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# 2. When Two Do the Same, It Might Not Mean the Same

## The Perception of Emotional Expressions Shown by Men and Women

Ursula Hess, Reginald B. Adams, Jr., and Robert E. Kleck

When he appears as a Ghost he had a **countenance** more in sorrow than in anger.
(Shakespeare, *Hamlet,* I.iii.232)

## Authors' Note

## Introduction

Humans are very sensitive to faces. Faces attract attention and have an important impact on our perception of a social interaction. Faces inform us about the gender, ethnicity, age, and state of health of our interaction partners and also convey information about their likely intelligence, maturity, dominance, sociability, and many other characteristics. In addition, human faces are able to communicate information about the emotions of others. Thus, faces provide us with important hints

regarding the behaviors and intentions that we may expect from our interaction partners.

It is interesting that an important aspect of emotional expressions is that they also provide social information to the decoder. In fact, Darwin already suggested that our facial musculature evolved to communicate social and specifically emotional signals (Darwin, 1872/1965). These emotion displays can signal not only the internal state of the sender (e.g., whether they are happy or sad), but they also provide information regarding the sender's understanding of the situation as well as the sender's behavioral intentions (Hess, Banse, & Kappas, 1995).

Frijda, Kuipers, and ter Shure (1989) define emotions as states of action readiness – that is, "the individual's readiness or unreadiness to engage in interaction with the environment" (Frijda et al., 1989, p. 213). These states have been operationalized with statements such as "I wanted to oppose, to assault; hurt or insult" and "I did not want to oppose, I wanted to yield to someone else's wishes" (Frijda et al., 1989). Thus, states of action readiness describe the behavioral intentions of individuals who experience an emotional state. A person who shows anger signals an intention to (aggressively) approach the offending other, whereas a person who in the same situation shows sadness, signals impuissance, and withdrawal.

This view of emotions implies that observers should be able to reverse-engineer a person's perception of an emotion-eliciting event. For example, the person showing anger should be perceived as feeling more dominant because the person sees themselves as able to address the situation at hand and go against opposition. In contrast, the person showing sadness should be perceived as submitting to the situation because they do not see how it is possible to oppose. The ghost in *Hamlet* seems, therefore, to have given up notions of revenge.

In fact, anger displays, smiling, and fear displays have been shown to be associated with dominance and affiliation. Accordingly, drawing the eyebrows together in anger leads to increased attributions of dominance, whereas smiling leads to increased attributions of affiliation (Hess, Blairy, & Kleck, 2000; Knutson, 1996). At the same time, anger expressions are perceived as threatening (e.g., Aronoff, Woike, & Hyman, 1992), whereas smiles are perceived as warm, friendly, and welcoming (e.g., Hess, Beaupré, & Cheung, 2002). Similarly, it has been argued that fear expressions elicit affiliative reactions in conspecifics (see, e.g., Bauer & Gariépy, 2001; Marsh, Ambady, & Kleck, 2005).

Yet, as mentioned previously, facial morphology is also a source of information that people use to infer dispositions and intentions related to the social motives of dominance or affiliation. For example, a square jaw, high forehead, or heavy eyebrows connote dominance (Keating, Mazur, & Segall, 1981; Senior, Phillips, Barnes, & David, 1999), whereas a rounded face with large eyes – a baby face – connotes approachability or affiliation (e.g., Berry & McArthur, 1985).

These two behavioral dispositions are of central importance for our interactions with others and their accurate perception is of high social utility. In hierarchical primate societies, highly dominant alpha individuals pose a certain threat insofar as they can claim resources (e.g., territory, food) from lower status group members (Menzel, 1973, 1974). Hence, the presence of a dominant other should lead to increased vigilance and preparedness for withdrawal (Coussi-Korbel, 1994). In contrast, affiliation is related to nurturing behaviors and should lead to approach.

