Nature, Nurture, and Human Diversity

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RESOURCES

Introducing Nature, Nurture, and Human Diversity

Lecture/Discussion Topic: Universal People

Because our similarities are as invisible as the air we breathe, argues Donald Brown, we vastly underestimate them. Brown describes "universal people" whose behavior is typical of every culture.

Universal people communicate both verbally and nonverbally, enforce rules of etiquette, and show favoritism toward ingroup members, including preference for kin over nonkin. They avoid incest, fear snakes, and exchange gifts. Universal people demonstrate modesty in sexual behavior and bodily functions, even if they don't wear clothes.

Everywhere, labor is divided by age and by gender. Men are more aggressive than women; women provide more child care. Every culture has tools, including tools for cutting and for pounding and tools to make tools. Everywhere, people form beliefs about death and disease, and they plan for the future.

Universal people have group identities but also distinguish self from others. All cultures have taboos, including tabooed utterances. Sanctions exist for crimes against society, and mechanisms for dealing with theft, murder, and rape are universal.

People everywhere recognize marriage, which defines socially recognized sexual access to a fertile woman. They mimic, flirt, envy, empathize, joke, tease, and dance and make music (some social groups, for example, the Taliban, may attempt to sharply restrict, even to prohibit, these activities). There is magic to increase life, magic to sustain life, and magic to win love. There are myths and folklore, worldviews, poetry, and even attempts to control the weather. We are universal people!

> Brown, D. (1991). *Human universals.* New York: McGraw-Hill.

Behavior Genetics: Predicting Individual Differences

Genes: Our Codes for Life

Classroom Exercise: Genetic Factors

Following is some useful information for a discussion of the role of genetic factors in shaping our traits and behaviors. Explain how we inherit one set of 23 chromosomes from each parent. The two sets form pairs that contain alternate genes for the same traits. Sometimes, one gene is *dominant* and "overrides" the *recessive* gene. For example, with eye color, the brown-eye gene is dominant. If either parent contributes this gene when conceiving a baby, the child will have brown eyes. Only if both genes are recessive will the child have blue eyes.

Father's two genes

		F_1	F_2
Mother's two genes	M_1	F_1M_1	F_2M_1
	M_2	F_1M_2	F_2M_2

A few other traits are inherited in the same straight-forward manner. For example, the relative lengths of the forefinger and ring finger seem to be controlled by a simple genetic mechanism. Have students draw a straight horizontal line on a sheet of paper. When the tip of their ring finger is placed on the line, does the tip of the forefinger also reach the line? Research indicates that short forefingers is a recessive trait in women, whereas in men it is dominant. Thus, in a large class you should find more short forefingers among men than women. Also ask students if they can bend their thumb back from the second joint at a 45° angle. When interlocking their fingers, do they place the left or right thumb on top? The point of these examples is that the particular characteristics are genetically controlled. Practice or experience has no effect.

Sandra Singer suggests still another example of a genetically determined difference for class demonstration: taste sensitivity to phenylthiocarbamide (PTC). To about 70 percent of the adults in the United States, a diluted dose of this chemical compound has an extremely bitter, unpleasant taste. For the other 30 percent, the same concentration of PTC is tasteless. Because of the proportion of "tasters" to "nontasters," and because no environmental factors seem to influence this difference in taste sensitivity, PTC taste blindness is most likely the product of a single recessive gene pair. PTC-impregnated strips are very inexpensive and can be obtained from most biology supply houses. Distribute the strips and calculate the number of tasters and nontasters. Singer reports invariably finding both in every group. Both groups will be amazed at the differ-ence in each other's experience.

Rick Straub suggests a number of examples to help students understand dominant-recessive inheritance patterns. Begin by drawing the Punnett square on the board, giving a brief explanation of how it is used. Use eye color to illustrate.

Then have the class answer these questions.

1. A man with red hair (recessive) marries a woman with black hair (dominant) whose mother had red hair. What are the chances that their first child will have red hair? (Two chances in four.) Black hair? (Two chances in four.)
2. A man and a woman both have brown eyes, but their first child has blue eyes. What are the chances

that their second child will have blue eyes? (One chance in four—the odds of blue eyes is the same regardless of how many previous children already have blue eyes.)

You may want to construct additional examples. Curly hair, dimples in the cheeks, unattached earlobes, and farsightedness are dominant traits. Their counter-parts—straight hair, no dimples, attached ear lobes, and normal vision—are recessive characteristics. You might note that while more complex traits may also be simply determined (as is one's sex, though not by a dominant-recessive pattern), genetic influence is typically more complicated. That is, many genes interact to help create the trait.

Singer, S. (1984). *Classroom demonstrations: Individual differences.* Paper presented at the 92nd Annual Con-vention of the American Psychological Association, Toronto.

Straub, R. O. (2010). *Instructor's resources to accom-pany Invitation to the Life Span.* New York: Worth.

Lecture/Discussion Topic: The Origin of Blue Eyes

Both geneticists and psychologists study the occasional variations found at particular gene sites, which contrib-ute to each person's uniqueness. Geneticist Hans Eiberg and his research team at the University of Copenhagen have identified a genetic mutation that occurred 6000 to 10,000 years ago and is the cause of blue eyes. Remarkably, their careful analysis suggests that all blue-eyed humans have a single, common ancestor and thus are related.

Originally, notes Eiberg, all humans had brown eyes. However, a genetic mutation affecting the OCA2 gene resulted in the emergence of a "switch," which literally turned off the ability to produce brown eyes. The OCA2 gene codes for the P protein that is involved in the production of melanin, a class of compounds that color our hair, eyes, and skin. The switch that is found in the gene adjacent to OCA2 does not turn off the gene entirely but rather limits the production of melanin in the iris and thus "dilutes" brown eyes to blue. If, in fact, the OCA2 gene had been completely turned off, humans would be without any color in their hair, eyes, or skin, a condition known as *albinism*.

Varying amounts of melanin in the iris are associ-ated with brown or even green eye color. In contrast, blue-eyed individuals show only a very small amount of variation in the amount of melanin in their eyes. Eiberg's team examined 155 people from Scandinavia, Turkey, Jordan, and India looking to see whether they all had similar DNA sequences on the critical gene. To their surprise, they found that they indeed had identical DNA sequences in that region of the gene, an indication that the mutation happened so recently that it has not had time to change.

Eiberg claims that "From this we can conclude that all blue-eyed individuals are linked to the same ancestor. They have all inherited the same switch at exactly the same spot in their DNA." In contrast, those with brown eyes show considerable individual variation in the area of their DNA that controls the production of melanin.

Blue eyes are relatively rare in the United States as compared with countries where the mutation first occurred, which was likely somewhere in the Balkans or near the Black Sea. In Estonia, 99 percent of people have blue eyes; in Germany, 75 percent have blue eyes. Thirty years ago, only 8 percent of the Danish population had brown eyes; however, as a result of immigration that number today is about 11 percent. Everyone has two genes for eye color, one from each parent. Brown eyes are dominant, and thus blue eyes can occur only when both parents carry at least one blue-eyed gene. Potentially, the recessive gene for blue eyes can remain invisible for generations.

The gene mutation for blue eyes represents neither a positive nor a negative mutation. It is one of several mutations such as baldness, freckles, and beauty spots which neither increase nor decrease a human's chance of survival. Eiberg concludes, "It simply shows that nature is constantly shuffling the human genome, creating a genetic cocktail of human chromosomes and trying out different changes as it does so."

> University of Copenhagen (2008, January 31). Blue-eyed humans have a single, common ancestor. *ScienceDaily*. Retrieved March 9, 2008 from www.sciencedaily.com/releases/2008/01/080130170343.htm.

Classroom Exercise/Student Project: Genetic Influences

To demonstrate genetic influences on perceptual experience, you may want to use the simple classroom exercise described in Sensation and Perception. "Genetic Effects on Taste" demonstrates how people's ability to taste the bitter substance PROP is genetically determined. About 75 percent of Americans are tasters; of those, 25 percent are supertasters. As noted in that exercise, you can use tongue painting and a reinforcement ring to assess supertasting.

Lecture/Discussion Topic: The Genetic Revolution

In introducing the latest research in genetics, you might pose the following questions to your students.

1. If it were possible, would you want to take a genetic test telling you which diseases you are likely to suffer from later in life?
2. If you or your spouse were pregnant, would you want the unborn child tested for genetic defects?
3. Do you think it should be legal for employers to use genetic tests in deciding whom to hire?

The C. S. Mott Children's Hospital Poll on Children's Health, conducted in March 2007, asked respondents their opinions about genetic testing of children and adults for disorders where effective treatments do or do not exist. A total of 54 percent reported wanting genetic testing even if no effective treatment is possible. A smaller 39 percent wanted genetic testing only if effective treatment is available. A slim 7 percent indicated that genetic testing should never be conducted. Except for non-Whites, who were more likely to want genetic testing even if no effective treatment is available, there were no differences in attitudes about genetic testing by age, gender, education, income, or health insurance status.

Advances in genetic testing have led to proposals for DNA biobanks, essentially collections of DNA from groups of individuals in the population and linked to other health information, including medical records. Such biobanks would allow the government to track health data and to contact individuals when new treatment and prevention strategies become available. The Mott poll asked parents if they were willing to have their children's DNA stored in a government DNA biobank. In addition, all the respondents (whether parents or not) were asked whether they were willing to store their own DNA in a biobank. Overall, the same 38 percent indicated a willingness to have their children and their own DNA stored. A total of 33 percent were unwilling, and 29 percent were unsure.

Thanks to the mapping of the human genome, scientists are rapidly identifying the genetic codes for various diseases. Genetic tests are presently available for many illnesses, including Huntington's disease, cystic fibrosis, and Tay-Sachs disease. In some cases, the ability to predict is accompanied by an ability to cure. For example, the genetic predisposition to hereditary hemochromatosis, a potentially fatal disease that causes iron to build up in the blood, is easily treated. On the other hand, Huntington's disease is incurable. Knowing your vulnerability is a mixed blessing at best.

For some, the most worrisome development of the genetic age is the likelihood that knowledge of a person's genes will be used against them. A drop of blood or a lock of hair could tell a potential insurer or employer whether someone is at risk of contracting any of a long list of debilitating diseases. In 1993, James Tatum, a 43-year-old postal supervisor from Turlock, California, suddenly lost his sight. Although the U.S. Postal Service approved his request for a disability retirement, the Department of Labor subsequently denied it, arguing that Tatum's blindness was caused by a genetic disorder. Thus, his condition predated his employment and was not covered by employment benefits. In February 2001, the Equal Employment Opportunity Commission filed its first genetic-testing

lawsuit in which it accused Burlington Northern Santa Fe Railroad of collecting genetic samples from employees without their consent. Apparently, the tests were used to evaluate compensation claims filed by workers suffering from carpal tunnel syndrome, a repetitive motion injury that may be linked to a genetic mutation. The workers claimed that the company was seeking to blame any future health problems on their genetic makeup rather than attribute them to physical stress on the job. In May 2002, 36 railroad workers won a $2.2 million out-of-court settlement from Burlington.

The Cambridge-based Council for Responsible Genetics has documented hundreds of cases of genetic discrimination in the health industry. For example, a healthy child was denied insurance because of a genetic predisposition to a heart disorder. On May 21, 2008, former President George Bush signed the Genetic Information Nondiscrimination Act (GINA) into law. It prohibits health insurers from denying coverage to a healthy individual and from charging that person higher premiums based solely on a genetic predisposition to an illness. GINA also prohibits employers from using genetic information in hiring, firing, job placement, or promotion decisions. The bill, debated in Congress for 13 years, had passed the Senate unanimously and the House by a vote of 414 to 1.

