotions. Also, we wanted to determine if people make this distinction on a basis similar to that emotion scientists use when they distinguish between primary and secondary emotions. Different scientific perspectives on emotions will be used in the next section to define criteria to be tested in lay conceptualisations of emotions.

Criteria for the analysis of lay representations

Scientific literature on emotions is vast and current issues are numerous. To review it all would be a task beyond our objectives. In this section, we will

appraise different kinds of literatures on emotions to define criteria suitable for the analysis of emotional lay representations. The list we will arrive at may not be the most exhaustive, but our goal is to identify a catalogue of criteria as large and diverse as possible. We will briefly present four perspectives, all of them dealing with emotions: the biological, the socioconstructivist, the dimensional, and the stereotypical perspectives on emotions. For each major approach considered, derived criteria will be explicitly indicated in order to facilitate comprehension. Readers should refer to the method section of Study 1 for a full description of the selected items.

In the biological perspective, the focus is on the influence of biological factors on emotions. Its interest is the study of primary emotions. The biological perspective stresses that the most important feature used to define primary emotions is the fact that primary emotions are common to many species other than human beings (Buck, 1999; Ekman, 1992; Epstein, 1984; Izard, 1992). Interestingly, even the authors that most oppose the primary-secondary distinction agree on this point: ''Certainly it is reasonable to suppose that many higher animals experience emotions similar to some of the human emotions'' (Ortony & Turner, 1990). Primary emotions are not only assumed to be commonly experienced across species, they are also supposed to be experienced in the same way in all human societies. Evidence for the universality of primary emotions comes from studies of emotional facial expressions (Etcoff & Magee, 1992; for reviews see Ekman, Friesen, & Ellsworth, 1972; Fridlund, Ekman, & Oster, 1987) and also from neurobehavioural data (Panksepp, 1992). Interestingly, the important scientific focus on facial expressions of emotions also stresses the related idea that primary emotions are, more than any secondary emotion, accessible to observation. Moreover, the biological position suggests that primary emotions appear early in life, that is, have an ontogenetic primacy (Izard, 1977; Sroufe, 1979). Finally, biologically oriented researchers consider that primary emotions do not last very long (Ekman, 1992). Criteria derived from the biological perspective on emotions are: Humanity; Culture; Visibility; Age; Duration.

In the socioconstructivist perspective on emotions, the focus is on the influence of cultural factors on emotions (Averill, 1980). Following this perspective, emotions appear later in life through a process of learning and socialisation. In other words, emotions are dependent on social variables, such as the development of morality, and of learning components, such as the development of specific cognitive capacities. Emotions are also presented to be culture-specific. Finally, as cognitive constructions, emotions are more related to internal (the interpretation of the situation) than external (the situation itself) appraisals (Averill, 1980). Criteria derived from the socioconstructivist perspective on emotions are: Age; Morality; Cognition; Cause; Culture.

Dimensional models of emotions (Bush, 1973; Osgood, May, & Miron, 1975; Russell, 1980, 1990; Schlosberg, 1952, 1954) put their major focus on subjective feelings and usually exploit the degree of similarity between emotion words to

differentiate them. The widest agreement is obtained with a two-dimensional model (based on valence and activation) that ''allows one to graphically illustrate similarities and differences between emotions in term of neighbourhood in space'' (Scherer, 2000, p. 146). Specifically, emotions are perceived as varying along both valence (positive-negative) and arousal (low-high intensity) dimensions. Criteria derived from dimensional models of emotions are: Desirability; Acceptability; Intensity.

Finally, a survey of the literature on stereotypes reveals that women are often perceived as being ''communal'' while men are mainly thought to be ''agentic'' (Bakan, 1966). Communality refers to interpersonal sensitivity and emotional expressiveness. Specifically, women are stereotypically considered better than men at dealing with affect and at processing emotional information (for a recent example, see Leyens, Désert, Croizet, & Darcis, 2000a). Criteria derived from stereotype literature on emotions are: Gender; Sensitivity.

On the basis of these very different perspectives on emotions, a catalogue of criteria for the study of lay representations has been developed.

Overview of the studies

The lay theory of emotions in terms of ''uniquely'' or ''non-uniquely'' human was investigated in two studies, one addressing the explicit level and one relying on implicit measures. Study 1 was a cross-cultural normative survey conducted in three countries (Belgium, Spain, and the United States) involving four languages (French, Spanish, Dutch, and English). The first two languages have Latin roots with very explicit generic terms designating ''uniquely'' or ''non-uniquely'' human emotions. Dutch has German roots with ambiguous generic terms. Finally, English possesses no generic terms to differentiate between ''uniquely'' and ''non-uniquely human'' emotions. Participants had to rate emotional terms for 13 characteristics. The characteristics were presented as questions to which participants had to answer for each term. The choice of the characteristics came from the emotional literature on primary and secondary emotions (Ekman, 1992; Epstein, 1984; Etcoff & Magee, 1992; Izard, 1977; Panksepp, 1992); Sroufe, 1979), from socioconstructivist models (Averill, 1980), from dimensional models (Bush, 1973; Osgood, May, & Miron, 1975; Russell, 1980; Schlosberg, 1952, 1954), and from folk theories on perceived differences between men and women (Baken, 1966; Leyens et al., 2000a).

In Study 2, we investigated the implicit association of emotion words with two categories: human beings and animals. The reasoning was that if some emotions are uniquely associated with the human species, then the response latencies to those emotions should be faster in a human context than in an animal context. The same pattern, either should not appear for emotions considered as ''non-uniquely'' human, or could be reversed with response latencies longer in the human context than in the animal context.

