
Social Interactions



Read This Chapter to Learn About

- Expressing and Detecting Emotion
- Impression Management
- Romantic Attraction
- Aggression/Altruism
- Social Behavior Among Strangers

EXPRESSING AND DETECTING EMOTION

There is evidence to suggest that the expression and detection of emotions is at least partially genetically driven. The social psychologist Paul Ekman identified six **universal emotions** that could be recognized by facial expressions across cultures: **anger, sadness, fear, disgust, happiness, and surprise**. The universal recognition of these emotions allows for nonverbal cross-cultural communication. More recently, Ekman expanded his research to include eleven **additional universal emotions: amusement, pride in achievement, contentment, relief, excitement, satisfaction, sensory pleasure, contempt, embarrassment, guilt, and shame**. While not all of these emotions are easily recognizable cross culturally, Ekman found that these emotions occur in every culture. However, even though these various emotions are universally experienced, culture still determines how, when, where, with whom, and how intensely they are displayed.

Margaret Mead performed groundbreaking anthropological work in the 1920s in her studies of preliterate cultures. While her early work on gender roles across societies is somewhat controversial, she provided evidence that there are many cross-cultural differences regarding how the genders interact with each other, and how they express emotion. Mead thus argued for **nurture over nature** in emotional expression and intergender communication. In some cultures in which the female gender role

128**UNIT III:**
Self and Others

is seen as passive, women are more likely to express emotion privately and in same-sex-only interactions, and women's public expression may be very limited. In other cultures in which women have a more active gender role, female public expression is more accepted. Additionally, cultures that have a complex structure and numerous social rules may place restrictions on the emotional expression of both men and women.

Cultural roles regarding hierarchy, age, and gender roles have a major influence on the exchange of information. Who speaks first? How is important content delivered? How far away do two speakers stand from each other when engaging in communication? What is the appropriate length of pause between questions and answers? Even before any verbal information is communicated, social rules communicate how a conversation should proceed.

Message content and context may differ across cultures, but interpersonal communication is fundamental to a functioning society. **Communication** can occur in multiple forms, but there are two primary types: focused interactions and unfocused interactions. **Focused interactions** occur when there is intentional or direct contact between two individuals (e.g., saying "hello" in a hallway). **Unfocused interactions** occur when people are in the same location but not directly engaging with each other (e.g., two strangers sitting next to each other in a library).

There are also four levels of communication:

1. **Verbal communication** includes any active communication that provides an explicit message that is transmitted in word form (there is controversy as to whether the hand movements in sign languages are verbal or nonverbal language).
2. **Paraverbal communications** are those vocal messages that are communicated in the context with the verbal communication (e.g., tone, volume, speed, prosody). The same words (verbal) can be received very differently based on the paraverbals that accompany the words.
3. **Nonverbal communication** is body language that can either accompany verbal communication or transmit a message on its own (e.g., frowning at someone transmits a message even without words). Nonverbal communication may also include external displays that signify rank (e.g., military uniforms), wealth (e.g., designer clothing, jewelry), sexual availability (e.g., wedding rings, marital shawls), and status (e.g., a nun's habit) within a community. Written communication (both artistic and word-based) is a form of nonverbal communication.
4. **Hormonal communication** involves chemical signaling using pheromones.

Research suggests that approximately 55 percent of face-to-face communication occurs using nonverbal communication and 38 percent of face-to-face communication occurs with paraverbals. Therefore, these important language augmenters that humans use to convey and understand meaning are lost when the level of communication changes from face-to-face to telephone communication (loss of nonverbals,

and hormones) and are reduced even more in written communication (additional loss of paraverbals).

Humans are somewhat limited in their ability to control pheromone-based **hormone communication**, whereas some animals, particularly insects, appear to use this as their primary form of communication. Animals also use the same levels of communication (verbal, nonverbal, paraverbal, and hormonal). While animals use a less word-focused form of language (to the best of scientific knowledge), there are multiple examples of each type of language in the animal world. Verbal language such as whale songs, paraverbals such as the volume of verbalizations, nonverbals such as threatening stances to scare away competitors, and hormone-based information exchange as seen in ant interactions are common examples of animal communication.

IMPRESSION MANAGEMENT

The Canadian sociologist Erving Goffman proposed the **dramaturgical approach** to social interactions, in which the individual is always playing some type of role. According to this theory, the **front-stage self** is the face that a person presents to the world (there may be many of these depending on situational demand and goals). The person (or “actor”) needs to present him- or herself (front-stage self) in a certain way to achieve specific goals. Using **impression management**, the actor identifies the characteristics of the “audience” and the type of presentation needed to achieve those goals (e.g., persuading the audience, making them laugh or cry, and so on). The actor self-monitors for the front stage, maintaining **self-awareness** that he or she is presenting the desired image. This **self-verification** involves making sure that the chosen audience consists of people who will validate the actor’s self-view. Thus according to this theory, a person’s identity is not stable, but rather an ever-shifting experience that adjusts to the environment, the audience, and the person’s goals. The person’s **back-stage self** (or those actions and thoughts that cannot be seen by others) may be slightly more stable. The individual is still engrossed in the social presentation role, but can take a step back for processing. For example, during a job interview, a person who is being very careful about impression management might also be carrying on an internal dialogue in phrases such as “Take deep breaths,” “You can do this,” and the like. In this scenario, people are not truly themselves until they are **off-stage** and alone, and even then a person may still engage in activities to improve impression management in preparation for subsequent social situations. For example, an employee may read a book recommended by a boss in order to be knowledgeable about a topic during a subsequent conversation.

