Emotional Behavior

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Summary

Very few everyday interactions are bereft of all emotion such that even trivial interactions involve at least a friendly smile or some other sign of affect. Understanding and appropriately reacting to these emotional signals is a necessary skill for the successful navigation of the social environment. From an observer-oriented perspective, the term “emotional behavior” refers to overt (observable) behaviors that lead observers to conclude that the expresser experiences an emotion. The information provided by emotional behaviors includes, next to the internal state of the expresser, information about what the expresser is likely to do in the situation (action tendencies); information about the antecedent situation implied by the appraisal patterns associated with specific emotions; information about the expresser’s values, motivations, and character as well as information about what the expresser wants the observers to do (appeals). As such, emotional behaviors provide social information that can be used by observers to navigate their social environment. Notably, even though emotional behavior can be meaningfully decoded from contextless depictions of expressive behavior, in everyday life, emotional behavior is interpreted within a given cultural and social context. The use of context information allows observers to employ perspective taking in order to actively make sense of the often ambiguous or blended expressions seen in naturalistic situations. Future research needs to focus on the means of classifying contexts and to better understand how context and expressive behavior interact to inform the observer. Further, even though much of the literature on emotional behavior focuses on facial expressions, emotions are also signaled by the voice, by posture, and even through changes in pupil size or through touch. Expanding the knowledge regarding these sources of emotion communication is another challenge for future research.

Keywords: emotion communication, nonverbal behavior, mimicry, appraisal theory, culture, gender, status

Subjects: Affective Science, Individual Differences, Social Psychology

Introduction

Most interactions—even trivial ones—are colored in emotion. Be it the salesperson trying to sound enthusiastic about a product or a loved one complaining about their problems at work, emotions play a central role in everyday human communication. As such, understanding and reacting appropriately to others’ emotional behaviors is considered a central human skill (Salovey & Mayer, 1990).

The term “emotional behavior” alludes to (a) behaviors that are the visible component of an internal emotional state or (b) behaviors that lead observers to conclude that a person experiences a specific emotion. Both meanings assume expressive behavior. That is, behavior that can be observed and

that may—but does not have to—be part of a functional emotional response such as running in fright. This article focuses on expressive behavior and uses the terms emotional behavior and emotional expression interchangeably.

In an ideal world, the behaviors referenced under (a) and (b) would be the same. However, the question of whether a given behavior should be considered emotional and what this means for the state of the expresser is neither simple nor just one question. In fact, the very notion that a given behavior is indicative of an internal state and whether this state can be considered an emotion or something else has been the subject of intense debate (for reviews, see Hess, 2017; Lindquist et al., 2013).

This article defines the concepts of emotion and emotional behavior (see "Definitions"). It then gives a short overview of the debate on what is signaled by emotionally expressive behaviors and discusses the functions of emotion expressions (see "The Functions of Emotions").

Definitions

Emotions

Different emotion theories propose different definitions, which in turn have different implications for the role of emotional behavior. Starting with Darwin's seminal work entitled "The expressions of the emotions in man and animals" (Darwin, 1872/1965), there has been consensus across many emotion theories that emotions are evolved solutions to specific adaptive problems. The basic notion is that many adaptive challenges (nurturing the young, finding food and sexual partners, defending from attack, etc.) are common to many species and that specific emotions arose as problem-solving mechanisms for these challenges (cf. Panksepp, 1998; Tooby & Cosmides, 1990). Different theories then focus on varying aspects of this process.

Like Darwin (1872/1965), Ekman's *Neurocultural Theory* (Ekman, 1972; Ekman & Friesen, 1971) focuses on the communication of emotion, but singles out facial expressions as a means of signaling. The theory posits affect programs, which are (neural) mechanisms that trigger emotional responses that are typically quick, complex, organized, and difficult to control. Affect programs are originally hard-wired in infants but then are individualized through the learning history of the individual (Ekman & Cordaro, 2011). They link certain emotions identified as basic (happiness, sadness, fear, disgust, anger, surprise, and possibly contempt; Ekman & Friesen, 1986) to specific (facial) expressions, physiological reactions, and likely actions. That these hard-wired instructions do not lead to identical expressions in everyone is explained by individual and cultural differences in emotion regulation. Through reevaluation, an initial emotional reaction may also change in culture-specific ways. This theory has been criticized both with regard to the notion of hard-wired affect programs and the restriction to only six or seven basic emotions (e.g., Barrett, 2013, 2017; Russell, 1994).

