

Sex, gender identity and emotions

Abstract

In this study we used the BSRI in order to test the androgyny model and the effects of expressivity and instrumentality. Sex and gender identity differences would be expected to be associated with emotional intensity, social sharing and rumination of emotions, and with social knowledge of emotions. The sample consisted of 229 subjects, relatives of Psychology students from the Basque Country University (Spain). 51% were women and 49% men. Women showed a higher emotional intensity and more rumination and sharing of their emotional experience than men. Our data suggests that feminine or communal expertise is not simply the reproduction of sex differences. We also found some gender differences; feminine schematics were "experts" on the antecedents, expression, communication and psychological effects of emotions. Masculine schematics were "experts" on instrumental and assertive emotions (anger). Nevertheless, we found no interaction between expressivity and instrumentality, and our results suggest that the differences across gender identity categories may be explained using the expressivity dimension. Globally, these results show that high expressivity is related to high scores on the typicality of motor-expressivity, communicative reaction on the emotion of joy and high self-control on the emotions of anger and sadness.

Résumé

Dans cette étude, on a employé le B.S.R.I. pour contraster le modèle de l'androgynie et les effets de la masculinité et de la féminité. Les différences de sexe et d'identité de genre peuvent être associées à l'intensité émotionnelle, au partage social et à la rumination des émotions, ainsi qu'à la connaissance sociale des émotions. L'échantillon de cette étude est composé de 229 sujets, parents d'étudiants de psychologie de l'Université du Pays Basque (Espagne). 51 % étaient des femmes et 49 % des hommes. Les femmes montrent d'avantage d'intensité émotionnelle, de rumination et de partage des expériences émotionnelles, que les hommes. Les sujets schématiques « masculin » étaient « experts » dans les relations sociales de type « agentique ». L'expertise féminin ou « communale » n'est pas simplement une reproduction des différences de sexe. Les différences de genre trouvées montrent que les sujets féminins étaient « experts » pour les antécédents, l'expression, la communication et les effets psychologiques des émotions. D'autre part, les sujets masculins étaient « experts » pour les émotions instrumentales et assertives (la colère, par exemple). Cependant, on n'a pas trouvé d'interaction entre les dimensions expressives et instrumentales, et les résultats suggèrent que les différences entre les catégories d'identité de genre seraient

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High instrumental subjects showed lower typicality on vulnerability and on the subjective aspects of the emotions of fear, anger and sadness. Results are congruent with reviews showing that instrumentality is related to well-being. Our results show that high femininity, and not only high masculinity, is potentially associated with more social "success".

exprimées par la dimension expressive. Ces résultats montrent une relation entre expressivité et évaluation de typicité de la réaction expressive et communication de la joie, un auto-contrôle de la colère et la tristesse. Les sujets instrumentaux montrent moins de typicité à propos de la vulnérabilité et les aspects subjectifs de la peur, la colère et la tristesse. Ces résultats sont congruents avec les études qui ont montré des relations entre instrumentalité et le « bien-être ». Nos résultats montrent aussi que la féminité, et pas seulement la masculinité, est potentiellement associée avec le succès social.

Sex Differences in Affect, Social Sharing and the Social Knowledge of Emotion

Recent reviews have shown that women report a higher intensity of emotions (except for anger), greater happiness and life satisfaction than men, and also a higher level of negative affectivity. They also report a higher affective intensity than men (Wood, Rhodes, & Whelan, 1989; Shields, 1991; Fujita, Diener, & Sandvik, 1991). Women are also more socially-skilled (they are better nonverbal encoders than men, as well as better decoders; showing a greater empathy for other people's emotional reactions and are more frequent selfdisclosers than men). In emotional situations they are also more expressive or externalizing (in social situations, women smile more than men, use their faces and bodies more expressively) (Eagly & Wood, 1991). Women also feel more affected, or influenced, by emotional experiences and re-evocations of autobiographical affective events (Clark & Teasdale, 1985; Rholes, Riskind & Lane, 1987; Rothkopf & Blaney, 1991).

With respect to sexual stereotypes, women see themselves, and are seen as being, more emotional (particularly regarding positive emotions and vulnerability) (Lipps, 1988). Subjects think that both young and adult men express their emotions less, but nevertheless they do not believe that men feel the emotion less.

Sexual stereotypes of emotions have to do with a deficit in male emotional expressiveness, but not in emotional feelings (Frable & Martin, 1991). Depressed men are more rejected and more negatively evaluated by others than depressed women (Cane & Gottlib, 1985; Nolen-Hoeksema, 1991). In open-ended emotional accounts, women report more signs of emotion and give more prototypical information than men (Scherer *et al.*, 1986; Páez & Vergara, 1991). Those men who express their sadness very much are more rejected and devaluated by women (Cane & Gottlib, 1985). An expressive (smiling) female and a non-expressive (poker face) male are more positively judged and are evaluated as being more typical. However, a non expressive female suffers a stronger devaluation than a smiling male (Lorenzi-Cioldi, 1994). This suggests an asymmetrical social norm against men expressing an emotional display and women showing non-expressivity.

Carver, Scheier and Weintraub (1989) found several significant sex differences in the reported use of these different coping strategies. The strongest, and most reliable, of these differences were found in the tendencies to focus on and vent emotions, and also to seek social support, both for instrumental and emotional reasons. All these tendencies were stronger among women than among men a fact which is consistent with sex role stereotypes. The only tendency that was stronger for men than for women was using alcohol or drugs as a coping mechanism. Endler and Parker (1990) found no male-female differences in task-oriented coping, but women reported significantly more emotion-oriented and avoidance-oriented coping than men. In Endler and Parker's coping scale, a major component of the avoidance factor is to seek social support. Block (1976) in her meta-analysis of Maccoby and Jacklin's (1974) review on sex differences, concluded that women seek more help and reassurance and maintain greater proximity to friends than men. Block (1976) also noted that women are more prone than men to anxiety, which is congruent with Endler and Parker's (1990) finding that women use more emotional coping strategies than men. Recent evidence suggests that women use passive coping strategies more frequently than men (Billings & Moos, 1981; Pearlin & Schooler, 1978, quoted in Endler & Parker, 1990).

