

THE COMMUNICATION OF EMOTION

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ABSTRACT

The ability to well communicate emotions is important for both the encoder, who would like to be understood, and the decoder, who strives to understand. The present paper focuses on the communication of emotions via facial expressions. In this context, the notion that emotional expressions also communicate information about the encoder's view of the world, their perception of emotion antecedent events, as well as their behavioral intentions and even aspects of their personality such as affiliation and dominance will be discussed. Specifically, I will focus on the role of social emotion norms, which guide both the overt expression of emotions and the attribution of emotions to others based on nonverbal behaviors. These norms vary with such social aspects of the interaction partners as their gender, power, and culture and influence not only the encoding but also the decoding of emotional expressions. Evidence from our laboratory regarding the communication of emotions between members of different social groups will be discussed to illustrate this point.

1. Introduction

Knowing what other people feel is an important element of everyday social interactions. We all like to know whether someone is happy about a gift or angry about a careless remark. The ability to well communicate emotions is relevant for both the encoder, who would like to be understood, and the decoder, who strives to understand. But how do we know what others feel? What cues can we use? Research in the communication of emotion has frequently focussed on nonverbal aspects of emotion communication such as facial and vocal expressions or posture and gestures. Further, research on the use of cues in decoding tasks suggests that observers in general focus most on facial expressions.

A first question to be addressed in the context is the question of what it is that these nonverbal indices communicate. Two general points of view can be found in the literature. According to the first, which goes back to antiquity and more recently to Darwin (1872), emotion displays are innate symptoms of an underlying feeling state. Studies showing that specific facial displays can be linked to self-reports of specific affective states (e.g., Cacioppo, Petty, Losch, & Kim, 1986, Pope & Smith, 1994; Rosenberg & Ekman, 1994) lend support to this notion. Further, findings that chimpanzees react differentially to different human expressions (Itakura, 1994)

and that human children's ability to interpret monkey vocalizations of aggression, fear, dominance, positive emotions, and submission develops simultaneously with their ability to interpret human emotional behavior (Linnankoski, Laaski, & Leinonen, 1994) suggest similarities between the expressions of human and non-human primates and thus evolutionary continuity. Finally, research by Ekman et al. (1987) supports the notion that expressions can be universally recognized and thus are presumably universally shown.

According to the second point of view (see Fridlund, 1991) emotion displays serve purely communicative functions and do not actually provide valid information regarding underlying emotional states. A number of findings can be summoned in support of this position too. In a now classic study, Kraut and Johnston (1979) found that bowlers were more likely to smile when looking at others than when facing the pins after having scored. Also, fans at a hockey game were more likely to smile when interacting with others than while watching the game. More recently, Fernandez-Dols & Ruiz-Belda (1995) showed that people who just won a medal tend to show facial expressions other than those commonly associated with happiness even though they tend to report having been happy. In addition, Fridlund (1991) demonstrated that individuals are more expressive of positive emotions in the (real or implicit) presence of a friend than when alone. All these findings seem to suggest that smiling is not necessarily a sign of a pleasurable experience but rather a social signal.

Yet, apart from the fact that these studies by and large did not attempt to distinguish between different forms of smiles, this dichotomy is an oversimplification. It has long been recognized in the field of emotion research that emotional expressions can be both symptom and signal and that in some instances they will be only a signal ("fake" expressions) while in others they will be mainly symptom (crying when reading a sad story alone). In fact, facial emotion displays are inherently polyvalent, and may also be used as emblems (Ekman, 1979), as interjections (Motley, 1993), and as signals to indicate that we understand a speaker's state (Bavelas, Black, Lemery, & Mullett, 1986). From the perspective of appraisal theories of emotion, which posit that emotions are based on an appraisal of the stimulus according to a number of appraisal dimensions such as pleasantness, goal conduciveness, coping potential, etc., emotions are per se not only based on information processing but also provide information regarding the situation. From this perspective, Frijda and Tcherkassof (1997) describe emotional facial expressions as modes of action readiness. States of action readiness refer to the individual's intentions with regard to their environment (e.g., I wanted to approach). Hence, when we see an anger display we can conclude that the expressor evaluates the eliciting event as a slight or insult and that s/he feels that the situation can be redressed.

