

Playing Catch With Emotions

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Abstract

Communication is the basis of human culture. While communication typically involves the exchange of verbal messages between interactants, another type of information exchange occurs in communication—the exchange of emotional information, especially through nonverbal behaviors. One phenomenon that is occurring today in Japan, and in many countries that are being consumed by digital communications technology, is that face-to-face communication is increasingly being replaced by person-machine interactions. Although these interactions can provide a platform for information exchange, they do not allow for emotion exchange that is such an important part of communication. The lack of such emotion exchange, in turn, may form a basis for the lack of basic knowledge and abilities concerning emotion regulation, empathy, and compassion for one's fellow human beings. I argue, therefore, that, if the ability to read emotions in others improves in Japan and elsewhere, that improvement should be related to a variety of social factors indicating a better, more effectively functioning, society.

Key words: Emotion, nonverbal communication, facial expressions, human culture, empathy

A teenage boy kills a female classmate in her home, claiming that he did so because she treated him coldly.

Mothers leave their children in their cars while they go and play pachinko (Japanese pinball), and their children die of heat and suffocation.

Young adult men spend much of their lives playing with computers. They communicate with unknown strangers or hypothetical others and find that they cannot interact well with the real people in their work and family life.

There is an underlying thread to these, and similar, social problems that are occurring today in Japan. They have occurred at least partly because many individuals are out of touch with their own, innate ability to read and understand the emotions of others. In this brief essay I will explore this ability, discuss why I think the younger generation of Japanese society is deficient in this ability, and explore ways in which measures can be taken to improve the situation.

The Evolution of Human Culture

Humans all around the world have biological necessities. We all need to sleep, eat, eliminate, and be sheltered in order to survive. These biological necessities are associated with universal social motives that help us address the biological necessities. For example, humans all have a universal need for affiliation—to belong to groups, form lasting relationships with friends and loved ones. We have this need because it makes it easier for us to reproduce and raise offspring, thereby ensuring survival.

In order to meet these universal biological needs and social motives, however, all groups of individuals need to adapt their behaviors to the specific contexts in which they live. Because contexts are different around the world—in geography, ecology, climate, the amount of available land to grow food, and the like—different groups of people produce different methods of adapting to their environments. These differences are based in culture. Culture, therefore, is the product of the interaction between universal biological needs and functions, the universal social problems associated with those needs, and the particular context in which people live. Culture is also a solution to the problem of individuals' adaptations to their contexts to address their social motives and biological needs.

But culture, in this perspective, is not a uniquely human product. *All* living organisms need to adapt to their environmental contexts in order to find ways to address biological necessities to live and survive. Culture is also not just living as a social being; many animals live and work in societies. Wolves hunt in packs, fish swim in schools, and lions roam in prides. Birds not only have nests, but nest eggs, just as humans have their own savings accounts.

Social learning is not unique to humans; other animals teach their offspring how to hunt for food, defend themselves from predators, and nurture their offspring. Tool use is not unique to humans; monkeys wash their sweet potatoes, teach their kin how to do it, and use twigs to gather insects to eat. Dominance hierarchies exist in the animal world, with the alpha male at the top, and subordinate animals below. These hier-

archies are created and maintained, in part, by the staring games that humans also play.

But human societies are different from animal societies. I believe they are different in at least three ways. First, human social life is more *complex*. We are simultaneously members of many different social groups (family, community, ethnic group, nationality, school system, work organization, recreational club, etc.), each with its own identity, roles, and activities. There are many layers of social life for the ordinary human. Second, human social life is more *differentiated*. We make fine distinctions in our social lives, and every individual makes different types of distinctions even given the same social structure. Third, human social life is *institutionalized*. We create social institutions and organizations to make things more efficient and to function more effectively in society. These three characteristics make human social life much more diverse than the social life of our phylogenetic relatives. In fact, I believe that human societies evolved to be as diverse as possible, because increased diversity aids adaptations to the environment, and ultimately survival.