Females reported greater perceived social support, and males were rated lower than females on their tendency to give social support. Narrative reviews show that women give and receive more social support, especially emotional support. There is some evidence that women benefit more than men from the support that stems from close, intimate relationships (Hobfoll & Stokes, 1988; Hendrick, 1988). Finally, women report higher levels of social sharing of emotions (*e.g.* talking to others about past emotional autobiographical events). Women share emotions with others more frequently, and with a larger network, than men do (Mesquita, 1989; Vergara, 1993; Rimé, Mesquita,

Philippot, & Boca, 1991). NolenHoeksema (1987) stated that women are more likely to show depression than men are because they tend to have a more ruminative style of response to their depressed moods.

Women tend to be inactive and ruminate on the causes and implications of their depressed mood, whereas men avoid thinking about their problems and engage themselves more in distracting activities such as sports. Morrow & NolenHoeksema (1990) proposed that these coping differences contribute to the higher prevalence of depression amongst women because women's ruminative style heightens and prolongs their depressive moods, whereas men's active, distracting style weakens and shortens theirs.

Questionnaire studies support the existence of this sex difference in response styles (*cf.* Nolen-Hoeksema, 1987). Results from a recent laboratory study, in which the answers given by men and women to induced distress were observed, also provide evidence for sex differences in coping styles (Morrow & Nolen-Hoeksema, 1990). Ingram *et al.* (1988) found that women responded with greater levels of selffocusing, and in turn more negative affect, to a negative event which takes place during an experiment, than men. Steinglass and Gerrity (1990) or Horowitz (1987) found that women, faced with extreme negative life events associated with Post Traumatic Stress Disorder (PTSD), showed higher levels of affective symptoms and intrusive reactions (*e.g.* "I thought about it when I did not mean to"). Research on mood induction suggests that women are more responsive to affective statements than men are, and that a self-evaluative, self-aware cognitive style of emotion-processing is more common in women than in men (Rholes, Riskind, & Lane, 1987; Rothkopf & Blaney, 1991). Our data on social sharing show that in general women ruminate more, and have more intense emotional reactions (Vergara & Páez, 1993; Basabe *et al.*, 1992).

As a summary we can state that sex and gender identity differences may be associated with emotional intensity, and also with social sharing and knowledge of, and rumination on, emotions. These sex differences may be explained, partly, by differences in gender identity between men and women. It is a transculturally confirmed fact that women are stereotypically perceived of as being more expressive, and men as more instrumental. These differences have been reproduced when self-perception scales are used. These sex differences may be explained by the existence of greater female self-schematization of emotional expressivity. In other words, they may be explained by thinking that women are self-schematized subjects who are better experts in controlling emotions. We will now review the differences in gender-identity proposed by authors such as Bem and Markus, basically referring to the differences in the content, structuring and processing of the social knowledge of emotions.

Self-Schemata, expertise and emotions

Markus, Moreland and Smith (1985) suggest that the masculine (and feminine) self-schema can be viewed as a type of expertise in the domain of instrumentality, or masculinity, (or in the domain of expressivity or femininity). Those subjects who are schematics in social-perception tasks display some of the most important cognitive qualities of expert performance: a) greater flexibility in their information-processing strategy; b) they divide stimuli into larger units than aschematics; c) in reconstructing a film sequence (a schema-relevant film) they have more extreme and global inferences. Markus' position suggests that gender-schematics (masculine and feminine schematic subjects, irrespective of sex) should have different reactions respectively towards masculine and feminine social information. Androgynous people are viewed as possessing both masculine and feminine schemas. Only undifferentiated subjects (*e.g.*, those who describe themselves with few stereotypically masculine and feminine adjectives) are described as gender-aschematic (Katz, Silverns, & Coulter, 1990). Bem (1985) has argued that selfschematic masculine and feminine congruent subjects (masculine sextyped men and feminine sextyped women) differ from gender aschematics and from psychologically androgynous people in social perception, memory and judgment.

Research using the Bem Sex Role Inventory has found evidence to prove that sextyped individuals do stereotype more along gender-related lines. Nevertheless, some of the initially hypothesized information-processing advantages of gender-schematic subjects have been controversial, and narrative reviews have also been more in accordance with Markus' position (Páez, Torres, & Echebarria, 1990; Fiske & Taylor, 1991). Finally, Spence, Deaux and Helmreich (1985) have expressed some doubts on whether measures of gender schemas are similar to sex differences and predictive of performance in other types of gender-related social cognition tasks.

Eagly and Wood (1991) proposed that sex differences could be accounted for in terms of gender roles, defined as those shared expectations about appropriate behavior that apply to individuals solely on the basis of their socially-identified sex. Factor-analytic studies of gender stereotypes have shown that the content of most of these expectations can be summarized in a very general way in terms of two dimensions, the communal and the agentic. Women are expected to possess high levels of communal attributes, including being concerned with others and emotionally expressive. Men are expected to possess high levels of agentic qualities, including being assertive, self-confident and instrumentally competent, emotionally stable and not excitable (Wood, Rhodes, & Whelan, 1989; Eagly & Wood, 1991). Clark & Taraban (1991) suggest that the expression of emotions is more

appropriate in communal relationships (exemplified by friendships and family relations; members feeling a special obligation to be concerned about the other's well-being; paying attention to other people's needs) than in exchange relationships (exemplified by relationships between acquaintances or people who do business together; members award benefits with the idea of receiving comparable benefits in return, and are not especially concerned about the needs other people may have (Clark & Taraban, 1991). Subjects performing expressive (or, on the contrary, instrumental) roles and involved in communal social relationships (or, on the contrary, exchange social relationships) could be conceived of as "experts" in, and more reactive to, emotion-related issues (or to assertion-related issues).

Regardless of sex, subjects with high expressiveness, that is, with feminine gender identity, were associated with high levels of emotional activation in the case of love and with being more apt to give and receive affective social support, and also more able to cope more skillfully with close relationships (Coleman & Gagnan, 1985; McAdams, 1988; Hobfoll, 1990). Androgynous people, who are high in expressive and instrumental social skills, show the highest emotional activation in the case of love (Coleman & Gagnan, 1985). Ingram *et al.* (1988) found that feminine sex-typed women were significantly more likely to ruminate than men (self-focus) after a mood induction. Subjects with high femininity tended to discuss problems, seek help and social support, support their partner and remain committed to a relationship, when confronted with serious problems in their love relationships. Individuals with high masculinity tended either to neglect the problem (*i.e.* refusing to discuss, etc.) or avoid the problematic situation (actively putting an end to the relationship, etc., McAdams, 1988) when confronted with conflict in close relationships. The results of the research on the relationship between sex-role orientation and marital satisfaction, suggest that couples in which both partners are androgynous report higher marital satisfaction than either sex-typed couples or incongruent couples (sex-typed spouse with non sex-typed spouse) (Zammichieli, Gilroy, & Sherman, 1988).

