

Differences between cultures in emotional verbal and non-verbal reactions¹

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In this research the relationship between a series of cultural dimensions and the emotional verbal and non verbal reactions in three prototypical emotions (joy, anger and sadness) will be analyzed. Results show that Asians has a stronger normative system of emotional display rules than other groups. They also show lower gender differences. In order to predict lower emotional verbal and non verbal expression the most important cultural dimension is cultural masculinity. High power distance cultures foster emotional reactions which respect and legitimize status differences. This dimension also predicts a lower verbal expression of negative emotions. On the other hand, Uncertainty Avoidance is not generally associated to a high emotional expression. Finally, Communicating good feelings to other people is more typical of collectivistic and high power distance countries.

Diferencias culturales en la expresión verbal y no verbal de las emociones. La investigación que presentamos tiene como objeto analizar la relación entre las dimensiones culturales y la expresión verbal y no verbal de las emociones de alegría, cólera - enfado y tristeza. Los resultados confirman que las culturas asiáticas presentan un sistema de regulación emocional más fuerte o marcado que los otros grupos culturales estudiados. Además, estas sociedades asiáticas presentan menos diferencias de género. La dimensión cultural que mejor predice la baja expresividad verbal y la no expresión verbal emocional es la masculinidad cultural. La expresión emocional en las culturas con alta distancia de poder se caracteriza por el respeto y la deferencia. Asimismo, esta dimensión predice la baja expresión verbal de las emociones negativas. Por otra parte, la evitación de la incertidumbre no está asociada generalmente a la alta expresividad emocional. Finalmente, los datos corroborar que comunicar buenos sentimientos a otras personas es más típico de los países colectivistas y con alta distancia de poder.

Differences between cultures in verbal and non verbal reactions to emotions are supposed to be important for both emotional research and cultural psychology. Research over the past two decades shows that culture has an important influence in experiencing, expressing and labeling emotions. If we ask ourselves why does this happen?, then we must answer very relevant questions concerning culture, as for example the meaning of culture, or which are the most important variables used to describe culture.

Sometimes researchers choose a very simple and pragmatic way to solve the problem of defining culture: culture is country. But as Matsumoto (1993) suggests this option is justified only if the between-country variance is significantly greater than the within country variance. This means that people in each country are relatively homogeneous, but usually we do not have available data to support these assumptions. Matsumoto (1993) found differences in emotion judgements, display rules, and self-reported emotional expressions as a function of ethnicity within an American sample.

If we have to use country as predictor variable and we do not have data about differences within countries, a good alternative is to use some descriptive cultural indexes in order to explain differences. Following this alternative we chose three prototypical emotions (joy, anger and sadness) and collected data about verbal and non-verbal emotional reactions. We were interested in knowing not only if there were different emotional behaviours in different countries but also why these differences appeared.

Some of the classical variables in cultural research (Hofstede, 1983) may help us: individualism-collectivism; femininity-masculinity; power distance, uncertainty avoidance. These dimensions, and others such as the Human Development Index, could offer some answers to our questions. For instance if people in a collective country express less emotion than in an individualistic country we may suggest that people who are worried about social harmony reduce more their negative emotional expression.

Verbal and non-verbal emotional reactions were chosen because both express emotional communication in some way. Emotion is not an internal and private phenomena, it is a social product in which personal and social factors are present from the beginning to the end (Frijda, 1986; Russell & Fernandez-Dols, 1997). It is currently accepted that emotions change within and between subjects, and that the cultural context plays an important role in it. Culture could be determining internal (e.g. appraisals) and external (e.g. display rules) emotional reactions.

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It is very difficult to know what people are truly feeling and one popular method is to ask them about it. If we do so subjects report emotional verbal and non-verbal reactions. Scherer, Wallbott & Summerfield (1986) found some relevant categories of non-verbal behaviours related with emotions across cultures: smiling, laughing, happy facial expression, touching another person; jumping, dancing and crying for joy; crying and sad facial expression for sadness; and angry facial expression, increased loudness of voice, trembling voice, crying, hand trembles for anger. But these reactions have different frequencies in each country. A well-known research shows that American subjects report more verbal and non verbal emotional reactions than Japanese subjects (Matsumoto et al., 1988). Sometimes differences are not only quantitative, but qualitative or related with cultural meaning of the emotional expression. For instance, Chinese novels report that persons smile to hide distress, anger or embarrassment (Klineberg, 1954). A classic research suggests that Japanese subjects smile when experiencing distress in the presence of a high status person, however when they are alone they displayed as negative behaviours as the American subjects, who always act in the same way (Ekman, 1972; Friesen, 1972).

«Feelings» and «display rules» are concepts used to explain these cultural differences. Feelings mean a personal and internal experience, whilst displays rules are socially learned norms that regulate the communication of emotions within a cultural context. Cultures exert pressures on regulation and control of affective expression (when and how people should or should not express emotions). Different theories converge in the assumption that there are cultural norms concerning the appropriateness of emotional expressions (Scherer, Wallbott & Summerfield, 1986). Display rules not only affect facial expression, but also the perception and expression of many parameters of emotions included verbal and non-verbal behaviours (Matsumoto et al., 1988). Cultures determine rules not only to control emotional expression but even when people must feel emotions, or which are the emotional antecedents for each emotion. The same event could have different meanings depending on cultural norms (Mesquita & Frijda, 1992).