Human cultures, therefore, are the unique meaning and information systems associated with these complex, differentiated, and institutionalized social systems. They are shared by the members of a particular group and transmitted across generations. They allow groups to meet basic needs of survival, but additionally to pursue happiness and well-being, and derive meaning from life. Human cultures allow people to survive, and the growth in human population is evidence of that. But more than just survival, human cultures allow us to explore the sea and the stars; create symphonies, operas, and mathematics; invent computers, airplanes, and life support systems; and have sports and the Olympic Games. Unfortunately, human cultures also allow people to wage war and aggression, to develop weapons of mass destruction, and to become terrorists.

Thus one of the goals of all human cultures is to enable its members to live life as humans can live, that is, as cultural beings. To live not just to eat, sleep, and reproduce, because this makes us no different than any other animal. But to live as only humans can uniquely live, by finding love, seeking happiness, serving others, and achieving. It is these types of activities that set us apart from our primate relatives.

The Cultural Evolution of Communication

Human social and cultural life is more complex, differentiated, and institutionalized at least in part because of two cognitive abilities that set them apart from nonhuman primates. One, of course, is verbal language. Although it is true that most social animals communicate with each other, their communication is entirely nonverbal. Only humans possess the capacity for language. They alone put sounds (morphemes) together to form words that symbolize their physical and metaphysical realities, form unions of words to create meaningful phrases and sentences, create rules (syntax and grammar) concerning how those words can be put together, and write them as I do now on this computer.

Humans also have the cognitive ability to recognize that others are intentional

agents, that is, that they do things because they have internal motivations (intentions) to do so (Tomasello, 1999; Tomasello, Kruger, & Ratner, 1993). Human infants as young as two years old have this ability, while adult chimpanzees, our closest primate relatives, do not. Thus humans create theories about their own and other people's behaviors, and theories of self and the world, and cultural worldviews, which are systems of beliefs about their world around them and how it works.

Thus, human communication is a complex process that involves both verbal (language) and nonverbal (facial expressions, vocal characteristics, gestures, body postures, interpersonal distance) behaviors. The complexity of human communication is a necessary part of what makes human cultures what they are. Without communication, we could not build bridges, tools, or transportation systems. Without communication, we could not impart values and ethics to our children, and our children's children. Without communication, we could not live, work, and play together effectively in a functioning, diverse society. In short, without human communication, we would not have human cultures.

The Cultural Evolution of Human Emotion

One of the great findings in psychology in the last half century of research is the fact that humans share a common base of emotion with their nonhuman primate relatives. Anger, disgust, fear, enjoyment, sadness, and surprise are known as "basic" emotions (Ekman, 1992, 1999). These are emotions that are expressed universally in all humans via facial expressions, regardless of race, culture, sex, ethnicity, or national origin. They are brought about by the same types of underlying psychological elicitors; loss brings about sadness in all cultures, while threat brings about fear. They are associated with unique physiological signatures in both the central and autonomic nervous systems, which are part of a coordinated response system that prepares individuals to fight, flee, or jump for joy. Nonhuman primates such as chimpanzees also appear to have the same base of emotions, expressing them in their faces in the same ways, and using them in the same manner to solve social problems.

But human emotions are also different from animal emotions. First human emotions are more differentiated. Not only do humans have anger, as do animals; humans also have many shades of anger-related emotions from the same family of emotions, such as irritated, aggravated, agitated, annoyed, grouchy, grumpy, frustrated, hostile, exasperated, mad, enraged, and furious. Not only do humans have fear, as do animals, but humans also become anxious, nervous, tense, uneasy, worried, alarmed, shocked, frightened, horrified, terrorized, and mortified. The same is true for the other basic emotions as well.

