LEARNING IN EMOTION JUDGMENTS: TRAINING AND THE CROSS-CULTURAL UNDERSTANDING OF FACIAL EXPRESSIONS

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ABSTRACT: This preliminary study presents data on training to improve the accuracy of judging facial expressions of emotion, a core component of emotional intelligence. Feedback following judgments of angry, fearful, sad, and surprised states indicated the correct answers as well as difficulty level of stimuli. Improvement was greater for emotional expressions originating from a cultural group more distant from participants' own family background, for which feedback likely provides greater novel information. These results suggest that training via feedback can improve emotion perception skill. Thus, the current study also provides suggestive evidence for cultural learning in emotion, for which previous research has been cross-sectional and subject to selection biases.

KEY WORDS: culture; emotional intelligence; emotion recognition; facial expressions; feedback; learning; training.

Introduction

The ability to recognize emotional states accurately through nonverbal expression has been studied widely in clinical, cognitive, developmental, and social psychology. In general, the accurate understanding of emotional expressions predicts better social adjustment, mental health, and

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even workplace performance (e.g., Carton, Kessler, & Pape, 1999; Nowicki & Duke, 1994; Rosenthal, Hall, DiMatteo, Rogers, & Archer, 1979). Nonverbal expressions can serve as spontaneous readouts of an individual's inner state (e.g., Ekman, 1972) and also purposeful social displays indicating behavioral intentions (e.g., Fridlund, 1991, 1994; Hess, Banse, & Kappas, 1995). Highly skilled individuals are presumably more accurate at obtaining information about other people's internal states, and can often use this information to navigate their social worlds.

Given the importance of these judgments, it is worth considering how to improve their accuracy. Research that has attempted to validate training in nonverbal sensitivity has been relatively sparse (Ambady, Bernieri, & Richeson, 2000), but holds promise as well. Practice alone can be a valuable teacher (Costanzo, 1992; deTurck, Harszlak, Bodhorn, & Texter, 1990; Grinspan, Hemphill, & Nowicki, 2003; Zuckerman, Koestner, & Alton, 1984). Even in the absence of any feedback, participants achieve higher accuracy in the second half of standardized test instruments (e.g., Rosenthal *et al.*, 1979).

There is also supportive evidence for training programs that are designed—beyond practice—to provide diagnostic feedback to participants about how to make judgments of nonverbal behavior. In Beck and Feldman (1989), adolescents randomly assigned to receive feedback about the accuracy of their judgments subsequently outperformed those who received only the same amount of practice in judging the same stimuli. Feldman, Philippot, and Custrini (1992) documented that feedback about whether responses were correct or incorrect improved children's accuracy in repeating judgments of a set of facial expressions. Grinspan *et al.* (2003) demonstrated improvement in children's accuracy judging facial expressions following group exercises illustrating examples and components of facial expressions. Gillis, Bernieri, and Wooten (1995) examined the impact of two types of feedback on judgments of interpersonal rapport. They found that cognitive feedback—that is, receiving general information about the nonverbal cues that are typically diagnostic in predicting rapport—benefited only relatively mechanical and purified judgments in which participants viewed bar charts that illustrated the levels of those cues. However, participants who judged actual nonverbal behavior, appearing in videotaped dyadic interactions, benefited from outcome feedback—that is, receiving the criterion variable which was the targets' own ratings of their interpersonal rapport in this study. This study corroborates other evidence that training programs instructing participants about diagnostic cues do not appear measurably to improve nonverbal decoding accuracy (Costanzo, 1992).

Taken together, prior research suggests that participants who make gestalt judgments of nonverbal behavior benefit less from instructional materials regarding the diagnostic cues, and more from feedback about the correct responses that allows them to make personal sense of the cues contained within stimuli. Thus, in light of the promise of this approach to training in emotion judgments, it is worthwhile to expand the body of empirical support. A further innovation of the current study is to provide participants with additional outcome feedback that contains potentially valuable information about the stimuli beyond whether or not participants' initial responses were correct. In addition to providing correct responses, the present design also provides an indication of how clear or obvious the item is to other perceivers, by indicating the accuracy norms for each stimulus item. Such information may benefit participants by focusing greater attention on those items that contain cues clearly intelligible to peers, and suggesting relatively less focus on the potentially ambiguous or unclear cues contained in those items that are less readily understood by peers. The presence of this additional information may allow participants to learn more efficiently, and to develop consistent interpretations of clear cues with less risk of reading signal into the noise of idiosyncratic expressions.