The self-schematic "masculine" subject is an "expert" on agentic or exchange social relations. The self-schematic "feminine" subject is an expert on expressivity or communal social relations and emotions.

Empirically, with respect to data analysis, Gender Identity's main effects confirm Markus' approach (androgynous people differ from aschematic, and the most important differences are found between gender types, not between sexes). Effects of the Gender by Sex interaction confirm Bem's approach (only male masculine schematics and female feminine schematics are real sex-typed subjects, different from aschematic people (*i.e.* androgynous and undifferentiated people). Differences between the

main sex and gender effects confirm Spence et al's approach (sex and instrumental and expressive dimensions are neither simply nor directly related).

The hypotheses posited by this theoretical review are the following: first of all, that women show more knowledge of emotions, more social sharing, more rumination and more ability to cope emotionally than men. However, with regard to men, it should be pointed out that there are exceptions when talking about anger and the assertive aspects of emotions. Secondly, very expressive or highly feminine-schematized subjects, regardless of sex, also show more knowledge, more social sharing and a higher capacity to process emotions. Sex differences must not overlap those of gender. Bem's conception suggests that there are interactions between sex and gender identity. According to this author's perspective, the differences in knowledge and processing of affect will occur in the case of masculine men and feminine women. Thirdly, some evidence suggests that subjects labelled as androgynous who are simultaneously expressive and instrumental, should show more capacity to manage emotions as they possess both emotional and agentic expertise. Finally, Markus' conception of gender identity proposes that the schematization differences are independent of the biological sex. In terms of a statistical hypothesis, the interaction between gender identity and sex is non significant.

With regard to the operationalization of the gender identity construct the first form of conducting the data analysis would be to perform both uni and multivariate variance analyses on the four gender groups which have been constructed on the basis of the median scores on masculinity and femininity. The second way would be to perform a variance analysis operationalizing the gender construct on the basis of the independent factors (high/low masculinity and high/low femininity) (Archer, 1989; Lenney, 1991). In our study we chose this second strategy due to the fact that the significant interaction of the abovementioned dimensions would represent the multiplicative androgyny hypothesis (Marsh & Byrne, 1991). On the other hand, if we strengthen this analysis by introducing a factor referring to the biological sex, the second level interaction between this factor and the gender dimensions would represent the typical fit effect with its sex (Archer, 1989; Lenney, 1991). This result would support Bem's hypothesis. The fact of not finding this effect would support Markus' hypothesis.

Method

Sample

229 relatives of fifth year and postgraduate students from the Basque Country University. 51% were women and 49% men. The mean age was 33 years, ranging from 19 to 56 years of age.

Procedure

In order to study the relationship between emotional intensity, social knowledge of emotions, social sharing of emotions and their relation to gender identity and sex, we carried out a questionnaire based research project among university students' relatives.

The questionnaires were answered at the subject's home/room with the assistance of a postgraduate student, as part of these last students' psychology course work.

Instrument

The questionnaire consisted of six different parts:

a) Socio-demographic data (sex, age, job).

b) Subjects were asked to answer a Spanish version (Vergara, 1993) of the Bem Sex Role Inventory (Bem, 1974). On the basis of the scores obtained in the masculinity and femininity subscales we extracted their medians. The high/low masculinity was then operationalized as those scores which were above/below the median. The same procedure was used to extract the high/low femininity scores. The interaction between both dimensions created the four gender typologies.

The distribution of the sample on the basis of their sex and of the four typologies was as follows: the men were divided into 57 masculine, 6 feminine, 24 androgynous and 22 undifferentiated. Women were distributed in the following way: 33 masculine, 32 feminine, 26 androgynous and 29 undifferentiated.

c) A questionnaire on the importance, frequency during the past month ("not at all" = 1; "very often" = 7), frequency during the past week (number of episodes; open ended answers) and the intensity of the following emotions and feelings: anger, joy, sadness, loneliness and fear. Cronbach's Alpha coefficients were satisfactory for both the frequency and intensity of the emotion scales (.84 for anger, .87 for fear, .81 for joy, .85 for loneliness and .82 for sadness).

d) Using a questionnaire format the subject was asked to describe how s/he had personally experienced an emotional incident. Subjects were asked to describe one out of three emotions: joy, sadness or anger. The format was the same as the one used in Rimé *et al.*'s research. In the description of each incident, the

subject was asked to answer a series of questions about the quantitative (How many people did you talk to about this incident? how much time elapsed?, with what kind of people?) and qualitative social sharing of the emotional event ("what did you say to the first person you spoke to?"; "describe the event, emotional discharge, etc". "What was the other person's reaction?" "Listening, understanding, etc."). There were questions on the vividness of the emotional memory ("Do you feel sensations when remembering? Do you have feelings in relation to it? What was the intensity of the images?" (none = 0, very strong = 4)) and the valence of the remembered experience ("Do you feel better (= 1) or worse (= 7) than before answering the questionnaire?". "answering the questionnaire was a positive/negative (1-7) experience?"). These instructions were taken from Rimé *et al.*'s research (1991).

e) Finally subjects were asked to "rate a list of emotional features by their typicality (1 = Not at all; 4 = Very much) in the experience" of the specific emotion. Subjects completed the task for the four emotions (fear, anger, sadness and joy). Each emotion's prototype was developed from the attributes found by Shaver *et al.*, (1987) for these four emotions in at least 10% of their sample of 120 USA students, plus attributes found by Scherer *et al.* in their transcultural research on emotions, which had also been mentioned by at least 10% of their total sample but were not included in Shaver *et al.*'s prototype (for instance feeling hot or muscular symptoms in anger, and feeling warm and muscular relaxation in joy) (For more information on this scale, see Pérez and Vergara, 1991). In this article we will use the answers given to the fear, anger, sadness and joy prototypes. There were 35 sadness features, 40 anger features, 40 fear features and 35 joy features.

Results

As a data reduction strategy, we worked with the factor analysis of the social sharing questions and the typicality ratings of the emotional features.