Thus, the role of facial expressions as interactional signals does not negate their role as symptoms of emotional states and emotion displays can be considered to

serve several related purposes of which the communication of emotional states is only one. This notion can be conceptualized using a model by Bühler (1934). He distinguished three functions of a message: the symbolic, the symptomatic, and the appeal function. The first refers to the sign content of the message and conveys information directed at the interaction partner. The second, the symptomatic function, corresponds to a readout of the individual's state. The third function regards the possible action of the interaction partner. This model (see Figure 1) applies equally well to emotion displays.

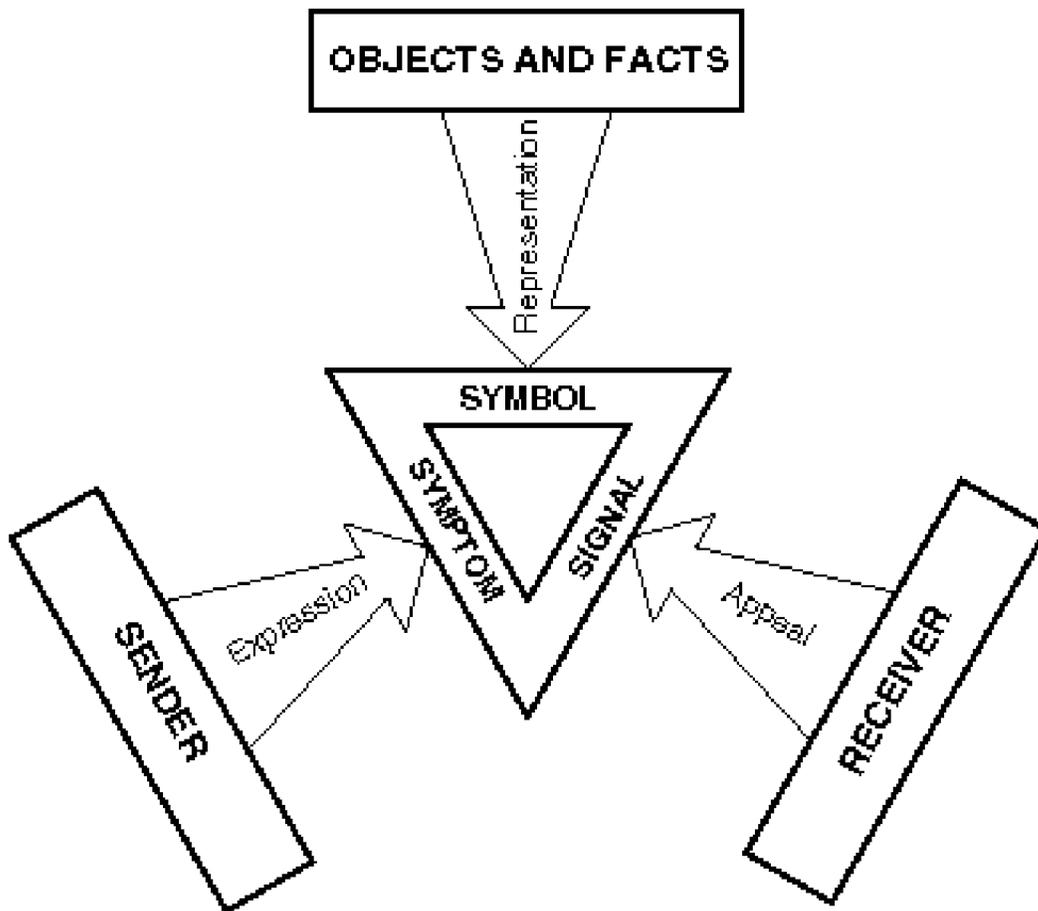


Figure 1. Bühler's Organon model

For example, an expression of sadness signals that the sender experienced an irreversible loss (Lazarus, 1991). It also suggests a specific internal state of the sender, characterized by a specific subjective feeling state, as well as by a number of physiological and behavioral concomitants; and finally, it may serve an appeal function by motivating the observer to help or to comfort.

