Commentary

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Cultural Variation in Emotion Perception Is Real: A Response to Sauter, Eisner, Ekman, and Scott (2015)

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We recently published results of two experiments (Gendron, Roberson, van der Vyver, & Barrett, 2014a) showing that emotions were not universally perceived in vocalizations. We traveled to remote locations in Namibia and sampled participants from the Himba cultural group. Participants in Study 1 listened to vocalizations and freely labeled them. Participants in Study 2 followed a forced-choice procedure similar to that reported by Sauter, Eisner, Ekman and Scott (2010); on each trial, they had to choose which of two vocalizations (a target and a foil) matched a brief emotional story (embedded with emotion words). Refining Sauter et al.'s finding that Himba perceivers performed above chance in choosing vocalizations to match story and word cues, we observed that Himba individuals correctly perceived vocalizations according to their positivity or negativity (i.e., valence), but not their presumed universal emotion categories (e.g., anger or fear). Our finding replicated the results of our free-labeling study (Study 1), as well as other data showing that Himba participants perceive valence, but not Western discrete emotion categories, in posed facial expressions (Gendron, Roberson, van der Vyver, & Barrett, 2014b). In their Commentary, Sauter, Eisner, Ekman, and Scott (2015) report that a reanalysis of their data rules out valence as an alternative to their interpretation that their findings support universal emotion perception. They also suggest two reasons why we did not replicate their findings. We appreciate the opportunity to respond and offer three suggestions of our own that question their conclusions and details of the experimental method that they have now elaborated on.

Positive-Emotion Categories Do Not Obscure Evidence of Universality

Sauter et al. posited that by including stimuli for triumph, pleasure, and relief in our analysis,[1] we obscured evidence for universal emotion perception. Here, we present our results for only the negative-emotion categories (Fig. 1). Himba participants chose the correct vocalization only when the target and the foil differed in valence; specifically, performance was above chance only for arousal-matched trials, which required reliance on valence perception, $t(36) = 2.136$, $p < .02$ (one-tailed). This is the same pattern that we originally found when all the data were included (Gendron et al., 2014a, Fig. 4).

In Cross-Cultural Research, Where Is the Boundary Between Manipulation Checks and Category Learning?

In their original report, Sauter et al. (2010) stated that after hearing each emotion scenario, participants were "asked how the person was feeling" (p. 2411) to confirm that "they had understood the intended emotion of the story" (p. 2408). In their Commentary, Sauter et al. (2015) further elaborate that "each participant was asked, after each story, how the target person was feeling, in order to ensure that the participant had understood the story correctly." Sauter et al. also explain that they

> allowed participants to listen several times to a given recorded story (if needed), until they could explain the intended emotion in their own words, before they proceeded to the experimental trials for that story. The inclusion of a rigorous manipulation check *with experimenter verification*, rather than reliance on participants' reports, was thus crucial. (p. 355, italics added)

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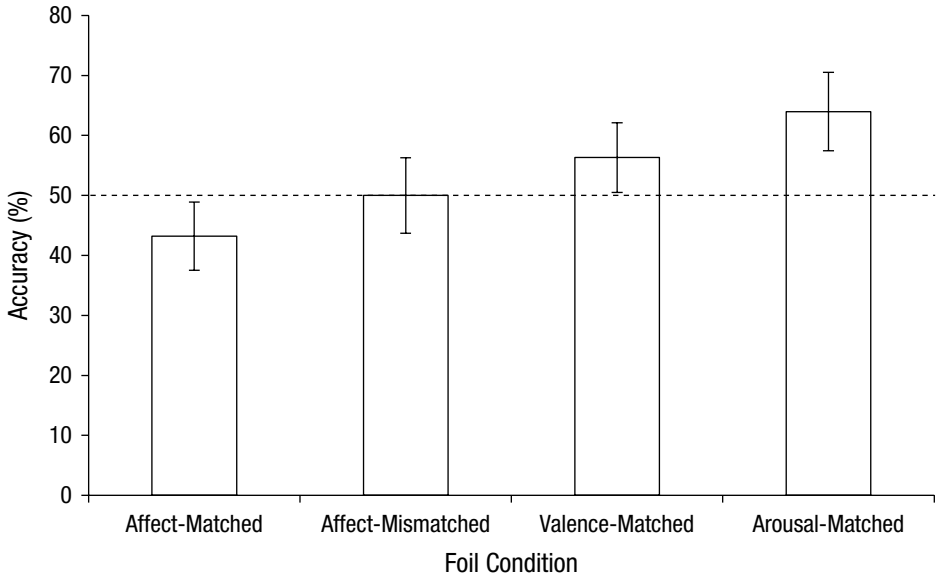