Dimensions of social sharing

The principal component of the factor analysis refers to how the emotion was shared and what the other person's answer was. It had a nine factor solution. The first six factors explain 51.1% of the variance (Table I).

The first factor is a venting the emotion dimension (to express the emotion by crying) and receiving emotional support (They tried to comfort me). The second factor could be defined as

Table 1 :
Principal components
analysis of social shar-
ing of emotions
(What did you do the
first time that you
spoke about the event
and what was the
other person's reac-
tion)

	F1	F2	F3	F4	F5	F6	F7	F8	F9
You expressed your emotions by crying	.94								
S/he tried to comfort me	.94								
You gave a description of what happened		.84							
S/he listened carefully to my story		.84							
You asked the other person for advice			.72						
S/he helped me understand what happened			.71						
You seeked support in the other person			.47						
You talked about the feelings you experienced				.79					
S/he showed understanding				.56					
You expressed your emotions by shouting					.73				
You expressed your emotions by shaking					.64				
You expressed your emotions by laughing						.80			
S/he was overwhelmed by my emotions						.52			
You expressed your emotions by (other) II							.79		
You expressed your emotions by (other) I							.72		
S/he tried to make me reason								.74	
You expressed your emotions by blushing								-.55	
S/he told me about similar emotional experiences or events									.87
% common variance	12.8	10.0	8.2	7.1	6.8	6.2	6.1	5.8	5.7

Dimensions of affective memory

The principal component analysis (Table II) found a two factor solution to the affective memory items referring to emotional vividness and the influence of re-evocation. The first factor can be defined as emotional intensity and vividness; the second factor as re-evocation influence.

	F1	F2	Table 2 : Principal components analysis of effective memory (Emotional vividness and the influence of reevocation)
Intensity of the reevoked feeling	.80		
Vividness of the sensations revived psysical	.78		
Vividness of the revived images	.74		
How do you feel now in comparison to before you started the questionnaire answering		-.83	
How sad has the experience of answering the questionnaire been		.82	
% common variance	36.5	27.3	

Dimensions of the emotion prototypes

The principal component analysis showed a nine factor solution for the joy prototype. The first six factors explained 48.6% of the variance; there was an eight factor solution for the sadness prototype in which the first six factors explained 51.2% of the variance; another eight factor solution for the anger prototype which explained 55.9% of the variance; and finally a nine factor solution explaining 60.5% of the variance for the fear prototype (see annex).

Sex and Gender Identity effects

SEX, GENDER AND EMOTIONAL INTENSITY

The multivariate sex effect for emotional intensity was significant ($F(5,363) = 8.34, p < .000$). At a univariate level the results showed (Table III) that women scored higher in sadness ($F(1,367) = 9.74, p < .002$), anger ($F(1,367) = 3.36, p < .07$) and fear intensity ($F(1,367) = 18.2, p < .000$), than men.

Target Group	Type of Emotion					
	Sadness		Fear		Anger	
	- x	SD	- x	SD	- x	SD
Men	-.17	.95	-.23	1.03	-.10	1.01
Women	.16	.86	.20	1.08	.09	0.98

Table 3 :
Emotional intensity
by sex

The multivariate masculinity effect for emotional intensity was significant ($F(8,199) = 4.21; p < .000$). At a univariate level we found that low masculine subjects scored higher on the intensity of happiness (mean = .223) than high masculine subjects (mean = -.239) ($F(1,206) = 8.82; p < .01$). Other effects and interactions were non significant.

SEX, GENDER AND INTENSITY OF RE-EVOCATION, RUMINATION AND THE SOCIAL SHARING OF EMOTIONS

At a multivariate level we found a significant sex effect for intensity of re-evocation, rumination and social sharing of emotions ($F(13,313) = 1.89, p < .03$). The univariate sex effects show (Table IV) that women scored higher on rumination ($F(1,325) = 5.17, p < .02$) and on two types of sharing: a) crying and receiving affective support ($F(1,325) = 4.37, p < .04$); b) disclosing feelings/being understood ($F(1,325) = 9.41, p < .002$).

Table 4 :
Social sharing of
emotions by sex

Target Group	Type of Sharing					
	Rumination		Factor 1		Factor 4	
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD
Men	2.71	1.08	-.13	0.49	-.16	1.06
Women	2.98	1.01	.11	1.36	.18	0.94

The multivariate masculinity and femininity effects for re-evocation, rumination and social sharing of emotions were non significant. At a univariate level we found a significant femininity effect ($F(1,198) = 9.98; p < .01$) which showed that high feminine subjects (mean = .31) scored higher on vividness of re-evocation than low feminine subjects (mean = -.183).

SEX, GENDER AND THE PROTOTYPICAL SCRIPTS OF EMOTIONS

The multivariate sex effect was significant ($F(42,252) = 3.90, p < .000$). At a univariate level, the significant results showed that women gave higher typicality scores in the following factors (Table V):

Joy: Factor 2 of motor expression ($F(1,294) = 11.24, p < .001$); Factor 4 of communal antecedents, positive outlook and excitement ($F(1,294) = 5.08, p < .025$), Factor 6 of empathy with someone who is successful, and participating in a family and/or social gathering as the antecedentes of emotions ($F(1,294) = 10.42, p < .001$); and Factor 7 of physical reactions ($F(1,294) = 11.63, p < .001$).

Type of Emotion	Men		Women	
	Mean	SD	Mean	SD
Fear 2: Thinking and feeling mental reactions	-.18	.11	.27	.86
Fear 4: Antecedents and open interpersonal reactions	-.11	.17	.18	1.03
Fear 5: Physical reactions and feeling disoriented	-.16	1.00	.08	.95
Joy 2: Motor expression	-.19	.97	.18	1.04
Joy 4: Communal antecedents, positive outlook	-.08	.94	.18	1.04
Joy 6: Empathy with someone successful, participating in a family and/or social gathering	-.20	.97	.16	.98
Joy 7: Physical reactions	-.15	1.00	.23	.97
Sad 3: Communication of negative feelings, negative outlook	-.11	.89	.28	.94
Sad 5: Thinking and feeling mental reactions	-.14	.97	.23	.92
Sad 8: Empathy with someone sad, injustice	-.18	1.00	.23	.98
Anger 5: Sadness, impotence, crying, turning red	-.23	.89	.21	1.04
Anger 7: Predisposition towards anger, self-control	-.16	1.01	.23	.92

Table 5 :
Emotional prototypes
by sex

Fear: Factor 2 of thinking and feeling mental reactions ($F(1,294) = 15.34, p < .000$); Factor 4 of fear antecedents and open interpersonal reactions ($F(1,294) = 6.27, p < .013$); and Factor 5 of physical reactions and losing one's ability to focus, being disoriented ($F(1,294) = 4.66, p < .032$).