Genetic tests outpace efforts to safeguard people's data. (2002, August 20). *USA Today,* p. 10A.

Hawkins, D. (2001, March 5). Guard your genetic data from those prying eyes. *U.S. News and World Report,* 59–60.

National Human Genome Research Institute (2008, May 21). Genetic Information Nondiscrimination Act: 2007–2008: President Bush signs Genetic Information Nondiscrimination Act of 2008. Retrieved July 15, 2008, from www.genome.gov/24519851.

The telltale gene. (1990, July). *Consumer Reports,* 483–488.

Thompson, D. (2000, January 24). The gene machine. *Newsweek,* 58.

University of Michigan Health System (2007, June 20). C. S. Mott Children's Hospital National Poll on Children's Health: Genetic Testing and DNA Biobanks—For Whom, and When? Retrieved July 15, 2008, from www.med.umich.edu/mott/research/CBH%20 Poll/NPCH%20vol%201%20issue%204%20June%20 20%20FINAL.pdf.

Lecture Break: Biology Is More Than Just Genes

Students have a tendency to equate "biological influences" with "genetic influences" even though they often differ in the mechanisms of influence and in their net results on physical and psychological traits. To draw attention to these differences, take a few minutes to have your students create a list of all the ways that their

biology may be affected without a concomitant impact on their genes or DNA. You can do this with the entire class contributing to the same list, or have your students work in pairs or small groups to see what they can come up with. You may want to assign student groups to specific kinds of biological influences (e.g., chemicals in the environment, exposure to pathogens, changes in uterine environment, accidents/injury, nutrition), or specific developmental stages (e.g., perinatal, early childhood, adolescence, late adulthood). After generating the list(s)of biological influences, have the students go back and circle and/or identify which ones may have genetic or epigenetic affects and which ones may not.

Twin and Adoption Studies

Classroom Exercise: Striking Similarities

Striking similarities have sometimes been found between twins who are reunited after years of separation. Does this suggest the importance of the genetic factor in personality and behavior? Or will any two people find some remarkable similarities just by chance? To demonstrate the latter possibility, David Myers has created an activity from materials provided by Joseph Wyatt. Distribute a copy of Handout 1 to each student, pair students off (preferably with someone they don't know), and give them 5 or 10 minutes to see how many similarities they can discover. Tell them, "you'll differ in lots of ways—don't worry about these, we're just interested in whether you can find some similarities."

If you have an odd number of students, pair off with someone yourself. The first time Myers did this with a student, he found within 5 minutes that they "both like basketball, had watched Syracuse defeat Georgetown the previous evening, hate brussels sprouts, sleep seven hours, chew Wrigley's spearmint, use Crest, read *Time*, prefer nonfiction books, view the nightly news and not much else, are right-handed, outgoing persons."

Lecture/Discussion Topic: The Minnesota Twin Study

The Minnesota Study of Twins Reared Apart, directed by Thomas J. Bouchard, began in 1979 and involved a week-long medical and psychological assessment of identical and fraternal twins separated in early life and reared apart. The psychological assessment included multiple measures of personality, mental abilities, values, interests, psychomotor skills, reading, spelling, and writing. The medical assessment involved a psychiatric interview, a medical life history, a standard blood battery, and even detailed dental and periodontal exams. This massive study provides many examples of separated identical twins showing remarkable similarities. Psychologist Nancy Segal's *Entwined Lives* describes how the Minnesota study even included a set of trip-

lets. Although raised separately, Bobby Shafran, David Kellman, and Eddy Galland shared similar personalities described as "intelligent, extraverted and slightly rambunctious." Bobby and Eddy were reunited by one of Eddy's college friends. When
David saw a newspaper photo of his brothers, he immediately contacted his siblings and the triplets were fully reunited.

Separated as infants, twins Gerald (Jerry) Levey and Mark Newman grew up to share characteristics ranging from their firefighting avocation to taste in beer. Neither knew of the other's existence until a shared acquaintance brought them together. Upon meeting for the first time each saw his own reflection. They had grown the same mustache and sideburns, and each wore the same glasses. As the brothers talked, they discovered they had more than looks in common. Levey went to college and graduated with a degree in forestry. Newman planned to go to college to study the same subject but opted to work for the city trimming trees. Both worked for a time in supermarkets. Levey had a job installing sprinkler systems. Until relatively recently, Newman had a job installing fire alarms. Both men are bachelors attracted to similar women—"tall, slender, long hair." In addition to being volunteer firefighters, they both share favorite pastimes of hunting, fishing, going to the beach, watching old John Wayne movies and pro wrestling, and eating Chinese food in the wee hours after a night on the town. Both were raised in the Jewish faith but neither is particularly religious. Both men drink only Budweiser beer, holding the can with one pinkie curled underneath and crushing the can when it's empty. In becoming acquainted, observes Jerry, "we kept making the same remarks at the same time and using the same gestures. It was spooky. . . . He is he and I am I, and we are one."

The twins in the Minnesota study completed a number of interviews and tests. Thomas Bouchard and his colleagues reported that heredity accounted for 64 to 74 percent of the differences seen in IQ between the identical twins. Previous studies found that heredity explained 47 to 58 percent of the variance. The Multidimensional Personality Questionnaire (MPQ) evaluated the twins for impulsiveness, aggressiveness, need for achievement, traditionalism, stress reaction, sense of well-being, social potency (including traits such as leadership), social closeness, alienation, harm avoidance, and absorption, or "proneness to imaginative activities." In each of these areas researchers found heritability of about one-half. The figures ranged from 39 percent for achievement to 55 percent for harm avoidance. The researchers emphasize that the significance of the findings is that heritabilities were found at all. More surprising is that they all hovered at about 50 percent. (It is wise to remind students what these percentages

mean. For example, 90 percent of the variation in people's height is genetic and 10 percent is environmental. These figures apply to the population as a whole, not to individuals. "We don't say that 90 percent of *your* height is influenced by genetic factors and the other 10 percent by environmental factors," says Nancy Segal. "Rather, that ratio represents the proportion of differences among people that can be explained by genes or by environmental influences.")

More interesting findings from the Minnesota study are found in the research team's report titled "What's Special About Twins to Science?" (see www.psych. umn.edu/psylabs/mtfs/special.htm). For example, the team has attempted to answer the question, "Could divorce be inherited?" The divorce rate for Minnesota couples is about 19 percent. However, the investigators report that if you are an identical twin and your co-twin is divorced, your risk of divorce is 45 percent; if you are a fraternal twin and your co-twin is divorced, your risk of divorce is 25 percent. Conclusion? There is not a "divorce gene," but similar divorce rates of identical twins are due to their having genetically influenced personality characteristics that contribute to marital adjustment.

Clearly, the Minnesota study does not provide a perfect assessment of heredity's contribution to our traits (including intelligence) and has led to some questions about the reliability of twin studies. For example, separated identical twins shared the same prenatal environment. If those 9 months are crucial in determining how the brain is wired, environment is already having a significant impact before birth. This would also help explain why fraternal twins (who are no more alike genetically than any brother and sister) have IQs more alike than ordinary siblings. Moreover, separated identical twins are rarely separated at the moment of birth. The twins in the Minnesota study had, on average, 5 months together before they were separated. If the first 6 months of life are indeed important, environment could still be contributing to their similar personality traits. Finally, after their reunion, the twins averaged nearly two years together before they participated in the study. Naturally, the researchers paid special attention to their similarities and may, as some critics have argued, have come to "mythologize" the twins' relationship.

Adler, T. (1991, January). Seeing double? *APA Monitor,* 1, 8.

Happiness is a reunited set of twins. (1987, April 13). *U.S. News & World Report,* 63–66.

Rosen, C. M. (1987, September). The eerie world of reunited twins. *Discover,* 36–46.

Segal, N. L. (2000). *Entwined lives: Twins and what they tell us about human behavior.* New York: Penguin.

What we learn from twins. (1998, January 3). *The Economist,* 74–76.

Lecture/Discussion Topic: "Mom Always Liked You Best"

People who grow up together, whether biologically related are not, do not much resemble one another in personality. Why are children in the same family so different? Is it because each sibling has a different combination of genes? Is it because each sibling experiences a different birth order, peer influences, and life events? Judith Dunn has examined certain influences *within* the family that may help explain why people who grow up together, whether or not biologically related, do not have very similar personalities. Dunn notes that the affection, attention, and discipline provided by parents are significantly different for siblings. To illustrate, she cites a contrast in the relationships that 14-month-old Susie and her 30-month-old brother, Andy, have with their mother. Susie is assertive, determined, and a handful for her mother, who is nevertheless delighted by her boisterous daughter. In contrast, Andy is rather timid, cautious, and compliant; at best, he seems to be tolerated by his mother. An exchange between the mother and her children provides insight into these differences. Susie persistently attempts to grab a forbidden object on a high kitchen counter, despite her mother's repeated objections. Finally, she succeeds, and Andy overhears his mother make a warm, affectionate comment on Susie's success: "Susie, you *are* a determined little devil!" Andy, sadly, comments to his mother, "*I'm* not a determined little devil!" His mother replies, laughing, "No! What are you? A poor old boy!"

This example not only illustrates differences between siblings' relationships with their parents but also suggests that children may be extremely sensitive to such differences. Research indicates that from a remarkably early age, children monitor and react to their parents' interactions with their siblings. In the case cited by Dunn, Andy monitors and responds to his mother's exchange with his sister, promptly and with a self-comparison. Furthermore, from the end of their first year, children are interested in the behavior of other family members, especially in terms of their emotional exchanges. This perhaps explains the finding that both first-born and second-born children are profoundly affected by their mother's interactions with the other sibling. For example, children who receive less affection and attention than their siblings are likely to be more worried, anxious, or depressed than children in general. The difference in treatment also affects the quality of the relationship between siblings, with more hostility and conflict found in families with greater differential parental treatment.

Research also suggests that there may be marked differences in how two siblings behave toward each other. In fact, the emerging picture is that in only one-third of sibling pairs do the two children show very similar degrees of affection toward each other. Although there is more reciprocity in terms of hostility, within a pair the relative differences in negative behavior, as well as conduct problems and anxious or depressed behavior, are related to perceived self-competence. For example, one investigation found that the more negative a younger sibling is toward the older, the higher the self-esteem of the younger sibling 3 years later. Dunn notes that these initial findings must be treated with caution until they are replicated, and clearly, no causal inferences can be made from such correlational data.

This is a good topic for small-group or even full-class discussion. Ask students to reflect on their own experiences as family members and how those experiences may have shaped their own personalities, as well as those of their siblings.

Dunn, J. (1992). Siblings and development. *Current Directions in Psychological Science, 1,* 6–9.

Temperament and Heredity

Classroom Exercise: EAS Temperament Survey

Extend a discussion of temperament with Handout 2, Buss and Plomin's EAS Temperament Survey. Buss and Plomin describe a temperament as a broad personality disposition rather than specific personality traits. How dispositions develop into traits depends on how those dispositions interact with the environment. A temperament is more a matter of *style* (how a response is made) than of *content* (which response is made).

The EAS Survey measures three temperaments: activity, emotionality, and sociability. *Activity* represents a person's general level of energy output. Children who are high in this disposition do not sit still long and prefer games of action; high-scoring adults keep busy most of the time and prefer active to quiet pastimes. *Emotionality* refers to the intensity of emotional reactions. Children who are high in this disposition become frightened and angry very quickly; as adults, they easily become upset and display a "quick temper." *Sociability* relates to a person's tendency to affiliate and interact with others. Both children and adults who score high on this disposition seek out others and generally enjoy their company.