Darwin (1872/1965) noted the equivalence between certain emotional behaviors in animals and more enduring morphological appearance characteristics. It is important in the present context that he proposed that piloerection and the utterance of harsh sounds by "angry" animals are "voluntarily" applied to make the animal appear larger and hence a more threatening adversary (see, e.g., pp. 95 and 104). Another example has been described by Bauer and Gariépy (2001), who observed that mice may use freezing – a juvenile behavior – as a signal to facilitate affiliative social interaction with conspecifics and thus increase sociality and communality, which may augment the chances of survival.

This suggests that emotional behavior can serve to mimic or simulate certain morphological traits linked to size or juvenescence that are important for social species. Thus, Marsh, Adams, and Kleck (2005) posit that anger and fear expressions mimic features of mature and baby faces, which in turn are associated with dominance and submissiveness. In line with the previous reasoning, they argue that anger and fear derive their signal value as a dominance cue from this feature overlap. In fact, there is evidence that humans generally tend to confuse morphological with expressive traits. Thus, Malatesta and colleagues (Malatesta, Fiore, & Messina, 1987; Malatesta, Izard, Culver, & Nicolich, 1987) found that older people are often perceived as sad based on facial-appearance cues that are simply due to old age, such as sagging corners of the eyes and mouth. This perception may lead health professionals and others to over-attribute depression to this group.

It is important to note that facial cues of dominance and affiliation are not equally distributed among the population. Rather, a number of aspects of facial appearance that lead to perceptions of dominance and affiliation are highly confounded with gender. Thus, a high forehead, a square jaw, and thicker eyebrows have been linked to perceptions of dominance and are typical for men's faces (Keating, 1985; Keating et al., 1981; Senior et al., 1999; Zebrowitz, 1997), whereas a rounded baby face is both feminine and perceived as more approachable (Berry & Brownlow, 1989) and warm (Berry & McArthur, 1986), central aspects of an affiliative or nurturing orientation.

Similarly, the perceived propensity to show emotions such as anger and happiness is also not equally distributed across the genders. In fact, one of the best documented gender stereotypes regards men's and women's emotionality. Thus, women report smiling more and are considered by others to smile more than men, and men's displays of anger have been reported to be more pervasive and are generally perceived as more acceptable (Brody & Hall, 2000; Fischer, 1993; Hall et al., 2002). Even stronger than observed differences in emotional expressivity between men and women are the stereotypical expectations that individuals hold regarding such differences. These expectations are socialized early and can have dramatic consequences for the perception of emotion in others. For example, even children as young as five years tend to consider a crying baby as "mad" when the baby is purported to be a boy but not when it is purported to be a girl (Haugh, Hoffman, & Cowan, 1980).

Two explanations for this gender stereotype have been previously proposed, one emphasizing status and the other social roles. First, Henley (1977, 1995), as well as LaFrance and Henley (1994), emphasize that women generally have less power or status than men and that smiling in women serves as a social appeasement strategy. However, evidence that low power/status is in fact linked to smiling is rather mixed. Although some authors reported evidence for more smiling by individuals with less power/status (Deutsch, 1990; Dovidio, Brown, Heltman, Ellyson, & Keating, 1988; Nagashima & Schellenberg, 1997), others either did not find such an effect or they found just the opposite: that high power/status individuals smile more (Ding & Jersild, 1932; Halberstadt & Saitta, 1987; Hall, LeBeau, Reinoso, & Thayer, 2001; Hecht & LaFrance, 1998).

Anger displays have also been linked to the notion of power. Averill (1997), for example, made the argument that anger has an "entrance

requirement" of power. That is, for an anger display to be *perceived* as legitimate, the expressor has to have the power to address the anger-eliciting event successfully. This view is congruent with appraisal theories of emotion (Frijda, 1986; Scherer, 1999) that include "power potential" as a necessary requirement for anger experiences. This link between expectations regarding anger displays and status/power is also reported by Maybury (1997, cited in Shields, 2000). In this study, anger displays by high-status protagonists were judged as more appropriate, favorable, and situationally motivated than those of low- and medium-status protagonists. Similarly, Lewis (2000) found that male leaders were perceived as more competent when reacting with an angry tone of voice than when reacting with a neutral or sad tone of voice. It is interesting that when the leader was a woman, she was perceived as most competent when reacting with a neutral tone of voice, a finding most likely reflective of the somewhat lower status of women.