Appraisal theories of emotion (Frijda, 1986; Oatley & Johnson-Laird, 1987; Ortony et al., 1988; Roseman, 1984; Scherer, 1987) posit that emotions are elicited and differentiated through a series of appraisals or evaluations of internal or external stimulus events according to the perceived nature of the event. This appraisal process adapts the emotion to the specific motives and resources of the organism and explains why an objectively identical stimulus may elicit different emotions in different organisms or at different times for the same organism. For example, different individuals —or the same individuals at different times—may have access to more or fewer resources, which can lead them to either address the objectively identical adverse situation assertively or evaluate the situation as a threat.

Notably, these theories propose emotions to be discrete categories that are underlain by different appraisal patterns that in turn address different environmental challenges (Scherer, 2009). For example, fear deals with threat, and anger deals with goal obstruction. According to Scherer and colleagues, specific facial expressive features can be linked directly to specific appraisals (Scherer et al., 2021; Wehrle et al., 2000).

In contrast to emotion theories that describe characteristics of discrete emotions are theories that consider emotions to be defined by the dimensions of valence and arousal. Thus, Barrett (2006) and Russell (2003) hold the view that the basic emotion experience is described by core affect. Core affect itself is a neurophysiological state, but it is available to consciousness and experienced as feeling good or bad as well as various levels of activation. These two dimensions of valence and arousal then combine with the conceptual knowledge about emotions that people acquire during socialization. Perceptually this is a categorization process, which sorts changes in core affect into an experience of discrete emotions (Russell & Barrett, 1999).

In newer theoretical elaborations, Barrett clarifies that this process is based on predictive coding. Essentially,

> the brain constructs meaning by correctly anticipating (predicting and adjusting to) incoming sensations. Sensations are categorized so that they are (i) actionable in a situated way and therefore (ii) meaningful, based on past experience. When past experiences of emotion (e.g., happiness) are used to categorize the predicted sensory array and guide action, then one experiences or perceives that emotion (happiness).
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> (Barrett, 2017, p. 9)

That is, similar to the discrete emotion theories, both conceptual act theory (Barrett, 2006) and core affect theory (Russell, 2003) consider emotions as they are perceived and experienced by humans as categorical. However, these experienced categories are not grounded in anything specific about the emotion such as a neural substrate or an evolutionary challenge, but rather they are grounded in the culturally conditioned perceptual processes of the expresser and the observer respectively. Notably, however, when considering the social signal value of expressions, that is, the meaning that observers draw from the expressions and the use that the expresser makes of these expressions in a given context, the question of the specific stage in the process in which categories are imposed is less relevant.

Emotional Behavior

Independent of whether emotional behavior results from underlying states that are discrete or dimensional, there is agreement that the internal state is composed of and accompanied by not only a cognitive element (the feeling state), but also physiological, motivational, and, most importantly in the present context, expressive components (Moors, 2024).

Expressive behaviors have predominantly been studied with regard to facial expressions (Hess, 2023) but emotions can also be communicated by other channels such as the voice (Banse & Scherer, 1996), postures (Atkinson, 2013), and even by touch (Hertenstein et al., 2006). Also, one can talk about one's emotions, something that people tend to do often after experiencing an emotion (Rimé, 2009). In addition, some physiological reactions such as blushing but also changes in pupil size (Kret, 2015) can be perceived and therefore serve as signals.