Second, human emotions are more complex. Because humans uniquely have cognitive representations of self and others as intentional agents, humans uniquely have emotions that are associated with self-reflective processes. In psychology these are called *self-conscious emotions*, and include such emotions as shame, guilt, pride, and embarrassment. Because humans uniquely have cognitive representations of self and others as intentional agents, humans uniquely have the construct of morality, in

which moral emotions such as contempt and disgust play a particularly important role (Haidt, 2001; Rozin, Lowery, Imada, & Haidt, 1999). Disgust is especially interesting, because while nonhuman primates share with humans a biologically-based version of disgust that helps them to avoid or expel nasty objects (e.g., through vomiting), probably only humans have the interpersonal version of disgust, where we can be disgusted at others as people (i.e., a moral version of disgust). No wonder that contempt and disgust have been shown to be particularly explosive and devastating emotions when seen in episodes of marital interactions (Gottman, 1994; Gottman & Levenson, 2002). Humans also can feign emotion—lie about it by expressing it when they don't feel it, or expressing something else when they do.

Playing Catch With Emotions

Human interpersonal interactions revolve around unique human communication processes. Verbal communication using language involves the back-and-forth encoding, transmission, receipt, decoding, interpretation, encoding, and return of transmission of our thoughts and feelings. The fact that we engage in this complex set of activities and do so in a relatively quick, fairly automatic fashion, is quite astonishing, and points to the amazing power of human cognitive abilities.

But ideas via words are not the only things communicated when we interact with others. In fact, research in psychology has shown that nonverbal behaviors such as facial expressions and vocal cues are just as or even more important than the content of words in forming impressions and exchanging messages in communication, especially when no deception is involved (Ekman, Friesen, O'Sullivan, & Scherer, 1980; O'Sullivan, Ekman, Friesen, & Scherer, 1985). And this makes sense; any word, phrase, or sentence can mean many different things depending on the tone of voice, facial expressions, or gestures accompanying it.

Thus while we are engaging in the process of encoding and decoding verbal information via language exchange, we are also engaging simultaneously in a process of encoding and decoding nonverbal information via a parallel process of nonverbal communication. And, as the research described above indicates, one of the most important messages communicated through this parallel nonverbal communication process is emotion. As we engage in a cycle of forming, sending, receiving, and reforming thoughts and ideas through our words in interaction, we are engaging in a similar cycle of exchanging information about our emotions. I call this *playing catch with emotions*.

In fact, I believe that playing catch with emotions is a necessary part of effective and functional human interactions. Human societies would not function, nor would they be cultural, if emotion exchange did not occur simultaneously with verbal exchange, precisely because the exact meanings of words, and more importantly the intentions of speakers, are clarified by emotions. "I love you" can be said in a loving fashion, sarcastically, or angrily; and none of these are conveyed by the words alone. We need emotion catch-ball to figure this out. This is one of the reasons why Internet communication via e-mail and instant messaging is so reliant on emoticons like ☹ or

😊, and why these emoticons are so popular.

Because emotions are so powerfully communicated through the face (but also through other nonverbal channels), because many messages in human communication are carried nonverbally, and because human communication forms the basis of human cultures, I believe that the communication of emotion, nonverbally, forms the basis of human culture. Playing catch with emotions is the basis of humanity.

The Ability to Read Emotions in Japan

Although the ability to recognize the basic emotions (anger, disgust, fear, enjoyment, sadness, and surprise) from facial expressions is universal, people of different cultures differ in their absolute levels of agreement in that recognition. For example, almost 15 years ago I tested the ability of Japanese university students to recognize examples of each of the six basic emotions, and compared their scores with American university students (Matsumoto, 1992). The data indicated that the Japanese were less accurate than Americans in recognizing anger, disgust, fear, and sadness (Figure 1). Similar results have been obtained in additional studies since (Matsumoto et al., 2002; Matsumoto, Kasri, & Kookan, 1999). And the Japanese scores were not just lower than Americans'; in a six-culture comparison, they were also lower than recognition rates for Vietnamese, Hungarians, Poles, and Indonesian Sumatrans on most emotions (Biehl et al., 1997); in a ten culture comparison, they were lower than recognition rates for Estonians, Germans, Greeks, Hong Kong Chinese, Italians, Scotlanders, Indonesian Sumatrans, Turks, and Americans (Ekman et al., 1987).