Hypothesis 1: Emotion recognition accuracy improves with outcome feedback.

Given ample evidence for improvement due to practice, even in the absence of feedback, a simple pre-post design does not provide unambiguous support for the value of outcome feedback to improve emotion recognition accuracy. Thus, to provide potentially stronger evidence, the current study uses a training context in which outcome feedback for multiple types of emotion judgments can be compared, to suggest that improvement results from more than practice and task exposure alone. Cross-cultural judgments provide one such opportunity.

Cultural Learning

Given the increasingly diverse nature of society, it is increasingly important for individuals to recognize emotional expressions in members of other cultures. In spite of its basic universality (e.g., Ekman, 1972, 1992; Haidt & Keltner, 1999; Izard, 1971; Mesquita, Frijda, & Scherer, 1997; but see also Russell, 1994), the expression of emotion may nonetheless vary across cultural groups. Recent research documents an in-group

advantage in the communication of emotion, whereby judgments of emotions expressed by members of one's own cultural in-group are generally more accurate than judgments of emotions expressed by members of a cultural out-group (Elfenbein & Ambady, 2002b, 2003). To explain this phenomenon, a recently proposed dialect theory of emotion (Elfenbein & Ambady, 2003) suggests that the communication of emotion is a universal language with dialects that differ across cultures (Rosenthal *et al.*, 1979; Tomkins & McCarter, 1964). Cultural groups may vary subtly in their pattern of emotionally expressive cues, and individuals are likely to be more accurate when judging emotions expressed using a familiar style.

Consistent with the work reviewed above that demonstrates the value of practice, past research shows that accuracy in judging foreign emotional expressions tends to improve with greater cross-cultural exposure (Ducci, Arcuri, W/Georgis, & Sineshaw, 1982; Elfenbein & Ambady, 2002b, 2003; Sorensen, 1975). However, such work has been cross-sectional and observational, and could reflect self-selection. That is, participants in these studies generally chose their degree of cross-cultural exposure to other groups. More direct evidence would come from an intervention study in which accuracy can be measured before and after increases in familiarity.

For these reasons, the current study examines outcome feedback in the context of cross-cultural emotion judgments. Beyond cultural training, such research is designed to help evaluate the value of outcome feedback in nonverbal judgments more generally. Instruction about correct responses is presumably most helpful when individuals judge emotions that are ambiguous and unfamiliar. Because dialect theory argues that stimulus materials from different cultures use subtly different expressive cues, instruction is presumably more helpful and usable for expressions that are culturally less familiar because such instruction likely contains more novel and potentially unknown information about emotional expression style. Although feedback about expressions from one's own cultural group certainly provides judges with the potential for learning, this potential is likely greater for feedback about expressions from a different cultural group. Because practice alone is unlikely to be a complete explanation if there are differential results for outcome feedback across the cultural origin of stimulus materials—in a repeated-measures design in which practice is constant across types of stimulus materials—such differential results would further support the value of outcome feedback.

Hypothesis 2: There is greater improvement in emotion recognition following outcome feedback for expressions that originate

from a cultural group that is relatively less familiar given the participant's own family cultural background.