One debate concerns the question of the degree to which emotionally expressive behaviors are involuntary versus controlled. This relates to the question of whether expressive behaviors are reliable signals of an underlying state. To be reliable, they cannot be fully voluntary. Ekman and Friesen (1969) proposed that even though one or the other communication channel may be controlled by the expresser, there will generally be nonverbal leakage through other channels. Thus, people may be able to smile convincingly even when angry, but a clenched fist or their tone of voice would signal their "true" feelings. Yet, even if this were the case, it does not solve the reverse problem that expressions can be shown in the absence of a corresponding inner emotional state or only in response to certain audiences as has been suggested by Fridlund (1994). One should note, however, that an expression is not necessarily dishonest, simply because it is shown purposefully. For example, if a person feels lousy but shows a forced smile to someone who is kind to them, they may not show honest joy, but nonetheless they honestly signal their appreciation (Hess & Kleck, 1994). As such, the distinction between spontaneous and voluntary expressions may in itself not be as useful as has often been claimed in lines of research that have focused on decontextualized expressive behavior (see also, Kret et al., 2020).

The Functions of Emotions

Most modern emotion researchers understand emotions to be largely functional, and specific functions have been elaborated for both positive (Fredrickson, 2004) and negative emotions (Parrott, 2014), many of which relate to interpersonal functions of emotion (Keltner & Haidt, 1999). Evolutionary approaches to emotion often emphasize the intrapersonal functions of emotions, such as motivating goal-directed action or mobilizing energy. However, the communicative aspect of emotions points to important interpersonal functions (Keltner & Haidt, 1999), in particular, the regulation of interactions between individuals and groups (Niedenthal & Brauer, 2012).

Specifically, one set of problems that social primates have on an almost constant basis is posed by the conspecifics around them. Humans have to coordinate their behavior and act in ways that are conducive to reaching goals. They also need to negotiate power status and form alliances. When young or injured, they need help. It turns out that all of these interactional challenges are imbued with emotions, and evolutionary perspectives on emotions link specific emotions to each of these

tasks (Nesse, 1990; Tracy, 2014). For this, emotional behaviors are central. They are signals by the expresser that are crucial for the mutual alignment necessary for most human endeavors. The section "What Does Emotional Behavior Signal?" addresses the types of information conveyed by emotionally expressive behavior, mainly focusing on facial behavior because this behavior has been at the forefront of research on emotion expression. However, most of the issues raised apply equally to other communication channels such as the voice or posture.

What Does Emotional Behavior Signal?

The primary information communicated through emotional behavior is the emotion experienced by the expresser. This statement is simplified in so far as there is some disagreement as to the actual link between internal states and expressive behavior. However, it is quite undisputed that observers at least consider expressive behavior as signals of internal states and act in accordance with that perception (Hess, Hareli, & Kleck, 2023).

In addition to revealing the internal state of an individual, emotional behavior also signals what the expresser is likely to do in the situation, that is, the action tendencies associated with the emotion in question (Frijda, 1987; Frijda et al., 1989); information about the antecedent situation implied by the appraisal patterns associated with specific emotions (e.g., Fontaine et al., 2013; Roseman, 1991; Roseman et al., 1990); as well as information about the expresser's values, motivations, and character (de Melo et al., 2014; Hareli & Hess, 2010; Hess & Hareli, 2019). More recently, emotional appeals, information about what the expresser wants the observers to do, have been added to this list (Scarantino et al., 2022). For example, an anger expression tells the observer that the person is angry and may react assertively to deal with a perceived obstacle. Anger also often implies that the eliciting situation was perceived by the expresser as involving an injustice. The latter is indicative of the person's values. Thus, if, for example, the expresser observed someone else who was cheating on a task, the anger expression would signal that the expresser does not endorse cheating. With regard to appeals, the anger expression would be a warning to a perpetrator as well as a call to joint action for another witness to the event.

Decoding Emotional Signals

Emotional State

One important question in this context is how well people communicate this information and which processes underpin the inference from behavior. Generally people feel that they do so quite perfectly and encoders therefore tend to overestimate the clarity and intensity of their (facial) expressions (Barr & Kleck, 1995; Senécal et al., 2003). However, reality falls somewhat short. People tend to be rather good at decoding the highly intense prototypical (facial) emotion expressions used in emotion research, with recognition accuracies that are well above 80% (e.g., Biehl et al., 1997; Nowicki & Duke, 1994), especially when decoding the expressions of members of the same culture (Elfenbein & Ambady, 2002) or in-group members (Thibault et al., 2006).