To score the survey, students should reverse the number they placed in front of items 6, 18, and 19 (5 = 1, 4 = 2, 3 = 3, 2 = 4, 1 = 5). Then, they should add the scores for items 2, 7, 10, and 17 for an Activity score, and the scores for 1, 6, 15, and 20 for

a Sociability score. The Emotionality disposition consists of three parts: the total of 4, 9, 11, and 16 gives a Distress score; 3, 12, 14, and 19 give a Fearfulness score; and 5, 8, 13, and 18 give an Anger score. Buss and Plomin provide the mean scores for women and men shown here.

	Women	Men
Activity	13.40	12.80
Sociability	15.24	14.60
Emotionality		
Distress	10.08	9.72
Fearfulness	10.60	8.92
Anger	10.28	10.80

Buss and Plomin argue that temperaments are largely inherited. The evidence they present from several twin studies is persuasive. Identical twins show significantly more similar temperaments than do fraternal twins. The average correlations for Emotionality, Activity, and Sociability were .63, .62, and .53 for identical twins and .12, –.13, and –.03 for fraternal twins.

The authors recognize that while heredity may point personality in a certain direction, the course of development is also influenced by the environment. Thus, while a highly emotional child is more likely than a less emotional one to become aggressive, parents who reward problem-solving skills over the overt expression of anger may shape the child into a cooperative, altruistic adult. Obviously, however, infants are not blank slates on which parents may "write their child's personality."

Burger, J. M. (2010). *Personality* (8th ed.). Belmont, CA: Thomson Wadsworth.

Buss, A. H., & Plomin, R. (1984). *Temperament: Early developing personality traits*. Hillsdale, NJ: Erlbaum.

Molecular Genetics

Lecture/Discussion Topic: Designer Babies?

Research developments already make it possible for parents to choose their child's sex before conception with reasonable chance of success. Medical personnel may also soon be able to give parents a read-out on how their fetus's genes differ from the normal pattern and what this might mean. With gene therapy, scientists say that they will be able to change a child's characteristics before she or he is born. Clearly, in the future scientists will be able to cure a child's inherited disease before birth.

Until fairly recently, gene therapy has meant placing a healthy gene into the cells of one organ of a patient suffering from a genetic disease. Now it may mean altering a fertilized egg so that genes in all of a person's cells, including eggs and sperm, carry a gene

that scientists, not the parents, placed there. "Germline" (eggs and sperm) therapy would actually allow us to take control of our own evolution. Many bioethicists are sympathetic to shielding a child from a family disposition to cancer or Alzheimer's disease. But what about other characteristics? How about a child's sexual orientation, intelligence, or specific talents, such as musical ability?

More generally, what are the social and ethical implications of genetic screening? Is it likely that only the "haves" would be able to genetically engineer their children? As Richard Ely asks, "Should prenatal screening for certain behaviors (e.g., disorders such as autism) be mandatory? Should screening for other behaviors be prohibited? To what degree would the availability and use of prenatal screening create a de facto eugenic society?"

One development addresses the concern that no one's genes, not even an embryo's, should be altered without his or her permission. UCLA geneticist John Campbell suggests that designer genes may be paired with an on-off switch. The child would have to take a drug to activate the gene. Free to accept or reject the drug, the child retains informed consent over his or her genetic endowment. Researchers are also experimenting with drugs that make the introduced gene self-destruct in cells that become eggs or sperms, confining such gene tinkering to one generation. Thus, if researchers later discovered that eliminating genes for mental illness also erased genes for creativity, they could prevent the loss from becoming a permanent part of a humankind's genetic blueprint.

Begley, S. (1998, November 9). Designer babies. *Newsweek,* 61–62.

Ely, R. (1999). Bringing genetic screening home. In L.T. Benjamin et al. (Eds.), *Handbook for the teaching of psychology,* Vol. 4. Washington, DC: American Psychological Association.

Feature Film: Gattaca *and Genetic Testing*

The goal of molecular genetics is to find some of the many genes that influence normal human traits such as body weight, sexual orientation, and basic personality traits. Ultimately, knowledge about such links may enable medical personnel to inform expectant parents of how a fetus deviates from normal patterns. Potentially, prospective parents may even be able to take their eggs and sperm to a genetics lab for screening before combining them to produce an embryo. They might select not only for health but for brains, beauty, and athleticism.

Lavonne Zwart suggests a 4:23-minute clip from the 1997 feature film *Gattaca* to introduce the potential of creating "designer babies." It is certain to stimulate class discussion and debate about the possibilities and

problems surrounding this fascinating application of molecular genetics. In this clip, Vincent is born without the advantage of genetic screening, and tests indicate a high probability of a variety of disorders, including serious heart disease. His younger brother Anton is later born the new "natural way," that is, with his parents carefully selecting his physical and psychological traits. Begin at 8:22 minutes into the film with DVD Scene 3 entitled "Ten fingers, ten toes" and run into Scene 4, "The 'natural' way," ending at approximately 12:45 minutes.

Heritability

Lecture/Discussion Topic: Genetic Influences on Psychological Traits

Thomas Bouchard provides a succinct survey of research findings on how much genes influence human psychological traits. You may want to present his summary in class. Bouchard notes, "There is now a large body of evidence that supports the conclusion that individual differences in most, if not all, reliably measured psychological traits, normal and abnormal, are substantially influenced by genetic factors." He then breaks down the findings for personality, intelligence, psychological interests, psychiatric illnesses, and social attitudes.

Of special interest is Bouchard's observation that the early behavior geneticists' assumption that some psychological traits were likely to be significantly influenced by genetic factors, whereas others were likely to be primarily influenced by shared environmental influences has proven wrong. Heritabilities differ less from trait to trait than anyone initially imagined. Most psychological traits are moderately heritable; this may be a general biological phenomenon rather than one specific to human psychological traits. More specifically, the profile of genetic and environmental influences on psychological traits is not that different from the profile of these influences on similarly complex physical traits. In addition, such findings apply to most organisms.

Presenting Bouchard's findings provides a good opportunity to extend the discussion by explaining the concept of heritability. Heritability refers to the extent to which variation among individuals can be attributed to their differing genes. Thus, to say that the heritability of happiness is, say, 50 percent, does not mean that your happiness is 50 percent genetic. Rather, it means that we can attribute to genetic influence 50 percent of the observed variation in happiness among people. Following are Bouchard's findings by category.

Personality
Organizing traits into the Big Five (extraversion, agreeableness, conscientiousness, neuroticism, and openness) and the Big Three (positive emotionality, negative emotionality, and constraint), Bouchard reports that genetic influence is in the range of 40 to 50 percent and that heritability is approximately the same for different traits. Some large studies have examined whether the genes that influence personality traits differ in the sexes, and the answer seems to be *no*.

Mental Ability
Early in life, shared environmental factors are the dominant influence on IQ. Gradually, genetic influence increases. For example, Bouchard reports heritability of 22 percent at age 5. In old age (75+ years), it is 54 to 62 percent.

Psychological Interests
Little variation in heritability is reported for realistic, investigative, artistic, social, enterprising, and conventional interests. It averages 36 percent.

Psychiatric Illnesses
The most extensively studied psychological disorder is schizophrenia, and it shows a very high degree of genetic influence. Heritability is about 80 percent. Major depression is less heritable (about 40 percent). The heritability of anxiety disorders is from 20 to 40 percent, alcohol dependence is in the range of 50 to 60 percent, and antisocial personality disorder ranges from 41 to 46 percent.

Social Attitudes
Twin studies show only environmental influence on conservatism up to age 19; after this age, heritability increases, with one large study yielding heritabilities of 65 percent for men and 45 percent for women in adulthood. Religiousness is only slightly heritable (11 to 22 percent) in 16-year-olds; for adults, it is in the 30 to 45 percent range. Membership in a specific religious denomination is largely due to environmental factors.

> Bouchard, T. J., Jr. (2004). Genetic influences on human psychological traits. *Current Directions in Psychological Science, 13,* 148–151.

Gene-Environment Interactions

Lecture/Discussion Topic: Nature and Nurture

The text notes that genes and environment—nature and nurture—work together like two hands clapping. Genes respond to environments. Rather than acting as blueprints that lead to the same result no matter the situation, genes react.

Zoologist and science writer Matt Ridley provides additional examples of how gene expression is modified by experience. For example, girls raised in fatherless households experience puberty earlier. "Apparently the change in timing," writes Ridley, "is the reaction of a still mysterious set of genes to their environment. Scientists don't know how many sets of genes act this way."

Fear of snakes, the most common human phobia, seems instinctive. Still, studies with monkeys indicate that their fear of snakes (and most likely ours) must be acquired by watching another individual react with fear to snakes. We inherit not a fear of snakes but a genetic predisposition to learn a fear of snakes.

In contrast to chimpanzees, people have the capacity for complex, grammatical language. However, language must be learned from other language-speaking human beings. The capacity to learn is shaped by genes that open and close a critical window when learning can take place. If children are not exposed to spoken language during this critical period, they will always struggle with speech.

Evidence suggests that childhood maltreatment may produce an antisocial adult. However, Terrie Moffitt, in New Zealand studies, finds that this may be true for only a genetic minority. In fact, those with high-active monoamine oxidase A (MOA) genes are virtually immune to the effects of maltreatment; that is, they do not become more antisocial. Those with low-active genes are much more antisocial if maltreated, yet slightly less antisocial if not maltreated. In short, maltreatment alone does not produce antisocial behavior; the low-active gene must also be present. Similarly, the low-active gene alone does not produce antisocial behavior; maltreatment must also occur.

Ray Blanchard's research at the University of Toronto indicates that gay men are more likely than either lesbians or heterosexual men to have older brothers (but not older sisters). Apparently, something about occupying the womb that has held other boys occasionally leads to reduced birth weight, a larger placenta, and increased likelihood of homosexuality (the *birth-order effect*). Blanchard suspects that an immune reaction in the mother grows stronger with each male pregnancy. This immune response may affect the expression of key genes during brain development that increases a boy's attraction to his own sex. The explanation obviously does not hold true for all cases of homosexuality, but it may provide important clues into the origin of heterosexual as well as homosexual orientation for some people.

> Ridley, M. (2003, June 2). What makes you who you are. *Time*, 54–63.

Feature Film: Fly Away Home *and Imprinting*

Showing brief scenes from this delightful film provides a wonderful opportunity to illustrate the text discussion of how nature and nurture work together. (It is also useful for illustrating a discussion of imprinting.) After the mother goose died, 13-year-old Amy placed her eggs in an old dresser and warmed them with a small electric lantern. Upon hatching and seeing Amy, the goslings imprinted on her and followed her around the family farm.

More than 50 years ago, Konrad Lorenz explored the rigid process called imprinting in ducklings. Genetically programmed to follow the first moving creature seen in the hours after hatching, baby ducks typically imprinted on their mother. However, Lorenz found that if they saw him first, they followed him everywhere. Clearly, genes and environment, nature and nurture, work together, with the environment shaping what nature predisposes. Although there are several scenes from the film that are relevant to understanding the imprinting process (from the placement of the eggs in the barn's old dresser to the goslings' hatching to seeing Amy), the "following" response, which begins 33:22 minutes into the film and runs for 83 seconds, is relevant here. As the little goslings follow their adopted mother, a friend explains the imprinting process to Amy's father. Outstanding scenery, cinematography, and musical score!