Method

Stimulus Materials

Stimuli were two sets of black-and-white photographs of facial expressions from the USA (Ekman & Friesen, 1976) and Mainland China (Wang & Markham, 1999). Each set was previously developed and validated in its country of origin by researchers from that country, for high recognition levels and for intensity ratings higher for the intended emotion category than any alternative. The two sets did differ in the methods the researchers used to elicit the facial expressions. Whereas Ekman and Friesen's posers moved specific facial muscles to portray prototypical expressions of emotion, Wang and Markham's posers attempted to pose an appropriate expression for each emotional state. However, both are arguably consistent with local emotional expression norms, because Ekman and Friesen developed their model of prototypical expressions (e.g., Ekman & Friesen, 1978) within the United States. In all other respects, the Chinese photos were designed to match the US, and both collections have previously been used together in cross-cultural emotion research (Elfenbein & Ambady, 2003; Markham & Wang, 1996).

Two matched sets of photographs served as stimulus materials for the training and testing blocks. To avoid specific item confounds, half of the participants viewed Set A during the training session and Set B during the testing session, and the other half vice versa. Each set contained 40 photos, two males and two females from each of the two cultures displaying each of five basic emotions identified as having unique, highly recognizable signal characteristics: anger, fear, happiness, sadness, and surprise (Ekman, 1972). Expressions of the sixth basic emotion, disgust, were excluded due to the small number of disgust poses contained in the Chinese stimulus set that had high normative recognition levels. Photos of given emotions for the two cultural groups were carefully selected so that the matched sets were comparable in terms of similar in-group normative recognition levels (USA $M = 88.6\%$, $SD = 8.8\%$, China $M = 87.3\%$, $SD = 9.8\%$), which suggests the two sets have similar strength of signal value to perceivers in their country of origin. Across the two sets, there was a consistent number of photographs per individual poser (13 posers

from each cultural group for an average of three photographs each poser). Due to limitations in available items from the photograph collections, in order to maintain the balanced design (Elfenbein & Ambady, 2002a; Matsumoto, 2002) one item was repeated in Sets A and B for each cultural group.

Participants

Seventy-five students at a large university in the United States participated in exchange for course credit. To classify participants' backgrounds, a questionnaire following the judgment task asked for participants' gender, their family's country of origin, their own country of birth, and the country of birth of their mother, father, maternal grandparents, and paternal grandparents. *Participants of Chinese ancestry* (n = 38, 17 males and 21 females) listed their family origin and their birthplace or that of parents and/or grandparents as China, Hong Kong, or Taiwan. *Participants of non-Chinese ancestry* (n = 37, 19 males and 18 females) identified their cultural background, own birthplace and birthplace of parents and grandparents as anywhere other than China, Hong Kong, or Taiwan. Data were excluded from analysis for participants reporting their family origin, birthplace or that of parents and/or grandparents as non-Chinese regions in East Asia, i.e., Cambodia, Japan, Korea, Malaysia, or Vietnam. Coding the number of generations in which participants and their families lived in the United States—with a zero for those who had themselves immigrated, one for those whose parents had generated, and two for those whose grandparents had immigrated—the average generation for participants of Chinese origin was 0.58 (SD = 0.57, range 0–2).

Judgment Task

Participants viewed stimuli via a computerized task programmed using SuperLab (1997). The session began with two *familiarization trials* containing facial expressions from India (Mandal, 1987), after which participants could ask questions or indicate readiness to continue. The subsequent *training session* contained two screens for each photograph. First, participants viewed the photograph, which remained on the screen until the participant entered a multiple-choice judgment of the intended emotion. Following this judgment, a feedback screen appeared with the photograph and additional information: the intended emotional category and in-group accuracy norms: ''[Intended category]. In [the USA/China], this photograph is considered [easy/medium/difficult, (normative %

score)],'' with the word ''easy'' for photographs with normative scores 90% and higher, ''medium'' 80–89%, and ''difficult'' below 80%. Participants pressed any key to continue from this screen to the next photograph. Training sessions used all photographs in one stimulus set either A or B, in a randomized order differing for each participant. Subsequently, participants took part in the *testing session* using all photographs in the other stimulus set B or A, following the same protocol except without feedback screens. In light of evidence that the language of administration can impact the cross-cultural judgment of emotional expressions (Matsumoto & Assar, 1992), all instructions were in English.

