



# Using Brain Imaging to Understand Culture



Robert Fried/Alamy

A traditional healer in the Shona village in Harare, Zimbabwe.

For thousands of years, humans have traveled and been fascinated by the diversity of human behavior and thinking around the world. Historically, those interested in psychopathology and neuroscience research have focused more on the universality of human processing rather than the diversity found in different cultures. This is beginning to change with an integration of human diversity and neuroscience perspectives on human behavior and experience (see Chiao, 2009, 2011; Henderson, Vincenzi, Yeung, Fricchione, 2016; Kitayama & Cohen, 2007).

In terms of assessment and *classification* of mental disorders, it is critical when working with individuals from different cultures to understand the rules of expression as well as the labeling of mental disorders. This is especially true if the rules for expression of distress and emotion differ greatly from the interviewer's culture. It is also important to understand what would be considered

a mental disorder in another culture. For example, in some cultures such as the Shona of Zimbabwe, there is a disorder referred to as thinking too much (*Kufungisisa*). Thinking too much is seen to cause anxiety and depression as well as headaches and dizziness. A common theme in Latin America is to speak of nerves (*nervios*) as a common idiom of psychological distress. People may say that they cannot function because of nerves. In Japan, there is a broad concept of social concern when interacting with others (*taijin kyofusho*). This can include concern that one is making too much or too little eye contact, has an unpleasant body odor, or is making inappropriate body movements (see Mezzich & Ruizperez, 2015, for an overview). Cultural displays of emotional expression vary. Individuals from different cultures may display their emotions differently even though the underlying experience of the emotion may be similar. Some of the early work on this topic was performed by Paul Ekman and his colleagues (Ekman & Oster, 1979). In these studies, individuals from North America and Asia were shown emotionally arousing films that brought forth feelings of disgust or happiness. Although in private both cultural groups showed similar facial expression, the situation changed drastically when another person was present. In that situation, those from Asia showed fewer facial expressions in reaction to the films than when they were alone. Western individuals, on the other hand, showed similar reactions to the films both alone and in the presence of another. Thus, different cultures have different display rules for the expression of similar underlying emotions.

Neuroscience research has shown that human reactions are also culturally sensitive. We know that the amygdala shows increased activity in response to emotional reactions—especially fear. Native Japanese and Caucasian Americans show greater amygdala responses to fear expressions of those of their own culture. To put it another way, a person shows less response when viewing an emotional expression of someone who is not part of his or her own culture (see *Figure 2.21*).

**Thought Question:** What cultural factors need to be considered in the assessment and classification of mental disorders? How could the failure to notice cultural differences lead to an incorrect assessment?