Sadness: Factor 3 of communication and expression of negative feelings, and having a negative outlook ($F(1,294) = 12.88, p < .000$); Factor 5 of thinking and feeling mental reactions (nostalgia, moping, criticizing oneself and feelings of impotence) ($F(1,294) = 11.15, p < .001$); and Factor 8 of empathy with someone sad, and injustice as an antecedent and as a mental reaction ($F(1,294) = 11.69, p < .001$).

Anger: Factor 5 of sadness and mental reactions of impotence, physical reactions of crying and turning red, and real or threatened pain as an antecedent ($F(1,294) = 15.36, p < .000$); and Factor 7 of predisposition to anger as an antecedent, physical symptoms and keep on going as a self-control reaction ($F(1,294) = 12.02, p < .001$).

Gender effects showed a multivariate significant effect in the prototypical scripts of emotions ($F(34,169) = 2.11; p < .001$). At an univariate level significant effects showed that high femininity (Table VI) was associated with higher scores on interpersonal open reactions of expressivity and active communality on joy (factor 1) ($F(1,202) = 4.12; p < .05$); motor expression on joy (factor 2) ($F(1,202) = 6.32; p < .05$); empathy with other people as emotion antecedent on joy (factor 6) ($F(1,202) = 6.86; p < .05$); physical reactions and being relaxed on joy (factor 9) ($F(1,202) = 6.01; p < .05$); self-control forms on sadness (factor 7) ($F(1,202) = 7.82; p < .05$); and looking for solutions and explanations to the anger conflictive situation (factor 3) ($F(1,202) = 10.01; p < .001$). High feminine subjects scored lower in the fear emotion on threat of harm or death's antecedent, physical reac-

Table 6 :
Emotional prototypes
by femininity

Type of Emotion	High Femininity Low Femininity			
	Mean	SD	Mean	SD
Fear 1: Threat of harm or death's antecedent, physical reactions and fearful talk	-.20	.92	.07	.94
Joy 1: Expressivity, communality, smiling	.22	.97	-.09	1.01
Joy 2: Motor expression	.30	.95	-.05	.94
Joy 6: Empathy with someone successful, participating in a family and/or social gathering	.16	.93	-.22	1.00
Joy 9: Physical reactions (muscles relaxed, glowing faces)	.23	.94	-.12	.98
Sad 7: Forms of self-control	.19	.93	-.22	.95
Anger 3: Looking for solutions and explanations (self-control)	.33	.97	-.14	.97

tions and fearful talk as an expressive open reaction (factor 1) ($F(1,202) = 3.82; p < .05$).

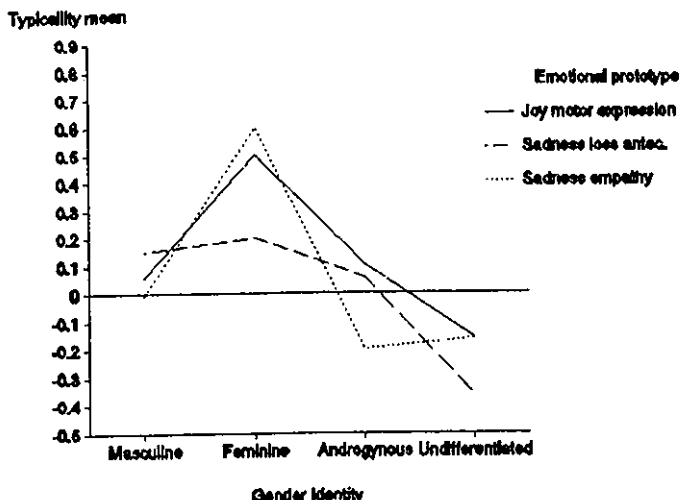
On the other hand, the multivariate masculinity effect for prototypical scripts of emotions was non significant. At a univariate level, results showed (Table VII) that high masculinity was associated with lower scores on despair, impotence and anxiety on fear (factor 2) ($F(1,202) = 5.35; p < .05$); emotional antecedents of fear of being alone, imagining threats (factor 8) ($F(1,202) = 4.15; p < .05$); physical reactions on joy (factor 7) ($F(1,202) = 4.35; p < .05$); thinking and feeling nostalgia, moping, criticizing oneself and impotence on sadness (factor 5) ($F(1,202) = 4.98; p < .05$); antecedents referring to empathy with someone who is sad and injustice on sadness (factor 8) ($F(1,202) = 4.7; p < .05$); and feeling sadness and impotence on anger (factor 5) ($F(1,202) = 10.8; p < .001$). High masculine subjects scored higher on the high self-esteem dimension on joy (factor 5) ($F(1,202) = 4.6; p < .05$).

Table 7 :
Emotional prototypes
by masculinity

Type of Emotion	High Masculinity Low Masculinity			
	Mean	SD	Mean	SD
Fear 2: Thinking and feeling mental reactions	-.03	.92	.29	.90
Fear 8: Emotional antecedents (being alone, imagining threats)	-.08	1.02	.02	.90
Joy 5: High self-esteem	.04	.86	-.27	1.04
Joy 7: Physical reactions	-.04	.96	.25	.87
Sad 5: Thinking and feeling mental reactions	-.07	.93	.26	1.01
Sad 8: Empathy with someone sad, injustice	-.11	1.06	.22	.81
Anger 5: Sadness, impotence, crying, turning red	-.09	.85	.35	.96

The masculinity by femininity multivariate interaction effect was non significant. At a univariate level we found interactions between both gender dimensions (Fig. 1). These results showed higher scores for feminine subjects on motor expression on joy (factor 2) ($F(1,202) = 4.71; p < .05$); loss antecedents on sadness

Figure 1:
Emotional prototypes
by gender



(factor 2) ($F(1,202) = 5.31; p < .05$); and empathy with someone who is sad and injustice as causes on sadness (factor 8) ($F(1,202) = 9.82; p < .005$). Masculine people scored higher than androgynous people on sadness factors. However, androgynous subjects scored higher than masculine people on the joy factor. Finally, the sex by gender interaction was non significant.