The sociologist Harold Garfinkel developed **ethnomethodology** to study how people make sense of everyday interactions. According to Garfinkel, individuals use

130**UNIT III:**
Self and Others

background expectancies, or culturally-based scripts, to socially interact with those around them. Most of these expectancies are things that individuals do by habit. The scripts of action are ingrained in the individual and using them requires less cognitive processing during routine interactions (e.g., in much of Western culture when two people pass in a hallway, one person says, “Hi, how are you?” and the other replies, “Fine,” whether or not that is the case). Garfinkel used a technique called **breaching experiments** to watch how people react when an experimenter breaks cultural norms (e.g., walking into an elevator and facing the back wall rather than the door). He noted negative reactions by the observed group (e.g., people in the elevator became uncomfortable when the experimenter broke the innocuous taboo of facing the wrong way), and negative emotional reactions by the experimenters themselves (usually graduate students) who were asked to break established social norms.

ROMANTIC ATTRACTION

Attraction to romantic partners can be due to a number of different factors. Most research on this topic has been done with heterosexual couples; there has been only limited research on same-sex partners. Physical attractiveness is often the first step. While there are cultural differences in what constitutes attractiveness, some aspects of attractiveness appear to be genetically linked and cross-cultural. Facial symmetry has been shown to be important in cross-cultural ratings of attractiveness. Additionally, some research suggests that across cultures, if woman’s waist-to-hip ratio is approximately 0.7, she will be more attractive regardless of the overall size of her body. Evolutionary psychologists suggest that this is due to fertility factors that men subconsciously find attractive. The **matching hypothesis** is based on data indicating that individuals are more likely to select romantic partners who are similar to them in attractiveness, and that relationships between similarly attractive people are more likely to be harmonious.

Environmental factors can alter judgments about attractiveness. In the classic “swinging bridge” study by Donald Dutton and Arthur Aron, some individuals were asked to place themselves upon a low, stable bridge and others upon a high, swinging bridge. The swinging bridge was so unstable that the people who were on it experienced fear-based rushes of adrenaline. Each group was then asked to rate the attractiveness of an opposite-sex research assistant. The same assistant was rated as more attractive by the people on the swinging bridge than by the people on the stable bridge. The people on the swinging bridge consistently misattributed their fear-induced adrenaline rushes as stronger attraction to the research assistant rather than the environmental factor of a dangerous situation.

Another environmental factor that influences romantic attraction is the placement of children in a sibling relationship. Humans are socially (and likely genetically) encouraged to avoid mating with siblings. Studies of children raised on kibbutzim in

Israel (collective living situations) showed that few of those children married within their own kibbutz. Even though these children were not genetically related, the environmental factor of growing up among sibling-like peers decreased the likelihood of romantic partnerships. A similar rarity of romantic partnerships is found in studies of adopted children and their nongenetically-related siblings.

Even biological-hormonal factors may influence whom men and women want to associate with at different stages of their hormonal cycle. In the “white T-shirt” study series by Claus Wedekind, researchers asked women to wear white T-shirts during different phases of their menstrual cycle (to pick up pheromone scents). They also asked men to wear white T-shirts. They then asked people of the opposite gender to rate the attractiveness of the scent of each T-shirt. Men gave the highest rating to T-shirts worn by women at mid-cycle (highest fertility). Women who were at mid-cycle during the test gave the highest rating to T-shirts worn by men who were genetically dissimilar, but women in phases of lower fertility were more likely to prefer genetically similar (family member) scents. Interestingly, hormonal birth control appears to significantly alter attraction and attractiveness, which may have significant implications for human mating behavior.

Research studies into animal mating behavior suggest that similar biological factors, including facial and body symmetry and pheromones, affect mating choice. Environmentally, in areas of few resources **polyandry** (mating with multiple male partners) is more common among animals. For females in resource-poor areas, mating with more males is a way of accessing the resources needed to ensure the survival of any offspring (even though with multiple male sexual partners, there is decreased likelihood that the offspring belongs to any one male). In resource-rich areas, **polygyny** (mating with multiple female partners) is more common. In these areas, males can have multiple female sexual partners without a commitment to raise their genetic offspring, yet are relatively assured of the survival of those offspring. Female animals in resource-rich areas seek mates that are most likely to provide the genetic characteristics that ensure their offspring’s survival.

In addition to physical attraction, humans are more likely to form partnerships with individuals who share **attitude similarity**. Over time, most couples merge their attitudes further in a process called **attitude alignment**. And the stability of a relationship is often contingent on the process of **emotional reciprocity**. Humans are more likely to love those who demonstrate that they love them back.

AGGRESSION/ALTRUISM

Aggression occurs when there is fear of a loss of resources (e.g., food, sexual partners) or a loss of some secondary means to access resources (e.g., money, prestige). Because physical aggression may also cause a loss of resources (e.g., injury to body, damage to important items, loss of esteem), nonviolent aggression (e.g., loud

132

UNIT III:
Self and Others

vocalizations, physical displays of prowess) is also frequently seen among both animals and humans.

At the other end of the spectrum is altruism. **Altruism** means helping someone else with no expectation of any recompense. However, there is some research that suggests that true altruism is rare. In human communities, helping others occurs more frequently among family members or within limited social networks where the help given is more likely to be reciprocated at some future date. The fact that assistance is more likely to be given where it is more likely to be reciprocated is an argument against the existence of true altruism. Additionally, help is more likely to be given to those that the giver identifies as fellow “in-group” members. “In-group” may be defined by geographic location (e.g., live in the same town), nationality (e.g., U.S. citizen), ethnicity (e.g., Latino), socioeconomic status (e.g., middle class), family, or other individually defined social network. However, research suggests that the larger the in-group with which a person identifies, the better is that person’s psychological health. By identifying with a larger in-group, a person experiences more social support and the more opportunities to obtain instrumental support (e.g., food and shelter) in times of need. Thus, pro-social behaviors may occur in small ways or large ways, but are more likely to occur among those who are within the same group. Additionally, one of the most commonly discussed threats to the idea of altruism is the positive feeling that someone gets when performing a pro-social act. The positive impact on self-identity, self-esteem, and mood may make a person feel better about him- or herself, and therefore the “altruistic act” is not truly without a benefit to the individual.

