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Commentary

We don't make WEIRD faces: A brief history of emotion expression research in small-scale societies

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ABSTRACT

Research in the social sciences has largely relied on Western, Educated, Industrialized, Rich, and Democratic (WEIRD) participants, yet scholars tend to use findings from such WEIRD samples to draw conclusions about human psychology at large. There is, however, one prominent area of psychological science drawing on evolutionary theory that marks a major exception to this trend: research on the nonverbal expression of emotion. We briefly review the major findings from this literature, highlighting the ways in which researchers have effectively used participant samples from "maximally divergent populations" to address questions about universality and, in turn, the evolutionary basis of nonverbal displays.

As Barrett, 2020 (this issue) notes, research in the social sciences has largely relied on Western, Educated, Industrialized, Rich, and Democratic (WEIRD) participants, yet scholars tend to use findings from such WEIRD samples to draw conclusions about human psychology at large. This trend is problematic; many psychological effects vary across cultures, so ascriptions of human nature made from WEIRD participants are often unwarranted. Although the rampant use of WEIRD samples was first identified a decade ago (Henrich, Heine, & Norenzayan, 2010), the practice continues. There is, however, one prominent area of psychological science drawing on evolutionary principles that marks a major exception to this trend: research on the nonverbal expression of emotion.

Studies in the emotion expression literature have long made use of non-WEIRD populations by directly recruiting participants from small-scale traditional societies and using the "maximally divergent population" approach (Norenzayan & Heine, 2005) to test whether recognition of certain emotion expressions are likely to be human universals. The logic guiding this approach is that because individuals from culturally and/or geographically isolated societies are unlikely to have learned about Western emotion expressions through cross-cultural transmission, evidence that these individuals reliably recognize western-derived expressions provides strong support for such expressions universality. It is difficult to explain how people from such disparate groups, with little-to-no contact, could have independently constructed or learned the same sets of facial or bodily movements to convey each emotion, making universal genetic origins the most plausible explanation (Norenzayan & Heine, 2005). Researchers utilizing this approach have therefore accomplished one of the two goals of evolutionary science laid out by Barrett: "understanding human universals" (p. 13).

Nonverbal expression research using the maximally divergent population approach also has eluded several other critiques raised by Barrett, specifically pertaining to studies conducted among small-scale traditional societies. First, while Barrett notes that, "for many studies conducted in small-scale societies, there is often no more justification than 'this has never been studied in non-WEIRD people'" (p. 7), in the case of nonverbal expression research, the novelty of the sample is not the motivation for recruitment. Instead, these unique participants are sought because documenting recognition in such a sample allows for broader conclusions about human nature, rather than mere description of cross-cultural differences or similarities of a given phenomenon. Second, Barrett also notes that these societies tend to be unrepresentative of humans in general, making it problematic for researchers to use findings from such samples as a basis for conclusions about a generalizable feature of human nature. For nonverbal expression research, however, the uniqueness of each small-scale society is a feature not a bug; the premise of the approach is to demonstrate generalizability across maximally dissimilar cultures, making the distinctiveness of these populations a benefit rather than a nuisance. This is not to say that this distinctiveness has no limitations; the exceptional differences between small-scale societies and WEIRD samples mean that when cultural differences emerge, researchers cannot isolate the sociocultural variable at the core of the distinction (Norenzayan & Heine, 2005). For this reason, this approach is often insufficient for accomplishing the second goal of evolutionary science laid out by Barrett:

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"understanding human variation".

The maximally divergent population test of universality was first popularized by Ekman, Sorenson, and Friesen, who found that the distinct facial expressions associated with a handful of basic emotions in the Western world – anger, disgust, fear, sadness, and surprise—are also associated with these same emotions in several small-scale societies in Papua New Guinea and Indonesia (Ekman, Sorenson, & Friesen, 1969; Ekman, 1994, 1972; Sorenson, 1975; Ekman & Friesen, 1971). Their seminal findings became a generative topic in the social sciences, inspiring facial expression work that spanned disciplines of psychology, computer science, animal behavior, and more (e.g., Dolensek, Gehrlach, Klein, & Gogolla, 2020; Picard, 2000; De Waal, 2011). In one example, researchers broadened the scope of Ekman and colleagues' initial findings by extending the list of emotions evidenced to have universally recognized nonverbal expressions to include self-conscious emotions like pride and shame (Keltner & Haidt, 1999; Tracy & Robins, 2008).

More recently, researchers have begun to adopt these same methods to tackle new questions about universality of nonverbal expressions, such as whether expressions involving bodily movements might be universally understood. To some extent, this trend began with work on self-conscious emotions, which involve head movements and postural shifts (Keltner, 1995; Tracy & Robins, 2004, 2008). In current research, scholars are examining whether basic emotions expressions that are reliably conveyed from the face alone might also be reliably recognized from body movements alone (Witkower & Tracy, 2019). There is good reason to suspect that humans, like many non-human primates, express emotions with their bodies as well as faces. Bodily expressions enable emotion communication when the face is not visible, and, in contrast to subtle facial muscle movements, across large distances (De Gelder, 2009). One study in this vein found that three distinct emotions known to have universally recognized facial expressions – anger, fear, and sadness – are also associated with cross-culturally recognized bodily expressions, which pass the maximally divergent population test (Witkower, Tracy, Hill, & Koster, 2020). Future studies are needed to test whether a broader array of emotions also have bodily expressions that pass this test.

Another line of research building on this approach examines whether nonverbal signals of social information beyond emotions might be universal. Most notably, dominance and prestige – two distinct forms of social rank – have been associated with distinct nonverbal displays that are reliably recognized and spontaneously displayed in WEIRD populations (Witkower, Tracy, Cheng, & Henrich, 2020); a recent study extended these findings to the Mayangna, a small-scale traditional society in Nicaragua, providing the first evidence of two distinct and reliably differentiated universal signals of high-rank (Witkower et al., 2020).

In sum, research on nonverbal expressions of emotion has a rich history of recruiting non-WEIRD populations to address questions about universality. Ekman and colleagues' seminal findings created a foundation for subsequent researchers to build on, inspired numerous new avenues of inquiry, and is an exception to the WEIRD problem that plagues the behavioral sciences.

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