STUDY 1

In the normative study we addressed directly the issue of the ''uniquely human'' component of the emotional lexicon. We predicted that the ''uniquely human'' dimension is a powerful tool used by lay persons to differentiate emotions from each other. Moreover, it is further predicted that lay evaluations of the ''uniquely human'' dimension will reflect the criteria utilised in the scientific literature on emotions to differentiate primary from secondary emotions. Finally, the ''uniquely human'' dimension will be understood as a graded property rather than as a categorical property, that is, some emotions will be called ''uniquely human'' not in an absolute sense, but in comparison to other emotions that possess relatively less ''uniquely human'' features. These three hypotheses should be true independently of the language used, that is, languages with and without generic terms to designate uniquely or non-uniquely human emotions.

This first study is also normative in the sense that it provides numerical data about emotional terms in different languages. These data may serve as a basis to select the material for further research on emotions in different countries.

Method

Participants. The participants were students who took part in the experiment either for partial course credits or as volunteers during a class session. In total, 1321 students participated in three countries: 500 Belgian French-speaking participants responded to the French questionnaire; 604 Canarian participants completed the Spanish version; 190 Belgian Dutch-speaking participants received the Dutch version; and 27 American students responded to the English version.

Procedure. All the stimuli were rated on 7-point scales. The global list of emotional terms was divided into groups of equal number of items, so that the participants received from 10 to 12 emotions to rate on 13 questions. Depending on the size of the sample, 27 to 40 participants responded for each group of emotional terms. An exception was made for the United States where the participants rated the 65 emotional terms comprising the questionnaire. Participants could take as much time as they needed to answer the questionnaire. Because this study involved no manipulation, no debriefing was given to the participants. After completing the survey, participants were thanked for their participation.

Stimuli. A total of 157 emotions were tested in the French questionnaire, 180 in the Spanish questionnaire, 44 in the Dutch questionnaire, and 65 in the English one. A total of 448 emotions were tested. Within each questionnaire we tried to maintain the number of positive and negative stimuli as equal as

possible. The list of stimuli for the French and Spanish questionnaires covered the terms most often encountered in the emotion literature as well as prototypical answers obtained from pre-tests. On the basis of the same pre-tests (asking, for instance, to list refined and nonrefined emotions, *sentiments* and *émotions*), about half of the stimuli in each list tended towards the uniquely human dimension and the other half towards the other end of the continuum. Because the Dutch and English questionnaires were mainly designed to replicate findings of Roman languages in populations where the generic distinction between ''émotions'' and ''sentiments'' does not exist, we decided to test only a small number of emotions. The varying number of emotions considered in each study is therefore not aimed at reflecting essential differences of representation across languages.

Characteristics. In addition to the uniquely human questions, 12 items were written to tap elements of four different kinds of literature on emotions. As these items necessitated complex conceptual judgements they were rather long, and had individualised rating scale anchors. Item wordings, labelled with the concept they refer to (not provided to the participants) and with scale anchors in parentheses, were as follows:

Humanity: ''In your judgement, is the ability to experience this characteristic exclusive to human beings or can animals also experience it?'' (not at all exclusive to humans vs. very exclusive to humans).

Culture: ''If all human beings experience this characteristic, do they experience it in the same way in all parts of the world?'' (very unique experience vs. very shared experience'').

Visibility: ''When a person experiences this characteristic, to what extent do you believe that another person would be able to detect it, that is to say, to what extent is this characteristic visible in the eyes of an observer?'' (not visible vs. very visible).

Age: ''In your opinion from what age is it possible to experience this characteristic?'' (very young age vs. very old age).

Duration: ''When a person experiences this characteristic, how long does the experience last?'' (short duration vs. long duration).

Morality: ''Does the fact that people experience this characteristic gives us, in your judgement, any idea about their moral nature, about their morality?'' (a little vs. a lot).

Cognition: ''To what extent does the experience of this characteristic involve cognitive components, i.e., how much thinking is associated with this characteristic?'' (a little vs. a lot).

Cause: ''Are the causes that bring people to experience this characteristic generally internal to the individual, or generally external?'' (internal vs. external).

Desirability: ''In your opinion, to what extent is it desirable to personally experience this characteristic?'' (not desirable vs. very desirable).

Acceptability: ''In your opinion, to what extent is the public expression of this characteristic acceptable?'' (not acceptable vs. very acceptable).

Intensity: ''How intensely do you think a person experiences this characteristic?'' (weak intensity vs. strong intensity).

Gender: ''In your judgement, is this characteristic experienced more frequently by women or by men?'' (by women vs. by men).

Sensitivity: ''What can we say about the sensitivity of persons from knowing that they are experiencing any of these characteristics?'' (a little vs. a lot).

Most participants completed the questionnaire within 30 minutes.

Results and discussion

The data from each sample were processed separately. For each emotion term, a mean was calculated on each of the 13 questions. Except for the humanity question, which constituted the criterion, these means were entered into a principal components analysis (PCA).

Underlying dimensions of the questionnaire. A first question to be addressed is whether the structure of correlations among the 12 characteristics would reveal common underlying dimensions. The PCA revealed in each sample 4 factors with an eigenvalue superior to 1. Loadings on the third and fourth factors were rather low. More important, dimensions that significantly loaded on these two last factors were divergent across the samples. Because the interest of the study was to find evidence for cross-cultural similarities rather than dissimilarities, we did not take the third and fourth factors into account and concentrated on the first two. These two first factors explained: 58.1, 58.4, 48, and 44.7 percentages of the total variance for the English, Dutch, Spanish, and French samples, respectively. Table 1 shows the loadings of each characteristic on the two main factors of the principal components factorial analyses.