True altruism seems to be rare in the animal kingdom as well. However, this does not mean there are not instances of self-risk among animals. This phenomenon is often explained using Richard Dawkins’ **selfish gene theory**, according to which animals are more likely to risk themselves on behalf of those to whom they are genetically related if that risk means the continuation of their genes. For example, a gopher pack that is foraging will often have one or two “lookouts” that will screech if they see a hawk in the area, warning the pack to dive for cover. Standing guard is risky for the lookout gophers. Making noise during an alarm draws the hawk’s attention to them, plus they are not able to forage for food while on guard. This type of animal self-risk behavior is more likely to occur in closely-related packs in which the risk-to-benefit ratio means the survival of genes in siblings, children, cousins, nieces, and nephews. A similar idea is the concept of **inclusive fitness** whereby an animal’s survival success is judged not only by how many offspring it has, but rather by how many of those offspring survive, find mates, and reproduce. Social behavior of animals, including shared risk and resources, may enhance an animal’s inclusive fitness by increasing the survival rate of offspring.

For all animals, survival depends on the ability to forage for food. The **optimal foraging model** identifies how animals find the optimal cost-benefit ratio for foraging. Each animal has to balance the level of resources available in the area, how much energy will be expended in accessing those resources (e.g., food, mating partners), and

dangers in accessing those resources (e.g., predators). This may be a complex analysis. For example, suppose that a prairie dog finds a berry patch food source. It shares those resources with members of its family. In this scenario, the prairie dog may lose part of the food for its individual benefit, but foraging in a group is safer because there are more lookouts for predators, and there is the expectation of reciprocity when another member of the prairie dog family finds another food source in the future. In this scenario, animals balance the loss of immediate resources against group protection during foraging and the prospect of increased resources in the future.

SOCIAL BEHAVIOR AMONG STRANGERS

It is not possible always to be surrounded by those who are genetically similar. Therefore, humans and animals need a method to determine if an unrelated individual is worthy of trust and sharing of resources. When unrelated individuals interact, game theory comes into play. **Game theory** is strategic decision making in social interactions; it is observed among both humans and animals. While games based on similar premises had been played for years, modern game theory was developed academically by John von Neumann and later updated in the 1950s by John Nash (the main character in the movie *A Beautiful Mind*). In one of the most popular forms of game theory (also called the “prisoner’s dilemma” game), players need to decide whether to trust the opponent or to betray him. Game theory boils down to a simple question: “Do you trust or not trust?” In the first interaction between individuals (“players”), each one must decide whether or not to trust the other, without knowing which option the opponent chose. Then in the second interaction, each player must decide how to respond based on whether the other player chose to trust or betray in the first interaction. While the final decision is simply between trusting or not trusting the opponent (human or computer), making that decision requires complex calculations about the opponent’s behavior in an attempt to predict the opponent’s future responses.

Multiple games and even an international series of contests have been developed based on game theory. As an example, suppose the parameters of a game have been laid out in Table 9-1. In Table 9-1 shows possible outcomes for the initial interaction between players, with point values assigned to each outcome. Games like this may go on for as many as 100 rounds.

TABLE 9-1 Game Theory Example.

		Player 1	
		Trust	Betray
Player 2	Trust	+10 points to both	+20 points to Player 1
	Betray	+20 points to Player 2	0 points to both

134**UNIT III:**
Self and Others

While this may change slightly depending on how the parameters of the game are set up, the most frequently successful model in game theory appears to be to trust first, and afterward to respond in kind. Betrayal results in one win and then a series of losses; therefore, it is in the best interest of the players to not focus only on the higher payout, but to trust and cooperate rather than betray. Game theory is easily applied to social interactions. Generally among strangers, humans have to choose how they are going to interact. When a stranger approaches, you do not know if he or she will help you or steal from you. Based on the mathematical model, the best option is to trust first and then, if betrayed, betray as well until the other person “evens the score” by trusting you, after which you may trust again.

Unit III Minitest

21 Questions

30 Minutes

This minitest is designed to assess your mastery of the content in Chapters 7 through 9 of this volume. The questions have been designed to simulate actual MCAT questions in terms of format and degree of difficulty. They are based on the content categories associated with the foundational concept that is the theme of this unit. They are also designed to test the scientific inquiry and reasoning skills that the test makers have identified as essential for success in medical school.

In this test, most of the questions are based on short passages that typically describe a research study or some similar process. There are also some questions that are not based on passages.

Use this test to measure your readiness for the actual MCAT. Try to answer all of the questions within the specified time limit. If you run out of time, you will know that you need to work on improving your pacing.

Complete answer explanations are provided at the end of the minitest. Pay particular attention to the answers for questions you got wrong or skipped. If necessary, go back and review the corresponding chapters or text sections in this unit.

Now turn the page and begin the Unit III Minitest.

Directions: Choose the best answer to each of the following questions. Question 1 is not based on a passage.

