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The Social Signal Value of Emotions

*The Role of Contextual Factors in Social Inferences Drawn
From Emotion Displays*

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Human interactions are full of emotions. In fact, even though emotions are often experienced when alone, most of the time emotions are experienced within a social context. Even emotions that are experienced when alone can have an implicit social context in that we imagine an interaction partner or think back to an emotional event involving others (Fridlund, 1991). Importantly, emotion expressions serve as social signals that provide information about the expresser but also about the situation (Hess, Kappas, & Banse, 1995) and that help to coordinate and facilitate interpersonal interaction and communication (Niedenthal & Brauer, 2012; Parkinson, Fischer, & Manstead, 2005). In the present chapter, we are presenting a model of emotional facial expressions in context (MEEC; Hess & Hareli, 2016), which proposes a pertinent but not exclusive role for context information in emotion perception by postulating the social appraisal of the expression as the limiting frame for reinterpretation. The model, just as do social constructivist accounts, considers perceivers as active agents in the processes of decoding emotions and of drawing inferences from them, but as ones who are limited with regard to their constructive freedom.

In the history of the study of emotion expressions, the question of what in particular emotion expressions express has loomed large, and arguments for and against the notion that emotion expressions express an internal state—the

experienced emotion—have been raised and defended (see Hess & Thibault, 2009). However, in some ways the question of what emotions actually express is less important when considering how they are interpreted—that is, when focusing on the decoding process. Specifically, as is amply demonstrated by the use of facial expressions in the arts, film, and literature, people understand emotional facial expressions to express emotions, and they react in function of this understanding (cf. Niedenthal & Brauer, 2012). This is also relevant to the conclusions they draw from facial expressions, that is, the inferences about a person's character and his or her goals and intentions, which can be drawn from observing or learning about an individual's emotional reaction to an event. That is, people treat emotion expressions as if they express emotions and act in accordance. Thus, for the purpose of this discussion, we will treat emotion expressions as signals of emotions.

As mentioned earlier, emotion expressions typically occur in a social context. In fact, it is impossible to present an emotion expression completely without context because the very medium that conveys the expression—the face, the voice, the body—already conveys context information. Thus, faces but also voices and bodies signal the social group membership of the person, including such obvious aspects as gender, age, and ethnicity but also social dominance (Mueller & Mazur, 1997) and even sexual orientation (Rule, Ambady, & Hallett, 2009). And all of these factors impact on our understanding of the emotion expressed and its larger meaning.

In what follows, we will discuss why context plays an integral role for emotion decoding. The discussion focuses on facial expressions. However, much of what we discuss can be applied to emotion decoding processes in general, both those based on nonverbal cues such as postures, tone of voice, and gestures and those based on second-hand information such as verbal descriptions of the expresser's behavior. We will then turn to the factors that limit the role of context for emotion understanding.

TYPES OF CONTEXT

In emotion research, the importance of context for both the production and the understanding of emotion expressions has long been recognized. Thus, the modified Brunswick lens model for person perception, which has then been applied to emotion communication by Scherer (1978), includes cultural context, social relationships, and situational context. For any type of context, two sources of information are relevant: information that is related to the situation in which the emotion occurs, and additional information that perceivers have and apply to the situation, for example stereotype knowledge about specific social groups. In this sense already,

the perceiver can be said to be an active agent in the perception process (Kirouac & Hess, 1999).

Situational Context

First, there are all those elements of the situation that are informative about the emotion elicitor. This includes factual information but also the real-world knowledge that people have and that allows them to deduce further information. For example, information that a person just competed in a game is factual information; information that players in a competition have negative interdependence such that what is good for the one must be bad for the other is real-world knowledge.

These effects should be distinguished from the effect that the valence of the situation may have through priming or other perceptual effects. For example, when a face is shown together with a scene without there being a logical link between the two, the valence of the situation can activate affective response categories (a funny scene can activate response categories linked to positive affect) and hence influence emotion decoding. Thus, Righart and deGelder (2008) found that when participants were asked to categorize facial expressions that were shown against the backdrop of an emotional scene while ignoring the scene, the categorizations were biased by the emotional content of the scenes. Somewhat similar effects occur when faces are shown within a group of other individuals, especially when the presence of the others is not explained; these effects tend to be stronger for people high in interdependence (Hess, Blaison, & Kafetsios, 2016; Masuda et al., 2008).