Seven characteristics highly loaded in a consistant way on the first factor across samples: visibility, morality, cognition, cause, duration, age, and culture. The Cronbach's alphas computed on these seven characteristics were high in all four samples (α = .81, .86, .79, and .75 for the English, Dutch, Spanish, and French samples, respectively). The second factor of importance is mainly explained by two characteristics: desirability and social acceptance. Depending on the sample, other characteristics are also included in this factor, yet to a smaller extent. Because there is no agreement among samples to include one specific characteristic instead of another, the scales on the second factor were constructed by aggregating the results of the two main features. Reliabilities of the scales are powerful in three samples, English, Spanish and French (α = .86,

TABLE 1
Principal components analyses on the four questionnaires with loading values more than .5 in italics

	Factor 1				*Factor 2*			
	English	*Dutch*	*Spanish*	*French*	*English*	*Dutch*	*Spanish*	*French*
Visibility	*−.777*	*−.824*	*−.670*	*−.818*				
Cause	*−.750*	*−.507*	*−.729*	*−.581*		−.577		
Morality	*.747*	*.829*	*.755*	*.571*				
Cognition	*.735*	*.798*	*.789*	*.665*				
Duration	*.588*	*.549*	*.716*	*.568*	−.624			
Age	*.507*	*.864*	*.502*	*.632*	.582			
Culture	*−.526*	*−.710*	*(−.469)*	*(−.451)*				
Desirability					*−.763*	*.832*	*.655*	*.722*
Acceptability					*.758*	*.816*	*.736*	*.816*
Gender	.505							
Sensitivity	−.641	−.748					.509	.556
Intensity					.596		.533	
% variance	34.4	39.9	29.5	26.3	23.7	18.5	18.6	18.4

.90, .85, respectively). Surprisingly, Cronbach's alpha was weaker for the Dutch sample ($\alpha = .65$). We have no explanation for this last result. Interpretations of the two factors derive from the literature on emotions from which characteristics were first identified.

The features of factor 1 all rely on two of the four perspectives presented earlier on the biological and the socioconstructivist perspectives of emotions. In the biological perspective, the focus is on primary emotions. Compared to secondary emotions, primary emotions: (1) are similarly experienced by all human beings; (2) are accessible to observation; (3) appear early in human development; (4) do not last very long. The socioconstructivist theory (Averill, 1982), in turn, is more centred on the influence of cultural factors: emotions appear later in development through the acquisition of moral (5) and cognitive (6) resources; their appraisal relies on the internal interpretation of the situation (7) rather than on the situation itself. One should be reminded here of Epstein's quote in 1984 (p.69): ''It is hard to imagine two positions that are more diametrically opposed than Averill's position and the position of those who emphasize the biological basis of emotions. Yet the conflict between the two positions is reconcilable (...) Averill's position is correct for the secondary emotions, and the biologically oriented theorists are correct for the primary emotions''. To reiterate, the goal of this paper is not to take part in the issue that opposes socioconstructivists and biologically oriented theorists, but rather to investigate lay perceptions of emotions. As far as lay perceptions are concerned,

data from the principal components analysis (PCA) nicely reflect Epstein's assumption. People do not tend to separate the biological criteria from the socioconstructivist ones. On the contrary, all seven features load highly on the same unique factor and the participants use criteria from both literatures to evaluate emotions consistently with Epstein's point of view. In other words, following the biological perspective, a primary emotion is an emotion that can be easily observed, that is not specific to cultures, that appears early in life, and that has a short duration; following the socioconstructivist perspective, that same primary emotion should involve low degrees of both morality and cognition, and should be caused by external events. The reversed analysis could be performed on secondary emotions starting from the socioconstructivist theories and going on to biological ones. As Epstein did from a scientific point of view, laymen, reconcile the two opposite perspectives into one unique factor that can easily be interpreted as the *primary-secondary emotion factor*.

The two main features of the second factor (desirability and social acceptance), refer undoubtedly to one of the two dimensions commonly found in the dimensional models of emotions: the valence (positive-negative) dimension. Therefore, the second factor can easily be interpreted as the *positive-negative factor*.

The last three characteristics (Intensity, Gender, and Sensitivity) explored in the present study do not show any clear pattern of associations across samples. For this reason, no further analysis will be conducted on these features and they will not be alluded to below.

To summarise, the results provide strong evidence that lay conceptions of the emotional world can be viewed along two bipolar factors, namely the ''primary-secondary'' and the ''positive-negative'' factors. Factors were so-called because of the similarities they presented with relevant scientific theories on emotions.

The ''uniquely human'' dimension as a predictor of the ''primary-secondary'' factor. According to the main hypothesis of the study, we predict that scores on the ''primary-secondary'' scale will strongly correlate with the evaluations of emotions on the criterion dimension, that is, the higher the score on the ''primary-secondary'' scale, the more human the emotion will be perceived. For this purpose, a ''primary-secondary'' score was constructed for each emotion term and for each sample. The score was based on the ratings obtained by averaging the answers on the seven characteristics highly loaded in the first component of the factorial analysis (i.e., visibility, morality, cognition, cause, duration, culture, and age). In order to remain consistent with the PCA results on factor 1, we reversed the signs of the ratings for Visibility, Cause, and Culture before constructing the scale.