What is the cause for this difference? The difference is *not* due to the type of faces being judged, because both Caucasian and Asian faces of both males and females have been used in the studies. The findings are rather robust across time; the findings from my studies in the past 15 years mirror the findings Ekman found with Japanese samples over 30 years ago (Ekman, Friesen, & Ellsworth, 1972). And the findings are reliable across researchers who have found essentially the same differences (Elfenbein, Mandal, Ambady, Harizuka, & Kumar, 2004).

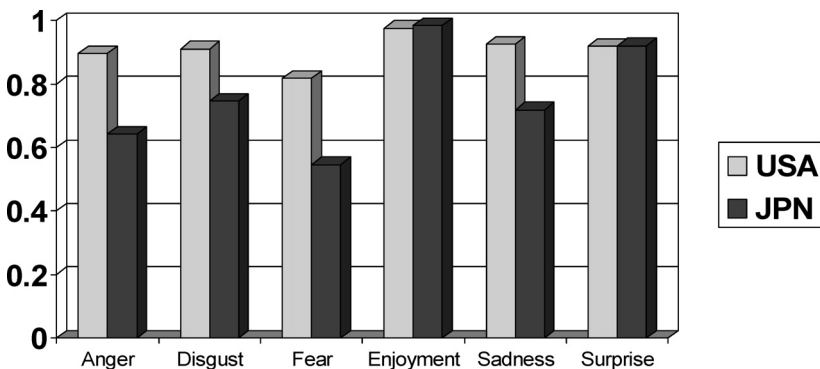


Figure 1. Average emotion recognition accuracy scores for the USA and Japan.

The differences may be due, in part, to cultural factors. First of all, Japanese culture, like many cultures of the world, may discourage the recognition of the importance of emotion in everyday life. Emotions may be scoffed at and relegated to second-class citizen status in the everyday lives of the Japanese, considered nuisances instead of phenomena to be cultivated. Also, Japanese culture may discourage the recognition of negative emotions such as anger, disgust, fear, or sadness because these may potentially disrupt harmonious interpersonal relationships, and harmony, cooperation, and cohesion are pillars of Japanese cultural worldviews. The differences also may be due to cultural differences in the importance of context. Japanese culture is a high-context culture (Hall, 1973, 1976), in which many cues about messages may be found in context, which may lessen a reliance on facial expressions as a source for reading emotions. Finally, the differences may be due to interactional styles. Some cultures are high-gaze cultures in which face-to-face, eye-to-eye contact is encouraged; others, like Japan, are low-gaze cultures in which direct eye contact is often discouraged, especially in interactions of people of differing status. With less face-directed gaze, people in low-gaze cultures may merely miss more opportunities to recognize emotions on the face, because emotions go on and off the face in only a few seconds, and sometimes in fractions of a second (Ekman, 2003). All these possibilities, and others, may contribute to lower emotion recognition abilities in Japan.

Reading Emotions in Japan Today

There are several reasons to expect that the ability to read emotions in Japan today may be even lower than previously. First, the development and widespread popularity of communication technologies have changed the nature of human interaction. Children and young adults grow up in a world of computers, Internet, e-mail, and the World Wide Web. Cellular phones are increasingly used not only as phones, but as wireless e-mail and chat devices. While these technologies can be useful as supplemental aids to human interaction, in Japan today, and elsewhere, there is a whole generation of people who are dependent on electronic interactions with strangers as their *sole* or *primary* source of human interaction (witness the popularity of the television drama, 電車男 [Densha Otoko], in which a shy and very awkward young man is aided by a whole network of strangers on the Internet, whom he has never met, in his quest to win over the woman of his dreams). Trains and cafes in Japan today are packed with individuals picking away at the mini keyboards of their phones, composing e-mails while they ignore the people around them. This activity is so widespread that now there is a name for a disorder for overusing the thumbs.