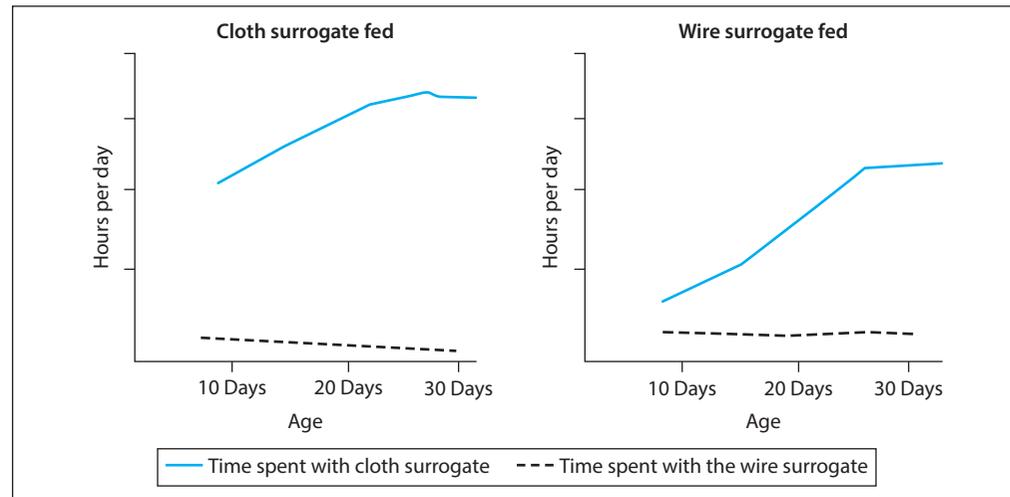
1. Which of Erik Erikson’s stages occurs immediately after an individual is successful at integrating into larger social networks and achieving competence in academics?
 - A. identity versus role confusion
 - B. industry versus inferiority
 - C. ego integrity versus despair
 - D. generativity versus stagnation

Questions 2–5 are based on the following passage.

Passage I

The psychologist Harry Harlow conducted a series of famous experiments investigating maternal attachment in monkeys with multiple derivations on his classic study comparing infant attachment to nutrients versus comforting inanimate objects. This research is often referenced to show the development of early attachment and is an example of comparative psychology. The results of Harlow’s research present some compelling evidence for the criticality of infant relationships.

The graphs that follow show one of Harlow’s later experiments in infant monkey attachment with hypothetical data representing the behavior captured by Harlow in that study. This data set represents the amount of time (hours per day) that infant monkeys spent with surrogate (artificial) representations of their mothers. The surrogates were either made of wood covered in cloth or made of bare wire. Both the cloth



Two graphs representing two different artificial surrogate mothers, both equipped for feeding, and the hours per day that infant monkeys spent with them. *Source:* Data from Harlow, H. F., and Zimmerman, R. R. (1958). “The development of affectional responses in infant monkeys,” *Proceedings of the American Philosophical Society*, 102(5), 501–509.

surrogate and the wire surrogate were provided with a rubber nipple that allowed for feeding. Both surrogates were present for all monkeys. The aim of the study was to determine which of the two surrogates the infant monkeys would choose to spend time with. The graph on the left shows the data collected from the group of infant monkeys who took food from the cloth surrogate. The graph on the right shows the data collected from the group of infant monkeys who took food from the wire surrogate. The time spent with the cloth surrogate is represented by the heavy blue line. The time spent with the wire surrogate is represented by the dotted line.

2. Which of the following statements is TRUE?
 - A. The infant monkeys preferred to spend more time with the surrogate from which they took food.
 - B. The infant monkeys preferred to spend more time with the surrogate that they did not use for feeding.
 - C. The infant monkeys preferred to spend more time with the cloth surrogate regardless of whether they took food from the cloth surrogate or the wire surrogate.
 - D. The infant monkeys preferred to spend more time with the wire surrogate regardless of whether they took food from the cloth surrogate or the wire surrogate.
3. Which of the following statements BEST describes Harlow's findings?
 - A. Infant monkeys prefer whichever surrogate they took food from because a nutritive surrogate is of more evolutionary value.
 - B. Infant monkeys prefer the cloth surrogate because they were attached to the emotional comfort that the cloth provides.
 - C. Infant monkeys do not prefer one surrogate over the other, because both attachment and nutrition are needed equally.
 - D. Infant monkeys prefer wire surrogates only when they are being fed by them.
4. Based on Harlow's work and socialization research, which of the following would happen if the infant monkeys were presented with a stimulus (e.g., an unfamiliar object) that caused fear?
 - A. The infant monkeys would seek comfort from the cloth surrogate regardless of which surrogate they took food from.
 - B. The infant monkeys would seek comfort from the wire surrogate regardless of which surrogate they took food from.
 - C. The infant monkeys would seek comfort from whichever surrogate they took food from.
 - D. The infant monkeys would not seek comfort from either surrogate, because they have already been associated with specific needs.

138**UNIT III:
Self and Others**

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5. What additional experiment would BEST examine attachment in infant monkeys?
- A. Continue the experiment until the monkeys were more developed in order to test whether they would value nutrition more during a later developmental stage.
 - B. Use two wire surrogates and no cloth surrogates to see whether the infant monkeys would attach to the wire surrogate through which they were fed.
 - C. Feed adult monkeys from cloth surrogates to see if they develop attachment.
 - D. Feed infant monkeys from both the cloth and wire surrogates at the same time.

Question 6 is not based on a passage.

6. Based on self-concept and identity, which of the following is TRUE about low self-esteem?
- A. It results from high self-efficacy and an internal locus of control.
 - B. It results from low self-efficacy and an external locus of control.
 - C. It results from high self-efficacy and an external locus of control.
 - D. It results from low self-efficacy and an internal locus of control.

Questions 7–10 are based on the following passage.