As we predicted, the ''primary-secondary'' scores were highly correlated with answers on the ''non-uniquely-human'' criterion (rs = .60, .68, .50, and .35, for the English, Dutch, Spanish, and French samples, respectively; all ps < .001).

These substantial correlations make sense: Many features present in the ''primary-secondary scale'' refer directly to humanity. It is obvious for cognition, morality, age, and internality of the cause, but it is also true for other features. Long duration implies memory, which is frequently associated with human beings. Invisibility of subjective experience is also typically human, like lies. Finally, cultural changes emphasise the flexible human construction of reality that may change with geography. Thus, it is little surprise that the ''primary-secondary'' scores correlate highly with the extent to which an emotion is perceived as ''uniquely human''.

As an example, Appendix A lists the 65 emotion words tested in the English study together with their average ratings and standard deviations for the humanity and ''positivity-negativity'' scales.[2] Findings such as those shown in Appendix A stress the fact that the lay theory of the emotional lexicon is not categorical. The scientific literature on primary and secondary emotions states that there exists only 6 up to 12 primary emotions (e.g., Borgotta, 1961; Izard, 1972; Johnson-Laird & Oatley, 1992), and that all the other emotions should be considered as secondary. Whether or not this is true does not prevent the fact that the lay theory is better understood as a continuum. Responses to the questionnaire are never categorical and the distributions of answers are spread out. This consideration influences greatly the way one should analyse and understand the data. Except perhaps for extreme cases, no emotion should be considered ''uniquely human'' in an absolute sense. The reverse is true for ''non-uniquely human'' emotions. In other words, an emotion is perceived as ''uniquely human'' because it refers to more uniquely human characteristics than other emotions, or because the context in which the emotion is presented makes salient those particular human attributes.

Cross-cultural comparisons of the ''primary-secondary'' dimension. Because it is important to demonstrate that the ''uniquely''—''non-uniquely human'' distinction is present even in languages where no generic term exists, and because many authors report cultural differences in the emotional lexicon (for a review, see Mesquita & Frijda, 1992; Wierzbicka, 1999), it was important to compare cross-culturally the uniquely human aspects of emotional terms. Translation problems of the emotional words prevented the computation of meta-correlations between the samples. Factor congruence coefficients were therefore computed on the first factor of the PCA. The factor congruence coefficient measures the degree of similarity between two factor structures obtained in two independent samples (Wrigley & Neuhaus, 1955). The rule of thumb suggests to use factor congruence coefficients greater than .90 as an

[2] Similar results for other studies can be obtained on request.

TABLE 2
Study 1: Factor congruence coefficients among the ''primary-secondary'' factors of the four populations

	English	*Dutch*	*Spanish*	*French*
English	1.00			
Dutch	0.96	1.00		
Spanish	0.96	0.93	1.00	
French	0.95	0.94	0.94	1.00

indication of factor invariance (Mulaik, 1972). As can be seen in Table 2, this rule is fully respected, all correlations ranging from .93 to .96. Results indicate that, as far as the ''primary-secondary'' dimension is concerned, people from different cultures construct their emotional representations on similar grounds. The results do not imply that a specific emotion is understood in the same way in all cultures. Rather, results illustrate that the way people treat the primary-secondary variables presented in the questionnaire is very much the same in all cultures. Still in other words, the way people weigh one variable relative to another in the ''primary-secondary'' dimension is consistent across several Western cultures. Further research should help us to confirm whether or not this way of thinking can be replicated in non-Western cultures. As a way of illustrating the congruence between samples, Appendix B lists prototypical primary and secondary emotions across samples.

Descriptive statistics. It is worthwhile examining the actual orderings on the humanity dimension of prototypical primary and secondary emotions as defined by emotion scientists. Specifically, one should look at how scientific ''primary emotions'' are represented in lay theories of emotions. One could also consider ''social emotions'' and compare them to uniquely human emotions in lay theories. Do everyday conceptions closely resemble scientific ones?

Let us take, for example, the six most cited primary emotions in the literature: pain, anger, fear, sadness, joy, and disgust. Do the participants also rate those primary emotions as non-uniquely human emotions? If one divides the uniquely human continuum into three groups in each study, four of the scientifically prototypical primary emotions (anger, fear, pain, and sadness) fall systematically in the first third of the continuum. In other words, in all four languages these emotions are perceived by lay people as being shared by both humans and animals. ''Joy'' is rated in three languages as a prototypical non-uniquely human emotion. English is the only language in which ''joy'' falls in the second third of the continuum. Interestingly, two closely joy-related concepts, enjoyment and happiness, have a low value on the humanity dimension. This

distinction could be a matter of translation, that is, everyday concepts do not correspond to the same terms when used in psychological theory, but it could also be explained by other ways such as the objective or subjective word usage in a given language (Niedenthal et al., 2002). Finally, the level of the disgust score on the humanity dimension is moderate in our studies. In other words, ''disgust'', although mainly closer to the non-uniquely human pole than to the human pole, is not as much perceived as a prototypical primary emotion as are ''anger'', ''fear'', or ''pain''.

The parallel between scientific secondary emotions and lay uniquely human emotions is not evident. Indeed, the scientific literature does not refer to a set of prototypical secondary emotions as in the case of primary emotions. However, developmental psychological literature focuses on ''social emotions'' (e.g. Bennett & Matthews, 2000; Leary, 2000), referring to those emotions that are acquired later in life through socialisation processes. Researchers in this domain refer to a small set of social emotions: shame, guilt, pride, and envy. Lay opinions of these specific emotions are remarkably high on the human dimension. Appendix A lists only the data for shame and guilt, but the other two secondary emotions that were rated in the other languages obtained the same significantly high ratings on humanity.