Percentage accuracy scores analyzed below indicate the proportion of stimuli labeled with the intended category, as defined by the researchers who created the stimulus materials. Key results are also reported in terms of unbiased hit rates, which correct for possible participant biases in the base rate of selecting each emotional category (Wagner, 1993). Analyses exclude expressions of happiness due to a ceiling effect (98.8% accuracy).

Results

Table 1 summarizes emotion recognition accuracy values across groups and sessions. Analyses used a 2 (Judge Cultural Group: Chinese ancestry, non-Chinese ancestry)×2(Judge Sex)×2(Session: training versus testing session)×2(Expressor Cultural Group: China, USA)×4(Emotion: anger, fear, sadness, surprise) ANOVA with repeated measures on the Session, Expressor Group, and Emotion factors.

Participants of Chinese and non-Chinese ancestry did not differ in overall emotion recognition accuracy, $F(1, 71) = 1.99$, $p = .16$. Participants—all residing in the USA—recognized American expressions more accurately than Chinese expressions, $F(1, 71) = 5.93$, $p < .02$, $r = .28$, although stimulus materials had comparable normative values in their region of origin. Overall accuracy varied across emotions, $F(3, 213) = 27.01$, $p < .01$, with surprise the state most accurately understood and fear the least. Some emotions were more clearly understood when expressed by one cultural group than another (Emotion×Expressor Culture, $F(3, 213) = 26.81$, $p < .01$), with fear more accurately understood from Chinese expressions and anger, sadness, and surprise more accurately understood from US expressors.

Supporting Hypothesis 1, participants were more accurate during testing session than the initial training session, $F(1, 71) = 14.97$, $p < .01$,

TABLE 1

Recognition Accuracy for Judgments of Emotional Expressions from China and the United States by Participants of Chinese and non-Chinese Ancestry during Training and Testing Sessions

	Training Block		Testing Block			Improvement across Sessions	
	Expressions (%)		Expressions (%)			Expressions (%)	
Emotion	China	USA	China	USA	Grand Total (%)	China	USA
Non-Chinese Ancestry							
Angry	69.0	86.3	72.8	92.2	80.1	3.7	5.9
Fearful	78.6	62.5	83.3	64.9	72.3	4.8	2.4
Sad	65.5	78.6	77.4	81.0	75.6	11.9	2.4
Surprised	83.9	87.1	86.9	92.8	87.7	3.0	5.7
M	74.3	78.6	80.1	82.7	78.9	**5.8**	*4.1*
Chinese Ancestry							
Angry	64.2	73.0	70.3	77.7	71.3	6.1	4.7
Fearful	73.6	56.8	74.3	65.5	67.6	0.7	8.8
Sad	73.6	73.6	73.6	88.5	77.4	0.0	14.9
Surprised	86.5	88.4	83.1	91.9	87.5	−3.4	3.5
M	74.5	73.0	75.3	80.9	75.9	*0.8*	**8.0**
Total	74.4	75.8	77.7	81.8	77.4	3.3	6.0

Note: Values in boldface/italicized print represent the overall improvement between the training and testing sessions for those emotional expressions originating from a cultural group more/less distant, respectively, from the participant's family cultural background.

$r = .42$ (unbiased hit rates, $F(1, 71) = 12.61$, $p < .01$, $r = .39$). Providing support for Hypothesis 2 was a significant interaction of Session x Expressor Cultural Group×Judge Cultural Group, $F(1, 71) = 5.44$, $p < .03$, $r = .27$, such that the relative advantage for expressions more culturally similar to one's background was greater in the initial training session than the subsequent testing session. This result reached only marginal significance using unbiased hit rates, $F(1, 71) = 2.82$, $p < .10$, $r = .20$. Figure 1 illustrates this interaction, in which there was relatively greater improvement from participants of Chinese rather than non-Chinese ancestry for stimulus materials from the USA, and relatively greater improvement from participants of non-Chinese rather than Chinese ancestry for