Thus, expectations regarding both smiling and the display of anger have been linked to the perceived power or status of the expressor. It is plausible, given these results, that differences in the perception of men's and women's penchant to show happiness or anger are directly related to the differences in power/status that are generally found between men and women.

A second explanation for the stereotypical expectations regarding appropriate emotion displays by men and women focuses on their respective social roles (e.g., Brody & Hall, 2000; Shields, 2000, 2002). Specifically, it is generally assumed that women's nurturing role favors the acquisition of superior interpersonal skills and the ability to communicate nonverbally, whereas men's roles are seen as more agentic and hence may foster more goal-directed displays (Eagly & Steffen, 1984). LaFrance and Hecht (1999, 2000) have combined these two explanations by proposing that higher power individuals simply are given more leeway to show what they feel, whereas low-status/power individuals are more strictly bound by social rules and expectations. That is, they hypothesize that one reason women are expected to smile more and show less anger is because their social roles demand them to be more affiliative and less dominant in general. However, this notion also suggests that for high-dominant women, anger displays should be perceived as appropriate in situations that can be expected to elicit anger because as high-dominant individuals, they are freer to show what they feel. Given that men in general are considered to be more dominant than women, they are also freer than women in general to show anger.
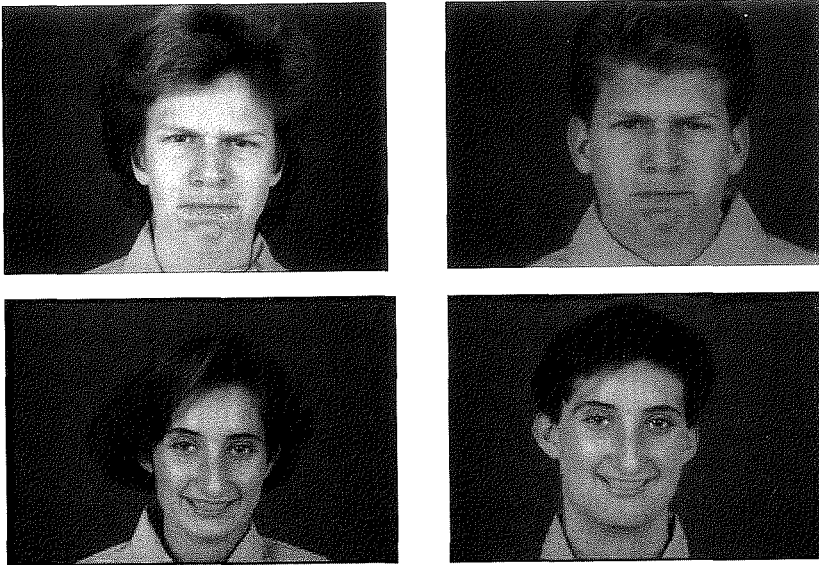
Figure 2.1. Examples for the gender manipulation of faces.

sex, perceived affiliativeness was significantly positively related to the perceived disposition to show happiness, surprise, and fear and significantly negatively related to the perceived disposition to show anger, disgust, and contempt. Mediational analyses showed that the tendency to perceive women as more likely to show happiness, surprise, sadness, and fear was, in fact, mediated by their higher perceived affiliation and lower perceived dominance, respectively. The tendency to perceive men as more prone to show anger, disgust, and contempt was partially mediated by both their higher level of perceived dominance and their lower level of perceived affiliation. That is, if men and women were perceived to be equal on these dimensions, then we would not expect observers to rate their emotionality differently.