To summarise, even though the scientific primary-secondary emotion concept closely corresponds to the lay perception of non-uniquely human-uniquely human emotions, it does not entirely do so. One could argue that lay conceptualisations might feed scientific reasoning; the results suggest, however, that it is not always the case. Indeed, emotion scientists and lay perceivers do not always rely on the same indicators when making a judgement about a specific item. For example, participants probably relied on their internal experience and their social knowledge to rate ''disgust'' as an emotion that could not be easily experienced by animals. On the other hand, the scientific literature on primary and secondary emotions is largely based on universals of facial expression of emotions (Etcoff & Magee, 1992; for reviews see Ekman et al., 1972; Fridlund et al., 1987) as well as on neurobehavioural measures (Panksepp, 1992).

Conclusion

The conclusions of this normative study are fairly straightforward and strongly support our prior hypotheses. The results obtained in all four samples suggest that lay people are certainly capable of explicitly differentiating between those emotions that are ''uniquely human'' and those that are also experienced by other species. This distinction rests mainly on the very features used by emotion scientists to distinguish primary from secondary emotions, that is, duration, visibility, cause of occurrence, cross-cultural applicability, involvement of cognitions and of morality, and signs of age. There is a high degree of agreement among Western cultures on these characteristics. Finally, the ''uniquely-non-

uniquely human'' dimension corresponds to a continuum. Some emotions are more ''uniquely human'' than others and there is room for variability.

STUDY 2

Study 1 showed how people explicitly believe that some emotions are uniquely experienced by human beings. A welcome adjunct would be to show that people share the same belief at an implicit level. Concretely, people should react to secondary emotions faster when they are located in a human context than when they are located in an animal context. This effect should not occur for primary emotions. Indeed, primary emotions should not be more associated with humans than with animals. In order to test this hypothesis, we used a paradigm developed by Verplanken, Hofstee, and Janssen (1998). Participants were primed with a human or animal context; they then had to react as quickly as possible to emotion and nonemotion words. In this experiment, the emotions were prototypical secondary and primary emotions where the valence had been controlled.

Method

Participants. These were 40 French-speaking students who volunteered to take part in the experiment. They were all right-handed. The design was a 2 (context: human vs. animal) × 2 (emotion: primary vs. secondary) × 2 (valence: positive vs. negative) × 2 (order: human context first vs. animal context first) with the first three factors as within-participant variables and the last factor as a between-participants variable. Because there were no significant effects concerning valence, we merged the positive and negative data.

Procedure. The study was run on a computer and participants worked in isolation in the library. They were asked to indicate whether or not words that appeared on the computer were emotion words. Participants were instructed to press a right-hand key if a word was an emotion and a left-hand key if it was not. They were told that they had to respond as quickly and as accurately as possible. Participants were given a set of practice items before completing the real task.

There were two blocks of trials with no interruption between the two blocks and no information given to participants about the change of blocks. A first series of trials was composed of 12 emotion words (see Table 3), half of them being primary emotions and the other half secondary emotions, as well as 12 words related to human beings. Those 12 human words served as nonemotion words but they also allowed us to introduce a human context. A second series of trials contained the same 12 emotions used in the first set mixed with 12 words related to animals. Those 12 animal words served the same two purposes as the human words did the previous block. The ''human-being block'' started for all participants with the same four human French words: *humain* (human), *jambe* (leg), *nez* (nose), and *cheveux* (human hair). The ''animal block'' started for all

TABLE 3
Study 2: Words used in the two main blocks

Emotion words	*Human words*	*Animal words*
PE+: Surprise (surprise)	Humain (human)	Animal (animal)
PE+: Attraction (attraction)	Jambe (leg)	Patte (paw)
PE+: Plaisir (pleasure)	Nez (nose)	Museau (muzzle)
PE−: Colère (anger)	Cheveux (hair)	Fourrure (fur)
PE−: Dégoût (disgust)	Homme (man)	Bec (beak)
PE−: Peur (fear)	Femme (woman)	Bétail (livestock)
SE+: Compassion (compassion)	Orteil (toe)	Nageoire (fin)
SE+: Sérénité (serenity)	Bras (arm)	Poil (coat)
SE+: Bonheur (happiness)	Main (hand)	Queue (tail)
SE−: Honte (shame)	Bouche (mouth)	Écaille (scale)
SE−: Amertume (bitterness)	Doigt (finger)	Sabot (hoof)
SE−: Mépris (contempt)	Pied (foot)	Aile (wing)

PE+ = positive primary emotion; PE− = negative primary emotion; SE+ = positive secondary emotion; SE− = negative secondary emotion.

participants with the same four animal French words: *animal* (animal), *patte* (paw), *museau* (muzzle), and *fourrure* (fur). The computer randomly determined the order of appearance of the other words within each block for each participant. Unrelated words and emotions were used as fillers to separate the two blocks. Depending on the condition, the order of the two blocks was reversed to prevent learning effects.

Response times (Rts). These were measured from the moment a word appeared on the screen to the instant participants pushed one of the two response buttons. RTs longer than 3 seconds and wrong answers were treated as missing values (4%). We analysed responses to the 12 emotional terms that were the same in the human and animal context. These items constitute the target items because we wanted to see whether or not RTs would differ depending on the type of emotion within each context. Also, RTs were averaged within each particular type of emotion (primary and secondary) in the two contexts and the two orders.