You might note that the film from which this clip is drawn was inspired by William Lishman's autobiography *Father Goose.* In 1994, Lishman and Joe Duff founded Operation Migration (OM), a nonprofit organization that has now conducted numerous migration studies involving three species of birds. Such migration is especially important for endangered species who are orphaned or raised in captivity and need to be taught to escape harsh, northerly winters. Using ultralight aircraft and the birds' natural instinct to imprint, the OM team leads the birds on a predetermined route to a safe wintering site. For example, about 100 whooping cranes are now migrating in eastern North America because of the efforts of OM and their partners in the Whooping Crane Eastern Partnership.

> Whooping Crane Eastern Partnership. (2011). Whooping Crane Eastern Partnership releases five-year strategic plan. Retrieved May 21, 2011, from www.bringbackthe cranes.org.

Lecture/Discussion Topic: Gene-Environment Correlation

In class, you can elaborate on the text discussion of gene-environment interaction with Randy Larsen and David Buss' review of the literature on three types of "genotype-environment correlation."

Passive genotype correlation occurs when parents provide both genes and the environment to children, but the children have done nothing to elicit their parents' responses. For example, parents who are verbally articulate may pass on their genes to their children. Because the parents are highly verbal, they may also buy a lot of books. A significant correlation between children's verbal ability and the number of books in their home is passive in that the child has done nothing to affect the presence of books.

Reactive genotype-environment correlation occurs when parents respond differently to children, depend-

ing on each child's genotype and behavior. Some babies may love to be touched and cuddled; others are more aloof. Parents may start treating their children the same, but over time, because of the children's different responses, they cuddle one much more than the other. As a result, differences in the children's sociability grow.

Active genotype-environment correlation occurs when a person with certain genetic predispositions selects a particular environment. For example, high sensation-seekers may seek risky environments—for instance, skydiving, motorcycle jumping, even drug taking. Very intelligent individuals may read books, attend lectures, and engage others in vigorous debate. This active selection of environments has been called *niche picking,* and it vividly demonstrates how we are not merely passive recipients of our environments but that we mold and create them. They, in turn, mold us.

Larsen and Buss make the important point that genotype-environment correlations may be positive or negative. That is, environments can encourage or discourage the expression of a specific genetic predisposition. Parents of very active children may try to get them to calm down, while parents of more passive children may try to foster liveliness. People who are very outspoken may be positively reinforced by an approving audience, but they may also elicit a negative reaction from others who try to "bring them down to size."

> Larsen, R. J., & Buss, D. M. (2008). *Personality psychology: Domains of knowledge about human nature* (3rd ed.). New York: McGraw-Hill.

Lecture/Discussion Topic: Epigenetics

The concept of epigenetics threw a monkey wrench into the nature–nurture debate, at least as it has been classically presented. It was no longer adequate to try to explain the origin of behavior, personality, cognitive traits, or other aspects of psychological experience by examining causal variables as "either-or" (e.g., either genetic makeup or experience). According to epigenetics, our experiences and our environment can change how our genes are expressed and the genetic code that we pass along to our offspring, which means that psychological phenomena must be considered the result of "nature + nurture."

The NOVA ScienceNow organization maintains a website with excellent brief videos describing and demonstrating many important concepts relevant to the introductory psychology course. The website for the program on Epigenetics (www.pbs.org/wgbh/nova/sciencenow/3411/02.html) presents information about what the epigenome is and how environmental factors (including experience) can shape the processes that affect the binding of molecules to our genes and how

those genes are subsequently expressed in humans and other animals. The video on this topic is 13:02 minutes long; if you do not want to take the time to show it in class, you can have students watch it outside of class.

The information in this NOVA ScienceNow video supports Frances Champagne and colleagues' exciting research with rats and mice. They have been able to demonstrate an epigenetic mechanism for the transmission of specific maternal behaviors to female offspring and, later, to female grandoffspring. First, they examine differences in maternal behaviors toward offspring—for example, the frequency of pup licking and grooming (Champagne, 2008) and the retrieval of offspring back to the nest (Curley, Champagne, Bateson, & Keverne, 2008). Individual rats vary in the extent to which they exhibit these behaviors. These researchers then compare the offspring born to animals who exhibit these maternal behaviors with high frequency with the offspring of animals who exhibit a low frequency of these behaviors. Half the pups in each litter remain with their biological mothers; the other half are transferred to mothers who exhibit the opposite maternal behavioral pattern.

Champagne found that female pups who are raised by mothers that engage in caretaking behaviors more often also exhibit a high frequency of these behaviors when they have their own litters. This is true regardless of the genetic relationship between the pups and the mothers. This finding holds for both biological and "adopted" pups. Interestingly, these changes appear to be passed down to subsequent generations (e.g., female grandoffspring of the original mothers).

These researchers and others have speculated that the intergenerational transmission of these maternal behaviors may come from epigenetic changes in the regulation of genes in germ lines or somatic tissues, or possibly an alteration in neuronal or hormonal activity. According to Curley, et al. (2008), "The accumulating evidence that maternal care can be inherited nongenomically by offspring from their mothers has important implications for the inheritance of other patterns of behaviour across generations" (p. 1559). You can read the two original articles for more information. Or, you might consider asking your students to read these articles and then have them discuss the implications of the researchers' findings for human behaviors and activities (such as attachment, social interest, and inhibition to the unfamiliar).

> Champagne, Frances A. (2008). Epigenetic mechanisms and the transgenerational effects of maternal care. *Frontiers in Neuroendocrinology, 29,* 386–397.

> Curley, J. P., Champagne, F. A., Bateson, P., & Keverne, E. B. (2008). Transgenerational effects of impaired maternal care on behaviour of offspring and grandoffspring. *Animal Behaviour, 75,* 1551-1561.

Evolutionary Psychology: Understanding Human Nature

Lecture/Discussion Topic: Evolutionary Psychology

Peter Gray of Boston College notes that students often have misconceptions about evolution. For example, they may believe that "lower" species are on their way to becoming humans or that evolution occurs in order to meet future conditions or higher moral purposes. Gray suggests that providing current examples of evolution may be helpful in overcoming such misconceptions. For example, you might cite the evolution of beak thickness in finches on the Galapagos Archipelago. Over many years of drought, the birds evolved thicker beaks that could crack the harder seeds available; then, over years of heavy rains, the same species evolved thinner beaks for eating the softer seeds the moisture produced. What was fit in one situation was not fit in the other. Clearly, the species did not anticipate the change in climate by developing characteristics that would meet the situation in advance.

Gray suggests that the evolutionary perspective is useful in raising the "why of behavior" question that is so central to the discipline of psychology. For every universal human characteristic we can ask "why." Having students try to answer will help them to understand the distinction between proximal causation (immediate inducers of behavior) and ultimate causation (the evolutionary advantage served by the behavior). The two kinds of explanations can be compatible and show how the different perspectives are complementary.

Gray also notes that the evolutionary perspective may be helpful in overcoming students' tendency to equate psychology with psychopathology. Focusing on the potential evolutionary value of behaviors combats this pathology bias. As an example, Gray cites children's bedtime protest, which in our culture is often presented in pathological terms as evidence of a spoiled child. Ask your students, "Why do young children resist going to bed?" Someone may answer that children resist because they are afraid of being alone in the dark. In hunter-gatherer days, being alone in the dark was dangerous, for the monsters were real. Children who protested and attracted adult attention were more likely to survive. This analysis is supported by cross-cultural data. Indeed, present-day hunter-gatherers believe that putting a child to bed alone is child abuse. In cultures where children sleep with an adult, bedtime protest is absent.

To address the practical implications of evolutionary theory, Timothy Miller's *How to Want What You Have* can be a helpful resource. It was the first self-help book written from an explicitly evolutionary perspective. After providing a lucid explanation of the perspective's emphasis on the importance of reproductive success, Miller shows how humans strive for its prerequisites: wealth, status, and love. "The fundamental problem," suggests Miller, "is that, from an evolutionary perspective, there is no such thing as *enough* reproductive success." Thus, we are instinctively driven to keep striving for more wealth, more success, and more love regardless of how much we have already achieved. This leads to incredible suffering and unhappiness. Miller's prescription for remedying this unhappiness is intriguing because it suggests that people are not compelled to follow their instinctive cravings. He writes, "We have sufficient intellectual capacity that we can ignore or override our instinctual inclinations if we have good enough reason. . . . People can learn to want what they have. . . . Your best hope is to spit in instinct's eye." Miller's methods for coming to want what we have involve the deliberate, constant practice of compassion, attention, and gratitude.

> Gray, P. (1996). Incorporating evolutionary theory into the teaching of psychology. *Teaching of Psychology, 23,* 207–214.
>
> Gray, P. (1996, May/June). Using evolution by natural selection as an integrative theme in psychology courses. *APS Observer,* 26–27, 37.
>
> Miller, T. (1995). *How to want what you have*. New York: Avon Books.

Lecture/Discussion Topic: Misunderstanding Evolutionary Theory and Psychology

David Buss addresses several common misunderstandings about evolutionary theory that you may want to discuss in class. The first important misconception is that evolution implies genetic determinism. This is the doctrine that only genes control behavior with virtually no room for environmental influence. To the contrary, argues Buss, evolutionary theory states that human behavior cannot occur without (1) evolved adaptations and (2) environmental influences that stimulate the development and activation of those adaptations. Buss uses the simple illustration of calluses. They cannot occur without both an evolved callus-producing adaptation and an environmental influence involving repeated rubbing of the skin.

A second common misconception is that evolutionary theory implies that behavior cannot be changed. To the contrary, knowledge of our evolved adaptations and the environmental influences that activate them give us enormous power to change, if that is our goal. For example, men have lower thresholds than women for inferring sexual intent from a woman's smile, and they can use this information to reduce the number of unwanted sexual advances they make toward women. This does not mean that behavioral change comes eas-

ily, but knowledge about our evolved psychology does give us more power to alter our behavior when change is desired.

A third misunderstanding is that evolutionary theory assumes that organisms can compute complex mathematical formulas. For example, some critics have argued that evolutionary psychology's claim that we are more likely to help a brother than a cousin implies that we have evolved sophisticated mathematical abilities. Buss maintains that describing a spider's web requires a pretty complex mathematical statement. However, no one would argue that a spider is a mathematician. Although the spider spins a complex web using various "rules of thumb," this does not mean that it performs mathematical computations to execute them. Similarly, although the adaptations involved in helping kin may be complex, and as scientists we may need mathematics to *describe* those adaptations, it does not mean that humans need to be sophisticated mathematicians to engage in the helping behavior.

Fourth, evolutionary psychology does not claim that the current collection of adaptive mechanisms that make up humans is in any way "optimally designed." Evolutionary time lags constitute one constraint on optimal design. The environment keeps changing but evolutionary change occurs slowly. Existing humans are better designed for earlier environments of which they are a product. The cost of adaptation is a second constraint on optimal design. For example, we might imagine natural selection building into humans such a severe fear of snakes that they never go outside. The fear would prevent snake bites but at a prohibitively high cost. Selection favors benefits that are greater than the costs relative to other possible designs.

Finally, evolutionary theory does not argue that organisms have as a goal, either consciously or unconsciously, the motivation to maximize gene reproduction. Buss states, "Differential goal replication caused by differences in design is the causal process responsible for creating fundamental human motivations. But the motives and goals we have as products of this evolutionary process do not embody the process itself." The products of natural selection tend to be problem specific, for example, to avoid predators, stay warm, find a mate, have sex, and help kin. The product of evolution is not, and cannot be, the desire to maximize gene reproduction.

Buss, D. M. (2008). *Evolutionary psychology: The new science of the mind* (3rd ed.). Boston: Pearson.