In addition, it may be that, in Japan today, there is generally little face-to-face interaction among families in their homes, which should be the primary place where individuals learn to hone their emotion reading skills. Recently I was watching a Japanese television documentary about home life. A camera that was placed in the middle of a living room showing four or five children, sitting around a living room table, all of them glued to the television as they played a video game. There was almost no conversation among them; the only conversation was to the game. After

some time, the father came home. He walked into the living room and made some comment to the kids about their playing the same old game again. No one said a word to him; they just kept their eyes glued on the television. The father then left, saying he was going to take a bath. Then the mother called from the kitchen, saying it was time for dinner. The kids then turned off the video game and turned to watch regular TV. They sat around the table eating their dinner while watching television.

When the father came back after having taken a bath, the kids all got up, said “*gochisousama*,” and left the room. The father was there all by himself.

Now it was time for dad to have his dinner. He didn’t sit at the table like the kids did; instead he sat at a large chair across from the television. There, his wife brought him a beer and then some food. He said to his wife, “You forgot to bring some chopsticks. Bring me some.”

“You are always telling other people to do things for you,” the wife retorted. “Why don’t you get up and get them yourself sometimes?” she said, as she sat down on the couch adjacent to his chair.

Without missing a beat, the father then yelled to the oldest daughter, who was in the kitchen washing dishes. “Oi! Bring me some chopsticks!”

And so the daughter, instead of the mother, brought the chopsticks.

The scene ended as dad ended up falling asleep in front of the television, half drunk from beer. There was no conversation between the children and the parents or between the parents.

I understand that that was just a television show and that as such the producers may have created or selected a show that highlighted too dramatically what life in Japan is like. However, I bet that the show depicted communication patterns of many Japanese families.

Another example: I happened to be in Tokyo with my daughter Sayaka and one of her judo teammates. They were in Japan to train. The three of us went to have dinner at a restaurant. Because the restaurant was a fairly popular one, we had to wait in line to get a table. While we were waiting, my daughter said to me, “Dad—look at that table over there.” She pointed to a family of four having dinner. “They are not talking to each other at all.”

Sure enough, when I looked over, there was mom, dad, and two kids just eating away, each staring at their food and not saying a word. I told my daughter and her friend to go around the restaurant to find families having dinner and to count those that were engaged in some kind of conversation. Off they went on their impromptu social psychology experiment.

When they came back, we calculated that about 20% of the families were actually talking while they were eating. The rest ate in silence. These informal observations were consistent with what the television show had suggested. People are not talking to each other within their families. This is unfortunate, because the home should be the primary place where people learn to play and master emotion catch-ball. Instead, human interaction has been replaced by human-machine (computers, cell phones) interactions. Combined with the Japanese culture’s preexisting de-emphasis on emotion, the result is probably one where the ability to read emotions has decreased on a social level.

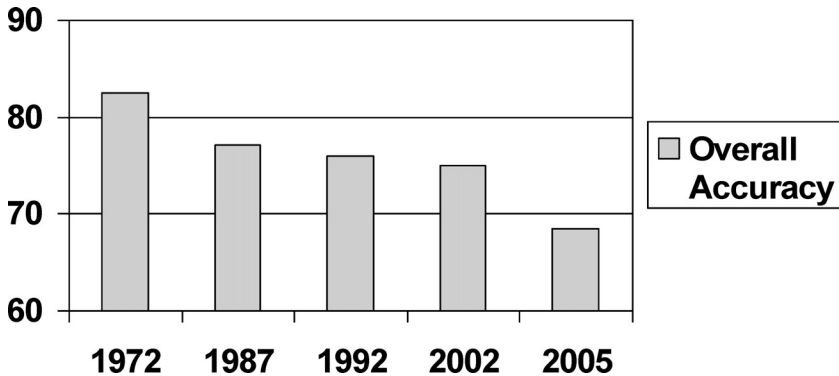


Figure 2. Changes in emotion reading ability in Japan.