The Perceiver as Context

Another important element of context is the perceiver. The two-path model of emotion perception (see later discussion) considers the perceiver not as a passive readout module but as taking an active part in the perception process. As such, not only the real-world knowledge mentioned earlier but the stereotypes the perceiver holds, the norms the perceiver is aware of, and the perceiver's own goals and motives are all relevant for this process. We will discuss these in turn.

STEREOTYPES EXPECTATIONS AND SOCIAL NORMS

Stereotypes are not the same as social norms. However, in this context we consider mostly prescriptive stereotypes that imply a behavioral norm. Thus, if someone holds the stereotype of women as more irrationally emotional and men as more controlled, they should expect men to act with more emotional restraint (Hess, David, & Hareli, in press; Shields, 2005).

Clearly stereotype and norm knowledge require some level of situational knowledge, which anchors the relevant norm. However, insofar as the norm relates to specific social groups, which can be identified based on their face alone (e.g., racial groups, the elderly, men and women), this situational knowledge may be activated by the very expression that is to be decoded (Hess, Adams, & Kleck, 2009). Thus, when the perceiver knows that a person whose car was vandalized is a woman, norms of behavior relevant to women and anger will become more accessible. These norms may then influence the identification of an emotional cue associated with the target person. Specifically, women are expected to show sadness rather than anger in such a situation unless they were explicitly described as very dominant (Hess, Adams, & Kleck, 2005).

CULTURAL DISPLAY RULES

A specific case of norms are cultural display rules, that is, the sociocultural rules that guide the appropriate display of emotion expressions (Ekman & Friesen, 1971). These differences can in part be related to differences in cultural values such as individualism and collectivism (Koopmann-Holm & Matsumoto, 2011) but also openness to change (Sarid, 2015) or masculinity (Matsumoto, Seung Hee, & Fontaine, 2008) among others. Mostly, however, we can assume that cultural display rules are not linked to one specific cultural value but are the result of more complex processes involving more than one cultural attribute. Importantly, display rules have a converse side in social decoding rules, such that perceivers tend to be less accurate when decoding expressions that are proscribed in a given culture (Buck, 1984; Hess, 2001), and as such they impact not only on the expression but also on the perception of emotions.

THE PERCEIVERS' GOALS, NEEDS, AND OWN EMOTIONAL STATE

A second perceiver-related context factor are the perceivers' goals and needs and even their own emotional state (cf. Showers & Cantor, 1985). These factors specifically affect what is extracted from the available bottom-up information, for example, by determining the degree of effort that the perceiver invests in understanding the situation. Thus, being highly motivated and having the ability to do so, a perceiver may pay more attention to the available cues. By contrast, if motivation and/or ability are low, less attention may be paid. Thus, Thibault et al. (2006) found that perceivers who strongly identified with members of a group were better at labeling emotion expressions from members of that group. This finding fits well with the more general idea that people often invest relatively little effort in learning about the characteristics of out-group others (Park & Rothbart, 1982). In a similar vein, research on gender

differences in emotion recognition shows that motivational factors may have a substantial impact on recognition accuracy and may explain why in some studies women outperform men in this task (Ickes & Simpson, 2004).

Not only attention to cues but also their processing can be influenced by perceiver characteristics. A good example would be the way the emotional state of the observer affects decoding. An individual's emotional state influences how social information is processed. Specifically, according to Forgas's (1995) "affect infusion model" perceivers' information processing strategies differ in the extent to which a full search of information occurs and how open or closed this search is and hence in the use of perceiver knowledge. At one extreme of this process, the perceiver may directly and automatically retrieve a preexisting label when encountering a stimulus. At the other extreme, the perceiver may engage in an extensive and open search of information. This latter strategy involves substantive processing using preexisting knowledge in a relatively unbiased manner (Bower & Forgas, 2000). Thus, the degree to which subtle cues and situational information are integrated, when, for example, trying to label a smile, depends also on the emotions felt by the perceiver.

Obviously, both processes mentioned herein may operate at the same time such that low motivation and/or ability will both result in partial attention to cues and in the limited processing of these cues, such that more easily accessible stereotype knowledge may serve as readymade templates for recognition based on a superficially observed feature.