This point is illustrated by a study that manipulated both the intensity of the emotional stimulus and the sociality of the situation in terms of the presence or absence of a friend or stranger. Hess, Kappas, & Banse (1995) could show that for friends the facial expressive behavior shown while watching comedy routines varied both with the intensity of the stimulus and the sociality of the situation. For the condition involving strangers the situation was more complex pointing to the importance of the relationship between encoder and audience (see also Jacobs, Fischer, & Manstead, 1997)

In fact, social aspects of the situation such as the gender, the ethnicity or the relative power of the interaction partners influence the exact mode of expression and the likely behavioral intentions. For example, women are known to be more likely to cry when angry. Also, Japanese consider the expression of anger towards relatives or colleagues as inappropriate and may therefore attempt to suppress its expression, whereas Americans accept and endorse the expression of anger towards close others. Finally, Averill (1997) points out that the appropriate expression of anger requires power to redress the wrong. In the following these points will be discussed in more detail.

2. Encoding of emotions

Regarding the encoding of emotions it is important to note that emotional facial expressions are shown in a variety of situations and under a variety of conditions many of which do not in fact involve an emotional state. For example, emotional facial expressions are shown as a sign of empathy in the form of mimicry (e.g., Bavelas, Black, Lemery, & Mullet, 1986). Further, emotional facial expressions are shown as conversational emblems and in form of over-learned responses such as the greeting smile. Other examples are emotional facial expressions shown to conform to social demands, which may be incongruent with the current feeling state of the expressor (expression of pleasure at a disappointing gift). Finally, emotional expressions may be shown to mislead others explicitly.

The social context of an interaction can have a number of influences not only on the emotion displays shown but also both on the elicitation of emotions and on the appraisal process itself (see Hess, this volume). In this context, I want to only briefly mention the first influence, that is, display rules. Display rules for the expression of emotions have been studied in a variety of contexts, for example, Aune, Aune, & Buller (1996) studied the development of display rules in romantic relationships and found a curvilinear pattern for the appropriateness of displaying negative emotions across the stages of the relationship. Zeman & Garber (1996) studied display rules for children in grades 1,3, and 5 as a function of the interaction partner. They found changes as a function of age, with younger children reporting more sadness and anger, as well as sex, with girls reporting to be more expressive of sadness and pain, but most interestingly they could show that children report different rules for interactions with peers than for interactions with

their parents. Specifically, the children reported to control all emotions more when in the presence of peers and cited fear of negative interpersonal consequences as their reason.

Yet, the largest body of literature on display rules is concerned with sex differences as well as differences among cultures. In general, findings converge on the notion that women are more expressive of emotions in general (e.g., Fischer, 1993) with the exception of outward aggression in anger, and that members of collectivist cultures differ from members of individualistic cultures in the endorsement of the display of certain emotions in certain contexts (Matsumoto, 1996).

Two related concepts in this context are feeling rules (Hochschild, 1979) and naïve emotion theories. Whereas display rules refer only to the appropriateness of the display, feeling rules also refer to the appropriateness of the emotion. That is, these rules can be paraphrased in terms of "I should be happier about ..." or "I really should not get angry at ... for doing this." Naïve emotion theories are really theories of mind, that is, theories that account for the types of situations that elicit specific emotions. These theories may then influence the recognition of emotions not only in others but also in oneself (see e.g., Suh, Diener, Oishi, & Triandis, 1998).

3. Decoding of emotional expressions

Research on the decoding of emotional expressions has a long history (see Ekman, 1973). In general, for at least some emotions such as happiness, anger, sadness, fear, disgust, contempt, and surprise, high levels of recognition accuracy are observed (e.g., Fridlund, Ekman, & Oster, 1987). Most of this research has been conducted in a context where social influence variables were controlled and where the basic stimulus material was of considerable clarity. Yet, social context is most likely to influence the decoding of expressions that are somewhat ambiguous. Lets consider the sources of information that decoders have at their disposal. First, there is the actual display, for example, in the case of happiness the upturned corners of the mouth and the wrinkles around the eyes. A first means to decode the expression is therefore pattern matching, that is, the observer notes the upturned corners of the mouth and the wrinkles, labels them as a smile and then makes the link between smiles and happiness. However, not all happiness displays are as simple, for example, some people actually show down-turned corners of the mouth at midranges of activity of the *Zygomaticus major* - the muscle that turns the corners of the mouth up. Another sources of information, may be prior knowledge of the encoder. Together with knowledge regarding the situation this allows the decoder to take the perspective of the encoder and to assess whether the situation was in fact one that is likely to elicit happiness in the encoder. In fact, friends and marital partners often - but not always - are better at decoding each other's expressions. The exceptions tend to occur in the early stages of the relationship -