People may be more or less aware of display rules, but these rules work nevertheless. Stephan et al. (1996) found cultural differences using direct ratings of the appropriateness of emotional expression. Individualistic subjects (USA participants) anticipated feeling more comfortable expressing emotion than collectivistic subjects, such as the Japanese and Costa-Rican participants (Stephan, White & Cabeza de Vargas, 1996; Stephan, Stephan, Saito & Barnett, 1998). More recent large scale survey data found that Asian subjects reported less verbal and non verbal emotional reactions (Matsumoto et al., 1988). It is important to be aware that data are self-reports and that they are convergent with the stereotypical notion of Asians as «inscrutable», people who tend to attenuate or suppress their emotional reactions. It is important to notice that previous studies did not find differences in the conscious regulation of emotion, even if the same data shows actual differences in verbal and non-verbal emotional expression. This means that the regulation of emotions could be learned very early in the socialization process and would be automatic in adulthood (Matsumoto et al., 1988).

There are many aspects in culture that are important in communication, we are going to select a number of them. We will check some indexes specifically related with social bounds, harmony, social identity, gender and status. All of them are general

measures that we applied to all subjects in a country, due to this reason, results must be considered in a general way.

High uncertainty avoidance (UAI) societies are associated to higher anxiety, stress, avoidance of ambiguity and tends to be normative, emphasizing rules. Hofstede (1991) found that UAI was related to anxiety and suggests that societies high in UAI are more emotional expressive. People in high avoidance cultures experience high stress and have less internalized emotional control. Persons living in low uncertainty avoidance societies have lower stress and feel less conflict between norms and experience, and due to this «weak superego» and acceptance of deviation, people tend to display less emotion (Gudykunst & Nishida, 1994). European data confirms in part that southern catholic high uncertainty avoidance countries are perceived as more expressive (Peabody, 1999). However, it is also coherent to think that these cultures tend to regulate negative emotions. Basabe et al (1999) found a negative correlation between UAI and social desirability of negative emotions, confirming that these cultures tend to be more normative or reinforce rules of rejection of negative emotions. At the same time UAI was related to higher intensity of negative emotions confirming the fact that high Uncertainty avoidance cultures are characterized by stress and anxiety. However, this association between UAI and emotional intensity disappears in America, where high uncertainty avoidance societies are orthodox catholic, with an important presence of indigenous populations and there prevails a culture of emotional moderation (Zubieta et al., 1998). High uncertainty avoidance countries that avoid ambiguous situations by means of rules and norms, are at the same time societies which experience high stress and anxiety, where emotions are verbalised and expressed, at least in Europe (Hofstede, 1991; Zubieta et al., 1998).

Masculine cultures value independence, competitiveness, power, differential rewards and assertiveness. These cultures also emphasize gender differences, even if men and women living in these cultures tend to share a more assertive and instrumental self-concept. People living in feminine cultures value social support, quality of life, interdependence and fluid sex roles (Hofstede, 1998). It is reasonable to believe that masculine cultures reinforce gender differences in display rules, particularly in the case of anger (Matsumoto, 1989). On the other hand, because of higher concern with interdependence and care for others, probably feminine cultures control less the expression of non competitive emotions. In fact, previous studies found that subjects living in feminine countries, Spain and Chile, feel and express more strongly emotions than those living in more masculine countries, Belgium and Mexico, (Paez & Vergara, 1995). In masculine cultures the expression of weakness, such as sadness, could be de-emphasized, while the expression of assertive emotions, like anger or pride, could be reinforced. Also higher gender differences could be expected in masculine cultures and lower differences in feminine cultures. These last ones, which value social support, could accept more the display of emotionality. Some data suggests that in masculine cultures both men and women share a more instrumental or masculine self-concept (Hofstede, 1998) and probably this means that the general emotional climate is «hard» in these societies. Moreover, previous data confirms that emotional expressiveness is higher in feminine cultures (Paez & Vergara, 1995; Fernandez & Vergara, 1998), even if social desirability of emotions was unrelated to the cultural masculinity dimension. Different studies on culture (Pennebaker et al, 1996; Basabe et al, 1999) have found gen-

der differences in the frequency of emotional expressiveness. It is very common to find that females report more non-verbal reactions than males in joy and anger. These results were also interpreted as reflecting gender specific display rules which allowing females to show non verbal reactions included facial expression, and verbal reactions in a larger degree than males (Scherer, Wallbott & Summerfield, 1986). For males, due to their instrumental and agent gender role, the display rule is «show not very intense emotional reactions» and some authors speculate about the sociobiological basis of this display rule (see Archer, 1996).

Individualistic cultures are supposed to reinforce emotional expression in general and collectivism is supposed to induce self-restraint and moderation in emotional display, especially in negative emotions. For instance, the Japanese and Chinese, more collectivistic than Northamerican citizens, are supposed to suppress more negative emotions in front of in-groups, including the extended family, in order to maintain a greater degree of harmony. Individualism could be associated to more lenient display rules of negative emotions, because individualism values individual uniqueness and the expression of internal desires and affects. In these cultures, the verbal and non-verbal display of negative emotions, like anger, could be more tolerated under conditions where expressing such emotions enhances the individual's sense of uniqueness and allows the person to be assertive (Matsumoto, 1989; Markus & Kitayama, 1991; Porter & Samovar, 1998). In fact, individualism correlates positively with the social desirability of negative emotions (see Basabe et al., 1999), and Stephan et al. (1998) partially confirm that individualistic (Northamericans) report to be more willing to express negative emotions than collectivistic subjects (Costa Rican and Japanese).