TWO WAYS TO RECOGNIZE EMOTIONS

There are two ways to identify emotions from nonverbal cues. Most research on emotion recognition implicitly assumes a pattern-matching process, where specific features of the expression are associated with specific emotions (Buck, 1984). For example, upturned corners of the mouth or lowered brows are recognized as smiles or frowns, respectively, and a perceiver can thus conclude that the individual is happy or angry. In this process the perceiver is a passive decoder, who could and in fact can be replaced by an automated system (e.g., Dailey, Cottrell, Padgett, & Adolphs, 2002) and context information may play no or only a minimal role. However, this process works best for very clear—prototypical—emotion signals. It tends to break down in many everyday situations where the nonverbal signal is often weak and ambiguous (Motley & Camden, 1988). In this case, a second process is more useful (Kirouac & Hess, 1999).

Specifically, when the perceiver knows the expresser or is aware of the situation in which the emotion is shown, she or he can adopt an active role in the emotion identification process. Knowing about the event allows people

to use their naïve emotion theories about the emotions that are typically elicited by certain events to predict the most likely emotion. For example, knowing that someone's car was vandalized typically leads to the expectation that the person will be angry (Hess et al., 2005). Thus, even if the person is not very expressive, we can still assume that she is angry. Knowing the goals and values of others allows the perceiver to take their perspective and to infer their likely emotional state. Knowing about the temperament and emotional dispositions of the expresser further allows us to refine predictions. Thus, in the earlier case, we may expect more intense anger from a choleric person than from an easy-going one and more anger if the car was cherished than if it was not.

But what happens if the expresser does not know the other person well or at all? In this case, any social category that the perceiver is aware of and for which expectations regarding emotional reactions exist can affect emotion identification in that the perceiver is more likely to attribute the more expected emotion evidenced in the ambiguous expression. For example, knowing that a (male) expresser is Black or of high status leads observers to more readily label the expression as angry (Hugenberg & Bodenhausen, 2003; Ratcliff, Franklin, Nelson Jr., & Vescio, 2012). In the same vein, when a person is identified as a surgeon, participants rate the facial expressions of the person as less intensely emotional than the same person and expression when associated with a different identity, following the stereotype expectation that surgeons control and restrain their emotions (Hareli, David, & Hess, 2013).

In sum, the identification of emotions can be accomplished via either a passive pattern-matching process or an active process where the perceiver generates a label for the likely emotional state of the sender based on both the expression and her or his knowledge of the context. This knowledge can take either the form of individualized knowledge about the expresser or be based on the expresser's social group and the stereotypes, expectations, and beliefs associated with members of this group.

INFERENCES FROM EMOTION PERCEPTION

Appraisal theories of emotion (for an overview, see Moors, Ellsworth, Scherer, & Frijda, 2013) posit that emotions are elicited by the spontaneous and intuitive appraisal of (internal or external) relevant stimulus events according to the perceived nature of the event. Importantly, appraisals relate to the subjective perception of the stimulus characteristics and not its objective characteristics.

Even though appraisals are typically not the product of reasoning processes, people can and do reconstruct appraisal processes consciously after the fact (Robinson & Clore, 2002). And they can do so for other people's emotions as

well (e.g., Parkinson et al., 2005; Roseman, 1991; Scherer & Grandjean, 2008). As such, emotion expressions can be seen as encapsulated or compacted signals that tell a story. Part of this story relates to the person. Thus, a person who reacts with anger to an injustice can be expected to be someone who cares about justice. Another part of the story relates to the situation. Thus, that a person reacts with anger to a situation implies that the situation likely involved an injustice. That is, reverse-engineered appraisals (Hareli & Hess, 2010), describe the perception of appraisals of a situation by the emoter as reflected in the emoter's emotion expression. This implies that emotional facial expressions that occur in response to an event are not only a consequence of the event but also provide social information about the emoter's view of the event and thereby, indirectly, about the event.

This process is quite similar to the social referencing (Klinnert, Campos, Sorce, Emde, & Svejda, 1983) observed in infants. This process is also related to social appraisal (Manstead & Fischer, 2001). However, there are two differences; first, social appraisal describes the direct appraisal of the expression of another person, not the reverse-engineered appraisal of the situation that elicited the expression (however, in many cases the results of these processes are likely to converge). Second, social appraisals are presumed to be most relevant to secondary appraisals associated with efforts at coping (see, Lazarus, 1991), whereas reverse-engineered appraisals are presumed to relate to primary appraisals as well.