Natural Selection and Adaptation

Classroom Exercise: Evolutionary Psychology

You can introduce a few of the basic principles of evolutionary psychology with Handout 3, designed by Bernard Weiner. According to evolutionary psycholo-

gists, all organisms, including humans, are "gene-producing machines" with the basic motivation of perpetuating their own genetic pool. In short, our genes predispose us to act in ways that enhance their chances of surviving and spreading. And, according to the evolutionary perspective, this fundamental motive underlies all our behavior.

In response to questions 1 and 2, respondents are more likely to choose the 5-year-old and 20-year-old, respectively. Why? As Weiner explains, because some children die between ages 1 and 5, and 5-year-olds are therefore more likely to reproduce, saving the older child would be more likely to perpetuate the genetic pool. Similarly, a 20-year-old is more likely to reproduce than is a 40-year-old.

Ultimately, it is mating that perpetuates the genetic pool. For women, reproductive capacities are limited to approximately 25 children. For men, reproductive potential is almost limitless. Because of the woman's greater investment in each child, she must be careful to select a mate who will help her in child rearing. The man must simply choose women who can bear children. In response to question 3, it follows that women should prefer to mate with older men because they have more resources to help in child care. Men should prefer younger women because they are more likely to give birth. In response to question 4, women should select items a, c, and e, which concern resources, caring, and responsibility, whereas men should select items b, d, and f, which relate to sexual preoccupations.

Women have the advantage of knowing that any child they bear is theirs. The man must determine that the woman has really borne his child. Thus, in response to question 5, the maternal grandparents, assured of 25 percent genetic carryover, should be especially happy.

The greater the investment in a child and the more likely that child is to reproduce, the greater the experienced negative emotion at death. Thus, in response to question 6, greater grief should be experienced by the mother, parents of the mother, and older parents (who are less likely to reproduce again); in response to question 7, grief is greatest for the death of a healthy male child.

Weiner, B. (1992). *Human motivation: Metaphors, theories, and research*. Newbury Park, CA: Sage Publications.

Classroom Exercise: Darwinian Grandparenting

David Buss notes that there is tremendous variability in the emotional closeness between grandparents and grandchildren. Although becoming a grandparent is typically a time of great joy and celebration, not all grandparents invest the same amount of time and resources in their grandchildren. Evolutionary psychologists are interested in this relationship because emotional closeness demands an investment of psychological resources

if not time and money. Darwinian theory would see this emotional investment as, in the long run, fostering physical survival, and grandchildren represent the crucial vehicle by which genes survive and are passed into the future.

Before presenting the "Darwinian" analysis of grandparent investment, ask students to reflect on their own personal relationships with their grandparents. Have them rate their emotional closeness from 0 = cold or negative feelings to 100 = warm or positive feelings, to each biological grandparent (identifying them as mother's mother, mother's father, father's mother, and father's father). Of course, they cannot include ratings for grandparents who died before they were born or when they were very young. Then have each student use those ratings to rank-order, from 1 (closest) to 4 (most distant), each grandparent in terms of closeness.

Research indicates that participants typically indicate the most emotional closeness to their mother's mother and the least emotional closeness to their father's father. Mother's fathers are rated emotionally closer than are father's mothers. Similar rankings have been found for the amount of time spent with and the resources (gifts) received from individual grandparents.

How do evolutionary psychologists explain these findings? Grandparent investment is tied to genetic certainty. Unlike women, who are 100 percent certain of their maternity, men face the problem of paternity uncertainty. From a grandfather's perspective, there are two opportunities for genetic kinship to be severed: It is possible he is not the genetic father of his son or daughter, and the son may not be the father of the putative grandchildren. This double whammy makes the blood relationship between a grandfather and his son's children the most genetically uncertain of all grandparental relationships. Women whose daughters have children are at the other end of the certainty continuum; they are 100 percent certain that their genes are carried by their grandchildren. She is certain she is the mother of her daughter, and her daughter is certain of her genetic contribution to her children.

The interesting puzzle is why the mother's father tends to be ranked higher than the father's mother. For each, there is one opportunity for the genetic link to have been severed. How might this specific pattern be explained?

One answer is that if infidelity rates are higher in the younger than in the older generation, the relational uncertainty is greater for the father's mother, since the father would be in the younger generation. A competing explanation focuses on the presence or absence of other outlets for investing one's resources. If the paternal grandmother is also a maternal grandmother (that is, her daughters have children) she has a very secure alternative outlet for investing resources and so will invest less

in her son's children. Simon Lahan and his colleagues found support for this hypothesis. Their results indicated that participants felt closer to the mother's father than to the father's mother only when alternative investment outlets for the father's mother were available.

To give students something to think about, conclude with this question: Who are likely to invest more in their nieces and nephews—maternal aunts and uncles or paternal aunts and uncles? And, more generally, who should invest more in their nieces and nephews—aunts or uncles? Research suggests that maternal aunts and uncles invest more than paternal aunts and uncles again, perhaps for the reason of paternal uncertainty. But why aunts more than uncles? Researchers suggest that these gender effects occur because uncles, as men, tend to invest surplus resources into additional mating opportunities, whereas aunts, as women, are less likely to do so. Additional matings have historically paid off more for men than for women. Ultimately, this would mean that women (aunts) have more resources left to invest in their nieces and nephews than do men (uncles).

Buss, D. M. (2004). *Evolutionary psychology: The new science of the mind* (2nd ed.). Boston: Pearson.

Laham, S. M., Gonsalkorale, K., & von Hippel, W. (2005). *Personality and Social Psychology Bulletin, 31,* 63–72.

PsychSim 5: Mind-Reading Monkeys

This activity explains an important new research area that bridges the fields of evolutionary psychology, neuroscience, and social psychology. The student explores one of the brain mechanisms believed to foster the evolution of human language and culture. Playing the role of a researcher, the student records the activity of "mirror neurons" in the premotor cortex of monkeys as they perform various tasks or watch others perform those tasks. This activity may also be appropriate for Learning.

Student Project/Critical Thinking Break: Thinking Like an Evolutionary Psychologist

Like any other theoretical perspective in psychology, evolutionary psychology enjoys both favor and criticism among theorists and researchers. There is no doubt, however, that the evolutionary perspective is currently the most controversial perspective for students. Of course, our goal in exposing students to this perspective should not be to convince students to subscribe to it; rather, our purpose should be to help them gain an understanding of how evolutionary psychology serves as a framework for scientific inquiry into human behavior. Students need to understand how theorists of different perspectives may provide different explanations for the same psychological phenomena. But, as

noted in the text, the different perspectives are complementary, not contradictory.

To help your students understand the complementary nature of the different perspectives, give them a list of phenomena and ask them to generate an example of how supporters of different theoretical perspectives might define or explain those phenomena. You can select the perspectives or you can allow students to choose their own. They can work individually, in pairs, in small groups, or together as an entire class. They can work on this during class, as a homework assignment, or as an extended class project. For this project, it is best to give students a list of phenomena that are straightforward and easily explained by a couple of different perspectives, as well as those that are more complex and require more theoretical "wrangling." Some examples of concepts students have an easier time explaining from different perspectives are

- specialization of brain regions for facial recognition
- parent-child bonding/attachment
- the picture superiority effect in memory
- ingroup/outgroup attitudes

The following are concepts that students may find more difficult to grapple with and explain from different theoretical perspectives; they may need more guidance from you as they work with these.

- creativity
- insight (the "aha!" moment in problem solving)
- sarcasm
- music making as a universal human activity

An Evolutionary Explanation of Human Sexuality

PsychSim 5: Dating and Mating

This activity explores evolutionary psychology's explanation of gender differences in mate selection. The student examines his or her own preferences for an "ideal mate," then considers the perspective of evolutionary psychology on this important issue.

Classroom Exercise: Mate Preferences

Having students reflect on their own mate preferences can provide a meaningful introduction to the evolutionary perspective on mate selection. During the class period before you introduce evolutionary psychology, have each student write down the five or six most important attributes they look for in a potential mate. Collect the responses and tabulate the data for the entire class as well as for males and females separately. Include the results in your discussion of the evolutionary perspective.

Alternatively, you may choose to use Handout 4, which includes the 18 traits that have been used over several decades in research investigating mate preferences. David Buss reports outcomes for these items in a comprehensive study of 37 cultures. For the international samples, both sexes rated mutual attraction-love, dependable character, emotional stability and maturity, and pleasing disposition as most important and chastity, similar religious background, and similar political background as least important. In terms of sex differences, Buss found good support for the evolutionary hypothesis that "good looks" and "chastity" are rated more important by males and that "good financial prospect" and "ambitious and industrious" are rated more important by females.

On a separate instrument by Buss, men and women ranked 13 characteristics commonly sought in a mate from (1) most desirable to 13 (least desirable):

Characteristics Preferred by Men	Characteristics Preferred by Women
1. Kindness and understanding	1. Kindness and understanding
2. Intelligence	2. Intelligence
3. Physical attractiveness	3. Exciting personality
4. Exciting personality	4. Good health
5. Good health	5. Adaptability
6. Adaptability	6. Physical attractiveness
7. Creativity	7. Creativity
8. Desire for children	8. Good earning capacity
9. College graduate	9. College graduate
10. Good heredity	10. Desire for children
11. Good earning capacity	11. Good heredity
12. Good housekeeper	12. Good housekeeper
13. Religious orientation	13. Religious orientation

Statistically significant differences were found for physical attractiveness and good earning capacity, with men rating the former higher and the latter lower than women did.

Buss, D. M. (1998). The psychology of human mate selection: Exploring the complexity of the strategic repertoire. In C. Crawford & D. Krebs (Eds.), *Handbook of evolutionary psychology*. Mahwah, NJ: Erlbaum.

Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences, 12,* 1–49.

Classroom Exercise: Hendrick Sexual Attitudes Scale

Handout 5, the Hendrick Sexual Attitudes Scale (HSAS), provides a good introduction to class discussion of sexual attitudes, and especially to gender differences in those attitudes. It measures the following four dimensions of sexuality: permissiveness (items 1–21), sexual practices (items 22–28), communion

in the relationship (items 29–37), and instrumentality (items 38–43). After reverse-scoring (1 = 5, 2 = 4, 3 = 3, 4 = 2, 5 = 1) items 19, 20, and 21, the score for each dimension is the sum of the item ratings divided by the number of items in that scale. An overall scale score is not computed.

According to authors Susan and Clyde Hendrick, "permissiveness" refers to open, casual sexuality; "sexual practices" represents responsible, tolerant sexuality; "communion" denotes emotional, idealistic sexuality; and "instrumentality" views sex as egocentric and very biological. They found gender differences on the permissiveness and instrumentality scales, with males showing significantly greater endorsement of items on both scales. The Hendricks conclude that "Women seem oriented to a love/sexuality pattern that is relatively practical and conventional . . . but that can also encompass idealistic and highly affective attitudes. . . . Men, on the other hand, identify more with a casual, less conventional, and more manipulative approach."

Among other interesting research findings related to the scale, the authors report that participants who described themselves as "very religious" were in less agreement with items on all four scales. Participants who reported having been in love several times were consistently more endorsing of "permissiveness" and showed some tendency toward "instrumentality." Interestingly, however, those who reported currently being in love were less permissive and instrumental and more endorsing of communion than participants not in love.

> Hendrick, S., & Hendrick, C. (1987). Multidimensionality of sexual attitudes. *The Journal of Sex Research, 23,* 502–526.

Lecture/Discussion Topic: Gender Differences in Sexuality

Letitia Anne Peplau provides a comprehensive survey of the research on differences in human sexuality. Her review identifies four important differences that you might share with your students. She notes that these differences are large in comparison to other male-female differences studied by psychologists.