To test this expectation experimentally, it is necessary to equate faces regarding the level of dominance and affiliation they convey. If dominance and affiliation exclusively predict emotionality, any gender differences in perceived emotionality should disappear. To equate men's and women's faces with regard to the level of dominance and affiliation they convey, we manipulated androgynous neutral faces and emotionally expressive faces to appear as either men or women (Figure 2.1).

Specifically, the interior of the face contains markers of dominance and affiliation (i.e., square jaw, heavy eyebrows), whereas hairstyle is a very potent marker of sex. Thus, by combining androgynous interior faces with male and female hairstyles, apparent men and women with identical facial appearance can be created. In one study (Adams, Hess, & Kleck, 2006, Study 4), ratings of perceived emotionality were compared for apparent male and female neutral faces. In a second study (Hess, Adams, & Kleck, 2004, Study 2), emotion ratings of posed emotional displays were compared for apparent male and female expressors. Both studies yielded parallel findings. For sadness and fear, the gender stereotypical pattern obtained. That is, apparent women were rated as more likely to express these emotions, and their expressions of these emotions were rated as more intense than was the case for the apparent men who showed the identical expression. However, for anger and happiness, a pattern opposite to the gender-stereotypical pattern was found. That is, when equated for facial appearance, apparent women were seen as more likely to show anger and less likely to show happiness, and their expressions of anger were rated as more intense just as their expressions of happiness were judged as less intense.

These data are interesting for two reasons. First, the results for sadness and fear suggest that although these emotions are correlated with perceptions of dominance and affiliation, as shown in the mediational study reported herein, facial appearance effects are not pertinent for their evaluation. Rather, the simple knowledge that a person is presumed to be a man or a woman drives both the expectancy regarding their emotionality and the bias in judgment of the expressions. These data underline the fact that it is indeed a decoder bias and not a subtle encoder difference that makes women's sadness expressions appear sadder and their fear expressions more fearful because the expressions of these two emotions were identical for apparent men and women. These biases may be due to the social-learning history of the observer, which includes both social-role and gender-linked expectations. Accordingly, the bias in ratings may be induced by both the knowledge that women are physically less strong and, therefore, plausibly more afraid of a larger range of physical fear objects or, alternatively, more likely to resign in the face of aggressive adversity, and the fact that fear and sadness are more socially accepted for women.

The second interesting issue regards the observation that in both studies, the gender-stereotypical effects for anger and happiness were not nullified, as we had predicted, but rather reversed. This reversal

demands an explanation because it suggests that intrinsically, all other things being equal, women are perceived as more anger prone and less likely to be happy. Specifically, it is possible that naturally occurring gender differences in facial appearance might interact with the appearance changes produced by anger and happiness expressions. That is, anger expressions emphasize some of the features that make a face appear dominant (e.g., the mouth region often appears more square, and frowning reduces the distance between eyebrows and eyes). Conversely, smiling enhances the appearance of roundness of the faces that is associated with affiliation motivation and babyishness. Due to the construction of the present stimuli, the expressive cues for anger and happiness were not "compensated for" by gender-typical appearance (i.e., the faces were chosen to be androgynous). In some ways, one could say that by depriving the inside of the face of clear gender cues, we actually amplified the expressive cues to anger in women and happiness in men, which are normally "obscured" by the gender-typical facial appearance.

## What Aliens Can Tell Us about Our Emotions

The preceding argument suggests that what has generally been described as a gender stereotype for emotionality may in the case of anger and happiness more appropriately be described as a dominance/ affiliation stereotype. Yet, at the same time, there is some evidence for the influence of gender per se, which may well reflect the influence of both social roles and beliefs about gender on expectations regarding emotionality. In fact, the experiments described previously were designed to reduce social-role effects by presenting facial expressions without context. Yet, in the vignette study reported earlier, we noted that despite being described as equally dominant, women were rated as somewhat less dominant than men in the manipulation check. That is, the manipulation of dominance appearance did not fully overcome the social-role expectancies held by participants in the study.