High power distance cultures foster emotional reactions that respect and legitimize status differences. They emphasize differences in power between persons. These cultures tend to be hierarchical, giving importance to status, groups and vertical relations. The expression of emotions in these societies may be attenuated. Displaying high intensity emotions, even if positive, could be interpreted as a lack of respect. Display rules reinforce expressing deference and respect or moderate positive feelings towards high status targets. Of course, the expression of negative emotions in social situations, particularly to high status targets, are strongly discouraged, as the expression and perception of negative emotions such as anger may be viewed as threatening the social order. Persons who live in low power distance cultures tend to communicate or display more freely emotions, including negative emotions in front of social superiors without fear of repercussion (Hofstede, 1991; Matsumoto, 1989; Porter & Samovar, 1998). Confucian Asian cultures, characterized by high power distance more than by collectivism, teach subjects to control and moderate their emotional expression. Respect to elders and high status persons, sensibility to contextual asymmetrical relations, typical of Confucian cultures, could be related to display rules of emotional moderation. Different data converge to show that Asian subjects score higher on introversion and lower self-reported emotional intensity. Previous research and data support the idea that people belonging to collectivistic and high power distance cultures self-report lower intensity, lower variability and more moderation of emotional expression (see Basabe et al., 1999).

At the same time, at least four studies confirm that actual differences in physiological reactions are minimal between Asian and Northamerican citizens (Tsai & Levenson, 1997). In spite of the

fact that physiological data did not show actual differences, studies also support the cultural differences in the perception of emotional intensity. High power distance and collectivist cultures perceive lower intensity in posed facial expression stimuli of negative emotions like anger, fear and sadness, no differences were found for a positive emotion such as happiness (Matsumoto, 1989).

In the case of verbal expression of emotion, collectivism and high power distance also appear related to a lower level of emotional disclosure or verbalization, even in the case of the family. At least five studies support that Asian collectivistics disclose less than individualistic Americans. Japanese compared to Americans generally show a high reluctance to initiate conversations with strangers (Gudykunst & Nishida, 1994) and also rate low levels of self-disclosure, and Japanese female feel better in the low disclosure conversations than Japanese males. The collectivist's high contextual style of communication reinforces stressing points not directly, the use of silence and avoiding excess of emotional verbalization. In fact emotional verbalization (e.g. talkativeness) is not valued in Asian collectivist and high power distance societies. Collectivists' (Korean) were more likely to report that they spoke indirectly and to look for indirect meaning of verbal communication than individualistic (Northamerican) subjects (Holtgraves, 1997).

In cultures where context plays an important role in communication, such as collectivist countries, speakers tend to use indirect meanings in their speech. It is a way to reduce the difference between person and environment, both are seen as part of a continuum. On the other hand, individualist cultures, usually with independent selves, need to stress the difference me-others and they use only their own behaviour to express their thoughts and feelings. An indirect style implies managing verbal and non-verbal speech, for instance people from collectivistic areas would be more concerned with facial expression (public identity) than individualistic cultures. In the first case they will try to be polite and use an indirect style to reduce negative reactions in the audience. It is curious to see that silence is more used strategically by individualistic subjects while collectivist subjects use silence in a more habitual and automatic manner. This could mean that silence is an indirect way to differentiate between social contexts (in/outgroup). Collectivist cultures such as Japan have a more negative view of silence directed towards the outgroup than Americans (Hasegawa & Gudykunst, 1998).

Of course how the speaker is perceived depends on the expectancy of those who listen. An indirect style could be considered manipulative in a individualistic context and direct manners as impolite in a collectivist scenario. Gender differences in politeness or not being direct are not conclusive, some data show women tend to be more indirect than men but data changes depending on the topic of conversation. The communication style affects not only impression formation but also plays an important role in the success of sending meanings. Sometimes people who use a direct style miss the indirect meanings of other's remarks, and people who look for indirect aspects guess too much into another person's direct remarks (Holtgraves, 1997). This could mean misunderstanding emotional messages that are especially important in the affective aspects of life. An example of this type of paradox may be found in many Northamerican sitcoms.

Contrary to expectation that collectivism should differentiate more between in and outgroups than individualism, Northamericans feel more comfortable expressing emotions to family mem-

bers than to strangers, where Japanese and Costa-Rican subjects, supposed to be more collectivist, did not make this difference. Finally, individualistic subjects feel more comfortable expressing all type of emotions, not only independent or more individualistic emotions. Briefly, collectivist subjects express less to all type of groups and the opposite occurs with individualistic subjects. Japanese participants anticipated greater comfort in the expression of interdependent than independent emotions, and contrary to expectations, Northamericans behave in the same way (Stephan, Stephan, Saito & Barnett, 1998).

All these differences in cultural dimensions mean different emotional reactions. We can predict some tendencies in emotional communication following previous research. We will check some of the most important cultural dimensions and their relationship with emotional verbal and non-verbal reactions in three of the most prototypical emotions (joy, anger and sadness).