Discussion

In relation to sex differences, our results showed that women score higher on emotional intensity (at least for anger, sadness and fear) and that the average pattern was convergent with women's higher intensity. Women also showed higher levels of ruminating on, sharing and expressing emotions, and receiving affective social support. Women scored higher on expressive emotional attributes, psychological influence (for fear and sadness) and social causes of sadness (losses as antecedents). Men are less expressive (in joy and fear), less sensitive to the social antecedents of sadness, less influenced at the psychological level (for fear and sadness) and, at the same time, showed lower typicality ratings on a "feminine anger script". These results were congruent with the research conducted on stress, social support and coping (Carver *et al.*, 1989; Endler & Parker, 1990; Hobfoll & Stokes, 1988; Hendrick, 1988).

Masculine, or agentic, and feminine, or communal, expertises are not simply the reproduction of sex differences, especially in relation to differences concerning femininity (only 2 overlap with sex differences). However with regard to masculinity, most of

the differences associated with this dimension were also related to sex, although exactly in the opposite way (women and low masculinity).

In general, high masculinity was associated with lower intensity and physical reactions related to happiness. Lower impotence, anxiety, despair, emotional antecedents of solitude, empathy, nostalgia. Whereas it was associated with higher self-esteem related to joy. This is coherent with reviews which show a positive relationship between instrumentality and well-being (Lorenzi-Cioldi, 1994).

Moreover, high femininity was associated with higher vividness of the re-evocation, expressivity, interpersonal behavior, motor expression, empathy, physical reactions related to joy, and self-control and regulation of negative emotions.

In general these results show that high expressivity (or femininity) is related to high scores on the typicality of motor-expressivity, communicative reaction on joy and high self-control on anger and sadness. High instrumental subjects (masculine) showed lower typicality on vulnerability and subjective aspects on fear, anger and sadness. However, they think that the positive effects of joy are more typical.

The lack of a main interaction effect between expressivity and instrumentality suggests that androgyny is just the linear sum of both. This refutes Bem's approaches, and so we may think that the average pattern profiles were closer to Markus and Spence *et al.*'s approaches to gender identity. These results are congruent with others in which, generally speaking, no interactive effect of instrumentality and expressivity or androgyny in relation to mental health, self-esteem and cognitive functioning, is found. Meta-analytic reviews have found that it is the instrumentality dimension which is associated with well-being, mental health and self-esteem (Archer, 1991; Lenney, 1991; Whitley, 1983; Marsh & Byrne, 1991; Lorenzi-Cioldi, 1994). Although our results suggest that androgynous subjects may express more flexibility, sensitiveness and emotional self-control, these results are due to the simple addition of expressivity and self-control on the one hand, and assertiveness and instrumentality on the other. Nevertheless, our results show that high femininity, and not only high masculinity, is potentially associated with more social success. This "superior" knowledge of the emotions is not limited only to the intense subjective experience and more expressiveness. It is also related to potentially more adaptive aspects such as empathy, self-control and positive emotional coping.

As we can see, subjects who have high scores in masculinity or instrumentality give higher score of typicality to the positive emotions' reinforcing attributes. This higher "response to reinforcement" would partly explain the relationship between instrumentality and well-being. Instrumentality has a positive relation with a stronger adaptation to a competitive social milieu. But, probably, at the same time with lower flexibility with res-

pect to changes and losses in status, roles and social tasks. On the other hand, high expressiveness is associated with a higher accord with expression, communication and the emotional vividness aspects of emotions - including negative emotions. This may be seen as a sign of a higher emotional expertise. Moreover, expressiveness is associated with higher typicality scores in relation to the modulation and regulation of negative emotions. It is this higher level of cognitive, affective and expressive coping which would produce an adaptive advantage only for these subjects. The price they would pay would be having higher emotional vulnerability. This would mean that they may be more sensible to the internal signs, especially those that are negative. This sensitivity also has a potentially adaptive role. The subjects react more to environmental stimuli and may change their behavior and activate their coping mechanisms more than instrumental subjects will do. We find that these results are quite interesting. This is so because feminine expertise does not overlap with the women's profile, this could mean that the adaptive advantage of expressivity is relatively independent of biological sex.

Nevertheless our research has two caveats. First, our data is correlational and introspective - we are not sure that differences in the social knowledge of emotions are related to differences in emotional experience and real coping. Previous statements about the adaptive role of higher expressivity have been corroborated in this sample (data not shown in this paper). Results show that high expressiveness subjects in high stress situations present less symptomatology than those subjects who have lower expressiveness (Vergara, 1993). Secondly, expressivity and instrumentality were measured using the Bem Sex Role Inventory. This instrument has good reliability and content validity, reasonable criterion validity, but at the same time it has been criticized because of its artifactual dimensionality and lack of construct validity (Lorenzi-Cioldi, 1994) and there has also been doubts on whether it can really measure the relationships between self-concept and stereotypical dimensions of masculinity and femininity.

References

- Archer, J. (1991). A methodological commentary on gender schema research. *British Journal of Social Psychology*, 30, 185-188.
- Basabe, N., Baldoseda, M. and Páez D. (1992). Soporte subjetivo, afrontamiento emocional y memoria afectiva. In: D. Páez (Ed.). *Salud, expresión y represión social de las emociones*. Valencia: Promolibro.
- Bem, S.L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology*, 42, 155-162.
- Bem, S.L. (1985). Androgyny and gender schema theory: A conceptual and empirical integration. In: T.B. Sonderegger (Ed.). *Nebraska Symposium*