Passage II

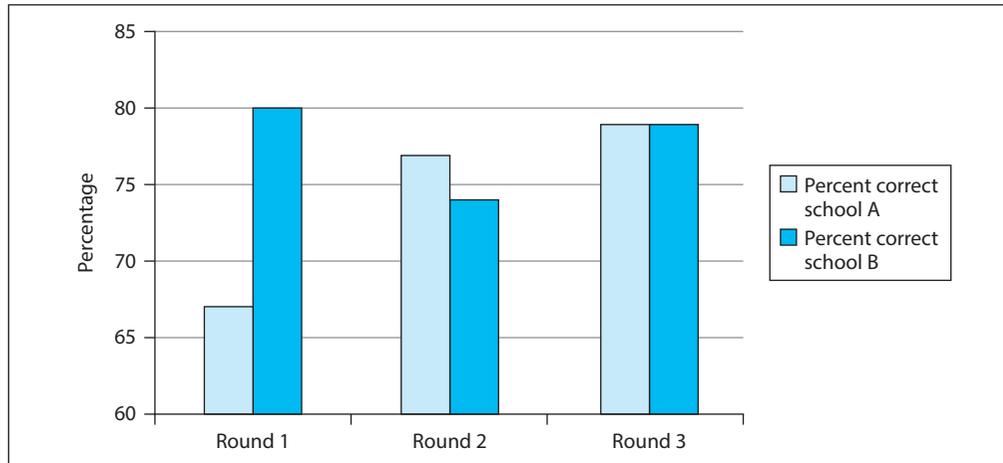
Attribution theory seeks to explain how individuals think about themselves and how they behave toward individuals around them. This theory also examines how an individual views internal and external traits, how he or she acts upon them, and how those views influence self-identity.

The following graphs show hypothetical data regarding last year's academic competition between students from two rival schools. The competition consists of three rounds of quizzes. Last year's competition ended in a tie since each side scored the same number of points.

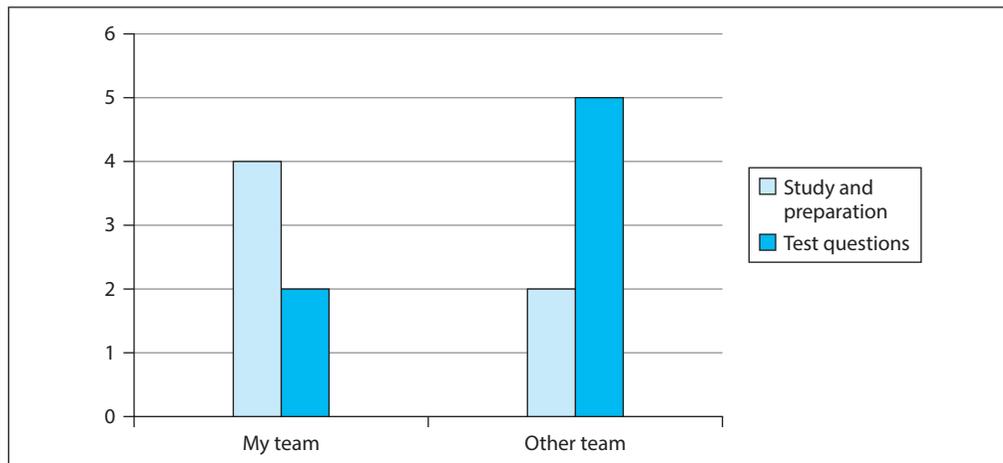
The first graph shows the percent of questions each team answered correctly in each of the three quiz rounds.

The second graph shows the results from a survey of students who participated in the competition. The survey asked contestants what factors they thought helped them and their opponents pick correct answers. Specifically, they were asked what percent of the correct answers their own team picked and what percent the other team picked were attributable to each of the following two factors:

- study and preparation
- whether the test questions favored one team over the other



Percent of questions answered correctly by each school team by round.



Survey results showing which factor students believed most helped contestants pick correct answers.

7. Based on the passage, which of the following is TRUE about the data set in the second figure?
- Students were more likely to attribute correct scores to study and preparation regardless of whether judging their own team or their opponents.
 - Students were more likely to attribute correct scores to bias in the test questions regardless of whether judging their own team or their opponents.
 - Students were more likely to judge their own team's correct scores as resulting from study and preparation and their opponents' correct scores as resulting from test question bias.
 - Students were more likely to judge their own team's correct scores as resulting from test question bias and their opponents' correct scores as resulting from test question bias.

140**UNIT III:
Self and Others**

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8. Based on attribution theory, which statement is MOST likely to be TRUE about the results of the survey?
- A. The results are consistent with the fundamental attribution error.
 - B. The results are consistent with a self-effacing bias.
 - C. The results are not consistent with the attribution error but are the result of testing errors.
 - D. The results do not show any attribution error, because the overall competition resulted in a tie.
9. Based on attribution theory, if you were to ask students which factors caused them and their opponents to pick wrong answers, what would be the MOST likely result?
- A. Students would say that their own team picked wrong answers due to test question bias, but their opponents picked wrong answers due to lack of study and preparation.
 - B. Students would say that their own team picked wrong answers due to lack of study and preparation, but their opponents picked wrong answers due to test question bias.
 - C. Students would say that their own team picked wrong answers due to test question bias, and that their opponents also picked wrong answers due to test question bias.
 - D. Students would say that their own team picked wrong answers due to lack of study and preparation, and that their opponents also picked wrong answers due to lack of study and preparation.
10. Which of the following examples BEST represents a self-serving bias?
- A. I didn't do well on a performance evaluation because I didn't put in enough effort on a work project.
 - B. I did a great job on my class presentation because of all of the help I got from my classmates.
 - C. The sound system was great, but my speech really wasn't very good.
 - D. I got a terrible performance evaluation because those evaluations never measure actual skill.