Method

Sample

We collected data in 21 countries. Table 1 shows a description of samples, number of male and females, data of Hofstede's cultural dimensions in each country (individualism-collectivism, masculinity-femininity, power distance, uncertainty avoidance) and Human Development Index (Cordelier & Didiot, 1997). In this table dummy variables are included (beside Hofstede's scores in table 1) in order to classify in two levels, low and high (1 or 2), each cultural dimension. This was made following the median da-

ta in Hofstede's classification (1991). Countries classified with 1 mean they are collectivist, feminine, low power distance and low uncertainty avoidance; with 2 mean they are individualistic, masculine, high power distance and high uncertainty avoidance. Also, we used two levels of Human Development Index (HDI), this index included data about health, education and income.

Procedure and Measures

We passed the same questionnaire in all countries. All participants were students in a social science faculty. In the first part we asked them socio-demographic data (sex, age, country, level of studies, how much they felt a part of their country, some data related to their parents, languages, travels to others countries). The second part collected information about verbal and non-verbal behaviour in three prototypical emotions (anger, sadness and joy). Questions about emotions were closed items (1 to 4 Likert scale of agreement) selected in previous research (Páez & Vergara, 1992; Vergara, 1993; Páez & Vergara, 1994; 1995; Fernández et al., 1998). We used versions in Spanish, English, German, Portuguese, Chinese, French and Persian. Items were classified into two categories verbal and non-verbal reactions for each emotion. Appendix 1 shows all items and their classification in verbal or non-verbal behaviour for each emotion. We used these as dependent variables.

In some analysis countries were dichotomized following Hofstede's median scores (1991) on cultural dimensions of Individualism-Collectivism, Power Distance, Masculinity-Femininity and Uncertainty Avoidance. Anovas were computed using high versus

Table 1
Values by Country: Hofstede's cultural dimensions and Human Development Index (HDI)

Country	N	Sex	IDV	IDVbis	MAS	MASbis	PDI	PDIbis	UAI	UAIbis	HDI
Argentina	225	59,6%	46	1	56	2	49	1	86	2	,885
Belgium	345	53,9%	75	2	54	2	65	2	94	2	,929
Bolivia	114	51,8%	12	1	50	2	64	2	77	1	,584
Brazil	500	52,6%	38	1	49	2	69	2	76	1	,796
Chile	173	63,6%	23	1	28	1	63	1	86	2	,882
China	119	50,4%	18	1	95	2	81	2	70	1	,609
El Salvador	118	83,9%	19	1	40	1	66	2	94	2	,576
France	191	51,3%	71	2	43	1	68	2	86	2	,935
Germany	109	62,0%	67	2	66	2	35	1	65	1	,920
Guatemala	42	81,3%	6	1	37	1	95	2	101	2	,580
Iran	87	60,9%	41	1	43	1	58	1	59	1	,754
Mexico	287	55,4%	30	1	69	2	81	2	82	1	,845
Panama	80	75,0%	11	1	44	1	95	2	86	2	,859
Peru	120	50,0%	16	1	42	1	64	2	87	2	,694
Portugal	264	59,1%	27	1	31	1	63	1	104	2	,878
Singapore	119	48,7%	20	1	48	2	74	2	8	1	,881
Spain	1347	54,6%	51	2	42	1	57	1	86	2	,933
Switzerland	175	81,7%	68	2	70	2	34	1	58	1	,926
Taiwan	41	77,3%	17	1	45	2	58	1	69	1	,609
USA	102	42,2%	91	2	62	2	40	1	46	1	,940
Venezuela	226	58,0%	12	1	73	2	81	2	76	1	,859

– Sex (% woman).
– Hofstede's cultural dimensions: **IDV**= Individualism-Collectivism, **MAS** = Masculinity- Femininity, **PDI**= Power Distance and **UAI**= Uncertainty Avoidance. Bolivia (Mean of Peru and Ecuador) (Hofstede, 1991). High scores means high Individualism, Masculinity, Power Distance and Uncertainty Avoidance.
– **IDVbis**, **MASbis**, **PDIbis** y **UAIbis**: dummy variables in order to classify in two levels low and high (1 or 2) each cultural dimension, it was made following the median data in Hofstede's classification (1991). Countries classified with 1 mean they are collectivistic, feminine, low power distance and low uncertainty avoidance; with 2 mean they are individualistic, masculine, high power distance and high uncertainty avoidance.
– Human Development Index: HDI measures national well-being and trends by combining three basic components of human development: longevity (mean life expectancy in the nation) knowledge (rate of literacy and school population) and standard of living (Gross National Product per person). (Cordelier & Didiot, 1997).

low level of cultural dimensions as a between subjects factor and total scores of verbal and non verbal expression of joy, anger and sadness as dependent variables. Effect size are reported as r 's using Hofstede's scores data for each country (see table 2). We also calculated new correlations following a dichotomic classification in high-low cultural dimensions with verbal and non-verbal behaviours and in general found similar results (this data is available in table 2). A description of each item and its relation with emotions are found in appendix 1.