Results

Despite the fact that primary and secondary emotions were presented earlier as a within-participants variable, RTs to primary emotions are not directly comparable to RTs to secondary emotions because emotions are influenced by word frequency (the primary emotions words are more frequent than the secondary ones). For this reason, we treated separately primary and secondary emotions' RT scores in a 2 (context: human vs. animal) × 2 (order: human context first vs.

animal context first) ANOVA with the first variable as a within-participant factor and the second one as a between-participant factor.

Secondary emotions. These did not yield any Context × *Order interaction,* $F(1, 38) = 0.44$, p n.s. Participants were not faster at responding to secondary emotions in an animal context when the human context was presented first (M = 817 ms), than when the animal context was presented first (M = 845 ms). Neither were participants faster in a human context when the animal context was presented first (M = 779 ms), than when the human context was presented first (M = 776 ms). Learning effects could not account for the results on secondary emotions. Also, there was no main effect of order, $F(1, 38) = 0.11$, p n.s.

As expected, the main effect of context on secondary emotions was highly significant, $F(1, 38) = 7.55$, $p < .01$. As predicted, independently of which context was presented first, participants were much faster at responding to secondary emotions in a human context (M = 777 ms) than in an animal context (M = 832 ms).

Primary emotions. For primary emotions, context tended to interact with order, $F(1, 38) = 4.07$, $p < .06$. This interaction can easily be attributed to a learning effect. Participants were always faster to answer the second time they encountered the primary emotions. In other words, participants were faster at responding to primary emotions in the human context when the animal context was presented first (M = 835 ms), than when the human context was presented first (M = 871 ms). Also, they were faster in the animal context when the human context was presented first (M = 751 ms), than when the animal context was presented first (M = 837 ms). By counterbalancing the presentation of the contexts, we successfully managed to get rid of this specific learning effect. Indeed, there was no main effect of the order, $F(1, 38) = 0.17$, p n.s.

More interestingly, the main effect of the context variable was almost significant, $F(1, 38) = 3.80$, $p < .06$. Unexpectedly, participants were faster to respond to a primary emotion in the animal context (M = 796 ms), than in the human context (M = 852 ms).

Discussion

In accordance with the hypothesis, results suggest that responding ‘‘yes’’ to a secondary emotion in an animal context is more difficult or, at least takes longer, than in a human context. In other words, people seem reluctant to say ‘‘yes’’ for a secondary emotion in an animal context compared to a human context. Unexpectedly, the reverse is true for primary emotions. Saying ‘‘yes’’ to a primary emotion in a human context takes longer than in an animal context. These findings show that, implicitly, secondary emotions are more easily associated with human beings than with animals, and that primary emotions are

more rapidly associated with animals than with humans. Moreover, the effect of the context on secondary emotions was so powerful that, contrary to primary emotions, no learning effect occurred. Whichever context was presented first, participants were always faster at answering ''yes'' to secondary emotions in a human context than in an animal context.

These results are congruent with explicit evaluations of emotions by people. Not only do individuals consciously believe that some emotions are uniquely experienced by human beings, but they also implicitly possess the mental association of these uniquely human emotions with the human category. Even if people agree that human beings experience primary emotions, they may be reluctant to associate those emotions with the human category (Gaunt et al., 2002). This reluctance can be understood in terms of social desirability. It is not as socially desirable to experience such primary emotions, being positive or negative ones, as it is to experience secondary or ''uniquely human'' emotions.

GENERAL DISCUSSION

Many authors report emotions experienced by animals to ground the universality of some emotions. These researchers stress special criteria to distinguish empirically between primary universal emotions, and more restricted and nuanced secondary emotions (Ekman, 1992; Izard, 1977). While most psychological concepts, such as personality (Leyens, 1983) or intelligence, have also been studied in terms of implicit or naive theories, it is surprising to notice that the distinction between ''uniquely human'' and ''non-uniquely human'' emotions has never been investigated in lay conceptions of emotional terms. Such neglect is curious, given the fact that some languages explicitly differentiate emotions shared by humans and animals from those reserved to the human species. Roman languages even use different generic terms to mark the distinction. The absence of research about ''uniquely-non-uniquely human'' emotions is especially unusual because the distinction may be extremely important in social psychology. Indeed, it affects attributional processes. The fact that some emotions are considered to be uniquely human can influence the attribution of emotional states to ingroup and outgroup members. Work along this line has been conducted on values (Schwartz & Struch, 1989), but it is still needed in the case of emotions.

The two studies presented here tested the hypothesis that lay theories of emotions integrate ''uniquely'' and ''non-uniquely human'' dimensions. More specifically, in Study 1, we investigated the extent to which people explicitly believe that some emotions are uniquely experienced by human beings. Moreover, still in Study 1, we also explored the characteristics that people take into account when making their judgement. For this purpose, we provided participants with features derived from different lines of research on emotions (e.g., Averill, 1980; Ekman, 1992; Leyens et al., 2002a; Russell, 1980) and tested

whether or not these features were related to their judgements on the uniquely human question. This normative study took place in three countries, involving four languages, in order to allow for cross-cultural comparisons of lay representations. The four questionnaires presented in Study 1 showed consistent patterns of emotional conceptions in the four samples. Not only did participants distinguish between those emotions that were ''uniquely human'' from those that were not, but the results also showed a high degree of agreement on the characteristics leading to this differentiation. For our Western participants, emotions involving low cognition and morality, caused by external factors, universally shared, easily observed on someone else's face, occurring early in development, and of short duration, are emotions shared with other species. In contrast, ''uniquely human'' emotions involve cognition morality, are caused by internal factors, cannot be easily observed, occur later in development, are not universally experienced in the same way, and tend to last much longer. Interestingly, those characteristics are precisely the criteria utilised by scientists to distinguish primary from secondary emotions. This finding raises the question of the interplay between everyday and scientific knowledge.