First, men show greater sexual desire than do women on a variety of measures. Men think more about sex, report more frequent sex fantasies, and, across the life span, rate the strength of their sex drive higher than do their female age-mates. Men are more likely than women to masturbate, to begin masturbating at an earlier age, and they tend to do so more frequently. In homosexual couples, lesbians report having sex less often than gay men or heterosexuals. Women appear more willing than men to forgo sex or adhere to religious vows of celibacy.

A second consistent gender difference is that women tend to emphasize committed relationships as a context for sexuality more than men do. For example, when young adults are asked to define sexual desire, men are more likely than women to emphasize physical pleasure and sexual intercourse. Women are more likely to "romanticize" the sexual experience as reflected in one young woman's definition of sexual desire as "longing to be emotionally intimate and to express love for another person." Women's sexual fantasies are more likely than men's to involve a familiar partner and to include affection and commitment. Men's fantasies are more likely to involve strangers, multiple partners, and a focus on specific sex acts.

Third, aggression is more closely linked to sexuality for men than for women. For example, when asked to describe their own sexuality, men's sexual self-concepts often include being powerful, experienced, domineering, and individualistic. There is no equivalent aggression dimension for women's sexual self-concepts. In heterosexual relationships, men are typically more assertive than women and take the lead in sexual interactions. Moreover, physically coercive sex is primarily a male activity.

Finally, in comparison to men's sexuality, women's sexuality shows greater plasticity. That is, women's sexual beliefs and behavior are more easily shaped by cultural, social, and situational factors. For example, a postsecondary education is associated with more liberal sexual attitudes and behavior, but this effect is greater for women than for men. The unversity experience seems to have a greater effect on liberalizing women's attitudes than it has on liberalizing men's: Although the unversity experience doubles the likelihood that a man identifies as gay or bisexual, it is associated with a 900 percent increase in the percentage of women identifying as lesbian or bisexual. Moving to a new culture also has a greater effect on women's sexuality than on men's.

> Peplau, L. A. (2003). Human sexuality: How do men and women differ? *Current Directions in Psychological Science, 12,* 37–40.

Lecture/Discussion Topic: Evolutionary Theory and Gender Differences in Motivation

Roy Baumeister has explained how the different challenges related to reproductive behaviors may shape gender differences that extend beyond sexuality. He argues that the single most underappreciated fact about gender is that today's population is descended from twice as many women as men. DNA analysis indicates that throughout the entire history of the human race it is likely that 80 percent of women but only 40 percent of men reproduced. Everyone needs a father and a mother. However, women usually have only a few children; men, on the other hand, have often had quite a few

children, in fact several dozen. Experts estimate Genghis Khan may have had more than a thousand! Clearly, this huge difference in reproductive success is likely to have produced some important motivational, if not personality, differences.

For example, women had little advantage to gain in building a ship and sailing off to explore unknown regions in the pursuit of greatness. They might have drowned, been killed by savages, or caught a disease. For women, the best thing to do was to go along with the crowd and avoid conflict. The odds were good that a man would come along, offer sex, and you would have babies. We are descended from women who were likable.

For men, the motivation was quite different. Going along with the crowd and playing it safe meant you were less likely to reproduce. It was necessary to pursue greatness—to take chances, to try new things, to be creative, and to explore new possibilities. Most of us, Baumeister continues, have descended from the type of men who set out on a risky voyage and managed to come back rich. Men who did this were able to pass on their genes. In short, we are descended from men who took risks (and were lucky).

Ambition, competitive striving, and perhaps even creativity mattered more to male than to female reproductive success. Nature may have designed women to *seek* to be lovable, whereas men were designed to seek (mostly unsuccessfully) greatness. Baumeister reaches the important conclusion that the major differences between the genders may be more about motivation than ability. Ultimately, this may explain the WAW (Women Are Wonderful) Effect, that is, the impression that women are more likable and lovable than men. Men may wish to be lovable and even manage to get women to love them (so the ability is there), but men had different priorities and other motivations. Similarly, for women, the ability to be risky, ambitious, and creative were all present, but being lovable was the key to attracting the best mate.

> Baumeister, R. F. (2007, August). *Is there anything good about men?* Paper presented at the 115th Annual Convention of the American Psychological Association, San Francisco, CA.

Lecture/Discussion Topic: Infidelity

Do the gender differences in sexual attitudes that evolutionary theory attempts to explain extend to different attitudes toward infidelity?

Alfred Kinsey and his associates found that 36 percent of husbands and 25 percent of wives reported being unfaithful. Another survey found that among individuals born between 1953 and 1974, the figures were 27.6 percent for men and 26.2 percent for women. Gender differences in motivation for infidelity suggest

that marital dissatisfaction tends to be higher among unfaithful women than unfaithful men, and that a man's infidelity is more likely than a woman's to be a "one-night stand," to involve someone of limited acquaintance, and to include sexual intercourse. Clearly, caution must be exercised in relying on self-report, particularly on such a sensitive issue.

Researchers agree that infidelity statistics are difficult to come by. However, the most reliable data, they say, comes from a question posed by David Atkins in a nationally representative face-to-face survey of 19,065 people between 1991 and 2006. In asking the participants whether they had sex with someone other than their spouse when they were married, he found that infidelity rates were climbing among certain age groups: those 60 and older and those 35 and younger.

> Rates among older women tripled from 5% in 1991 to 15% in 2006; rates among men rose from 20% to 28%. About 20% of younger men and 15% of younger women say they cheated, up from about 15% and 12%, respectively.

In exploring the psychology of jealousy, research has most commonly found that men and women do not differ in either the frequency or the magnitude of the jealousy they experience. An evolutionary analysis, however, suggests that while both sexes will experience jealousy, they differ in their sensitivity to the cues that trigger jealousy.

Pose this question to your class: Would you be more distressed if you found that your romantic partner was (1) having sexual intercourse with someone else or (2) was becoming emotionally involved with someone else? David Buss reports that when 511 college students were asked to compare these two distressing events, 83 percent of women found their partner's emotional infidelity more upsetting, whereas only 40 percent of the men did. In contrast, 60 percent of the men experienced their partner's sexual infidelity as more upsetting and only 17 percent of the women did. Ask your class, What accounts for this huge gender difference?

Evolutionary psychology suggests that the answer largely revolves around the question of paternal uncertainty. Men never have absolute certainty of their children's biological parentage, whereas women do. In the pursuit of reproductive success, a man must always consider the possibility that he is investing all his resources in another man's children. As Buss explains, "Sexual jealousy is one psychological mechanism that has evolved in men to combat the potential costs of being cuckolded." For a woman, the greater concern is that her partner may channel his time, attention, and effort to another woman and her children. Freed from the anxiety surrounding the biological parentage of her offspring, she is more sensitive to the possibility of male abandonment, for it would decrease the surviv-

ability of her children. Thus, she is more concerned about her partner's emotional involvement with another woman.

Buss, D. M. (2012). *Evolutionary psychology: The new science of the mind* (4th ed.). Boston: Pearson.

Drigotas, S. M., & Barta, W. (2001). The cheating heart: Scientific explorations of infidelity. *Current Directions in Psychological Science, 10,* 177–180.

Jayson, S. (2008, November 17). Getting reliable data on infidenlity isn't easy. USA Today/ Retrieved May 21, 2011, from www.usatoday.com/news/health/2008-11-16-infidelity-research_N.htm.

How Does Experience Influence Development?

Parents and Early Experiences

Lecture/Discussion Topic: Do Parents Really Matter?

Magaziner journalist and book author Annie Murphy Paul answer to this question nicely complements the text discussion. Despite the current emphasis on the role of heredity and environmental influences other than parenting in influencing characteristics, Paul shows how there is still an important role for parents.

As Paul notes, behavior geneticists do not see heredity as a one-way dictation but more as an influence through spirited rounds of call and response, with "each phrase spoken by heredity summoning an answer from the environment." For example, David Reiss argues that *how* parents respond to a child's genetically influenced characteristics makes a huge difference in how those traits are expressed. He sees the parent-child relationship as a translator of genetic influence, with the genotype providing the basic plot and the parents giving it its tone, accent, and emphasis. Reiss refers to this gene-environment correlation as the "relationship code," claiming that it returns to parents some of the influence his research once seemed to give to genes. "The story doesn't necessarily start with the parent," says Reiss. "It starts with the kid, and then the parent picks up on it."

For Reiss, the parent's role as an interpreter of the language of heredity holds out an exciting possibility. "If you could intervene with parents and get them to respond differently to troublesome behavior, you might be able to offset much of the genetic influence" on negative traits. Stanley Greenspan, author of *The Growth of the Mind,* agrees. "Genes do create certain general tendencies, but parents can work with these by tailoring their actions to the nervous system of the child." He argues that the responses a child naturally elicits may not be in his or her best interests. However, if parents consciously and deliberately give more appropriate responses, they can alter the child's behavior.

For example, an infant with a sluggish temperament may not respond as readily to his parents' advances as a baby with a more active nervous system. Parents might naturally respond by giving the child less attention, which in turn leads the child to become even more withdrawn. However, if parents resist this temptation and engage the baby with special enthusiasm, Greenspan says, the child's behavior changes.

Robert Plomin describes parents as "resource providers." "Expose children to a lot of things," advises Plomin, "see what they like, what they're good at, and go with that." By offering those things that fit children's genetic constitutions, parents are improving their "goodness of fit" with the environment.

Parental influence may be most important for those traits that could easily become assets or liabilities. "The same temperament that can make for a criminal can also make for a hot test pilot or astronaut," says David Lykken. "That kind of little boy—aggressive, fearless, impulsive—is hard to handle. It's easy for parents to give up and let him run wild, or turn up the heat and the punishment and thereby alienate him and lose all control. But properly handled, this can be the kid who grows up to break the sound barrier." Lykken maintains that firm, conscientious, and responsive parents make the difference.

Paul, A. M. (1998, January/February). Do parents really matter? *Psychology Today,* 46–49, 70.

Greenspan, S. (1997). *The growth of the mind: And the endangered origins of intelligence.* Cambridge, MA: Perseus.

Peer Influence

Classroom Exercise/Student Project: The Most Important Influence in One's Life

Before students have read the text discussion of peer influence, you might have them reflect on the question, "What has been the one most important influence in your life?" Have them respond in a brief essay or consider this question in small groups before leading a full class discussion.

When *USA Today* convened a 20-member teen panel (from 600 applicants) to answer this specific question, about half said that nobody influenced them more than their parents. The other half were not sure. Most of the teens suggested that parental influence was crystal-clear when they were younger but that peers and other outsiders now have the edge. One 16-year-old boy stated, "My parents had a great deal of effect up until I was in middle school. The things they taught me I still remember and hold to, but at this age in high school your friends have a whole lot of influence. My religion does have influence. And some teachers: My history

teacher last year had a great deal of influence. He was just very honest. If he said something he meant it."

Another 16-year-old suggested that the shift to peer influence begins sooner than middle school. "As soon as a child starts school, he is with friends and teachers from 9 to 3. He's with parents two hours over dinner, and then everyone goes to sleep." More than one noted that body piercing and tatoos were a line of demarcation between parental and peer influence. "I was influenced by my friends who did it. I am 18, going to college, beginning my own life, and it is a statement of individuality." Still others concluded that while peers are important, parents instill lasting values. "I got my values and morals from my parents, and I interpret the outside influences from that base," stated one 17-year-old.

Peterson, K. S. (1998, August 24). Teens put parental influence first. *USA Today,* p. 4D.