Results

Results showed by the coefficients of the Pearson correlation (Hofstede's scores with verbal and non-verbal behaviour in each emotion) confirm that subjects living in individualistic countries report that they express verbally anger more than in collectivist ones ($r=.24$, $p<.01$), and to a lower extent sadness ($r=.10$, $p<.01$), the joy data was not significant. Moreover, people living in low power distance countries report expressing verbally more anger ($r=-.22$, $p<.01$), sadness ($r=-.13$, $p<.01$) and joy ($r=0.03$, $p<.05$). Uncertainty avoidance was also related to higher verbal expression of sadness ($r=.037$, $p<.05$). Cultural masculinity was related to lower self report of verbal expression of joy ($r=-.053$, $p<.01$), anger ($r=-.15$, $p<.01$) and sadness ($r=-.12$, $p<.01$). Non-verbal reactions follow a similar pattern. People in individualistic countries express non-verbally more anger ($r=.09$, $p<.01$), sadness ($r=.15$, $p<.01$), and joy ($r=.079$, $p<.01$) than in collectivist areas. Countries with low power distance have more non-verbal behaviour in anger ($r=.078$, $p<.01$), sadness ($r=.13$, $p<.01$), and joy ($r=.09$, $p<.01$). Uncertainty avoidance was not relevant in motor reactions. Masculinity was related with less negative and positive non-verbal behaviour (anger $r=.13$, $p<.01$, sadness $r=.09$, $p<.01$ and joy $r=.13$, $p<.01$).

In general countries that are individualistic with low power distance, low uncertainty avoidance and feminine express more emotional behaviour verbally and non-verbally.

Multiple regression analysis (see table 2) in verbal expression of anger was relevant ($F_{(6,4511)}=95.85$, $p<.000$) and masculinity was the strongest predictor, $\beta=-.095$, $p<.000$, and the same in non-verbal behaviour ($F_{(6,4486)}=51.82$, $p<.000$) and masculinity had the largest weight $\beta=-.12$, $p<.000$. In sadness we found similar results: multiple regression was significant in verbal ($F_{(6,4513)}=47.85$, $p<.000$) and in non-verbal expression ($F_{(6,4239)}=62.08$, $p<.000$); masculinity was the most relevant predictor, in verbal $\beta=-.11$, $p<.000$ and non-verbal $\beta=-.05$, $p<.003$. In joy, multiple regression analysis was relevant in verbal ($F_{(6,4523)}=23.72$, $p<.000$) and non-verbal ($F_{(6,4520)}=60.28$, $p<.000$) reactions and masculinity was the strongest predictor in non-verbal behaviour too $\beta=-.13$ and individualism in verbal reactions $\beta=-.089$, but masculinity was relevant too $\beta=-.047$, $p<.006$. Femininity- Masculinity appears as the best predictor of emotional verbal and non-verbal expression. Power distance also specifically predicts a lower verbal expression of emotions – and lower non verbal expression of sadness. Individualism was specifically unrelated to emotional expression or was related to lower verbal expression of joy, probably because collectivism was associated with higher communication of good feelings to other people (see below). Uncertainty avoidance shows multivariate negative coefficients for the expression of joy, verbal expression of sadness and non verbal expression of anger.

Results also show that sociocultural development (measured by HDI) predicted better emotional expression in the case of negative emotions (verbal-anger $\beta=.21$, $p<.000$, non-verbal-anger $\beta=.14$, $p<.000$; verbal-sadness $\beta=.13$, $p<.000$, non-verbal-sadness $\beta=.13$, $p<.000$). Probably positive emotions follow a more universal pattern of expression. Basabe et al (1999) also found that introversion and intensity of emotions were related to socio-economic

Table 2
Correlation between cultural dimensions and Human Development Index (HDI) with emotional scenarios

		Sex	Cultural dimensions				Human Development Index
			Individualism	Masculinity	Power distance	Uncertainty Avoidance	
– Verbal behaviour of joy	r	.15**	-.01	-.05**	-.03*	-.008	.02
	Beta	.15**	-.09**	-.05**	-.05**	-.03*	.06**
– Verbal behaviour of sadness	r	.12**	.10**	-.12**	-.13**	.03*	.15**
	Beta	.13**	-.05*	-.11**	-.08**	-.08**	.14**
– Verbal behaviour of anger	r	.08**	.24**	-.15**	-.22**	.02	.29**
	Beta	.08**	.03	-.09**	-.09**	-.01	.22**
– Non verbal behaviour of joy	r	.18**	.07**	-.13**	-.09**	-.01	.16**
	Beta	.19**	-.02	-.14**	-.02	-.08**	.13**
– Non verbal behaviour of sadness	r	.17**	.15**	-.09**	-.13**	.01	.14**
	Beta	.18**	-.00	-.05**	.04*	-.00	.19**
– Non verbal behaviour of anger	r	.15**	.09**	-.13**	-.07**	-.002	.21**
	Beta	.16**	-.00	-.12**	.01	-.06**	.14**

– Correlation coefficients, r Pearson, and standardized beta coefficients (method: enter)
* $p<.05$, ** $p<.01$

development. This suggests that development of quality of life, privacy and social resources, related to the level of earning, education and life expectancy, reinforces a more intense emotional experience. Less developed countries, masculine, high power distance and high uncertainty avoidance cultures express less emotion than more developed, feminine, low power distance and low uncertainty avoidance cultures.