''Like scientific theories, lay theories serve the epistemic function of sense making'' (Hong, Levy, & Chiu, 2001, p. 99). This sense-making is probably addressed to different audiences, that is, to experts in the case of scientific theories, and to lay people in the case of folk theories. Such specialisation does not mean an absence of exchange between the two kinds of theories. Scientific concepts and theories, such as post-traumatic stress syndrome and cognitive dissonance, have become everyday knowledge. On the other hand, theoreticians like Heider (1958) and Kelly (1955) have insisted that scientific theories should take into account lay theories because people behave and think accordingly. Naive attributions of personality traits, for instance, have led to the scientific concept of implicit theories of personality, and the understanding of processes underlying implicit theories of personality has largely contributed to a better knowledge of social perception (e.g., Levy, Plaks, & Dweck, 1999; Leyens, 1983). The studies of the present paper were not designed to differentiate scientific and lay theories of emotions. We were only concerned with a lay conceptualisation of emotion words. To approach this conceptualisation, we borrowed ideas from scientific theories, yet we could not be sure whether these ideas were initially part of lay theories that later became components of scientific ones. What is certain, in our opinion, is that this lay conceptualisation may feed scientific reasoning. Many emotion experts (e.g., Russell, 1991) are inclined to think that ''there exist things (emotions) that are given names and thus have words assigned to them'' (Frijda, Markam, Sato, & Wiers, 1995, p. 189). As discussed later on, the use of specific words is not naive (see also Zajonc, 1998). Depending on the people who experience internal states called emotions, different labels (basic or secondary emotion labels) will be applied (Gaunt et al., 2002; Leyens et al., 2001; Paladino et al., 2002). The lay

distinction between uniquely and non-uniquely human emotions also covers the distinction between the French words ''émotion'' and ''sentiment''. This latter distinction, which is common to Roman languages, is important for cross-cultural studies of emotions and for the analysis of prototypes of emotions (Niedenthal et al., 2002). Finally, as discussed in Study 1, there are both similarities and differences between lay perceptions and scientific conceptualisations. ''Disgust'' was a typical illustration of discrepancy. ''Shame, guilt, pride, envy, fear, pain, sadness'' are typical examples of similarities.

In Study 2, we investigated the extent to which ''uniquely human'' emotions are implicitly associated with the human category. This implicit study is of the utmost importance if we consider that people are unlikely to constantly monitor the ''uniquely human'' status of their emotional vocabulary. However, the demonstration that some emotions are implicitly associated with the human category allows one to examine the way people (un)consciously rely on emotional words. Results of Study 2 thus corroborate and amplify the findings of Study 1 by showing that the explicitly ''uniquely human'' emotions are also implicitly associated in memory with the human category. Participants associated more quickly ''uniquely human'' or secondary emotions to humans than to animals. On the other hand, not only did they tend to associate more ''non-uniquely human'' or primary emotions with animals than human beings, but they were also quite reluctant to associate these with the human category (Gaunt et al., 2002). Such results indicate that, even when they are not consciously thinking of the human status of the words they use, people can still be influenced by this status at an implicit level.

The implications of the present findings are numerous. For example, it could be interesting to study romantic fiction, such as Barbara Cartland's novels. Many people are familiar with the scripted construction of these books. The author usually describes a beautiful lonely woman who desperately loves a handsome, exhilarating man while remaining indifferent to the affection of an ordinary neighbour. It takes some time for her to discover that the allure hide plain nastiness and egocentrism whereas the neighbour is a truly charming and very sensitive ''prince''. It would not surprise us if a content analysis would point out that the bad guy is increasingly described by ''non-uniquely human'' emotions as the novel unfolds, whereas the ''charming prince'' would be more and more often associated with ''uniquely human'' emotions.

The ''uniquely human'' differentiation implies that intergroup relationships may well be influenced by the use of specific emotions. Recent studies by Leyens and colleagues (Demoulin et al., 2002; Gaunt et al., 2002; Leyens et al., 2000b, 2001; Paladino et al., 2002) have been concerned by the different ways we may attribute emotional states to ingroup and outgroup members. Using several paradigms, their research programme unveils a very consistent pattern of attribution of uniquely human emotions to ingroup members, and denial to outgroup members. This differential reaction to ingroups and outgroups has been shown to operate at the explicit level as well as at the implicit level. People seem

to perceive ingroup members as being highly associated with those ''uniquely human'' emotions, and therefore as being more prototypically human, than outgroup members. Moreover, when individuals are forced to associate ''uniquely human'' emotions to disliked outgroups, they have to make a special effort and to exert control; this control supports the idea that people do not spontaneously associate outgroups with ''uniquely human'' emotions (Gaunt et al., 2002). Further research is needed to clarify more precisely in which situations this control takes place.