But spontaneous expressions are a different matter. Such expressions are typically less intense and more ambiguous (Motley & Camden, 1988). For example, in one study by Hess et al. (2016), participants saw still pictures showing spontaneous emotion expressions by more than one individual (as is often the case in a real conversation). Decoding accuracies ranged from 32% (sadness) to 73% (happiness) with anger (48%) and disgust (57%) in between. That is, except for smiling in happiness, people tended to be wrong more often or at least as often as right. Interestingly, test–retest correlations over more than 2 years were quite high (happy.44, anger.54, sadness.57, disgust.60), suggesting that whatever decoders did wrong, they did it again.

Nonetheless, people generally are quite confident about their decoding skills. However, this confidence may not be as misplaced as the data suggest, because in real life, people are not limited to still photos and short video clips showing strangers and they have more than one way to decode emotions (see "Two ways to decode emotions").

Two Ways to Decode Emotions

There are two principal strategies for decoding emotion displays (Kirouac & Hess, 1999). First, in the absence of any contextual information, the sender's expressions can be used to draw inferences regarding his or her presumed emotional state using a pattern-matching approach (Buck, 1984). Thus, people see the upturned corners of the mouth and wrinkles around the eyes and conclude that the other is happy. This approach works best when clear patterns are present, such as is the case when prototypical emotion expressions are presented.

However, a second strategy depends on the knowledge that the perceiver possesses regarding both the sender and the social situation in which the interaction takes place. This information permits the perceiver to take the perspective of the encoder and helps to correctly infer the emotional state that the expresser is most likely experiencing. Such a view of emotion communication transforms the receiver from a passive receptacle of information into an active decoder of information (Hess, 2023; Hess, Hareli, & Kleck, 2023).

The Active Decoder

In everyday life, emotion expressions are often weak, elusive, or blended, resulting in a signal that can be ambiguous, accounting for the low decoding accuracies found for spontaneous expressive behavior shown without context. This ambiguity itself suggests that significant interpretive work on the part of the perceiver is needed.

The notion of an active perceiver or decoder is related to what, for visual stimuli, is referred to as social vision (Adams et al., 2010). The concept can be seen in parallel to the understanding of 4E cognition (see, e.g., Newen et al., 2018). From this perspective, emotion perception is a process that is embodied, embedded, enacted, and extended. Of these, emotion communication research has addressed most explicitly embodiment (Niedenthal et al., 2017). Calls to understand emotions from the context in which they occur address to some extend the importance of extrabodily processes that underlie the notions of embeddedness and extendedness. But it is also important to keep in

mind that emotions are enacted as well—we decode the emotions of others not just for the sake of applying a label but in order to successfully interact. This implies also that the motivations and goals of the perceiver enter into the process.

More specifically, the active decoder uses all the information available in a given context to understand the intentions of the expresser. This is quite often situational context information, that is, information on the events that elicited the emotion. Yet, the active observer also has recourse to information that is not based on the emotion-eliciting situation as such (Hess & Hareli, 2019).

For example, interpersonal situations are highly rule-governed (Gallois, 1994), and these rules are perceived as normative for interactions and even correct in a moral sense (Hall, 1959). Thus, for many situations, there are social norms that guide the appropriate expression of emotions in a social context. These are usually referred to as display (Ekman, 1972) or feeling rules (Hochschild, 1979). Interestingly, social norm violations activate in perceivers not only brain systems associated with the representation of the mental state of others but also brain regions that respond to aversive emotions (especially anger) in others (Berthoz et al., 2002).