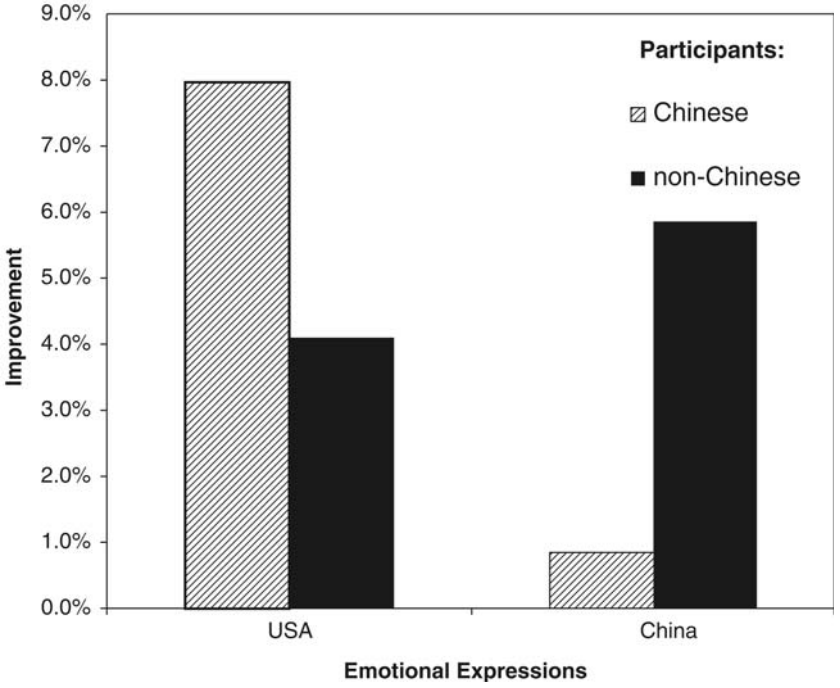

Figure 1. Mean improvement in accuracy of emotion recognition as a function of the origin of emotional expressions and the cultural background of participants.

stimulus materials from China. Although a visual inspection of Table 1 suggests some fluctuation in this effect across emotions, in particular with a stronger effect for judgments of sadness and fear, a statistical test did not reveal differences across emotions in the magnitude of Hypothesis 2 (Emotion×Session×Expressor Cultural Group×Judge Cultural Group, $F(3, 213) = 1.94$, $p = .12$). No other terms were significant.

Additional ANOVA models examining the training and testing sessions separately revealed a trend of relative advantage in judging expressions originating from China for Chinese participants and from the USA for non-Chinese participants in the initial training session (conventional hit rates, $F(1, 71) = 4.64$, $p < .04$, $r = .25$, unbiased hit rates, $F(1, 71) = 5.75$, $p < .02$, $r = .27$), but not in the subsequent testing session (conventional hit rates, $F(1, 71) = 1.16$, $p = .29$, $r = .13$, unbiased hit rates, $F(1, 71) = 0.003$, $p = .96$, $r = .01$).

Discussion

This preliminary study adds to existing evidence that outcome feedback can improve the accuracy of judgments of nonverbal behavior. These findings support the promise of such training in recognizing emotions in facial expressions, a skill studied widely by psychologists. Extending past findings, the study examined the impact of feedback that includes information about correct answers as well as clarity levels of stimuli.

Past research has demonstrated that participants provided with feedback about the accuracy of their emotion recognition judgments outperform those given practice alone (Beck & Feldman, 1989). The cross-cultural application of the current study further suggests—although it does not conclusively demonstrate—that improvements in judgment accuracy following outcome feedback likely resulted from more than practice alone. Improvement on each set of stimulus materials was greater for participants from cultural groups less familiar given their own family background. In such cases, outcome feedback presumably provides greater novel information. Likewise, these findings provide suggestive empirical support for a dialect theory of emotion, by providing evidence for the cross-cultural learning of emotion recognition judgments. The finding that participants achieved greater improvements with expressions from less familiar cultural groups supports the idea that familiarity with culturally specific elements of emotional expression improves recognition accuracy. Although the amount of actual cultural learning in the current design was limited compared with meaningful longitudinal interpersonal exposure, the study addresses self-selection concerns plaguing past research on cultural learning, in that participants did not choose their level of cross-cultural exposure.