- on motivation: *Psychology and gender*, vol. 32. Lincoln, NE: University of Nebraska Press.
- Block, J.H. (1976). Beatable conclusions about sex differences. *Contemporary Psychology*, 21, 517-522.
- Cane, D.B. and Gottlib, I.H. (1985). Implicit conceptualizations of depression: Implications for an interpersonal perspective. *Social Cognition*, 3, 341-368.
- Carver, C.S.; Scheier, M.F. and Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56, 267-283.
- Clark, M.S. and Taraban, C. (1991). Reactions to and willingness to express emotion in communal and exchange relationships. *Journal of Experimental Social Psychology*, 27, 324-336.
- Clark, D.M. and Teasdale, J.D. (1985). Constraint on the effects of mood on memory. *Journal of Personality and Social Psychology*, 48, 1595-1608.
- Coleman, M. and Gagnan, L. (1985). Love and sex roles stereotypes: Do macho men and feminine women make better lovers? *Journal of Personality and Social Psychology*, 49(1), 170-176.
- Eagly, A. and Wood, W. (1991). Explaining sex differences in social behavior: A meta-analytic perspective. *Personality and Social Psychology Bulletin*, 17, 306-315.
- Endler, N.S. and Parker, J.D. (1990). Multidimensional assessment of coping: A critical evaluation. *Journal of Personality and Social Psychology*, 58, 844-854.
- Fiske, S. and Taylor, S. (1991). *Social Cognition*. New York: McGraw-Hill.
- Frable, R.A. and Martin, C.L. (1991). Gender and age stereotypes of emotionality. *Personality and Social Psychology Bulletin*, 17(5), 532-540.
- Fujita, F., Diener, E. and Sandvik, E. (1991). Gender differences in negative affect and well-being: The case for emotional intensity. *Journal of Personality and Social Psychology*, 61, 427-434.
- Hendrick, C. (1988). Roles and gender in relationships. In: S. Duck (Ed.). *Handbook of Personal Relationships*. Chichester: Wiley & Sons.
- Hobfoll, S.E. and Stokes, J.P. (1988). The processes and mechanics of social support. In: S. Duck (Ed.). *Handbook of Personal Relationships*. Chichester: Wiley & Sons.
- Hobfoll, S.E. (1990). Social support during extreme stress: Consequences and intervention. In: B.R. Sarason, I.G. Sarason and G.R. Pierce. *Social support: An interactions view*. New York: Wiley and Sons.
- Horowitz, M. (1987). *Stress response syndrome*. Northvale, NJ: Aronson.
- Ingram, R.E., Cruet, D., Johnson, B.R. and Wisnicki, K.S. (1988). Self-focused attention, gender, gender role, and vulnerability to negative affect. *Journal of Personality and Social Psychology*, 55, 967-978.
- Katz, P.A., Silvern, L. and Coulter, D.K. (1990). Gender processing and person perception. *Social Cognition*, 8, 186-202.
- Lenney, L. (1991). Sex roles: the measurement of masculinity, femininity, and androgyny. In: J.P. Robinson, P.R. Shaver and L.S. Wrightsman. *Measures of Personality and Social Psychological Attitudes*. San Diego: Academic Press.
- Lipps, H. (1988). *Sex and gender: An introduction*. California: Mandfield Publishing Company.
- Lorenzi-Cioldi, F. (1994). *Les Androgynes*. Paris: Presses Universitaires de France.
- Maccoby, E.E. and Jacklin, C.N. (1974). *The Psychology of Sex Differences*. Stanford, CA: Stanford University Press.
- Markus, H., Moreland, R.L. and Smith, J. (1985). Role of the self-concept in the perception of others. *Journal of Personality and Social Psychology*, 49, 1494-1512.

- Marsh, H.W. and Byrne, B.M. (1991). Differentiated additive androgyny model: Relations between masculinity, femininity and multiple dimensions of self-concept. *Journal of Personality and Social Psychology*, 61(5), 811-828.
- McAdams, P. (1988). Personal needs and personal relationships. In: S. Duck (Ed.). *Handbook of Personal Relationships*. Chichester: Wiley & Sons.
- Mesquita, B. (1989). *The social sharing of emotions*. Amsterdam: University of Amsterdam.
- Morrow, J. and Nolen-Hoeksema, S. (1990). Effects of responses to depression on the remediation of depressive affect. *Journal of Personality and Social Psychology*, 58, 519-527.
- Nolen-Hoeksema, S. (1987). Sex differences in unipolar depression: Evidence and theory. *Psychological Bulletin*, 101, 259-282.
- Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology*, 100, 569-582.
- Páez, D., Torres, B. and Echebarria, A. (1990). Esquema de sí, representación social y estereotipo sexual. In: G. Muisitu (Comp.). *Procesos Psicosociales Básicos*. Barcelona: PPU.
- Páez, D. and Vergara, A. (1991). Factores psicosociales en la construcción del conocimiento prototípico de las emociones. *Revista de Psicología Social*, 6, 23-45.
- Rimé, B., Mesquita, B., Philippot, P. and Boca, S. (1991). Beyond the emotional event: Six studies on the social sharing of emotion. *Cognition and Emotion*, 5, 435-466.
- Rimé, B., Noel, M.P. and Philippot, P. (1991). Rumination, social sharing and the reexperience of past emotion. *Cahiers Internationaux de Psychologie Sociale*, 11, 93-104.
- Rothkopf, J.S. and Blaney, P.H. (1991). Mood congruent memory: The role of affective focus and gender. *Cognition and Emotion*, 5, 53-64.
- Rholes, W.S., Riskind, J.H. and Lane, J.W. (1987). Emotional states and memory: Effects of cognitive priming and mood. *Journal of Personality and Social Psychology*, 52, 91-99.
- Scherer, K., Walbott, H. and Summerfield, A. (Eds.) (1986). *Experiencing Emotion*. Cambridge: Cambridge University Press.
- Shaver, P., Schwartz, J., Kirson, D. and O'Connor, C. (1987). Emotion Knowledge: Further explorations of a prototype approach. *Journal of Personality and Social Psychology*, 52, 1061-1086.
- Shields, S.A. (1991). Gender in the psychology of emotion: A selective research review. In: K.T. Strongman (Ed.). *International review of studies on emotion, vol. 1*. Chichester, England: Wiley and Sons.
- Spence, J.T., Deaux, K. and Helmreich, R.L. (1985). Sex roles in contemporary american society. In G. Lindzey and E. Aronson (Eds.). *Handbook of Social Psychology, vol. II*. New York: Random House.
- Steinglass, P. and Gerrity, E. (1990). Natural disasters and post-traumatic stress disorder: Short-term versus long-term recovery in two disaster-affected communities. *Journal of Applied Social Psychology*, 20, 1746-1765.
- Vergara, A. and Páez, D. (1993). Identidad de género, emoción y salud. In D. Páez (Ed.). *Salud, Expresión y Represión Social de las Emociones*. Valencia: Promolibro.
- Vergara, A. (1993). Sexo e identidad de género: *Diferencias en el conocimiento social de las emociones y en el modo de compartirlas*. Leioa: Publicaciones de la U.P.V.
- Whitley, B.E. (1983). Sex-role orientation and self-esteem: A critical meta-analytic review. *Journal of Personality and Social Psychology*, 44(4), 765-778.