When people are confronted with complex or ambiguous situations, the reverse-engineered information garnered from the expresser's reaction can then be used as an input to one's own emotional reaction to, and appreciation of, the event (cf., Parkinson, Phiri, & Simons, 2012). For example, in a recent study by Landmann, David, Hareli, and Hess (2015), participants were asked to evaluate stories describing behaviors that varied in impoliteness or immorality. Participants also saw a picture showing another person who had supposedly reacted to these events with either anger, disgust, or neutrality. The same event was rated as more immoral when the participant saw someone reacting to it with anger or disgust rather than with neutrality. These effects were mediated via reverse-engineered appraisals of the perceived expressions, specifically with the appraisal that the expresser considered the event to violate a moral standard. That is, participants reverse-engineered the appraisals from the expressions and used these to inform their own reactions to the event.

In sum, context can be defined in a variety of ways and includes both the situation and the perceiver. The perceiver's knowledge, naïve emotion theories, motivations, goals, and emotions all enter into the active process described in the two-path model of emotion recognition. However, this raises the question regarding the limits of this influence.

LIMITS TO THE MALLEABILITY OF EMOTION PERCEPTION

The pervasive influence of context on emotion perception can give the impression that early critics of Darwin (1872/1965) were right in saying that facial expressions per se are meaningless. That at best they can—as claimed by Bruner and Tagiuri (1954)—be culturally learned signals, which are not meaningfully linked to an underlying state or are to be considered as constructed within the moment either at the interface between individual and environment (Mesquita & Boiger, 2014), or in the head of the individual (Barrett, 2009, 2013). That is, in the vein of strong psychological constructivism (Faucher, 2013); emotional measing is created in a "simulator," which constructs "on-the-fly" emotion concepts adapted to particular instances of a category.

We think that this impression is false. It is important to note that even though context frames the way people interpret cues and the attention that is paid to the cues as well as the level of processing that is applied to this endeavor, context is also confronted and limited by the stories that emotion expressions tell. More specifically, context is limited by a framework based on the core appraisals that distinguish one emotion from another and that create the emotion's story. With core appraisals we mean those appraisals that characterize the emotion expression or the event that gave rise to it. When considering tables of emotion predictions based on appraisals, for example by Scherer (1986) or Roseman (1991), we find that for each emotion some appraisal dimensions are defined, whereas others are not. Thus, events that elicit fear are goal obstructive and those that elicit happiness are goal conducive. However, events that elicit disgust may well be either, as many helpful home remedies demonstrate, which for all that they help are still disgusting in taste. With core appraisals we therefore refer to those appraisals that are defined for the specific emotion under consideration. We assume that it will be easier to misidentify between emotions that share core appraisals.

That is, only within the frame provided by that story and only within the limits of these appraisals can context change our perception of emotions. In fact, this notion can be supported by research originally designed to underline the power of context. Thus, Aviezer et al. (2008) in an attempt to show the malleability of emotion perception, created stimuli that combined an emotion expression with a body stance. In Study 1, a disgust face was combined with stances communicating disgust, anger, sadness, and fear. There are two types of disgust: physical disgust in reaction to noxious stimuli, and moral disgust in reaction to morally inappropriate behavior (Rozin, Lowery, Imada, & Haidt, 1999), and appraisals for this latter disgust resemble appraisal for anger in that it is associated with goal obstruction and high coping potential combined with an appraisal of norm violation. By contrast, fear and sadness are both emotions that are characterized by low coping potential, and norm appraisal is not very

relevant. The findings show that the disgust face combined with an aggressive body posture was indeed overwhelmingly miscategorized as anger (87%). However, when the disgust face was combined with fear (13%) and sadness postures (29%), which are much less compatible with the appraisal pattern for moral disgust, it was miscategorized to a substantially smaller degree. In sum, context plays a very important role in emotion perception and for the inferences drawn from emotions; however, it plays this role within the—admittedly large—framework of the core appraisals characterizing this emotion.