Limitations and Further Work

This study has important weaknesses that should be addressed in future research. In particular, the stimulus materials were selected because they were readily accessible from previous studies, and participants were recruited from university student convenience samples. First, the availability of stimulus materials limited the study to static facial expressions. Dynamic channels of nonverbal communication such as vocal tones, body and facial movement need to be examined as well in future work. Further, stimulus materials limited the number of learning trials to 20 photographs per cultural group, and future work should provide more intensive training. Improvement over such a brief period suggests the great poten-

tial power of outcome feedback. Indeed, the relative advantage in judging expressions originating from China for Chinese participants and from the USA for non-Chinese participants in the initial training session appeared to disappear by the subsequent testing session. The current test was even conservative in that learning likely took place over the course of the training trials (Beck & Feldman, 1989), and so the baseline comparison was already slightly inflated from a true baseline.

The use of pre-existing stimulus materials provided an additional limitation in that the expressions originating from the USA appear to be more pure, intense, and easier to decode. Although normative recognition levels were similar as tested in the country in which each set was developed, the multiple-choice format for establishing stimulus norms allows for variance in the quality of portrayals, in that a photograph would be considered to be a good representation of an emotional state as long as it excludes other plausible alternatives.[1] In the current study, participants were more accurate overall in judging the American expressions and demonstrated greater improvement in their judgments of American expressions. It seems likely that the method used in the US to create stimuli resulted in more clear exemplars of basic emotions, and the more easily recognizable cues facilitated the learning process. The particular pattern that emerged—in which there was greater learning for Chinese stimuli by non-Chinese rather than Chinese participants and greater learning for USA stimuli by Chinese rather than non-Chinese participants—would be unlikely to result if the Chinese stimuli did not also contain sufficiently reliable cues to permit learning. However, future research should use stimulus materials that are more closely matched and comparable with respect to reliability and intensity levels, the method of emotion elicitation, and a range of positive and negative states. In the current study, the culture of expressors and the method of creating the stimuli are confounded with each other, which limits the interpretation of the results.

Because the stimulus materials were intended to portray clear expressions, the resulting judgment task was relatively unchallenging compared with the ambiguity of understanding expressions in daily life. The stimuli used in further research should be intense enough to portray clear and valid expressive cues, yet not so intense to result in ceiling effects that may serve to hide or dampen the effects of learning. At the extreme, the exclusion of expressions of happiness due to near-perfect recognition limits the generalization of the current results to three negative emotional states and one neutral state. Because negative emotions are the most likely to be inhibited (Ekman, 1972), the current findings may differ when

tested with positive emotions. In fact, because the results for anger run in the direction opposite of the predicted interaction, the current findings—applying to expressions of fear, sadness, and surprise—may best describe submissive emotional categories.[2]

A further limitation is that expressors' cultural background was apparent due to visible ethnic differences, and this may have impacted the current results. On the one hand, it may seem unlikely that these results stemmed from ethnic bias—greater motivation when judging one's own cultural group (Kilbride & Yarczower, 1983; Markham & Wang, 1996)—in that one would not expect outcome feedback to increase participants' motivation to understand expressions relatively more from a more culturally distant group. On the other hand, it is possible that the outcome feedback provided participants with greater confidence in decoding such expressions. On a related note, participants may have been more curious about the out-group expressions and their greater attention—rather than the presence of unfamiliar cues that are learnable via outcome feedback—could have contributed to the current results. [3] There may be lesser potential for contrast effects in further research that includes stimuli that do not allow clear identification of group membership or using a between-subjects design in which participants view stimulus materials from only one cultural group.[4]