Given such pervasive rules shaping the interaction, knowing these rules allows the perceiver to predict the likely emotions experienced by the interaction partner. Notably, these expressive norms and their associated expectations vary with the gender and status of the expresser (Brody & Hall, 2000; Shields, 2005) well as from culture to culture. It may also be argued that the very expression variants, so called emotional dialects (see “Cultural Dialects”), shown in different cultures (Elfenbein et al., 2007) could be explained by postulating subtle differences in appraisal patterns due to differences in cultural constraints, values, and norms that reflect themselves as differences in facial expressions (Hess et al., 2013).

Action Tendencies

When people are asked to describe an emotion expression in their own words, they tend to use not only emotion words (e.g., he is angry) but they also make suggestions about the eliciting situation (e.g., he looks like someone insulted him) or the person’s likely actions (e.g., she looks like she wants to hit someone; Frijda, 1953). Action tendencies are systematically related to appraisal patterns and emotion terms (Frijda, 1987; Frijda et al., 1989) and are signaled by facial expressions (Horstmann, 2003), but also by postures (Dael et al., 2012).

Antecedents of Emotions

According to appraisal theories of emotion, a relevant change in the internal or external environment is evaluated according to a number of dimensions such as whether the event is pleasant or unpleasant or whether the change is in line with the motivational state of the individual or obstructs the individual’s goals. Specific emotions are differentiated by the pattern of appraisals they are the result of. Thus, anger is an emotion that is characterized by appraisals of goal obstruction, high coping potential, and a perception of norm violation. Notably, people can—based on their naïve emotion theories—reconstruct the appraisals of other people’s emotions based on

emotion words or facial expressions. That is, when presented with descriptions of an emotional event (Roseman, 1991) or an emotional (facial) expression (Scherer et al., 2021), people can correctly infer the associated appraisals.

Yet, people not only discern how the expresser appraised a situation but also can infer information about the situation. In one study, participants were able to deduce the rules of a made-up ball game based on the facial responses of the "spectators" (Hareli et al., 2019). They did this based on the observation of the facial expression of a fan of the player versus a fan of the opposing player and applying the rule that the happiness of the fan of the player signals the player did well, whereas the happiness of a fan of the opposing player signals that the current player did not do well. By combining emotion knowledge with knowledge about how games function, they could reconstruct the likely rules of the game.

Person Perception

Importantly, the appraisals that underlie emotions are based on individual factors such as the personality and skills of the expresser which determine their resources, values, and motivations. These in turn define the outcome of their appraisal of an event. Thus, a person who faces a goal obstruction but considers themselves able to address the obstacle successfully will experience anger, whereas another person who does not see themselves as competent in this context is more likely to feel sadness or even fear.

This in turn means that appraisals provide insights into the expresser's goals, values, motivations, and resources and through these into their character (de Melo et al., 2014; Hareli & Hess, 2010). For example, an observer who sees a person react with anger to an injustice can conclude that the person has values according to which the event in question appears unjust, perceives this injustice as incongruent with their own motivational state (which would be to see justice done), and feels competent to act accordingly.

In turn, knowing about a person's motives and values in a given situation allows the perceiver to make interferences regarding a person's character. For example, happy expressions signal affiliation, whereas anger and disgust signal dominance (Knutson, 1996), sadness by contrast signals a lack of competence, whereas anger signals competence (Tiedens, 2001).

Moderating Factors for Emotion Expression and Recognition

Assuming an active observer (Hess, Adams, & Kleck, 2023), just as assuming a prediction coding process for emotion elicitation and perception (Barrett, 2022), raises the question of the moderating influences on this process. With regard to emotion communication via facial expressions, the question of cultural differences has been traditionally in the forefront (see "Culture: Are Emotional (Facial) Expressions Universally Recognized?"). Another often raised issue is regarding gender differences, an issue that overlaps with the question regarding status differences (see "Gender and Status").

Culture: Are Emotional (Facial) Expressions Universally Recognized?

Darwin (1872/1965) and later Ekman and colleagues (Ekman, 1972; Ekman et al., 1987) and Izard (1971) made strong claims that emotion expressions are universally recognized. This claim is based on the notion that the expressions have developed due to evolutionary constraints and hence are in a continuity across mammalian species and universal across human cultures.