- Wood, W., Rhodes, N. and Whelan, M. (1989). Sex differences in positive well-being: A consideration of emotional style and marital status. *Psychological Bulletin*, 106(2), 249-264.
- Zammichieli, M.E., Gilroy, F.D. and Sherman, M.F. (1988). Relation between sex-role orientation and marital satisfaction. *Personality and Social Psychology Bulletin*, 14(4), 747-754.

Annexe

In the joy prototype the principal component analysis showed a nine factor solution. The first six factors explained 48.6% of the variance. The first factor is defined by the interpersonal open reactions of expressivity and active communality, associated with the expressive reaction of smiling. The second factor is a motor expression of the joy dimension, formed by physical reactions of bubbly and jumping, and by the expressive reactions of laughing and having an enthusiastic voice. The third factor is defined by emotion antecedents related to achievement (task success, desirable outcome, getting something, surprise and receiving esteem). The fourth factor is defined by antecedents related to communality (being loved and accepted, experiencing pleasurable stimuli and receiving presents) and by a general positive outlook, and a physical reaction of feeling excited. The fifth factor refers to a high self-esteem dimension, formed by the fact that reality exceeds expectations as an antecedent, being physically energetic, active as a physical reaction, and having a high threshold for worry and an increase in self-esteem, as thinking and feeling reactions. The sixth factor is formed by items referred to joy emotion antecedents, just as empathy with someone successful and participation in a family and/or social gathering. The seventh factor is formed by physical reactions (excitement, being nervous, high psychomotor activity and feeling hot). The eighth factor is formed by thinking and feeling reactions such as thinking that one has been lucky and forgetting the problems. The last factor, is formed by the physical reactions of feeling that one's muscles are relaxed and that one's face glows.

In the sadness prototype the principal component analysis found an eight factor solution. The first six factors explain 51.2% of the variance. The first one being a group of physical reactions (shuffly movements, to be inactive, drooping posture, and to be tired, low in energy), by talking little or nothing and in a monotonous voice (expressive open reactions), and by withdrawing from social contact as an interpersonal open reaction. The second factor is defined by the antecedents of loss (significant person's illnesses, deaths and loss of relationship). The third factor is defined by moments of loneliness as an antecedent, saying sad things and crying as expressive open reactions, talking

about sadness as an interpersonal open reaction, and by a negative outlook and giving up, as the thought and feeling reactions. The fourth factor is defined by antecedents such as not getting what was wanted, undesirable outcomes, falling short of expectations, rejection and discovering that one is powerless. The fifth factor is defined by thought and feeling reactions such as nostalgia, mooping, criticizing oneself and a feeling of impotence. The sixth factor is defined by being irritable, nervous (thought and feeling reactions) and not smiling, frowning as expressive open reactions. The seventh factor is defined by the forms of self-control (suppressing negative feelings, taking action and self-comforting). The eighth and final factor solution is defined by antecedents referring to feeling empathy with someone who is sad and injustice as a cause, and by the mental reaction of thinking that there is injustice.

The principal components factor analysis referring to the anger prototype showed an eight factor solution which explained 55.9% of the variance. The first factor solution is defined by the judgment of illegitimacy, as an antecedent, by a factor referred to verbally attacking the cause of anger item (open interpersonal reaction) and by open interpersonal responses such as complaining and yelling; and by thought and feeling reactions referred to a narrowing of attention: thinking I am right and imagining that one attacks the cause of anger. The second factor is defined by self-control mechanisms (try not to show anger, self-comfort, go for a walk in order to calm oneself down, redefine the situation and ignore or leave the situation), and by a factor formed by items referring to expressive open reactions such as hands or fists clenched, heavy walk, obscenities, grinding teeth and frowning, and by an interpersonal open response of withdrawing from contact. The third factor is formed by looking for solutions and explanations to the conflictive situation (self-control mechanisms). The fourth factor is defined by the interruption of activity and the violation of expectation, as emotion antecedents. The fifth factor is defined by thought and feeling reactions such as sadness and feeling impotent, a factor formed by crying and flushed face physical reactions; and by real or threatened pain, as an emotional antecedent. The sixth factor is defined by a factor formed by interpersonal open responses such as physically attacking the cause of anger or something other than the cause, being out of control and nonverbally communicating disapproval, and aggressive, threatening gestures as an expressive open response; and reversal or loss of power status as an emotion antecedent. The seventh factor is defined by the predisposition to anger as an antecedent, a physical symptoms factor (fast heart beat, feeling hot, muscular symptoms and tightness or rigidity in body); and keep going on as self-control mechanisms. The eighth and final factor is defined by only one item referred to feeling nervous, anxiety, discomfort (thought and feeling reaction). Finally in the principal components factor analysis of the fear

prototype we found a nine factor solution. These factors explain 60.5% of the variance. The first factor was defined by the threat of harm or death's antecedent, physical reactions (fast heart beat, jumping, muscular tension, lump in the throat and perspiring) and also by fearful talk as expressive open reactions. The second factor solution is defined by thinking and feeling reactions (feeling of despair, impotence, anxiety, worryness, perplexity, non acceptance thoughts in situations considered to be unwanted and picturing disastrous results). The third factor is defined by physical reactions (being cold, paleness, trembling) and by expressive open reactions (trembling voice, crying and looking quickly around). The fourth factor is defined by items such as facing frightening animals and being alone in the dark as emotional antecedentes, and by crying for help and fleeing as interpersonal open reactions. The fifth factor is defined by stomach troubles, breathing and sleep disturbances, as physical reactions and by the mental reaction of losing one's ability to focus. The sixth factor solution is defined by self-control forms (comforting one's self, hiding the fear, looking for solutions) and by the mental reaction of being alert. The seventh factor is defined by emotional antecedents such as the possibility of loss or failure, loss of control and threat of social rejection. The eighth factor is also defined by emotional antecedents (being alone, being alone in unfamiliar situations and imagining threats). Finally, the ninth factor is defined by hiding (an interpersonal open reaction) screaming, and yelling (expressive open reaction).