On the other hand we also calculated Pearson correlations for each item. Items associated to the verbal expression of emotion (see table 3a) showed interesting results too. «Saying or stating positive things» was unrelated to cultural dimensions, only people from feminine countries say positive things more frequently ($r=.056$, $p<.01$). However, «communicating good feelings to others » was more typical of collectivist ($r=-.036$, $p<.05$), in general «being talkative» was typical of feminine ($r=.054$, $p<.01$) and low power distance ($r=.044$, $p<.01$) and the same results were found in «sharing feelings» (feminine $r=.032$, $p<.05$) and low power distance ($r=.037$, $p<.05$). These results confirm that expressing sympathy is more important in cultures where harmony and respect are

valued and vice versa, confirming also the role of verbal moderation in high power distance and masculine cultures.

Specific items of verbal expression of anger and sadness show a profile that parallels the general score results. Individualistic countries usually try to show their sadness «not speaking» ($r=.099$, $p<.01$) «speaking in a low tone» ($r=.051$, $p<.01$), «expressing sad things» ($r=.099$, $p<.01$); and their anger «verbally attacking the cause of anger» ($r=.20$, $p<.01$), «screaming» ($r=.22$, $p<.01$), «discussing» ($r=.14$, $p<.01$) and «cursing» ($r=.187$, $p<.01$). The same pattern was shown by low power distance, feminine and high uncertainty avoidance cultures (see correlations on table 3b & 3c).

Specific items of nonverbal behaviour show in general a similar profile for joy, sadness and anger. Smiling and enthusiastic voice in joy, clenching one's fists, heavy walk, and not verbally communicating one's disagreement in anger, and downcast stance and crying in sadness were more typical in individualistic, low power distance, feminine and high uncertainty avoidance cultures. Not smiling, frowning and slow movements in sadness appear related to individualism, and low power distance. In any case, differences

	Sex	Individualism	Cultural dimensions Masculinity	Power distance	Uncertainty Avoidance
Verbal behaviour of joy					
Sharing feelings (so that other people may feel well)	.12**	-.008	-.03*	-.03*	.007
Communicating (or trying to) good feelings to other people	.13**	-.03*	-.02	-.008	-.02
Saying positive things	.12**	-.01	-.05**	-.005	-.02
Talking a lot, being talkative	.09**	.02	-.05**	-.04**	.01
Non verbal behaviour of joy					
Being bouncy, bubbly (dancing because one is happy)	.15**	.05**	-.07**	-.05**	-.03*
Jumping up and down	.10**	-.02	-.10**	-.01	.005
Bright glowing face	.16**	.12**	-.06**	-.11**	-.05**
Laughter	.15**	.06**	-.04*	-.05**	-.008
Enthusiastic and excited voice	.12**	.07**	-.16**	-.07**	.03*
Smiling	.09**	.05**	-.10**	-.07**	-.01
- Correlation coefficients (r of Pearson) * $p<.05$ ** $p<.01$					

	Sex	Individualism	Cultural dimensions Masculinity	Power distance	Uncertainty Avoidance
Verbal behaviour of sadness					
Not speaking at all, or speaking only a few words	.07**	.09**	-.04*	-.11**	-.03*
Speaking in a low tone, monotonous	.05	.05**	-.07**	-.07**	-.03*
Expressing sad things	.12**	.09**	-.15**	-.11**	-.009
Communicating sad events or feelings	.12**	.04*	-.07**	-.08**	-.02
Non verbal behaviour of sadness					
Slow movements	.09**	.05**	.07**	.09**	.005
Downcast stance	.08**	.09**	-.13**	-.12**	.01
Crying, snivelling, wanting to cry	.28**	.09**	-.10**	-.10**	.006
Not smiling, frowning one's brow	.007	.03*	-.01	-.07**	-.07**
- Correlation coefficients (r of Pearson) * $p<.05$ ** $p<.01$					

between cultural categories are only relative, because all items are rated from more or less to very typical (low range is 2,5 in a four step scale).

Finally in order to achieve a general view we organized all countries by continent. We calculated the influence of continent (European, Latinamerican, Asian and Northamerican) in emotional expression. Anovas were performed to contrast geographic factor in reported emotional expression. Continent effect was relevant in verbal expression of joy ($F_{(3, 4541)} = 15.65, p < .000$), sadness ($F_{(3, 4526)} = 41.08, p < .000$) and anger ($F_{(3, 4524)} = 161.23, p < .000$); and was significant in non-verbal expression too, joy ($F_{(3, 4539)} = 42.40, p < .000$), sadness ($F_{(3, 4538)} = 40.70, p < .000$) and anger ($F_{(3, 4516)} = 30.20, p < .000$). Means for each area are shown in table 4.

In general Europeans and Northamericans reported higher emotional verbal and non-verbal expression than Asian and Latinamericans in sadness and anger. Asian persons report, homogeneously, the lowest level of emotional expression in all emotions, including joy. This was not the case for Latinamericans, who report higher levels of emotional expression in joy in comparison to Asians and similar to Euroamerican participants. Means are showed in table 4. More collectivist, higher power distance and mas-

culine countries have larger control of their emotional expression, specially in the case of negative emotions.

We also calculated the influence of continent and gender in each emotion and reactions. Results are showed in table 5. Women were always more expressive than men. The most interesting results confirm that Asians not only report the lowest level of emotional expression but also gender differences were lower. This suggests a strong normative system of emotional display rules. Northamerican participants report a higher level of gender differences in joy and sadness and a lower level of differences in verbal expression of anger. These results suggest that this culture's stronger masculinity provokes a convergence of emotional reactions in an assertive emotion like anger and a stronger discrepancy in less assertive emotions such as joy and sadness.