There are data to support this claim. Figure 2 shows the overall emotion recognition accuracy for Japanese observers from Ekman (1972), Ekman and colleagues (1987), Matsumoto (1992), Matsumoto and colleagues (2002), and a study I conducted in November, 2005, in Tokyo. The results are clear: there has been a decreasing trend in overall accuracy rates in reading emotions since data have been collected over the past 30-year period.

What happens when individuals are poor at reading the emotions of others? Because I believe that playing catch with emotions is the core of humanity, there are probably lots of unfortunate consequences. For example, understanding, reflecting on, and acting upon the emotions of others is a basis of empathy, and the inability to read emotions accurately is likely to be associated with less empathy. With less empathy, there is less kindness and consideration for fellow humans. Moral laws and implicit ethical codes are loosened. The nature of friendships changes, as does the nature of collegiality. Under a veil of institutionalized and ritualized politeness can be an undercurrent of cold interpersonal attitudes. Crimes of emotions gone haywire and instances of individuals who have poor interaction skills but are thrust in leadership positions, like those discussed at the beginning of this article, are the tip of an iceberg of incredible social change that has its roots in the breakdown of the fundamental reading, understanding, and acknowledgement of the emotions of others.

Making Emotions Central to Everyday Life

Redirecting education efforts—in homes, schools, companies, communities—in Japan and elsewhere, can help to make emotions central in everyday life, revitalizing our most human foundations and ensuring that we live as cultural beings. Healthy communication and interpersonal interactions—those that involve the exchange of ideas via words as well as emotions via nonverbal behaviors—are essential in the process of living morally and producing vibrant and energetic cultures and societies. In Japan and elsewhere, these processes begin in the home, as families gather around

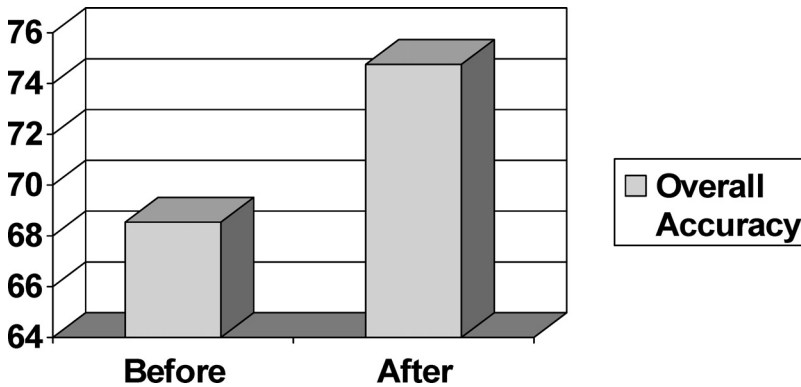


Figure 3. Effects of a training session in reading emotions.

the dinner table nightly to exchange ideas and feelings, and as parents encourage the healthy expression of emotions and recognize the importance of those feelings in their developing children. So, too, can this apply to teachers, business and civic leaders, married couples, counselors, physicians, and other health professionals.

Natural social interactions in homes, schools, and communities can be supplemented by workshops and seminars designed specifically to improve people's abilities to read emotions and understand the importance of emotions in everyday life. For example, in November, 2005, I conducted a very brief training session with the same participants I tested whose data are reported in Figure 2, teaching them about the facial cues related to the basic emotions. After training, I retested their emotion reading ability. As shown in Figure 3, there was a marked improvement in their ability, even after a brief training session.

I hypothesize that if the ability to read emotions in others improves in Japan (and anywhere, for that matter) that improvement should be related to a variety of social factors indicating a better, more effectively functioning, society. Playing catch with emotions may in fact be one of the most important psychological processes humans engage in. It reminds us of our most human characteristics and allows us to live a truly human life.