It has been variously noted (e.g., Eagly, 1987; Hall, Carney, & Murphy, 2002; Shields, 2002) that the child-caring requirements for women entrain a need to signal more approach and nurturance. During socialization, adherence to the norm to be "a nice girl" requires that girls not show anger but rather emotions that suggest warmth and also submissive emotions such as shame and fear. In contrast, boys are encouraged to show self-affirming emotions such as anger, contempt, and pride



| Male Deluvian | Female Deluvian | Caregiver |

Figure 2.2. Examples for male, female, and caregiver aliens.

(Shields, 2002). Yet, social roles are not the only differences between sexes. Specifically, it is the case that women are physically weaker and hence should reasonably be expected to react with fear to threatening objects as well as to react with impuissance rather than aggression to antagonistic objects.

It is obviously impossible in our society to fully untangle the influence of social roles, gender, and appearance because these factors are highly correlated. Even in Western countries, men are more likely to occupy powerful social positions in politics and business; in many countries, they exclusively occupy these positions. Women not only bear children but also overwhelmingly are responsible for their upbringing, thereby assigning themselves a nurturing role.

However, it is not uncommon in science fiction to question gender roles and to imagine worlds in which these roles are different from ours. This may include the addition of genders other than male and female and the redistribution of child-rearing tasks. Therefore, we created a science fiction scenario in which a planet is inhabited by members of a race that has three genders: male, female, and caregiver. The male and female are described as exactly equal in dominant social roles, whereas the submissive and nurturing role is assigned to the caregiver, who is entirely responsible for the bearing and upbringing of the young. We varied the appearance of the members of each gender to be either high, medium, or low in dominance (Figure 2.2). Affiliation was not varied because the simultaneous manipulation of both sets of features leads to extreme-looking individuals, even in this context.

Table 2.1. *Mean Ratings for the Perceived Likelihood to Show Emotions as a Function of Facial Appearance, Social Role, and Gender*

| | Dominant | | Submissive | | |
| --- | --- | --- | --- | --- | --- |
| | *Mean* | *SD* | *Mean* | *SD* | *d* |
| Anger | 4.00 | 1.39 | 3.36 | 1.55 | 1.10 |
| Contempt | 3.53 | 1.75 | 2.92 | 1.68 | 1.33 |
| Disgust | 3.22 | 1.71 | 2.50 | 1.58 | 1.26 |
| Happiness | 3.56 | 3.76 | 3.97 | 1.30 | 0.82 |
| Fear | 2.19 | 1.47 | 2.58 | 1.50 | 0.48 |
| Sadness | 2.61 | 1.59 | 2.83 | 1.61 | 0.27 |
| Surprise | 2.67 | 1.33 | 2.78 | 1.27 | 0.25 |

| | Agentic | | Nurturing | | |
| --- | --- | --- | --- | --- | --- |
| | *Mean* | *SD* | *Mean* | *SD* | *d* |
| Anger | 3.68 | 1.35 | 2.36 | 1.61 | 1.93 |
| Contempt | 3.22 | 1.65 | 2.14 | 1.59 | 1.70 |
| Disgust | 2.86 | 1.54 | 2.14 | 1.55 | 1.19 |
| Happiness | 3.76 | 1.36 | 4.25 | 1.23 | 0.72 |
| Fear | 2.39 | 1.24 | 2.97 | 1.61 | 0.99 |
| Sadness | 2.72 | 1.38 | 3.25 | 1.44 | 0.71 |
| Surprise | 2.72 | 1.22 | 3.64 | 1.38 | 1.22 |

| | Man | | Woman | | |
| --- | --- | --- | --- | --- | --- |
| | *Mean* | *SD* | *Mean* | *SD* | *d* |
| Anger | 3.92 | 1.54 | 3.44 | 1.44 | 0.76 |
| Contempt | 3.33 | 1.72 | 3.11 | 1.75 | 0.41 |
| Disgust | 2.89 | 1.63 | 2.83 | 1.73 | 0.08 |
| Happiness | 3.53 | 1.48 | 4.00 | 1.41 | 0.64 |
| Fear | 2.31 | 1.39 | 2.47 | 1.59 | 0.20 |
| Sadness | 2.56 | 1.52 | 2.89 | 1.67 | 0.96 |
| Surprise | 2.58 | 1.27 | 2.86 | 1.31 | 0.64 |

