



Perceiving and Producing Facial Expressions of Emotion: The Role of Dynamic Expressions and Culture

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We spend much of our waking lives interacting with other people, reading their facial expressions to figure out what they might be feeling, thinking, or intending to do next (Ekman 1994; Fridlund 1994). At the same time, we also express our own feelings, thoughts, and intentions through facial expressions. Facial expressions thus play an important role in nonverbal human communication. As mentioned in the beginning of this dissertation, a great deal of research has been dedicated to uncovering the effects of facial expressions on human communication (Fischer & Sauter, 2017; Scarantino, 2017; Van Kleef, 2017). The goal of the present dissertation was to shed more light on the two processes of emotion communication—expression and perception/inference—with a primary focus on the roles of dynamic expressions and cultural frame in emotion communication. Specifically, I sought to examine three main research questions: (a) How do people across cultures infer an expresser's emotions based on the perception of the expresser's static or dynamic facial expressions? (b) How do people across cultures produce facial expressions of emotion? (c) How do people draw inferences about the expresser's personality traits based on the perception of the expresser's dynamic facial expressions?

It is well established that Easterners are less accurate than Westerners at categorizing some negative facial expressions (e.g., Beaupré & Hess, 2005; Jack et al., 2009; Matsumoto, 1992; Yik & Russell, 1999). In Chapter 2A, we revisited this phenomenon and hypothesized that rather than Easterners failing to identify the intended emotions, they are more likely than Westerners to perceive multiple emotions simultaneously. To test this hypothesis, we let Chinese and Dutch participants rate Chinese and Dutch static and dynamic expressions of anger, disgust, and fear. Results showed that both groups of perceivers rated expressions higher on the intended emotions than on the non-intended emotions, demonstrating that they accurately perceived the intended emotions. More importantly, Chinese participants made smaller differentiations between intended and non-intended emotions than did Dutch participants. This cultural difference was driven primarily by the perception of non-intended emotions, which was higher among Chinese than among Dutch participants. Taken together, these results suggest that Easterners are more likely to see mixed emotions in facial expressions than are Westerners.

We further investigated the non-intended emotions perceived from facial expressions across cultures in Chapter 2B. We compared the perception of two types of non-intended emotions in Chinese and Dutch perceivers viewing static and dynamic facial expressions: emotions which were morphologically similar to the intended emotion and emotions which were morphologically dissimilar to the intended emotion. Findings were consistent across two studies, and showed that (a) morphologically similar emotions were endorsed to a greater extent than dissimilar emotions, and (b) Chinese perceivers endorsed non-intended emotions more than did Dutch perceivers. Furthermore, the difference between Chinese and

Dutch perceivers was more pronounced for the endorsement of morphologically similar emotions than of dissimilar emotions. We also obtained consistent evidence that Dutch observers endorsed non-intended emotions that were congruent with the preceding expressions to a greater degree. Chapter 2B thus suggests that culture and morphological similarity both influence the extent to which perceivers see multiple concurrent emotions in a facial expression.

To complement the research strand based on emotion perception (Chapter 2A and 2B), Chapter 3 focused on cultural specificity in emotion production. In this study, Chinese and Dutch participants were instructed to either pose facial expressions of anger and disgust (eliciting posed expressions), or to share autobiographical events that elicited anger and disgust (eliciting spontaneous expressions). Results showed systematic differences in the facial muscles engaged in expressions of anger versus disgust in both posed and spontaneous conditions, demonstrating that expressions of anger and disgust were distinct in terms of facial muscle movements in both groups. Posed expressions of anger and disgust were more overlapping in Chinese than in Dutch participants, indicating that Dutch people produce more specific emotional expressions than do Chinese. However, this pattern was not observed for spontaneous expressions. Together, these findings provide the first empirical demonstration that culture influences the specificity of posed, but not spontaneous, facial expressions of emotions.

Besides facial expressions of negative emotion, people from different cultures might also differ in their perception of positive facial expressions such as smiles. Chapter 4 examined how people from different cultures interpret smiles of various intensities. Chinese and Dutch perceivers made ratings of positivity, negativity, authenticity, and politeness for isolated (Experiment 4.1), minimal-context (Experiment 4.2), and dynamic (Experiment 4.3) smiles. The smiles were of low and high intensity, and produced by Chinese and Dutch expressers. Results showed that, across all three experiments, the intensity of the smile and the culture of the expresser consistently influenced smile perception: High intensity smiles were perceived as more positive and authentic, and less negative and polite than low intensity smiles; Dutch smiles were perceived as more positive and authentic, and less negative and polite than Chinese smiles. The effect of culture of perceiver, however, varied across experiments: Dutch perceivers judged dynamic smiles as more positive and authentic, and less negative than did Chinese perceivers, but the two cultural groups did not differ in their perception of isolated and minimal-context smiles. Chapter 4 thus suggests that the perception of affective and social aspects of smiles is influenced by smile intensity and expresser culture.

Apart from emotions, facial expressions also signal other information such as personality traits of the expresser (Hess et al., 2000; Knutson, 1996; Krumhuber et al., 2007). Chapter 5 examined personality trait inferences from dynamic expressions that change from the start emotion to the end emotion. Drawing on three influential models of person perception, we measured perceived dominance and affiliation (Experiment 5.1a), competence and warmth (Experiment 5.1b), and dominance and trustworthiness (Experiment 5.2). A strong recency

effect was consistently found across all trait judgments, that is, the end emotion of dynamic expressions had a strong impact on trait ratings. Evidence for a primacy effect was also observed (i.e., the information of start emotions was integrated), but less pronounced, and only for trait ratings relating to affiliation, warmth, and trustworthiness. These findings thus suggest that, when making trait judgements about others, observers weigh the most recently displayed emotion in dynamic expressions more heavily than the preceding emotion.

Overall, the empirical work presented in this dissertation highlights that (a) Westerners are more specific than Easterners in emotion communication (i.e., perception and production of emotional facial expressions), (b) the interpretation of a smile depends on its intensity and cultural context, and (c) perceivers weigh the end emotion of dynamic expressions more heavily than the start emotion when making trait judgements about others. I hope that future research will continue to be dedicated to uncovering the effects of facial expressions on social interaction.