A MODEL OF SOCIAL SIGNALS IN CONTEXT

Based on the notions discussed earlier, we formulated a model of the meaning of emotion expressions in context (MEEC, see Fig. 20.1, Hess & Hareli, ~~in press~~). In this model, expressions are perceived within a situational context (the real world) and then interpreted within an interpreted context (the perceived world). The information from the real world will determine the encapsulated meaning of the expression (the story that the emotion tells), and this process will be influenced by the perceiver-as-context processes outlined earlier. If the information provided by the context and the interpretation of the expression falls within the frame of the core appraisals associated with the emotion, the process can go on to allow for inferences to be drawn from the expression. In case of a mismatch the perceiver has to reevaluate the match explicitly. One outcome of this process can be to discount the expresser as "deviant" (Szczurek, Monin, & Gross, 2012). In this case no further effort to "reconcile" expression and emotion elicitor is made. Another similar outcome could be to reevaluate the situation. For example, most people react positively to kittens. If a person shows fear in response to the kitten, one might consider
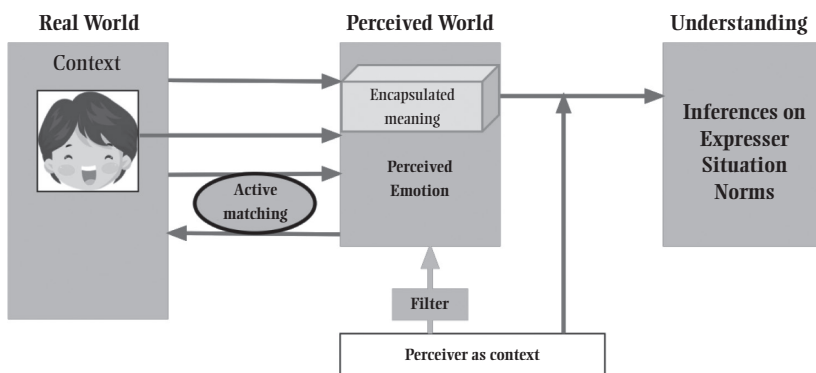

Figure 20.1 A model of the meaning of emotion expressions.

the possibility that the person suffers from an extreme form of ailurophobia (fear of cats). However, as in horror movies, it might be that just behind the kitten a large aggressive drooling, likely rabid, dog can be seen, which changes the situation completely. That is, another way to reconcile the expression and the emotion elicitor is by either postulating a specific significance of the situation for the expresser (i.e., the expresser is ailurophobic) or by changing the meaning of the situation (i.e., there is in fact something dangerous to be seen). That is, congruence can be recreated by reinterpreting either the situation, the significance of the situation to the specific expresser, or the facial expression. This process differs from such proposals as those, for example, by Aviezer et al. (2008) or Righart and DeGelder (2008) who presume that the meaning of the context that is contrasted with the facial expressions remains stable. This also raises the question as to which of these processes will be used by the observer. We propose that observers will reinterpret the aspect of the expression-situation combination for which appraisals are more pliable. Thus, the same object (chocolate) may be motive congruent or incongruent depending on whether I am on a diet or not. By contrast, valence is a fundamental characteristic of objects. Thus, it is easy to change a situation into one that is more or less motive congruent, but it requires very specific assumptions, such as the additional presence of a dangerous dog, to turn a kitten into a threat object. Also, a person high in coping potential may on occasion show weakness, but it is much more difficult if not impossible for a weak person to suddenly show high coping potential. Thus, as shown by Aviezer et al. (2008), it is easily possible to misidentify (moral) disgust as anger if the context suggests an anger reaction, as both are negative emotions denoting high coping potential; by contrast it is much less likely (but still possible) to identify disgust as fear or sadness, since the latter imply low coping potential. Yet, we would posit that a fear expression would only rarely be misidentified as anger or disgust; in this case it would be more likely for the situation to be reinterpreted.

ON THE MALLEABILITY AND RIGIDITY OF EMOTION EXPRESSIONS IN CONTEXT

The MEEC predicts that for the decoding of emotions the impact of context will be limited within a "conceptual corset" created by the core appraisals of the emotion shown. However, the MEEC also predicts that to the degree that the reengineered appraisals of the situation based on the facial expression and the appraisal of the context do not match, these two have to be reconciled.