Further, researchers examining cultural learning should ensure that stimulus materials are representative in portraying culturally acquired components in the style of emotional expression across groups. The current study inferred the presence of culturally specific elements of style in the stimulus materials from the presence of in-group advantage in previous research using the same stimuli (Elfenbein & Ambady, 2003). However, further work should document explicitly the presence of these stylistic differences. It is possible that the clearer evidence for the second hypothesis in the case of expressions of sadness and fear, rather than anger and surprise, could indicate stronger cultural differences in the diagnostic cues contained within the sadness and fear stimuli. The presumed mechanism for greater learning via outcome feedback is that it provides participants with information that helps them to form clear decision rules regarding the emotional states associated with particular configurations of expressive cues. This mechanism can be tested directly, for example by using training stimuli in which culturally variable cues are present vs. absent, and documenting whether or not cultural learning is greater in the case of training materials containing culturally variable cues. For example, Elfenbein, Beaupré, Leveque, and Hess (2005) recently developed stimuli from Quebec, Canada and Gabon, Africa using a consistent elici-

tation method resulting in expressions of similar clarity, intensity, and naturalism, in which cultural groups differed in subtle aspects of their expressive style for many of the emotional categories tested. These expressions can be paired with stimuli from the Montreal Set of Facial Expressions (MSFE; Beaupré & Hess, 2005) in which members of the same ethnic groups took part in a directed facial action task so that posers used a standard configuration of facial muscles regardless of their cultural background. By randomly assigning participants to judge one of these two types of expressions during the training block—all of whom judge culturally variable expressions in the testing block—the MSFE training condition can serve as a control for practice, motivation, curiosity, and other potentially confounding factors that serve as alternate explanations to cultural learning.[5]

After confirming the core findings of the present study using improved methodology, further research could examine the boundary conditions for the effect. For example, it is not clear the duration of any learning that takes place during such a laboratory study.

Future research on cross-cultural learning should also sample participants more precisely with respect to the origins of stimulus materials. In the current study, participants all resided in a major city in the United States. Participants of Chinese family background certainly had exposure to the emotional expressions of Caucasian Americans, and participants of non-Chinese background may have had some exposure to Chinese emotional expressions as well. Given the likely asymmetry in this exposure, it is curious that Chinese participants displayed greater learning of Caucasian American expressions than non-Chinese participants did for Chinese expressions. One can speculate that this pattern—if not created by differences in the clarity of stimuli—may reflect differences in motivation on the part of participants, given that Chinese participants likely have more incentive to understand non-Chinese emotional expressions than the reverse. A setting with minimal cross-group contact would make for a clearer test of the current hypotheses. Sampling participants for future research on cross-cultural learning should also include settings with meaningful contact and genuine stakes for those involved, for example in overseas work assignments. Real-world cultural learning is likely to be a long-term and interpersonally involved process[6], rather than the result of explicit feedback on a series of laboratory stimuli. However, real-world contact can also present its own barriers to learning, for example politeness on the part of social interaction partners who may be reluctant to indicate when it is clear an attribution error has been made (e.g., Swann, Stein-Seroussi, & McNulty, 1992). If a perceiver does not act outwardly on a given attri-

bution, then there may not be a chance for social interaction to provide feedback on the judgment, even if interaction partners are so inclined. These factors suggest that there may still be a role for explicit feedback to generate improvement in the ability to understand emotional expressions.

Overall, with important qualifications, the current findings suggest promise for the future of training programs designed to improve the accuracy of nonverbal judgments. This is a worthwhile goal given extensive evidence for the day-to-day value of such accuracy, as well as the recent surge of interest in the perception of emotion given its inclusion under the umbrella of emotional intelligence (e.g., Matthews, Zeidner, & Roberts, 2002; Mayer, Salovey, Caruso, & Sitarenios, 2001). Further, in light of increasing cultural diversity in schools, workplaces, and communities, society can benefit from researchers identifying and validating methods to overcome challenges to cross-cultural understanding.

Notes

1. The author thanks an anonymous reviewer for this point.
2. The author thanks Howard Friedman and an anonymous reviewer for this suggestion.
3. The author thanks an anonymous reviewer for this point.
4. The author thanks an anonymous reviewer for this point.
5. The author thanks Ursula Hess for the shared development of these ideas.
6. The author thanks an anonymous reviewer for this suggestion.

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