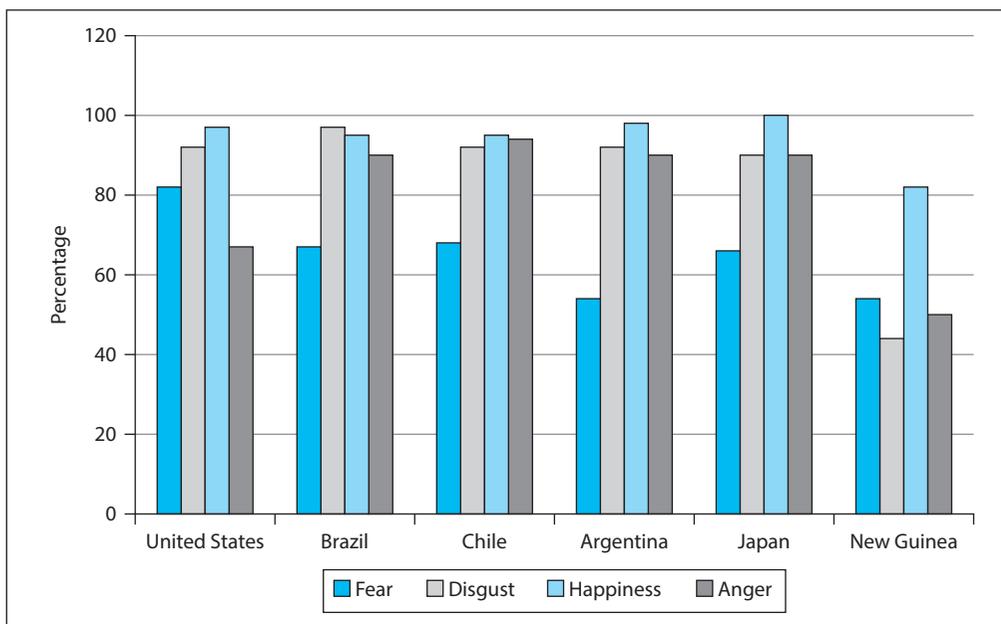
Question 11 is not based on a passage.

11. Which of the following BEST describes Margaret Mead's findings?
- A. They indicated that biology was more important in determining gender roles than culture.
 - B. They indicated that nature rather than nurture should be considered when determining gender roles.
 - C. They indicated that gender roles were stable across multiple cultures.
 - D. They indicated that in some cultures female public expression of opinions, thoughts, and feelings is more accepted.

Questions 12–15 are based on the following passage.

Passage III

Research studying people's ability to identify emotions from facial expressions has been carried out by a number of researchers. One such study by Paul Ekman and Wallace Friesen looked at agreement in judging facial expression in a number of countries. In a series of studies, Ekman and Friesen showed pictures to individuals from a number of cultures and asked them to categorize the facial expression. A sample of their findings is displayed as follows.



Facial expression agreement by country. *Source:* Data from Ekman, P., & Friesen, W. V. *Unmasking the Face: A Guide to Recognizing Emotions from Facial Clues*. Malor Books, 2003.

12. Which of the following statements is TRUE about the preceding data set?
- Between-culture agreement was highest for the facial expression for fear.
 - Between-culture agreement was highest for the facial expression for anger.
 - Between-culture agreement was highest for the facial expression for happiness.
 - There were no differences between cultures regarding facial expressions.

142

UNIT III:
Self and Others

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13. Based on the data, which of the following statements is MOST accurate?
- A. Facial expressions are innately linked to emotion and therefore universal across cultures.
 - B. The level of agreement between cultures for facial expression is fairly high, but there are important differences.
 - C. The level of agreement between cultures for facial expression is low.
 - D. The agreement rate for facial expressions is fairly high between the cultures except for New Guinea, which means they must have different genetic components for recognizing facial expressions compared to the other groups.
14. If you were to conduct a similar study recruiting participants from an extremely isolated tribe in the South American rainforest, what would be the MOST likely result?
- A. The tribe members would identify anger at the highest rate relative to the other emotions.
 - B. The tribe members would identify disgust at the highest rate relative to the other emotions.
 - C. The tribe members' performance would likely be dissimilar to most of the cultures identified in the previous graph.
 - D. The tribe members' performance would be most similar to that of participants from the United States.
15. Which of the following statements BEST describes the results of the previous experiment and is consistent with other studies examining cross-cultural emotion recognition in faces?
- A. Emotion recognition in faces is entirely learned.
 - B. Emotion recognition in faces is entirely innate.
 - C. Emotion recognition in faces is unique to each culture.
 - D. Emotion recognition in faces has a strong genetic influence but is also influenced by cultural differences.

Question 16 is not based on a passage.

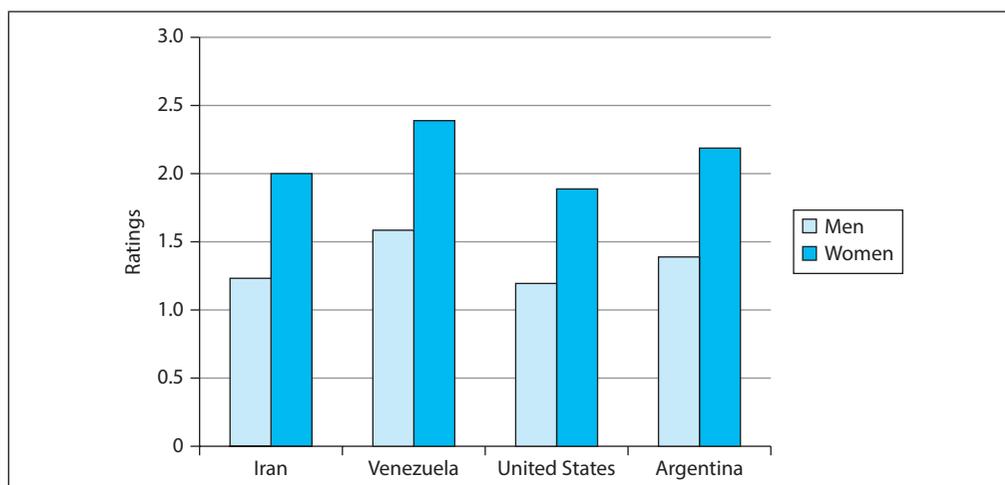
16. Jason was attempting to tell his parents that he was doing well in school. His parents became somewhat suspicious of his assertion when the intensity and speed of his voice dramatically changed when talking about his geology class. What type of communication are Jason's parents responding to?
- A. verbal communication
 - B. paraverbal communication
 - C. nonverbal communication
 - D. body language

Questions 17–21 are based on the following passage.