Discussion

In general, verbal and non-verbal expression of emotions was related with individualism, femininity, low power distance and only in the case of sadness with high uncertainty avoidance. In this type of cultures people feel free to express their emotions, and the data is very interesting in that it shows that people do not worry or

	Sex	Individualism	Cultural dimensions Masculinity	Power distance	Uncertainty Avoidance
Verbal behaviour of anger					
Verbally attacking the cause of anger	.05**	.20**	-.11**	-.19**	-.005
Screaming, raising one's voice	.12**	.22**	-.14**	-.21**	.003
Discussion, confrontation (talking about how bad things are)	.09**	.14**	-.12**	-.15**	.08**
Cursing, obscenities	-.008	.18**	-.11**	-.15**	-.001
Non verbal behaviour of anger					
Blushing	.09**	-.03*	-.03*	.009	.09**
Crying	.36**	-.01	-.06**	-.02	.03*
Not verbally communicating one's disapproval with the cause of anger, one's disagreement	.06**	.09**	-.07**	-.12**	-.01
Threatening aggressive gestures	-.01	.07**	-.11**	-.02	.003
Clenching one's fists	-.02	.10**	-.07**	-.05**	-.003
Not smiling, frowning	.05**	.10**	.09**	.09**	.03*
Heavy walk, stomping	.14**	.09**	-.08**	-.06**	-.05**
Grinding one's teeth	.04**	.01	-.08**	-.006	-.04**
- Correlation coefficients (r of Pearson)					
* p<.05 ** p<.01					

	Europe	USA	Latin America	Asia	Factor Inter
- Verbal behaviour of joy	3.32	3.38	3.37	3.15	$F_{(3, 4541)} = 15.65^*$
- Verbal behaviour of sadness	3.14	3.20	2.92	3.01	$F_{(3, 4526)} = 41.08^*$
- Verbal behaviour of anger	3.29	3.02	2.81	2.87	$F_{(3, 4524)} = 161.23^*$
- Non verbal behaviour of joy	3.35	3.42	3.32	3.00	$F_{(3, 4539)} = 42.40^*$
- Non verbal behaviour of sadness	3.02	3.01	2.84	2.73	$F_{(3, 4538)} = 40.70^*$
- Non verbal behaviour of anger	2.68	2.73	2.51	2.52	$F_{(3, 4516)} = 30.20^*$
Means with variation range from 1 (not at all typical) to 4 (very typical).					
* p<.000					

take pains in masking their real feelings, and that to show them does not mean one is breaking social relationships.

Subjects from collectivist, high power distance, masculine and low uncertainty avoidance cultures express less verbally and non-verbally emotions. However multivariate analysis, controlling for the influence of social structure, shows that social development measured by the HDI predicted higher emotional expression, beyond the cultural dimension. Basabe et al (1999) also found that introversion and intensity of emotions were related to socio-economic development. This suggest that development of quality of life, privacy and social resources, related to the level of earning, education and life expectancy, reinforces a more intense emotional experience.

The most important cultural dimension that predicts lower emotional verbal and non verbal expression was cultural masculinity. Previous studies using a lower number of countries also found similar results (Paez & Vergara, 1995). Higher interdependence in feminine cultures probably was associated to more positive display rules. However this was true not only for the expression of non competitive emotions, like joy and sadness, but also for an assertive emotion such as anger. Previous studies found that subjects living in feminine countries feel more frequently positive emotions (Basabe et al, 1999) and express strongly emotions than persons living in more masculine countries. High social support interdependence and fluid sex roles allow people living in these cultures to display more openly without fear of social rejection. Data disconfirms the idea that masculine cultures reinforce gender differences in display rules, particularly in the case of anger (Matsumoto, 1989), because a nation with high scores in masculinity such as the United States has lower gender differences in the emotional expression of anger.

Data was also coherent with the idea that high uncertainty avoidance cultures tend to regulate emotions, particularly negative ones like sadness. Our sample which included Asian and Latinamerican persons living in high uncertainty avoidance societies disconfirms that UAI in general was associated to high emotional expression. In catholic cultures such as the Latinamerican high uncertainty avoidance ones, contrary to southern European high uncertainty avoidance countries, the expression of emotion is lower, confirming that these societies suppress more emotions and stress normative regulation.

High power distance congruently predicts specifically lower verbal expression in the case of negative emotions, like anger and sadness, and provokes also lower non verbal expression of joy. High power distance cultures foster emotional reactions that respect and legitimize status differences. Results support the assumption that persons who live in low power distance cultures tend to communicate or display more freely emotions, including negative emotions such as anger and sadness (Porter & Samovar, 1998). However, at odds with the idea that cultures of high power distance discourage displaying openly positive emotions like joy, because this display could be interpreted as a lack of respect, power distance was unrelated specifically to lower typicality of self-reported verbal expression of joy. Matsumoto also fails to find a significant negative association and the perception of intensity of happiness, suggesting that power distance cultures emphasize moderation display rules for negative emotions more than for positive emotions.

Our results suggest that cultures low in power distance and high in cultural femininity reinforce the expression of emotion more than masculine and high power distance cultures, as they accept emotional expression and sanction freedom to express negative emotions, even in unequal status social context.