before enough knowledge is available as well as in later stages of the relationship. Colvin, Vogt, and Ickes (1997) in summarizing the literature on this issue note that after a while friends and partners may in fact just assume to know what the other feels without actually looking at the person. Further, research by Noller and her colleagues shows that partners in distressed marriages may in fact get very bad at decoding their facial expressions (e.g., Noller and Ruzzene, 1991). Two explanations are advanced. First, it is possible that the arousal that accompanies certain exchanges in these marriages makes decoding more difficult; second it is possible that judgments are based on theory-driven uncharitable notions about the partner's likely motives rather than on the actual expressive behavior.

However, even when the interaction partners do not know each other, context knowledge, more specifically, cultural and gender specific emotion norms can be employed to predict likely reactions. Thus, emotion norms may lead members of a culture to ascribe less intensity to displays of culturally disapproved emotion displays and to lead members of the same culture to ascribe different levels of intensity to similar emotion displays shown by men and women. For example, Matsumoto and Assar (1992) found that bilingual speakers of Hindi and English decode emotional facial expressions differently when the judgments are made in Hindi as opposed to English, suggesting that linguistic emotion categories focus the individual's attention on aspects of meaning of the environment and thus sensitize the individual for them in line with cultural prescriptions linked to the use of the emotion (see also, Frijda, Markam, Sato, & Wiers, 1995). Also, Hess, Blairy, & Kleck (1997) using photographs of facial expressions by men and women found that different levels of intensity were ascribed to similar emotion displays shown by men and women.

The use of emotion norms in the decoding of emotion displays may often be useful when both interaction partners share the same norms. Yet, norm based decoding biases may lead to failures to recognize certain displays correctly, especially those of medium to low intensity, with negative consequences for the efficacy of emotion communication between members of different social groups. This may be of even more concern in the multicultural context of today's world.

This process is illustrated by data from a series of studies by Hess, Sénécal, Herrera, Kirouac, Philippot, and Kleck (1998). In the first study, we asked 544 participants from both a rural and an urban area in Quebec to rate the likely emotional reactions by male and female protagonists for a series of vignettes using an emotion profile. In general, men and women agreed on the patterns of expected emotional reactions of the protagonist. Specifically, for all negative emotion situations, male protagonists were expected to react with more anger, happiness, and serenity (or not differently from women), whereas female protagonists in the same situation were expected to react with more sadness, fear, disgust, contempt, shame, and guilt, for almost all emotion situations. For the happiness situation no

differences emerged. Thus, men and women share the beliefs regarding men's and women's likely reactions in a variety of emotion eliciting situations.

In a second study, we asked participants from the same population, that is, college students in Quebec, to rate the likelihood with which they themselves would react with each of the emotions in the emotion profile when confronted with the situations in the vignettes and the results were largely congruent. We also asked them about specific behaviors they would show in these situations, and again the results were largely congruent. Specifically, women reported more often that they would cry or isolate themselves in negative emotional situations whereas men were more likely to report to want to hit, criticize, or insult as well as to laugh and smile in the same situations.

In sum, we note that men and women are expected to react differently in general and report different emotional reactions and behaviors for themselves. In particular, women are expected to be more expressive of sadness, and men more expressive of anger.

Having established these "norms" for the participants' population, we showed to a different group a series of drawings of emotional facial expressions by men and women (Senécal, Hess, & Kleck, 1996). The expressions were identical, only the face outlines differed. As expected, the expression was rated as indicating more anger for women than for men. Conversely, men's expressions of lower intensity happiness were rated as happier than women's expressions. This finding suggests that participants used the social norms of women being less expressive of anger to adjust their estimate of a women's likely emotional state when showing an intense expression of anger upwards. In different words, they rated the expression as if taking into account the expected lower level of display intensity and concluded that a women showing this much anger must be angrier than a men showing the same level of anger. Similarly, women are expected to smile more frequently, even in situations where there is no emotion eliciting stimulus, thus a low intensity smile shown by a women is less informative of her emotional state than a low intensity smile in a men. No differences were found for disgust expressions and women were expected to be sadder when showing lower intensity expressions of sadness. As these expressions were quite close to a neutral expression, this may suggest that women who do not smile, are expected to be sad, given that sadness was expected for all negative emotion situations in the first two studies. In sum, these studies provide evidence that emotion norms can influence the decoding of emotional facial expressions -- at least in situations where no previous knowledge of the expressor is available. Yet, such situations occur frequently in our everyday lives when we interact with clerks in stores, receptionists and many others whom we have not met before and may not meet again.