Passage IV

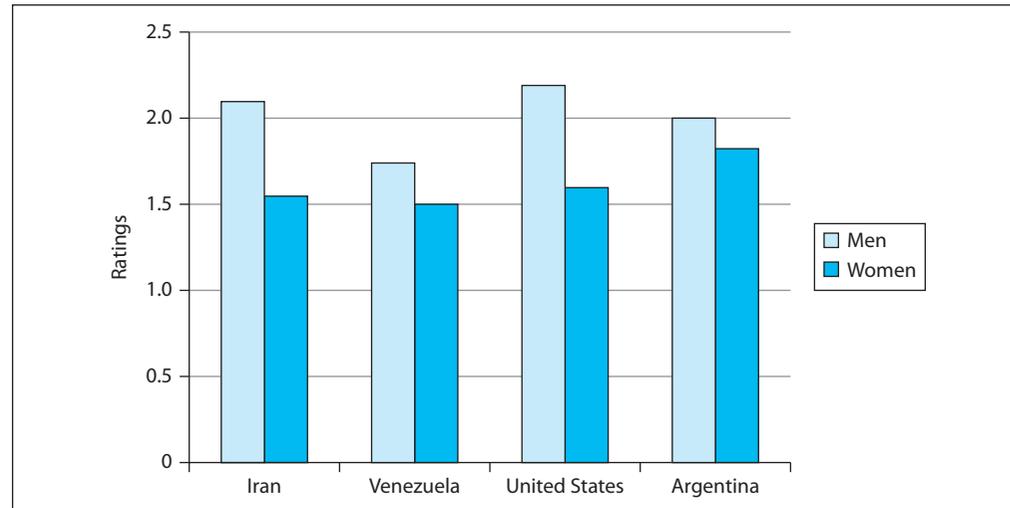
Evolutionary psychology has advanced our understanding of mate selection in humans. A prominent researcher named David Buss coordinated wide-ranging research to investigate the evolutionary theory of mate selection across a wide range of cultures.

The following graphs represent female and male responses to a questionnaire about the relative importance of certain attributes of prospective mates. The first graph shows how men and women in different countries rated the importance of prospective mates' financial status on a scale of 0 to 3. The second graph shows how men and women in the same four countries rated the importance of prospective mates' physical attractiveness on a scale from 0 to 3.



Men's and women's ratings of the importance of financial status in prospective mates. *Source:* Data from D. M. Buss. "Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures." *Behavioral and Brain Sciences*, 1989:12(1), 1–49.

144

UNIT III:
Self and Others

Men's and women's ratings of the importance of physical attractiveness in prospective mates. *Source:* Data from D. M. Buss. "Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures." *Behavioral and Brain Sciences*, 1989:12(1), 1–49.

17. Based on the graphs, which of the following statements is true?
- A. Men in the United States are the most judgmental about a partner's attractiveness in a relationship.
 - B. Men and women in Venezuela rate attractiveness as equal in importance to financial status.
 - C. Iran had the greatest discrepancy between men's and women's ratings on the importance of both financial status and attractiveness.
 - D. Both men and women rated financial status at about the same level. The difference in relative ratings was between cultures.
18. From an evolutionary psychology perspective, what is the MOST likely explanation for the similarity in results across cultures in the data set shown?
- A. The similarity in results is a product of learned gender roles.
 - B. The similarity in results shows that culture is more important than evolutionary influences.
 - C. The similarity in results shows that mate selection preferences are cross-cultural and likely due to evolutionary influences.
 - D. The similarity in results shows that mate selection preferences are based on experimenter expectations and gender stereotypes.

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19. According to evolutionary psychology and the graphs shown, which of the following is a likely reason for the difference in how men and women rate the attributes of prospective mates?
- A. In countries where women are able to access their own financial resources, women are less likely to rate men's financial status as important because they do not need men's financial resources to raise their offspring.
 - B. Women focus more on financial status than men do when selecting mates because they are driven to maximize the material resources that can be invested in children.
 - C. Men are more likely to choose mates based on physical attractiveness because they have learned that is a desirable quality.
 - D. In countries where plastic surgery is easily available, evolutionary psychology stops being relevant.
20. What follow-up study would be MOST likely to result in information useful to understanding mate selection from an evolutionary psychology perspective?
- A. asking participants to watch a video about stereotyping and human behavior prior to completing the survey
 - B. asking participants to complete two surveys two years apart to look at how their responses have changed
 - C. asking participants located in an extremely remote society to complete the same survey as used in this example study
 - D. asking participants to answer only questions related to physical attractiveness
21. Which of the following is true about evolutionary psychology?
- A. Evolutionary psychology suggests that human behavior evolved due to natural selection.
 - B. Evolutionary psychology focuses on cultural differences and how they influence behavior.
 - C. Evolutionary psychology suggests that human behavior is more influenced by culture in more progressive societies.
 - D. Evolutionary psychology suggests that human behavior is due more to learning than to natural influences.

This is the end of the Unit III Minitest.