Cultural Influences

Lecture/Discussion Topic: Understanding Cultural Differences in Relation to Individual Differences

Paul Rozin suggests five principles for understanding cultural differences in relation to the individual differences that have long been the focus of psychological study. You might begin or end your classroom discussion of culture with his analysis.

1. The differences between cultures *seem* bigger than the actual differences between individuals in these same cultures. There is often great variation within a culture even in those attitudes and behaviors that are specifically selected to highlight cultural differences. For example, when Hindu Indian and American college students were compared in their respect for the elderly and in making a variety of moral judgments, more than 25 percent of Americans gave a traditional response (showing respect for or submissiveness to the elderly) and more than 25 percent of Hindu Indians gave a modern response (they do not show respect for the elderly merely because of their age).

2. Behavioral differences between individuals from different cultures are likely to be larger than differences in their thoughts and feelings. It is easier, observes Rozin, to socialize behavior than mental events. It is often very hard to observe, reinforce, or punish internal states. Specific instruction using models, punishments, and rewards is typically aimed at behavior.

3. Cultures often foster *preferences* for certain thoughts, feelings, and actions. That is, they encourage their members to choose from among options that are naturally available to all humans. Thus, outsiders may not deeply "feel" important

values of another culture, but they can fully understand them. For example, some Hindu Brahmin and American adults were asked to indicate which one of the following three terms did not belong with the other: anger, happiness, and shame. Americans chose happiness, while the Brahmins chose anger. For Americans, happiness is positive, while anger and shame are negative. For the Brahmins, anger is socially disruptive, while happiness and shame are socially constructive. However, when the alternative reasoning was explained, both groups of research participants immediately understood the other's choice. Valence is simply more salient to Americans, and social effect is more salient to the Brahmins.

Rozin cites another example of this cultural difference with free associations to food items. In response to the word "chocolate," about 25 percent of American women reported fat, fatty, or fattening as one of their three words. No respondent from India did so. Rozin concludes that "fat" is simply a more salient aspect of chocolate for Americans, not that Indians are unaware of a relation between chocolate and fat.

4. Cultural differences are sometimes artifacts of the social or physical environment. In short, mental differences may be less substantial than situational differences in understanding cultural differences. For example, food portions (in food stores, restaurants, and cookbooks) are smaller in France than in the United States. This is probably a major factor in accounting for the French being thinner than Americans. In addition, the French environment encourages physical activity because of the convenient location of small food stores near most homes, the more salient bicycle alternative for transportation, and the high cost of gasoline. None of these influences on food intake or activity need to be directly represented in mental activity, although they surely promote the development of behavioral and mental habits over the long run.

5. In the contemporary world, differences between cultures will generally be larger in the older generation than in the younger. For example, in recent decades young adults from traditional cultures are likely to wear modern Western clothing, while their grandparents continue to wear traditional clothing. The widespread availability of television and other aspects of globalization have meant that younger people grow up more aware of alternative lifestyles. University students are more likely to be similar around the world than are their parents or grandparents.

Rozin, P. (2003). Five potential principles for understanding cultural differences in relation to individual

differences. *Journal of Research in Personality, 37,* 273–283.

Variation Across Cultures

Lecture/Discussion Topic: The Geography of Time

Robert Levine's *A Geography of Time* provides a fascinating consideration of how cultures vary in their pace of life. Using three measures—pedestrian walking speed over a distance of 60 feet, the time it took postal clerks to fulfill a standard request for stamps, and the accuracy of 15 randomly selected bank clocks in main downtown areas—Levine's research team calculated the pace of life in 31 countries throughout the world.

What were the key factors that predicted the tempo of a culture?

1. The number one determinant, Levine found, is economics. The healthier a country's economy, the faster its tempo. The fastest people were found in North American, Northern European, and Asian nations. The slowest were in less-developed countries, especially those in South and Central America and the Middle East.
2. A second important predictor, clearly linked to economics, is the degree of industrialization. The more developed the country, reports Levine, the less free time per day. He notes that one of the great ironies of modern times is that with all of our time-saving inventions, people have less time to themselves than ever before. Interestingly, poorer countries have more national holidays, on the average, than richer ones.
3. A third predictor is population size. Bigger cities have faster tempos. Levine notes numerous replications of this finding. In one of the earliest studies, researchers found that the average city child walked twice as fast through a supermarket as the town child did through a smaller grocery. The town children also spent triple the time interacting with clerks and other shoppers.
4. Climate is a fourth important predictor. Hotter places are slower. The slowest countries in the study were Mexico, Brazil, and Indonesia, all having tropical climates. Levine notes that these are the sorts of places that people from the fastest countries—Switzerland, Ireland, and Germany— look to for their winter vacations. Does heat wear one down or do warmer climates simply encourage taking time to enjoy life? Or do less costly belongings—fewer clothes, simpler houses—make life easier?
5. Finally, a culture's basic values predict tempo. Individualistic cultures move faster than those that value collectivism. Collectivist cultures emphasize affiliation; individualistic cultures emphasize

achievement. The focus on achievement may lead to a "time-is-money" mindset. Where social relationships take precedence, there is a more relaxed attitude toward time.

From GEOGRAPHY OF TIME by ROBERT LEVINE. Copyright 1997. Reprinted by permission of BASIC BOOKS, a member of Perseus Books Group.

Lecture/Discussion Topic: Differences in Cultural Norms

This discussion topic can be found in Thinking Critically With Psychological Science in these resources. If you did not use it then, you may want to use it in connection with this section.

Classroom Exercise: Intercultural Learning Activities

H. Ned Seelye's *Experiential Activities for Intercultural Learning* is a fine source of classroom exercises for discussing cultural influences. Handout 6, designed by Elijah Lovejoy, highlights how cultural norms or rules for accepted and expected behavior often become known to outsiders only when they are violated.

Distribute the handout and allow students a minute or so to read the first anecdote. In beginning a discussion, ask the following questions:

—What is Yuri's view of Americans and on what does he base this perception?
—Is Yuri's perception accurate? Will the friendly Americans remember the invitations for Yuri to stop by? How durable are friendships with strangers in the United States?
—Are the signs of friendship the same everywhere? To what do friendships obligate you in the United States? Are the obligations the same in other cultures?

Give students a minute to read the second anecdote and then begin the discussion with these questions:

—What happened? Did either the Dutch woman or the French man have unrealistic expectations? Why or why not?
—Would this kind of misunderstanding happen in other cultural settings as well?
—Under what conditions can men and women develop friendships that do not involve sexual intimacy?

Give students a few minutes to read the final anecdote and use the following questions to stimulate discussion:

—Should the American have accepted the gift? If not, how could he have gotten out of the situation without hurting the gardener's feelings? If yes, should the gift involve the same degree of

sacrifice as the Mexican's? How do you decide on the value of a gift?

—Do the obligations of gift-giving differ across cultures?

Lovejoy, E. (1996). Positive red flags. In H. N. Seelye (Ed.), *Experiential activities for intercultural learning* (pp. 199–202). Copyright 1996. Reprinted by permission of Intercultural Press.

Classroom Exercise/Student Project: Cross-Cultural Dialogues

The brief book *Cross-Cultural Dialogues* by Craig Storti provides an excellent introduction to cultural diversity. It consists of a collection of 74 brief conversations between an American and someone from another culture. Buried in each dialogue is at least one, often several, breaches of cultural norms that the reader is challenged to discover. Representing 10 cultures, the dialogues are organized by setting: social, workplace, and business. Answers and analysis to the cultural riddles are provided at the end of each chapter.

The following examples will give you the flavor of this helpful work.

MS. SMITH: Do you know Dr. Spetsos?
MRS. KALAS: Yes, we know him well.
MS. SMITH: I've heard he's an excellent surgeon.
MRS. KALAS: He's a very kind man.

(Americans categorize by profession. We often think of ourselves in terms of what we do and what we have accomplished. In Mrs. Kalas' culture, what a person does is not as defining as his or her personal qualities.)

MS. ANDERSON: Hassan was looking at your paper.
ABDULLAH: He was?
MS. ANDERSON: Yes. He copied some of your answers.
ABDULLAH: Perhaps he didn't know the answers.
MS. ANDERSON: I'm sure he didn't.
ABDULLAH: Then it's lucky he was sitting next to me.

(Americans would call this cheating; Abdullah calls it helping a friend. He may not want Hassan to be embarrassed by doing poorly. Avoiding shame is an important Arab virtue. Abdullah also wants to be cooperative. Self-reliance may be a key American virtue, but Arabs believe that you should always be able to turn to your family or intimate friends for aid.)

Storti, C. (1994). *Cross-cultural dialogues*. Yarmouth, ME: Intercultural Press.

Individualist and Collectivist Cultures

Feature Film: Antz

The opening scene (titled "Insignificantz" on DVD) from *Antz* contains the following Woody Allen quote:

"It's this whole gung-ho superorganism thing that—that, you know, I can't get. I try, but I don't get it. I mean, what is it? I'm supposed to do everything for the colony? And—and what about my needs? What about me?" The clip that runs 6:20 minutes is an amusing study in the personal conflict that an individualist worker ant faces in trying to fit into a collectivist colony. As the story opens, he is in therapy struggling to find his identity. We see him next operating in the collective, where he is reminded that life is "about us" and not "about me." He becomes part of a giant wrecking ball composed of millions of ants; only by working together do they accomplish their task. The short clip provides an excellent introduction to the major value contrasts associated with individualism and collectivism.

Classroom Exercise: Assessing Individualism/Collectivism

You can introduce this important topic of cultural difference with Richard Brislin's "Who am I?" exercise. The instructions are straightforward.

"Please write 20 different statements in response to the simple question (addressed to yourself), Who am I? Begin each statement with I am . . . Respond as if you are giving answers to yourself, not to someone else. Write your answers in the order that they occur to you. Do not worry about importance or logic. Go fairly fast."

Students score their responses by doing a simple content analysis. They should examine each answer and score it as an "S" if it implies a "social" response (e.g., I am a son = family; I am a Catholic = religious group; I am a member of the XYZ Athletic Club = club). Those who have "S" scores in the 20+ percent range are considered to be "collectivists"—they are more likely to define themselves in terms of their social groups; those with "S" scores in the zero to 15 percent range are considered to be "individualists"—they define their identity mostly in terms of their personal attributes, not their social groups. If most of your students are American-born, the number of social attributions is likely to be low. They are much more likely than Japanese and Chinese students to complete the sentence "I am . . ." with "I am sincere" or "I am confident" and much less likely to say, "I am a Keio student" or "I am the third son in my family." In fact, in using this exercise, Harry Triandis reports that the most common score (mode) of University of Illinois undergraduates is zero.

Handout 7, designed by Karen and Kenneth Dion for use in research with students and based on items originally developed by Breer and Locke (1965), is a more direct measure of individualism/collectivism. To score, students should reverse the numbers they placed in front of items 1, 3, 5, 6, 7, 12, 14, and 15 (1 = 5, 2 = 4, 3 = 3, 4 = 2, 5 = 1). Then they should add all the

numbers for a total score, which ranges from 15 to 75. The higher the score, the greater the collectivist tendency.

You might combine these scales with another exercise suggested by Harry Hui in which you simply ask students to free associate, first to the word "individualism," then to the word "collectivism." Hui notes that American students may quickly respond to the former with answers like "maturity," "independence," and "self-reliance," whereas they may struggle to come up with responses to the latter. In contrast, Chinese students may respond to "individualism" with terms such as "egoism," "selfishness," even "Nazism." On the other hand, "collectivism" may elicit responses such as "patriotism" and "altruism."

Breer, P., & Locke, E. (1965). *Task experience as a source of attitudes*. Homewood, IL: Dorsey.