When male and female participants were asked to rate the emotionality of these Aliens in terms of their likelihood to show different emotions, effects of social role, dominance, and gender emerged. Table 2.1 shows the mean ratings of the perceived likelihood to show anger, disgust, contempt, happiness, fear, sadness, and surprise. The first three are dominant, agentic, and masculine emotions, whereas the latter four are submissive, nurturing, and female emotions. The first panel of Table 2.1 compares Aliens with high-dominant facial appearance, regardless

of assigned gender, to Aliens with submissive facial appearance. As expected, dominant-appearing aliens were perceived as more likely to show anger, contempt, and disgust, whereas submissive-appearing Aliens were perceived as more likely to show happiness, fear, sadness, and surprise. Effect sizes for this difference (Cohen's d) ranged from d = 0.25 for surprise to d = 1.33 for contempt. The effect sizes for the three dominant emotions were all above 1.00, thus showing the large impact of facial appearance on perceived emotionality.

The second panel of Table 2.1 shows the effect of social role. For this, ratings for the caregiver who was assigned a nurturing social role were compared with the combined ratings for male and female Aliens, regardless of dominance level. Participants rated the agentic males and females as more likely to show anger, disgust, and contempt and the nurturing caregiver as more likely to show happiness, fear, sadness, and surprise. The large effect sizes ranged from d = 0.71 for sadness to d = 1.93 for anger. Further, the largest effect sizes emerged for the agentic emotions.

Finally, we compared ratings for the male and female Aliens, regardless of facial dominance, who had both been described as agentic (see panel three of Table 2.1). The man was perceived as more likely to show anger and contempt and the woman as more likely to show happiness, fear, sadness, and surprise. Effect sizes ranged from d = 0.08 for disgust to d = 0.96 for sadness. Thus, even though both facial appearance and social role were controlled, there was still a residual impact of gender expectations. It is important that although many effect sizes for the gender effect were quite large, the average effect size for gender was only d = 0.53 compared with d = 0.79 for the facial dominance effect and d = 1.21 for the social-role effect.

These findings can only be considered suggestive of the actual variance explained by each factor. Clearly, the expectations of differing emotionality for male and female Aliens reflect the participants' learned association between gender and these emotions. Furthermore, it is, in fact, unreasonable – despite the large effect sizes for social-role expectations – to expect that these associations can be unlearned or discounted by the simple expedient of presenting a situation that presumes perfect gender equality between men and women, as was done in the previous experiment. With this caveat in mind, the results strongly suggest that in regard to expectations concerning the emotionality of our Aliens, social roles were found to be the most important factor, followed in order by dominant appearance and gender.

## Equivalence Hypothesis

Results of the present research project are compatible with the notion proposed by Darwin that for behavioral traits that are pertinent to the social organism, such as dominance and affiliation, morphological and expressive features can be substituted for each other and have similar signaling functions. The results confirm a congruency between some expressive and morphological signals. The dominant individual is also an individual who has a "right" to anger displays, and the affiliative individual is expected to signal his or her approachability by smiling. However, it is clear that not all traits that a person may possess are signaled in this way. Thus, there is no evidence for facial expressions of such traits as trustworthiness or of competence even though these are also traits of great relevance to a social species. In the present context, only anger and happiness were found to be consistently signaled by morphological features. One important feature that these two emotions have in common is that they are both approach emotions. That is, the individual who is showing these emotions is displaying the intention of approaching the observer. Yet, any individual who is approached by another – especially a potentially dangerous other – has an immediate interest in discerning why exactly one is being approached.