A study was conducted to demonstrate this process. A total of 191 (101 men) participants with a mean age of 37.5 (SD = 11.5) years, who were recruited via Amazon MTurk, completed the survey. They first saw for 2 seconds a picture

taken from the International Affective Picture Set (IAPS; Bradley & Lang, 2007) showing either a disgust, anger, or fear context, or one of two pictures of kittens taken from the Internet.[1] This was followed by a picture showing a facial expression. For the latter, expressions of happiness, disgust, anger, or fear were taken from the Amsterdam Dynamic Facial Expression Set (ADFES, Van Der Schalk, Hawk, Fischer, & Doosje, 2011) for two men and two women. Participants then saw both images together and were asked in an open question to explain why the person showed the expression he or she did show. They then were asked in a forced-choice format to indicate which of seven emotions (anger, fear, sadness, disgust, surprise, contempt, or happiness) the person had shown. Finally, they answered a series of 15 questions based on a short version of the appraisal section of the GRID questionnaire (Fontaine, Scherer, & Soriano, 2013).

The appraisals that can be considered as core appraisals for the emotions happiness, anger, disgust, and fear are pleasantness and control potential (Scherer, 1986). That is, the reengineered appraisals of the situation by the expressers should vary foremost with regard to these appraisals. Intrinsic pleasantness mainly distinguishes between happiness on one hand and the three negative emotions on the other. The appraisal of control potential determines the extent to which the situation that elicited the emotion can be handled by the expresser. Thus, whereas surprise, sadness, and fear are elicited in situations that are low in control potential, anger, moral disgust, and contempt are associated with high control potential. This means that anger may be misinterpreted as (moral) disgust or contempt, but also to some degree as fear or sadness, as it is easier for a person high in control potential to show weakness at some point than the reverse (that is, it is easier for participants to come up with a story which makes this possible). This implies also that fear expressions should be misidentified as surprise but not as anger. They may, however, also be misidentified as physical disgust. Disgust is in fact a somewhat interesting emotion in this regard because, as mentioned earlier, there are two types of disgust, moral and physical disgust. Whereas moral disgust would suggest high control potential, physical disgust is basically undefined for most appraisals except intrinsic pleasantness (Scherer, 1986). That is, it should be quite easy to create a story by adapting either the person's motive or the situation to match a disgust expression with just about any situation except a pleasant one. The reverse, however, should not be the case, as for the other emotion expressions additional appraisals are defined.

Table 20.1 shows the choices for the expression ratings. As can be seen, there are considerable differences in the degree to which facial expressions were misidentified as a function of context. In fact, as predicted, expressions of happiness were essentially never misidentified because all other choice

Table 20.1 CLASSIFICATION OF EMOTION EXPRESSIONS AS A FUNCTION OF CONTEXT

Expressions	Anger		Disgust		Fear		Happiness	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Ratings	Anger Context							
Anger	**0.44**	**0.51**	0.00	0.00	0.00	0.00	0.00	0.00
Contempt	0.06	0.25	0.00	0.00	0.00	0.00	0.00	0.00
Disgust	0.19	0.40	**0.91**	**0.30**	0.08	0.29	0.00	0.00
Fear	0.00	0.00	0.00	0.00	**0.67**	**0.49**	0.00	0.00
Happiness	0.00	0.00	0.00	0.00	0.00	0.00	**1.00**	**0.00**
Sadness	0.25	0.44	0.00	0.00	0.00	0.00	0.00	0.00
Surprise	0.06	0.25	0.09	0.30	0.25	0.45	0.00	0.00
	Disgust Context							
Anger	**0.10**	**0.32**	0.00	0.00	0.00	0.00	0.00	0.00
Contempt	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Disgust	0.90	0.32	**1.00**	**0.00**	0.50	0.53	0.00	0.00
Fear	0.00	0.00	0.00	0.00	**0.40**	**0.52**	0.00	0.00
Happiness	0.00	0.00	0.00	0.00	0.00	0.00	**1.00**	**0.00**
Sadness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surprise	0.00	0.00	0.00	0.00	0.10	0.32	0.00	0.00
	Fear Context							
Anger	**0.60**	**0.52**	0.00	0.00	0.00	0.00	0.00	0.00
Contempt	0.20	0.42	0.00	0.00	0.00	0.00	0.09	0.30
Disgust	0.00	0.00	**0.73**	**0.47**	0.00	0.00	0.00	0.00
Fear	0.20	0.42	0.18	0.42	**0.82**	**0.40**	0.00	0.00
Happiness	0.00	0.00	0.00	0.00	0.00	0.00	**0.91**	**0.30**
Sadness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surprise	0.00	0.00	0.00	0.00	0.18	0.40	0.00	0.00
	Happy Context							
Anger	**0.42**	**0.51**	0.13	0.35	0.00	0.00	0.00	0.00
Contempt	0.08	0.29	0.07	0.26	0.00	0.00	0.00	0.00
Disgust	0.25	0.45	**0.80**	**0.41**	0.06	0.24	0.00	0.00
Fear	0.08	0.29	0.00	0.00	**0.65**	**0.49**	0.00	0.00
Happiness	0.00	0.00	0.00	0.00	0.00	0.00	**1.00**	**0.00**
Sadness	0.08	0.29	0.00	0.00	0.00	0.00	0.00	0.00
Surprise	0.08	0.29	0.00	0.00	0.29	0.47	0.00	0.00