However, the evidence presented by proponents of this view has been severely criticized (e.g., Fridlund, 1994; Russell, 1991, 1994, 1995). Also, social constructivist approaches to emotion emphasized differences in emotion vocabularies and disputed universality on these grounds (e.g., Armon-Jones, 1985; Wierzbicka, 1992).

More recently, these two extreme positions have been largely abandoned in favor of the view that at least some "universal" expressions exist (e.g., Cowen et al., 2021; Jack et al., 2016; Sauter et al., 2010, 2015), but cultural variation in expressive behavior should not be underestimated.

Cultural Dialects

Another push for a more intermediate view comes from Elfenbein and Ambady's (2002) Dialect Theory. They argue for a "universal language" for emotion expressions with "regional dialects" that differ subtly from each other. That is, emotions can be expressed similarly but nonetheless are subtly different across cultures (Elfenbein et al., 2007). Consistent with an appraisal approach to emotional expressions, dialects may be explained by postulating subtle differences in appraisal patterns due to differences in cultural constraints, values, and norms that reflect themselves as differences in facial expression (Hess et al., 2013).

In sum, even though there is evidence for cross-cultural recognition of some emotions, it is also clear that many emotions are not universally expressed in exactly the same manner. The fact that divergent results can be found within the same culture (Gendron et al., 2014; Sauter et al., 2010, 2015) points to the importance of carefully considering emotion expressions from an intercultural perspective.

Cultural Rules and Norms

Another important influence on emotional behaviors are the social rules and norms that guide emotion communication. This influence is visible at different levels. First, appraisal theories of emotion (e.g., Frijda, 1986; Scherer, 1987) posit that an emotional state results from the appraisal of the situation according to the motivations, values, and resources of the individual. As different cultures have different value systems, it can be expected that the same objective situation may elicit different behaviors in different cultural contexts.

Second, societal norms guide attention to specific aspects of a situation such that individuals from different cultures focus on different emotion cues. For example, members of collectivist cultures tend to react more to external, socially sharable elements of a situation, whereas members of

individualist cultures tend to react more to internal cues (Suh et al., 1998). This explains why in North America positive feelings tend to be associated with personal achievement, whereas in Asian countries they are linked to interpersonal events (Uchida et al., 2004).

Finally, some culture-specific social norms directly prescribe and proscribe certain emotion expressions in certain contexts. Ekman and Friesen (1971) called these norms display rules. Generally, these norms are learned early in the socialization process (Saarni, 1999), perceived as obligatory, and their transgression is socially punished (Gallois, 1994). For example, one such common norm is to express joy when receiving a disappointing present. Related notions have been expressed in the organizational literature under the heading emotional labor (Hochschild, 1983) or emotion work (Morris & Feldman, 1996), which describes the aspect of an employee's work that focuses on showing prescribed emotions (e.g., "service with a smile").

Importantly, an expressive rule proscribing a given emotion tends to be matched by a corresponding decoding rule (Buck, 1984). Consequently, decoders tend to be worse at decoding expressions that are proscribed by display rules. For example, in the United States and Greece, the expression of anger is culturally less accepted than in Germany and Israel. Consequently, the same, subtle, expressions of anger were better recognized by German and Israeli decoders than by decoders from the United States and Greece (Hareli et al., 2015).

Gender and Status

Differences in the expression and recognition of emotional behavior can also be found with regard to the status and gender of both the expresser and the decoder. Generally speaking, women are more emotionally expressive than men (Fischer, 1993). This is best established for smiling. Women smile more and they smile more in situations where they experience negative affect. This difference emerges in childhood and gets stronger by the time the women reach adulthood (see also, Hess et al., 2002). By contrast, men are perceived, and perceive themselves, as more likely to express anger than do women (Fischer, 1993).