Unit III Minitest Answers and Explanations

1. **The correct answer is A.** During the industry versus inferiority stage, an individual must successfully integrate into larger social networks and become competent in academics. Once this conflict is resolved, the individual then progresses to the identity versus role confusion stage.
2. **The correct answer is C.** The infant monkeys preferred to spend more time with the cloth surrogate regardless of whether they took food from the cloth surrogate or the wire surrogate. The data indicate that monkeys fed by either surrogate (cloth or wire) spent more time with the cloth surrogate.
3. **The correct answer is B.** Infant monkeys prefer the cloth surrogate because they were more attached to the emotional comfort that the cloth provides. The data show that regardless of which surrogate fed the infant monkeys, they preferred spending time with the more comforting cloth surrogate.
4. **The correct answer is A.** The infant monkeys would seek comfort from the cloth surrogate regardless of which surrogate they took food from. The monkeys would seek comfort from the cloth surrogate because they had become emotionally attached to the cloth surrogate. They would prefer the surrogate with which they had formed an attachment if presented with a stimulus-eliciting fear.
5. **The correct answer is B.** This potential design would allow you to see whether attachment could be formed to the wire surrogate if given the right conditions. Using adult monkeys would not help you learn more about attachment in infant monkeys. Feeding monkeys from both surrogate types at the same time would most likely not result in any differences, since the infant monkeys already have shown their preference for the comforting (cloth) surrogate over the wire surrogate.
6. **The correct answer is B.** Low self-esteem results from low self-efficacy and an external locus of control. Low self-efficacy beliefs such as feeling that you cannot succeed and an external locus of control such as feeling that events are outside of your control are associated with low self-esteem.
7. **The correct answer is C.** Based on the data shown in the second figure, students were more likely to judge their own team's correct scores as resulting from study and preparation and their opponents' correct scores as resulting from test question bias.
8. **The correct answer is A.** Participants in the survey believed that correct scores for their team were the result of study and preparation (internal factor) and that correct scores for the other team were the result of test question bias.
9. **The correct answer is A.** Students would say that their own team picked wrong answers due to test question bias, but their opponents picked wrong answers due to lack of study and preparation. This is consistent with attribution theory, which posits that one's own personal successes are attributed to internal characteristics,

but others' successes are due to external factors. Conversely, one's own failures (wrong answers) are attributed to external factors (test question bias), while others' failures are attributed to internal factors (lack of study and preparation).

10. **The correct answer is D.** Self-serving bias is the tendency to attribute personal successes to personal traits/characteristics and personal failures to external causes. This answer is consistent with self-serving bias.
11. **The correct answer is D.** Mead examined gender roles across societies. One of her findings is that in some cultures female public expression is more accepted. As a result, women in those cultures are more active in social situations. This trend favors nurture over nature for emotional expression and intergender communication.
12. **The correct answer is C.** Between-culture agreement was highest for the facial expression for happiness. In all the countries studied except Brazil, the facial expression for happiness was the one that the most participants recognized, and even in Brazil, 95 percent of participants recognized the happiness expression. Further, the total average is highest for happiness relative to fear, disgust, and anger.
13. **The correct answer is B.** The rate of between-culture agreement for facial expression is fairly high between cultures, but there are important differences. The data in the graph indicate that the overlap is high despite cultural differences. However, for the most disparate culture studied (New Guinea), the overlap is much less robust. People in New Guinea do identify the facial expressions at better than by chance, but there is not as much overlap as with other cultures.
14. **The correct answer is C.** The tribe members' performance would likely be dissimilar to most of the other cultures in the graph. One criticism of Ekman and Friesen's research was that the cultures studied had a history of contact with one another and also had been exposed to culturally specific media (images, movies, etc.) of other cultures. Due to this criticism, Ekman and Friesen tested participants in New Guinea who had limited contact with the rest of the world. The isolated South American tribe would not have contact with the other major cultures in the graph and therefore would interpret facial cues solely on the basis of their own culture. The responses from the isolated participants described in the question would be the most similar to the participants from New Guinea, although the completely isolated tribe members' performance may be even lower than those from New Guinea.
15. **The correct answer is D.** Emotion recognition in faces has a strong genetic basis but is also influenced by cultural differences. The results of this study show a strong overlap between similar and disparate cultures. This is evidence for a genetic influence. However, the results also show that the agreement is not absolute and that

148**UNIT III:**
Self and Others

more disparate cultures differ the most, suggesting that there is also a cultural and learned influence.

16. **The correct answer is B.** Paraverbal communication is characterized by aspects of the verbal communication such as tone, volume, speed, and prosody. As such, the same words can be received very differently depending on the paraverbal aspects accompanying the words.
17. **The correct answer is A.** Men in the United States rated physical attractiveness at the highest level across cultures.
18. **The correct answer is C.** The similarity in results shows that mate selection preferences are universal and likely due to evolutionary influences. Learning varies across cultures, so mate selection preferences are unlikely to be wholly learned.
19. **The correct answer is B.** Women focus more on financial status than men do when selecting mates because they are driven to maximize the material resources that can be invested in children. This answer is consistent with evolutionary psychology, which characterizes human behavior in terms of evolutionary drives and seeks to identify behaviors that are true across cultures, which may be due to adaptive evolutionary pressures.
20. **The correct answer is C.** A useful follow-up study would ask participants located in an extremely remote society to complete the same survey used in this example. Asking participants from an extremely remote society may help to further determine whether the characteristics are universal.
21. **The correct answer is A.** Evolutionary psychology suggests that human behavior evolved due to natural selection. It posits that human behavior was shaped by characteristics of the environment through natural selection, resulting in the behavior humans exhibit today. Evolutionary psychologists often look for measurements that remain constant regardless of cultural variations as candidates for study.