Note: Numbers in bold refer to the target ratings for the expressions.

options were unpleasant. This matches the prediction that pleasantness cannot be reversed.

Expressions such as fear, which signal low coping potential, can only be misinterpreted as other expressions that also signal low coping potential such as surprise or disgust, which is open with regard to this appraisal. Correspondingly, fear was sometimes misinterpreted as surprise or as disgust—the latter especially in a disgust context. Disgust expressions, by contrast, were rarely misidentified and there was no clear trend with regard to which other emotion label would be chosen. This was predicted—because disgust expressions are "open" with regard to most appraisals and hence it is easy to adapt a given context to the disgust expression, but the reverse does not work as well, because these contexts are associated with specific appraisals, which are not part of the social appraisal of disgust.

Interestingly, the most malleable expression was anger. In fact, when anger expressions were shown in a disgust context, they were overwhelmingly rated as disgust. In all other contexts, anger was the modal choice for anger expressions, but other labels were also used. Interestingly, these were not necessarily the labels indicated by the context. Thus, in anger contexts, anger was the modal choice, but disgust and surprise were also chosen. In the fear context, anger was also the modal choice (and more often chosen than in the anger context), and the expressions were sometimes misidentified as fear but also as contempt. In a happy context, anger expressions were most often miscategorized as disgust, but otherwise no clear pattern emerged. This matches the prediction that anger matches most of the situation appraisals that were available or can be adapted by "weakening" the coping potential appraisal.

In all, only the miscategorization of anger expressions as disgust in a disgust context was a case of a clear tendency to reinterpret the meaning of an expression as a function of context. In all other cases, the emotion expressed in the face remained the modal choice and a clear pattern of choices along core appraisals was found.

This raises the question of what people did when they encountered a scene-expression mismatch. To answer this question, we coded the open questions for two aspects—adding information about the person that was not provided by the stimulus (such as attributing a motivation or preference) or adding information to the scene that was not shown (such as making reference to something that happened before or is out of sight). As can be seen in Table 20.2, participants generally tended to add information about the person that was not part of the stimulus for all contexts and expressions. However, this tendency was notably stronger for expressions for which social appraisals did not match the situational appraisal. Thus, when participants saw a cute kitten and a person showing a negative facial expression, they added person information

Table 20.2 PERCENT OF PARTICIPANTS WHO ADDED PERSON
INFORMATION TO EXPLAIN THE EMOTIONS SHOWN BY THE EXPRESSER
AS A FUNCTION OF EMOTION EXPRESSION AND CONTEXT

Expressions	Anger		Disgust		Fear		Happiness	
Context	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Happy	0.58	0.51	0.80	0.41	0.53	0.51	**0.00**	**0.00**
Anger	**0.13**	**0.34**	0.00	0.00	0.08	0.29	0.80	0.42
Disgust	0.30	0.48	**0.18**	**0.40**	0.20	0.42	0.79	0.43
Fear	0.40	0.52	0.36	0.50	**0.27**	**0.47**	0.82	0.40

Note: Numbers in bold refer to the target ratings for the expressions.