The influence of beliefs regarding the likely expressions of men and women as well as of members of different ethnic groups is also visible when it comes to the attribution of behavioral intentions based on emotional facial expressions. Hess,

Blairy, & Kleck (1998) studied this issue. They found influences of gender and ethnicity on the attribution of affiliation and dominance. These factors modulated the more important influence of emotional expressions. In general, expressions of happiness and anger were rated as high dominant and expressions of sadness and fear as low dominant. In contrast, anger expressions were rated as low affiliative. Regarding dominance ratings as a function of expressions of happiness and anger in particular, we note that both ethnicity and gender modulate the effect of emotion expression. For example, only Japanese men are rated as low dominant when showing happiness and only Japanese women are rated as low dominant when showing anger. These findings can be explained using a path analytical model including gender, ethnicity, the intensity of the expression, the rated intensity of the expression and the raters' belief that a member of the specific social group in question would show the expression. The model shown in Figure 2 illustrates well that the effects of gender and ethnicity are mediated by the expected likelihood of the expression.

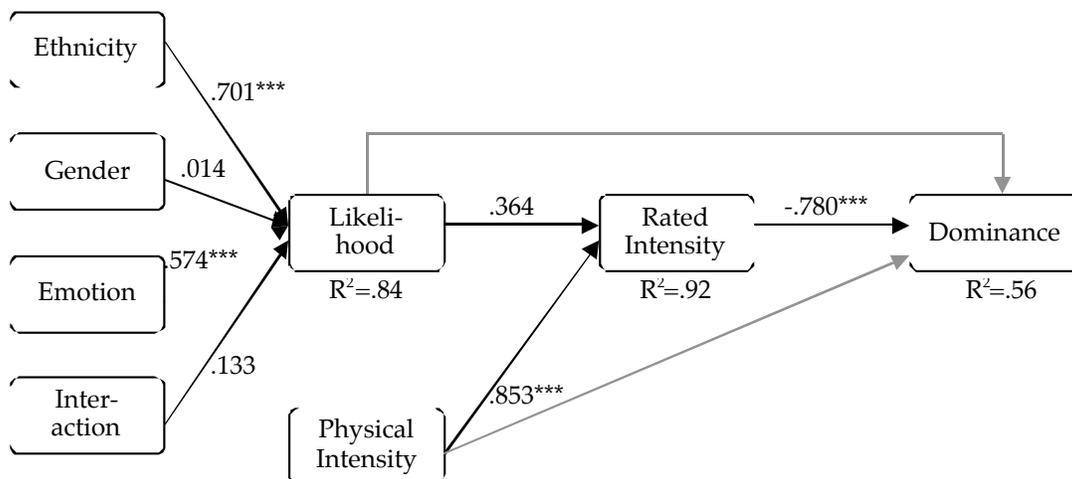


Figure 2. Model for the causal paths between Sex and Ethnicity of the stimulus person, their rated likelihood of showing the expression, the rated intensity of the expression, and dominance and affiliation ratings.