The reason for these well-established gender differences can be traced to two—nonexclusive—sources: differences in status and differences in social roles. Thus, Henley (1977, 1995) as well as LaFrance and Hecht (Hecht & LaFrance, 1998; LaFrance & Hecht, 1995) emphasize the inherent difference in status between men and women, which continues to exist even in egalitarian cultures. Henley, in particular, bases her argument on the assumption that the human smile is a homologue of the primate silent bared-teeth display, which is used in primate species as a sign of submission (Preuschoft & van Hooff, 1997). From Henley's perspective, human smiles also signal submission, and hence, women as the lower status gender tend to smile more.

This model may be a bit too simplistic though. While people who smile tend to be rated as more dominant (Knutson, 1996), there is only limited evidence linking smiling as such to status and power. Also, the silent bared-teeth display is not exclusively used as a sign of submission even among primates (Preuschoft & van Hooff, 1997). In fact, there are many different forms of smiles that serve different social functions, with the submissive smile being just one (Niedenthal et al.,

2010). In this vein, Brody and Hall (2000) propose a more complex model, which includes not only social norms regarding gender-adequate behavior and social expectations but also a stronger trend toward positive affect experience in women.

With regard to anger expressions in men, status seems to be more clearly relevant. Thus, Averill (1997) considers power an "entrance requirement" for anger. The notion being that the anger display of a person who does not have power to back up the threat is less effective and in fact less legitimate. As an example, one may think of the angry temper tantrum of a child versus an angry expression of a member of a biker gang. The former is likely to elicit amusement whereas the latter may be taken as a serious threat. This view concurs with the position of appraisal theories of emotion, which consider coping potential—the power to redress a situation—as the key appraisal for anger (Ellsworth & Scherer, 2003).

Context

One issue that has been woven into most of the discussions is the role of the context of the interpretation of emotional behaviors. Traditionally, largely based on the assumption that facial expressions are innate signals represented by a small list of prototypical expressions, researchers aimed to present this signal as purely as possible. This meant to remove all hints of the context and in some cases, faces were even surrounded by ovals to remove hairlines and chin outlines and to better "frame" the signal.

However, over the last 2 decades, theory and research came to the conclusion that the context cannot be neglected (Barrett et al., 2011; Hess & Kafetsios, 2022; Kafetsios & Hess, 2023). The notion of the active decoder very clearly outlines why the context is integral to emotion communication. As such, research on emotion communication has started to include the context as well. However, it turns out that there are really many different types of contexts (Hess & Hareli, 2016; Matsumoto & Hwang, 2010), and it is not always obvious which type of context is relevant for a given research focus. What is missing is a coherent framework or taxonomy that allows one to classify different types of contexts with regard to their impact on the perception of emotion behavior.

Context can be defined as any stable or transient factor within the expresser, the perceiver, or the situation in which the expression is perceived that co-occurs with an emotional expression and provides relevant information about the emotional expression. From an observer-focused perspective, it is not a requirement that context information is meaningfully linked to the elicitation of the emotion. For example, stable features of the expresser's face, such as wrinkles or skin color, are context cues that influence the perception of emotion through perceptual overlap with the expression (Hess et al., 2009, 2012) or the evocation of stereotypes (Hugenberg & Bodenhausen, 2003).

Yet, most contexts can provide direct information on the process that elicited the emotion. These contexts include, next to direct statements such as "they just saw that the person in front of them holds a knife" or images to the same effect, the environment in which the expresser is located during the expression or the emotional expressions of other people around the expresser who

experienced the same event. From an observer-based perspective, it is also important to include characteristics of the observers and their situation, such as their culture, their mood, or their knowledge of the expresser. These can affect emotion recognition through stereotypes or the saliency of social norms but also through direct information about the likely emotion experienced by the expresser.

What these contexts have in common is that they have some informational value that is relevant to the interpretation of the expressive signal by the observer. What differs is the degree to which these contexts provide useful information about the sender. For example, the wrinkles and folds of an older person's face perceptually interact with expressions in ways that are usually misleading with regard to the sender state (Hess et al., 2012). The same is usually true for stereotype information. By contrast, information on the norms and rules governing a given situation or on the type of event that occurred can provide useful information on the most likely emotion that the sender experienced. Thus, knowing that someone received good news allows the hypothesis that this person likely feels good.