that allowed to reconcile the expression and the situation. When the kitten
was accompanied by a fear face, fear of cats was invoked; in the case of anger
or disgust expressions, a general dislike of cats was invoked. More rarely, par-
ticipants also reinterpreted the situation by adding that the kitten may have
misbehaved or scratched the person. Some of the stories were quite inventive
such as this attempt to reconcile the kitten with a fear expression: "While the
kitten was on its back, looking for attention and play, the woman's large dog
came up behind the cat, seemingly intent on attacking it. The woman saw this
playing out and wasn't close enough to stop it, so she was horrified at the idea
that her dog was going to kill her kitten." In all, the data suggest that even
though people misidentify most expressions at least sometimes, the misinter-
pretation is not necessarily congruent with the situation. Rather, participants'
misinterpretation of the expressions is limited by the associated appraisals.
For expressions that signal pleasantness, situational context does not change
the meaning of expressions and participants can only reconcile the appraisals
by either assuming that this specific person has a more uncommon motive
(thus turning the situation into an unpleasant or at least motive-incongruent
one) or by adding additional unpleasant elements to the situation (such as a
dangerous dog). However, for anger expressions a wider choice of "matching"
social appraisals was possible and, indeed, we found that anger expressions
were particularly strongly affected by context—and even in a congruent con-
text, a wider range of labels was chosen.

CONCLUSIONS

We proposed, based on the MEEC and demonstrated in a small study, that con-
text has a strong influence on the perception of emotions but that this influence
is limited. Situations do not typically determine the meaning of an expression

and, if they do, then only in specific circumstances. In particular, we proposed that expressions "tell stories" because observers will reverse-engineer the appraisal of the situation by the expresser based on the expressions. Only when these reverse-engineered appraisals and the appraisal of the situation match in the eyes of the observer can the expression be misidentified. For example, in our study an anger expression in a disgust context may well be misidentified as disgust because of the similarities in the social appraisals of these expressions. If the appraisals do not match, the observer will attempt to reconcile the appraisals by adding plausible information based on her or his naïve emotion theories. Expressions and situations vary in the degree to which such plausible additional information can be found. For example, the well-known fear of cats is readily available plausible information why a person would show fear in response to a cute kitten. Notably, the expression is still identified as fear and the kitten as cute—that is, neither observation is changed—but the two now make sense to the observer. That is, emotional meaning can be reconstructed on the fly, but this will be achieved while conserving the meaning of both the expression and the situation. Thus, in this study, what was most often reconstructed was the link between both. This makes evolutionary sense. Darwin (1872/1965) already emphasized the evolutionary importance of emotion expressions as communicative signals. This notion remains relevant (Hess & Thibault, 2009; Niedenthal & Brauer, 2012). It would be strange if a communicative signal that has evolutionary roots would suddenly be discounted at the slightest provocation. Rather, observers tend to take the social appraisals transmitted by the facial expressions at "face value." In some instances these appraisals can fit more than one emotion expression, including one suggested by the appraisal of the situation. In this case the misidentification in terms of the use of a different emotion label occurs. Yet, notably, this is not a misinterpretation of the appraisal information. If this is not an option, observers try to find a plausible explanation for the information conveyed by the face that maintains both this information and the gist of the emotion-eliciting situation as they understand it.

The MEEC as described here only focuses on context information that is relevant to the emotion elicitor. However, as noted earlier, there are other types of context that have been shown to influence emotion perception (Hess & Hareli, 2015; Matsumoto & Hwang, 2010). Thus, body posture has been considered a context for facial expressions (Aviezer et al., 2008), but from a multimodel emotion decoding perspective (Bänziger, Grandjean, & Scherer, 2009), facial expressions and body postures are both emotion signals and not a context for each other. Also, when an unattached head is floating above an image without an obvious link between the two, it is not clear that the scene in the image is a context for the face, even though it certainly influences the perception of the

face (Righart & De Gelder, 2008). It may do so because, as noted earlier, a scene that is depicted together with a face can—through affective priming—activate response categories, which in turn facilitate or hinder the categorization of the expression.

Discussions about the role of context for the construction of emotional meaning, therefore, require a clearer definition of both what is considered to be signal and what is considered to be ancillary information, as not everything that is perceived at the same time as an expression has the same epistemological standing with regard to the meaning of this expression.

Future research and theorizing need to pay more attention to the specific processes engaged in the construction of the meaning of emotion expressions and in the limits of this process. In this vein, it would be important to not only show when a specific context influences perception but also when it does not.

NOTE

1. 1525, 1930, 6212, 9810, 3250, 9301.

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