Specifically, only Ethnicity and Emotion predict Likelihood. Caucasians are rated as more likely to show the emotions and happiness is rated as more likely than anger. In the second step, Likelihood and the physical intensity of the stimulus were used to predict the rated intensity of the stimulus. Although, emotion (beta = .29, $t = 2.90$, $p = .016$) and the 3-way interaction between Gender, Emotion and Ethnicity (beta = .26, $t = 2.55$, $p = .029$) predict intensity when Likelihood is not included as a predictor, neither variable directly predicts Intensity when Likelihood is included in the equation. We can therefore conclude that the influence of these variables on Intensity is mediated by Likelihood. Finally,

Intensity significantly predicts Dominance ratings. However, direct contributions by Likelihood as well as by Physical intensity of the stimulus remain, suggesting that the Dominance ratings are not fully mediated by the Intensity ratings. Specifically, we note that the more likely an expression, the more dominant is the expressor perceived. Further, more intense expressions lead to higher ratings of dominance. However, the rated intensity of the expressions is negatively related to perceived dominance. This may be explained when considering the indirect effect of emotion on intensity. In this data set, the emotional expressions of anger were rated as less intense in general but lead to higher ratings of dominance. Thus for dominance, both the physical intensity of the expression and the rated likelihood that the expression is shown by a member of a specific social group, influence dominance ratings.

4. The active decoder

So far we have considered the observer from a fairly passive perspective. That is, we have only considered observers as decoders and not as potential interaction partners. Yet, in everyday interactions listeners in a conversation have a much more active role, providing feedback on both their interest and their understanding. In the context of the communication of emotions this implies that observers in a real interaction need to provide some sort of feedback regarding their understanding of the emotional message. Or, to say it differently, they need to signal empathy.

In recent years, two processes associated with the decoding of emotional expressions and the process of empathy have been studied in more detail, emotional contagion and mimicry – the imitation of the emotional behavior of others. The literature on this issue generally concludes that mimicry is a common response to observed emotional expressions in both infants and adults (see Hess, Philippot, & Blairy, in press). Also, evidence for contagion effects is frequently reported. In the clinical literature mimicry has been associated with a better understanding of the patient and some approaches actively encourage therapists to mimic their patients as a means to enhance their empathy. This notion goes back to Lipps (1907) who proposed that imitation is a possible means to the understanding of other selves and was taken up by Freud (1921).

In a recent review, Hess, Blairy & Philippot (in press) conclude that mimicry does not in fact enhance decoding accuracy. However, mimicry seems to play an important role in the establishment of mutual liking and rapport in an interaction.

Conversely, there is evidence that mimicry may depend on the attitudes that the observer holds towards the expressor. That is, mimicry occurs mainly in situations where observers already have positive or at least neutral attitudes toward the target and where they perceive some similarity between themselves and the target. Thus, mimicry may not so much “create” rapport and mutual liking as reinforce it in situations where the basis for such feelings are already present.

Two recent studies (Hess, 1998; Philippot & Yabar, 1998) show that individuals who hold negative attitudes towards members of a different ethnic group tend to not react with mimicry to the facial displays of ethnic out-group members. For example, Herrera, Bourgeois, and Hess (1998), asked French Canadian raters to decode the emotional facial expressions of Japanese and Caucasian expressors. The expressions were taken from the JACFEE (Matsumoto & Ekman, 1988) and are equivalent in terms of the facial displays. The results show that French Canadian raters mimic expressions of happiness and anger when shown by Caucasian actors but not when shown by Japanese actors. In fact, the facial displays of the French Canadian decoders while ratings the Japanese expressions depended on their racial attitude. The less positive their attitude towards Asians in general the more they tended to smile (as assessed by *Orbicularis Oculi* activity) at low dominance expressions (sadness and fear) and to frown (as assessed by *Corrugator Supercilii* activity) at high dominance expressions (happiness and anger) by the Japanese actors -- a counter mimicry effect. These findings regarding counter mimicry effects suggest that individuals who hold negative attitudes toward others tend to reinforce this negative relational feeling by showing non-matching behaviors which are likely to be perceived as lack of empathy or rapport. As the feeling of being understood by the interaction partner is an important aspect of comfortable interactions, subtle non voluntary nonverbal signals of non understanding are likely to create uncomfortable interactions that the interaction partners may want to avoid in the future. Thus, stereotypes and attitudes that conceive of others as dissimilar and lacking in understanding may reinforce themselves in a subtle way that may be difficult to compensate for.

In summary, the communication of emotions is influenced by a number of social context variables such as sex and cultural background of the interaction partners. This influences pertain not only to the encoding of emotion displays but also to the decoding of these displays. Further, the facial affect displays of the decoder - which when congruent tend to signal empathy - are as well influenced by the relationship between encoder and decoder.

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