References

- Biehl, M., Matsumoto, D., Ekman, P., Hearn, V., Heider, K., Kudoh, T., et al. (1997). Matsumoto and Ekman's Japanese and caucasian facial expressions of emotion (jacfee): Reliability data and cross-national differences. *Journal of Nonverbal Behavior*, 21, 3-21.
- Ekman, P. (1972). Universal and cultural differences in facial expression of emotion. In J. R. Cole (Ed.), *Nebraska symposium on motivation*, 1971 (pp. 207-283). Lincoln: Nebraska University Press.
- Ekman, P. (1992). Are there basic emotions? *Psychological Review*, 99, 550-553.
- Ekman, P. (1999). Basic emotions. In T. Dalgleish & M. J. Power (Ed.), *The handbook of cognition*

- and emotion (pp. 45-60). Sussex, United Kingdom: John Wiley and Sons.
- Ekman, P. (2003). *Emotions revealed*. New York: Times Books.
- Ekman, P., Friesen, W., O'Sullivan, M., & Scherer, K. (1980). Relative importance of face, body, and speech in judgments of personality and affect. *Journal of Personality and Social Psychology*, 38, 270-277.
- Ekman, P., Friesen, W. V., & Ellsworth, P. (1972). *Emotion in the human face: Guidelines for research and an integration of findings*. New York: Pergamon Press.
- Ekman, P., Friesen, W. V., O'Sullivan, M., Chan, A., Diacoyanni-Tarlatzis, I., Heider, K., et al. (1987). Universals and cultural differences in the judgments of facial expressions of emotion. *Journal of Personality and Social Psychology*, 53, 712-717.
- Elfenbein, H. A., Mandal, M. K., Ambady, N., Harizuka, S., & Kumar, S. (2004). Hemifacial differences in the in-group advantage in emotion recognition. *Cognition and Emotion*, 18, 613-629.
- Gottman, J. M. (1994). *What predicts divorce?* Hillsdale, NJ: Erlbaum.
- Gottman, J. M., & Levenson, R. W. (2002). A two-factor model for predicting when a couple will divorce: Exploratory analyses using 14-year longitudinal data. *Family Process*, 41, 83-96.
- Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review*, 108, 814-834.
- Hall, E. T. (1973). *The silent language*. Garden City, NY: Anchor.
- Hall, E. T. (1976). *Beyond culture*. Garden City, NY: Anchor.
- Matsumoto, D. (1992). American-Japanese cultural differences in the recognition of universal facial expressions. *Journal of Cross-Cultural Psychology*, 23, 72-84.
- Matsumoto, D., Consolacion, T., Yamada, H., Suzuki, R., Franklin, B., Paul, S., et al. (2002). American-Japanese cultural differences in judgments of emotional expressions of different intensities. *Cognition and Emotion*, 16, 721-747.
- Matsumoto, D., Kasri, F., & Kookan, K. (1999). American-Japanese cultural differences in judgments of expression intensity and subjective experience. *Cognition and Emotion*, 13, 201-218.
- O'Sullivan, M., Ekman, P., Friesen, W., & Scherer, K. R. (1985). What you say and how you say it: The contribution of speech content and voice quality to judgments of others. *Journal of Personality and Social Psychology*, 48, 54-62.
- Rozin, P., Lowery, L., Imada, S., & Haidt, J. (1999). The cad triad hypothesis: A mapping between three moral emotions (contempt, anger, disgust) and three moral codes (community, autonomy, divinity). *Journal of Personality and Social Psychology*, 75, 574-585.
- Tomasello, M. (1999). *The cultural originals of human cognition*. Cambridge, MA: Harvard University Press.
- Tomasello, M., Kruger, A. C., & Ratner, H. H. (1993). Cultural learning. *Behavioural and Brain Sciences*, 16, 495-552.