Table 5
Differences between countries and sex on emotional scenarios

	SEX	Europe Mean	USA Mean	Latinamerica Mean	Asia Mean	F
Verbal behaviour of joy	Man	3.20	3.19	3.28	3.10	F(1,4527)= 108.64*
	Woman	3.40	3.63	3.43	3.19	
Verbal behaviour of sadness	Man	3.05	3.09	2.80	2.96	F(1,4512)= 73.97*
	Woman	3.21	3.33	3.01	3.05	
Verbal behaviour of anger	Man	3.22	2.98	2.73	2.84	F(1,4510)= 29.61*
	Woman	3.34	3.07	2.87	2.89	
Non verbal behaviour of joy	Man	3.21	3.25	3.21	2.91	F(1,4525)= 166.58*
	Woman	3.45	3.66	3.39	3.08	
Non verbal behaviour of sadness	Man	2.90	2.84	2.69	2.68	F(1,4524)= 131.33*
	Woman	3.10	3.22	2.95	2.78	
Non verbal behaviour of anger	Man	2.55	2.64	2.41	2.46	F(1,4502)= 115.71*
	Woman	2.78	2.85	2.59	2.56	

Means with variation range from 1 (not at all typical) to 4 (very typical).
* p<.000

Communicating good feelings to others was more typical of collectivistic and high power distance countries, supporting the idea that the expression of sympathy is more important in cultures where harmony and respect are valued. However, with this exception, nonverbal expression of joy, anger and sadness were higher in individualistic subjects than in collectivistic people. The verbal expression of sadness was also higher in the individualistic cultures but the association of individualism with high emotional expression disappears in multivariate analysis. Multicollineality explains partially the lack of predictive power of this cultural dimension. Beyond this statistical explanation, it is important to notice that our sample includes Latinamerican and Asian collectivist participants. Previous results which found higher emotional display in individualistic subjects usually compared more or less collectivist Asian (Japanese, Chinese) with European or Northamerican subjects. Because of sample limitations, these studies overestimate the importance of individualism in subjective emotional experience. Our results imply that Latinamerican samples show a lower expression in negative emotions than Northamerican and European persons, similar to Asian participants, but, they showed higher expression of a positive emotion, like joy. This is congruent with the importance of sociability and sympathy that characterizes the relatively collectivist Latinamerican culture. Latinamericans are reluctant to express negative emotions and at the same time they feel free to express positive emotions. Results are consistent with the «simpatía» script described by Triandis et al. (1984), suggesting that there is a normative pressure in Latinamerican culture to be friendly, avoid conflict and criticism, and to behave positively towards others (Triandis, Marin, Lisansky & Betancourt, 1984; Páez & Vergara, 1995). Previous differences in emotional intensity and expression reflect the fact that collectivistic Asian participants report lower intensity, but this is not the case of Latinamerican collectivists for positive emotions.

Appendix I: Prototypical attributes of emotional scenarios

Verbal behaviour of joy

- Sharing feelings (so that other people may feel well).
- Communicating (or trying to) good feelings to other people.
- Saying positive things.
- Talking a lot, being talkative.

Verbal behaviour of sadness

- Not speaking at all, or speaking only a few words.
- Speaking in a low tone, monotonous.
- Expressing sad things.
- Communicating sad events or feelings.

Verbal behaviour of anger

- Verbally attacking the cause of anger.
- Screaming raising one's voice.
- Discussion, confrontation (talking about how bad things are).
- Cursing, obscenities.

Non verbal behaviour of joy

- Being bouncy, bubbly (dancing because one is happy).
- Jumping up and down.

Results confirm gender differences and in general women were more expressive than men. However, gender differences were lower in the case of Asian participants suggesting a strong normative system of emotional display rules. Northamerican participants report the higher level of gender differences in joy and sadness and a lower level of differences in verbal expression of anger. These results are coherent with the higher masculinity of the Northamerican culture, that emphasizes gender differences on the one hand, but at the same time legitimizes assertive emotions as anger (Hofstede, 1998).

Results in sociocultural development predicted higher emotional expression, beyond the cultural dimension. Basabe et al (1999) also found that introversion and intensity of emotions were related to socioeconomic development. This suggests that development of quality of life, privacy and social resources related to the level of earning, education and life expectancy reinforce a more intense emotional experience. The most important cultural dimension that predicts high emotional verbal and non verbal expression was masculinity-femininity. Previous studies using lower number of countries also found similar results (Páez & Vergara, 1995).

We are confident about the influence of cultural dimensions in emotional communication but we also believe that it is necessary to conduct more in-depth within country research in order to know how homogeneous are our samples in cultural variables and what is their impact in verbal and non-verbal emotional expression.

Nota

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- Bright, glowing face.
- Laughter.
- Enthusiastic and excited voice.
- Smiling.

Non verbal behaviour of sadness

- Slow movements.
- Downcast, stance.
- Crying, snivelling, wanting to cry.
- Not smiling, frowning one's brow.

Non verbal behaviour of anger

- Blushing.
- Crying.
- Not verbally communicating one's disapproval with the cause of anger, one's disagreement (leaving the room. slamming the door. etc.).
- Clenching one's fists.
- Threatening aggressive gestures.
- Not smiling frowning.
- Heavy, walk, stomping.
- Grinding one's teeth.

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