If a conspecific is approaching affiliatively, aggressive responses to such an approach would usually be counterproductive. Likewise, not to defend oneself when the approach is aggressive in nature could be costly. If an affiliative-appearing individual approaches, one may relax one's guard; however, if a dominant individual approaches, care should be taken lest they are motivated to take away precious resources. This line of reasoning may also explain why perceptions of being prone to show fear and sadness are not influenced in the same way by perceptions of dominance and affiliation as are anger and happiness. Specifically, fear and sadness are withdrawing emotions that do not usually require immediate action by the observer.

However, as mentioned previously, both social roles and gender *category membership* have an important influence on perceived emotionality. In fact, associating fear and sadness with sex may reflect the simple fact that women, being physically less strong, are indeed more likely to be afraid in a wider variety of situations and should be more likely to withdraw from physical aggression as well. Women's social roles, which prescribe warmth and nurturance, also proscribe an aggressive stance. The degree to which emotions are susceptible to the influence of facial

appearance versus social roles and gender per se was found to vary in our aliens study. Facial appearance was found to be most influential for approach emotions and to have little or no influence on withdrawing emotions. In contrast, in this study, gender per se was found to have the strongest impact on sadness.

## Conclusion

Both facial appearance and gender in and of itself strongly impact our expectations regarding others' emotionality and, consequently, our perception of their emotional state. Yet, this realization also means that there are severe limits to the possible impacts of social policies on the perception of men's and women's reactions to almost all events in their lives (assuming that few things indeed are completely non-emotional in nature). In fact, although social roles (i.e., the explicit normative and socially learned rules) most amenable to rapid change seem to have the strongest impact on perceptions of emotionality, the combined impact of social-role independent gender roles and the effects of facial appearance were found to be the largest. Yet, both facial appearance and gender per se are directly or indirectly related to the physical attributes of men and women, which are unlikely to change quickly. It may be argued that we associate dominant appearance cues with male gender cues because of men's dominant social role and, conversely, women's affiliative appearance cues with female gender cues because of women's nurturing social role. However, this notion is too facile. In fact, it is unlikely that male and female gender cues are associated to dominance and affiliation because of learned expectations based on social roles. Rather, most cues to dominance that can be compared between species, such as size, posture, and gaze, are very much the same for all primates. Similarly, the two possible precursors of the human smile – the play face and the submissive bared-teeth display – both signal affiliative, nonaggressive stances in chimpanzees as does the smile. In short, the simple creation of a rule (or policy) that states that men and women are to be perceived as equal regarding their social roles is unlikely to keep people from reacting negatively to women's (affirmative) anger and to men's (affiliative) smile.

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# 3. It Takes One to Know One Better

## Controversy about the Cultural Ingroup Advantage in Communicating Emotion as a Theoretical Rather Than Methodological Issue

Hillary Anger Elfenbein

### Author's Note

As in many areas within psychology, over time the nature-versus-nurture debate about the expression and perception of emotion has gradually given way to a more balanced perspective arguing for the importance of both nature *and* nurture – neither to the exclusion of the other. This chapter focuses on one recent and controversial area of research on universals and cultural differences in the communication of emotion: the presence of an ingroup advantage, whereby individuals can more easily and accurately understand emotional expressions originating from members of their own cultural group rather than expressions originating from members of a different cultural group.

There has been controversy about how to interpret empirical findings of the ingroup advantage. Although the controversy has often been framed in terms of a methodological debate about the underlying empirical research (Matsumoto, 2002), close examination of the issue reveals its source to be a subtle yet important theoretical divide (Elfenbein & Ambady, 2002a, 2003b). With the goal of moving the conversation forward, this chapter aims to describe the broad agreement between