Finally, for the context to be considered context at all, it must have some link to the sender or the observer. For example, seeing a person smiling while standing in the street does not make the street relevant to the smile. For this, there must be some reason for the observer to associate the street with the smile.

Emotional Behavior in Dyads

The ideas in this article focused either on the encoding or the decoding process in emotion communication. Yet, social interaction implies an interplay of encoding and decoding. People not only perceive expressions and draw inferences from them but also react to these expressions. One such reaction is the imitation of the observed expression in the form of emotional mimicry.

Emotional Mimicry

Emotional mimicry is usually considered a form of affective empathy or a "low road" in the empathy process (Walter, 2012). It has also been suggested that imitation is required for the understanding of the emotions of others (Lipps, 1907), a notion that resonates with mirror neuron accounts of human emotion recognition (Goldman & Sripada, 2005). There is little evidence that emotional mimicry is a necessary element of emotion recognition; however, in certain situations, the blocking of mimicry can result in a reduction in decoding accuracy (for a review, see Hess & Fischer, 2013).

Emotional mimicry serves a social regulatory function in dyads (see Hess & Fischer, 2013) and depends on the relationship between interaction partners and more generally on the relationship between the expresser and the perceiver. Generally, a negative attitude toward the target tends to inhibit emotional mimicry (Hess & Fischer, 2013) and increases the interpretation of the emotional signal as hostile (Hutchings & Haddock, 2008). Interestingly, Likowski et al. (2008) demonstrated that this is the case even when attitudes are newly formed by narratives about a specific character.

In line with affiliation at the individual level, affiliation at the group level also fosters mimicry. Thus, individuals are more likely to mimic the emotional reactions of in-group members than those of out-group members (Bourgeois & Hess, 2008; van der Schalk et al., 2011).

More recently, there has been an increased interest in top-down processes, such as social judgments, that can influence perception-action coupling, including mimicry (Cracco et al., 2022). For mimicry, social judgments about the appropriateness of an emotion expression are relevant such that expressions that are considered to be inappropriate are mimicked less or not at all (Kastendieck et al., 2020; Mauersberger et al., 2022).

In sum, emotional mimicry has relational implications: emotionally mimicking others can create social warmth but also social coolness when people do not mimic the other. Emotional mimicry is a function of interaction goals, and a change of those goals, whether conscious or automatic, has an effect on whether people mimic others' emotions or react to them (Hess, 2021).

Future Directions

The study of emotional behaviors has a long tradition in psychology. However, this tradition has largely focused on the study of highly prototypical contextless facial expressions of a small number of emotions. This restriction is mainly due to historical factors that led to an emphasis on the evolutionary origin of emotion expressions which then led researchers to erroneously assume that context factors would have only negligible influence. Thus, it has only been within the last 2 decades that the crucial importance of context has been recognized.

Nonetheless, there is still much research in the domain that does not explicitly include context. One issue here is that while it seems intuitively obvious what context means, in reality the concept is complex. Next to situational context (i.e., the actual event that presumably elicited the emotion), there are many other forms of context. This includes, among others, cultural norms and rules that prescribe and proscribe behaviors, but also the goals and motives of the observer that direct their attention to specific aspects of the situation. Future research should focus on gaining a better understanding of the concept of context, which will allow a more structured study of the interaction between context factors and emotional behaviors that inform people's interpretation of a given behavior in a given context.

A second historical influence regards the focus on only some emotions to the exclusion of others. This is also linked to the focus on facial emotion expressions. Paul Ekman and colleagues (e.g., Biehl et al., 1997; Ekman et al., 1972) focused on a small set of emotions based on the notion that these emotions can be readily identified from facial expressions. This then led to a generalized focus on these so-called basic emotions. More recent research has widened the scope of both the number of emotions and the channels through which they are expressed (Cowen et al., 2021). However, much is left for future research in this regard. Finally, whereas moderating factors such as culture, gender, or social status or social class have been acknowledged for many years, the study of the intersectionality (Hedgecoth et al., 2023; Monroy et al., 2022) of these factors is still in its infancy.

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