Fig. 1. Himba participants' mean percentage accuracy (±1 *SEM*) in selecting the correct vocalization for negative-emotion targets in each foil condition.

Thus, Sauter et al. have clarified that they did not allow Himba participants to proceed to the experimental trials for a given story until they could categorize (or elaborate on) the emotion stories in a manner consistent with Western cultural expectations. The "rigorous" manipulation check, and the blocking of experimental trials by emotion, that Sauter et al. describe likely encouraged category learning before the Himba participants provided their forced-choice response during each experimental trial.

Sauter et al. (2015) further suggest that our failure to similarly probe our subjects is responsible for our failure to replicate their findings of universal emotion perception. If Sauter et al. are saying, in effect, that we did not teach our Himba participants the Western emotion categories before we ran the experiment, and thus we did not observe universal emotion perception, then they are right. We did not provide any guidance to participants to ensure that they understood the emotion stories in a Western way; participants listened to each emotion story until they indicated they understood it (i.e., from their cultural perspective). We did not ask participants to describe the scenarios (or have an experimenter verify content), as this check would have defeated the purpose of the experiment. If one has to allow for, or even inadvertently guide, Himba participants to learn Western emotion categories before they can perform the perception task, then these emotions probably are not all that universal.

Forced Choice Is Confirmatory Oriented, Whereas Free Labeling Is Discovery Oriented

The forced-choice response format used by Sauter et al. (2010), used by us in our Study 2, and favored by researchers who study emotion perception, constrains participants' response options, thus limiting the ability to discover cross-cultural variation (cf. Russell, 1994).[2] Emotion-word stimuli and response options can prime embodied concept knowledge (e.g., Lebois, Wilson-Mendenhall, & Barsalou, in press; Trumpp, Traub, Pulvermüller, & Kiefer, 2014) and can lead to selection of inappropriate or nonsensical responses (Nelson, 2011; Russell, 1993; see Nelson & Russell, 2013). Free-labeling procedures come closer to assessing what participants perceive spontaneously (cf. Widen & Russell, 2003), allowing a more ecologically valid assessment of emotion perception (e.g., capturing variation in complexity and cultural specificity of word use). We found that spontaneous responses revealed unexpected variation in emotion perception processes of mentalizing and action identification (Gendron et al., 2014a, 2014b); individuals in the Himba culture do not use emotion words as spontaneously or frequently as their Western counterparts do. Moreover, participants from Western cultures often fail to produce the expected "universal" pattern of emotion perception when labeling stimuli freely (for a review, see Nelson & Russell, 2013).

Author Contributions

M. Gendron reanalyzed the data. M. Gendron and L. F. Barrett drafted the manuscript, and D. Roberson edited the manuscript.

Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

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Notes

1. Other researchers have proposed that triumph (often termed *pride*; Tracy & Robins, 2008) and pleasure and relief (e.g., Ekman & Cordaro, 2011) are good candidates for universal emotional categories.
2. In the majority of forced-choice methods, participants are presented with stimuli (faces, vocalizations, or body postures) and must use Western emotion words or their translations to categorize the presented stimuli.

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