Behaviours, and not only attributions, could also be determined by the access to specific emotions. A clear example can be found in the study of prosocial behaviours. Using the ''lost e-mail'' paradigm, Vaes, Paladino, and Leyens (2002) sent electronic messages to wrong addresses. The messages asked for help from an ingrouper by appealing to a positive or negative uniquely or non-uniquely human emotion. Independently of the valence of the emotion, the uniquely human emotion triggered more favourably replies than the non-uniquely human emotion. In other words, prosocial behaviour was greater when prompted by uniquely human emotions, at least with regard to ingroupers. A research programme is currently addressing the question of the reactions to outgroupers with the hypothesis that prosocial behaviour would be minimal when an outgroup member attempts to use uniquely human emotions. The reason is that uniquely human emotions belong to the ingroup and would provoke negative reactions when used by outgroup members (Vaes, Paladino, & Leyens, 2001).

In lay conceptions of the emotional lexicon, there is no sharp distinction between ''uniquely'' and ''non-uniquely human'' emotions. Emotions are located on a continuum. This continuum does not detract, however, from the implication of infrahumanisation. To the extent that some groups are viewed as possessing fewer human emotions than others, they are considered less human (Schwartz & Struch, 1989), more delegitimised (Bar-Tal, 1989), or more morally excluded (Opotow, 1990). Stated otherwise, these other groups can be treated as animals. Ideas along these lines are not new, and they have been put into practice since the existence of human society; for instance, the term ''barbarian'' has an animal origin, that is, a bleating sheep. To our knowledge, however, this study is the first time that emotions are shown to play a role in this process of infrahumanisation. Usually, researchers have concentrated their efforts on intelligence and language (e.g., Bourhis & Leyens, 1994). Infrahumanised grouops were characterised by a lack of intelligence or the absence of sophisticated language. In the future, infrahumanisation may also be understood through the lack of ''uniquely human'' emotions. Is it not what some people mean when saying: ''These individuals can't really feel what we feel''?

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APPENDIX A

Normative data for the English version of the questionnaire

Emotion	*Mean*	*SD*	*Valence*	*Emotion*	*Mean*	*SD*	*Valence*
Pain	1.59	1.39	2.37	Wrath	4.04	2.17	1.89
Fear	1.85	1.38	2.78	Tenderness	4.04	2.07	5.93
Panic	1.89	1.34	1.85	Friendship	4.04	1.97	6.85
Fright	2	1.36	2.67	Amazement	4.11	1.83	5.52
Surprise	2.3	1.92	5.3	Bravery	4.19	1.86	5.93
Scariness	2.3	1.66	2.81	Sorrow	4.22	1.58	1.89
Suffering	2.3	1.73	1.63	Resignation	4.22	1.99	2.7
Pleasure	2.33	1.69	6.41	Joy	4.3	1.79	6.3
Anger	2.37	1.78	2.59	Dread	4.37	1.98	2.26
Affection	2.37	1.50	6.67	Good-mood	4.48	1.74	6.37
Attraction	2.41	1.78	6	Dismay	4.56	1.74	2.11
Excitement	2.48	1.70	6.44	Disappointment	4.63	1.88	2.41
Enjoyment	2.59	1.62	6.52	Melancholy	4.63	1.80	2.22
Caring	2.74	1.79	6.59	Disconsolate	4.7	1.66	2.52
Fury	2.85	1.63	2.11	Disenchantment	4.7	1.88	2.26
Calmness	2.85	1.56	5.81	Love	4.7	1.61	6.96
Irritation	2.93	1.84	2	Elation	4.74	1.87	5.67
Affliction	2.93	1.47	2.41	Gloomy	4.78	1.67	2.15
Sadness	3.07	1.82	2.44	Passion	4.85	1.54	6.22
Distress	3.32	2.12	2	Sympathy	4.85	2.01	4.78
Anguish	3.35	1.87	1.88	Disgust	4.93	1.66	2.04
Rage	3.41	2.04	2.15	Admiration	5.15	1.79	5.63
Fascination	3.41	2.14	5.96	Resentment	5.19	1.64	2.11
Happiness	3.44	1.99	6.7	Shame	5.26	1.83	2.22
Desire	3.52	1.93	5.52	Remorse	5.3	1.59	3.74
Serenity	3.56	1.65	5.63	Embarrassment	5.37	1.62	3.04
Loneliness	3.59	2.10	2.15	Guilt	5.37	1.52	2.52
Annoyance	3.7	1.77	2.22	Repentance	5.41	1.53	4.5
Solitude	3.78	1.97	3.96	Hope	5.44	1.58	6.3
Courage	3.89	2.14	6.22	Nostalgia	5.44	1.45	4.89
Compassion	3.89	1.87	6.48	Humiliation	5.48	1.45	2.52
Anxiety	3.96	1.48	2.59	Optimism	5.63	1.57	6.07
Ardour	3.96	1.63	4.27				

APPENDIX B

Study 1: Prototypical primary and secondary emotions as a function of language

English	*Dutch*	*Spanish*	*French*
Prototypical primary emotions			
Surprise	Verrast	Sorpresa	Surprise
Rage	Woede	Rabia	Rage
Anger	Boos	Enfado	Colère
Pain	Pijn	Dolor	Douleur
Pleasure	Plezier	Placer	Plaisir
Happiness	Tevredenheid	Alegria	Joie
Fear	Schrik	Miedo	Peur
Prototypical secondary emotions			
Tenderness	Tederheid	Ternura	Tendresse
Love	Liefde	Amor	Amour
Hope	Hoop	Espera	Espérance
Guilt	Schuld	Culpabilidad	Culpabilité
Shame	Beschaamd	Vergüenza	Honte