Brislin, R. (1988). Increasing awareness of class, ethnicity, culture, and race by expanding on students' own experiences. In I. S. Cohen (Ed.), *The G. Stanley Hall lecture series* (Vol. 8, pp. 137–180). Washington, DC: American Psychological Association.

Dion, K., & Dion, K. (1991). Psychological individualism and romantic love. *Journal of Social Behavior and Personality, 6,* 17–33.

Classroom Exercise: Independent and Interdependent Selves

Collectivism encourages the development of the interdependent self, whereas individualism promotes the independent self. A good introduction to culture and the self is Theodore M. Singelis' (1994) revised measures of independent and interdependent self-construals, which is reprinted in Handout 8. Students should add the numbers they placed before items 1, 2, 5, 7, 9, 10, 13, 15, 18, 20, 22, 24, 26, and 28 to assess the strength of their independent self. Similarly, they should add the numbers they placed before items 3, 4, 6, 8, 11, 12, 14, 16, 17, 19, 21, 23, 25, and 27 to assess the strength of their interdependent self. In each case, total scores can range from 15 to 98, with higher numbers reflecting higher degrees of independence or interdependence. Singelis' research has indicated that these two aspects of self are separate factors and thus do not constitute a continuum.

Singelis suggests that an independent self-construal includes an emphasis on (1) internal abilities, thoughts, and feelings; (2) being unique and expressing the self; (3) realizing internal attributes and promoting one's own goals; and (4) being direct in communication. Similarly, he explains that an interdependent self-construal is a "flexible, variable self" that emphasizes (1) external, public features such as status, roles, and relationships; (2) belonging and fitting in; (3) occupying one's proper place and engaging in appropriate

action; and (4) being indirect in communication and "reading others' minds."

Singelis has shown that self-construals provide an important link between culture and behavior. In responding to the criticism that cross-cultural studies often use culture as a "catch-all" variable to explain all differences between national or ethnic groups, Singelis proposes that the effects of culture are often mediated through an individual's self-image. In short, culture shapes attitudes, values, and concepts of the self. These individual differences, in turn, affect behavior. Among the fascinating links Singelis has uncovered between these two selves and behavior is one between self-construal and embarrassability. As predicted, he found embarrassability to be negatively associated with an independent self-construal and positively related to an interdependent self-construal. In addition, Asian-Americans were more susceptible to embarrassment than Euro-Americans.

Singelis, T. M. (1995). Culture, self, and collectivist communication: Linking culture to individual behavior. *Human Communication Research, 21,* 354–389.

Singelis, T. M. (1995). Culture, self-construal, and embarrassability. *Journal of Cross-Cultural Psychology, 26,* 622–644.

Singelis, T. M. (1994). The measurement of independent and interdependent self-construals. *Personality and Social Psychology Bulletin, 20,* 580–591.

Lecture/Discussion Topic: Individualism Versus Collectivism

In discussing individualism and collectivism, you might note Harry Triandis' observation that four kinds of social patterns have been identified across cultures.

1. *Community sharing* is a pattern in which people know each other extremely well. Intimacy, cooperation, and self-sacrifice within the ingroup (for example, family, tribe) are emphasized.
2. *Authority ranking* is a pattern in which obedience, admiration, and giving and following orders without questioning are typical behaviors.
3. *Equality matching* involves equal-status friendship characterized by reciprocity. Taking turns and dividing gains equally are common practice.
4. *Market pricing* involves the exchange of money for goods; friendship is instrumental and continues only as long as the benefits outweigh the costs.

Triandis suggests that every culture emphasizes a particular combination of these four behavior patterns. Cultures in traditional societies, especially those in East Asia, emphasize the first two patterns, and cultures in northwestern Europe and North America emphasize the third and fourth patterns. These different emphases represent the contrast between collectivist and individualist

cultures, as well as the contrast between cultures that are simple and homogeneous and those that are complex and heterogeneous.

People in simple, homogeneous cultures have few choices in terms of the groups they can join—either their extended family or a few friends. The group is extremely important to the individual, and thus he or she does what the group expects, that is, what the ingroup norms specify. Success is attributed to the help of others, and failure is attributed to the individual's own lack of ability. The cultural pattern is *collectivism*. People in complex, heterogeneous cultures can belong to any number of groups; joining is a matter of individual choice. The individual joins if it pays to do so and leaves when the costs become excessive. Behavior reflects personal attitude rather than ingroup norms. People attribute success to their own intelligence, whereas failure is seen as the result of the difficulty of the task or bad luck. In short, the cultural pattern is *individualism.* Triandis concludes that the contrast between individualism and collectivism is one of the most important cultural differences in social behavior.

Typically, students are eager to discuss this difference, and it's easy to involve them in either small-group or full-class discussion by having them respond to a number of questions such as the following:

1. How do you think individualists and collectivists differ in their value systems?

According to Triandis, the values stressed by individualists are freedom, independence, autonomy, achievement, an exciting life, winning the competition, and fair exchange. Collectivists' values include security, obedience, duty, interdependence, ingroup harmony, and self-restraint.

2. How do you think differences in individualism/collectivism are likely to affect patterns of interaction and relationships within—
   your family?
   your work group?
   your college or community?
   your classroom?

Almost by definition, the collectivism/individualism difference has its greatest impact on the patterns of interaction within and between groups. The worst thing that can happen to a collectivist, notes Triandis, is to be excluded from the ingroup. Thus, in relationships within the group, collectivists are likely to sacrifice individual rights to the perceived well-being of the group. Collectivists value harmony and allowing others within the group to save face. Direct confrontation and blunt honesty are rare. Elders and superiors demand respect. Within the family, children are taught interdependence, cooperation, and communal sensitivity. Collectivists agree that children should live with their parents until they get married and that older parents should live

with their children until they die. When there is a clash between vertical (for example, parent to self) and horizontal (for example, spouse to self) relationships, the vertical takes precedence. Similarly, in work groups, relationships are often long term, and loyalties between employer and employees are strong. Within the classroom, cooperation rather than competition is more likely the norm.

3. How do you think differences in individualism/collectivism are likely to influence the judgments made of other groups and relationships between them? Which orientation is more likely to promote ethnocentrism? altruism?

The worst thing that can happen to an individualist is to be dependent upon, and to have to conform to, the ingroup. The individualist does not sacrifice personal welfare for the benefit of the group. Differences are expressed openly and honestly. To gloss over them is judged insincere. Within the family, parents want their children to become independent and self-reliant and to "show good judgment." Children and adolescents decide their own restaurant orders, open their own mail, choose their own friends, and chart their own goals en route to leaving the family nest. The horizontal takes precedence over the vertical. Individualists feel free to leave jobs, homes, and friends in search of better opportunities for themselves. In work and school groups, competition rather than cooperation is likely the norm.

Although individualists may behave somewhat differently toward ingroups and outgroups, collectivists make an even greater distinction between the groups. For example, collectivists are extremely hospitable, cooperative, and helpful toward their ingroups, but can be rude, exploitative, and even hostile toward outgroups. More likely to help ingroup members, collectivists are also more likely to expect aid for themselves should the need arise. Because social identity is so important, collectivists are somewhat quicker to judge people by their group memberships. While individualists warn against stereotyping, collectivists maintain that it helps to know people's group identities. Individualists do prejudge people but more often by personal attributes such as physical attractiveness.

4. What factors shape our becoming individualist or collectivist? How do gender, religious convictions, and political attitudes influence individualism/collectivism?

Triandis suggests that a major determinant of becoming a collectivist or an individualist is level of income. Affluence enables independence from one's ingroups; thus, people in the upper socioeconomic class are more likely to be individualists than people from the lower class. Both social and geographic mobility also con-

tribute to individualism. Hunters, suggest Triandis, are less likely than agricultural people to be collectivists because the latter must stay on the land whereas the former can more easily walk away from their ingroups. Similarly, those who have migrated to other countries are more likely to be individualists than those who have never moved. Movement from rural to urban centers is also correlated with individualism.

Certain aspects of the environment can make people attend more to their ingroups. For example, people who must dig large irrigation canals; build big, protective walls; or share the products of their hunting with their extended family become collectivists. Hunters may kill once every three or four days; without refrigeration they must consume the animal quickly. One way to ensure immediate consumption and enough to eat every day is to share what they kill, because the others will share as well. Similarly, people may not be able to eat all they grow in their garden, and thus engage in mutual sharing with relatives and friends. The system provides some protection from poor crops and bad weather.

The cultural difference in individualism versus collectivism parallels the gender difference in independence versus social connectedness. Women's greater connectedness seems to surface in childhood. Whereas boys strive for independence, girls value interdependence. Adult relationships extend this difference: Men more often focus on tasks, women on relationships. Women are more likely to describe themselves as having empathy, and their greater connectedness also is expressed in their smiling. Research suggests that most men and women usually turn to women for empathy.

The relationship of religious and political attitudes to individualism/collectivism is probably more complex. As merely one example, at one extreme, religious cults may include strong collectivist tendencies; on the other hand, religious persons may have belief systems that are strongly individualist—for example, in emphasizing self-reliance and personal accountability. Similarly, political orientation may lead a person to make attributions that in certain respects parallel either an individualist or collectivist orientation. Political conservatives tend to attribute social problems, such as poverty and unemployment, to the personal dispositions of the poor and unemployed themselves and consider greater self-reliance to be the answer. Political liberals are more likely to blame past and present situations and to call for a collective response.

5. How do these two different orientations affect our personal and social well-being? Should present emphases be changed? Are there ways of capturing the best of both individualism and collectivism?

Individualists enjoy more personal freedom, take greater pride in their achievements, enjoy more pri-vacy, live with greater spontaneity, and are more creative. Individualists are less dependent and more self-reliant. But these advantages may have a high cost. Rugged individualism may be associated with greater loneliness, higher divorce rates, more homicide, and increased vulnerability to stress-related disease. Martin Seligman has observed that "rampant individualism carries within it two seeds of its own destruction. First, a society that exalts the individual to the extent ours now does will be ridden with depression. . . . Second, and perhaps most important, is meaninglessness [which occurs when there is no] attachment to something larger than you are."

Elsewhere, David Myers explains how some social scientists are advocating a *communitarian* synthesis of the best of individualist and collectivist values. The goal is to balance individual rights with the collective right to communal well-being. This blend can already be seen in some Western cultures—for example, Britain's attempt to strengthen the individual incentives of a free-market economy while restricting individual rights of gun ownership and Canada's openness to cultural diversity while imposing restraints on violent pornography.

Myers, D. G. (2000). *Exploring social psychology* (2nd ed.). New York: McGraw-Hill.

Triandis, H. C. (1994). *Social behavior and culture*. New York: McGraw-Hill.

Culture and Child Rearing

Classroom Exercise: Culture, Child Rearing, and Sleeping Arrangements

We take culture for granted. Only when we move into another culture and are challenged do we become aware of its effect on our thinking and behavior. To foster your students' understanding of the unspoken rules of culture, draw the diagram of a small apartment (next page) on the chalkboard.

Pose the following problem to your students: A family consisting of a mother, father, two daughters ages 2 and 15, and two sons ages 6 and 9, have recently moved into the apartment diagrammed on the chalkboard. Where should each person sleep?

Students from Western cultures are likely to see this problem as unsolvable. They have learned that a husband and wife should sleep together without the children, that infants ought to sleep in separate cribs, and that a 15-year-old needs privacy. Kathleen Berger, who poses this dilemma in her text, explains that the only solution any of her students have offered has been "They must move."

In contrast, students from Asian or African cultures are likely to see two easy solutions: The father and his sons sleep in one bedroom and the mother and her
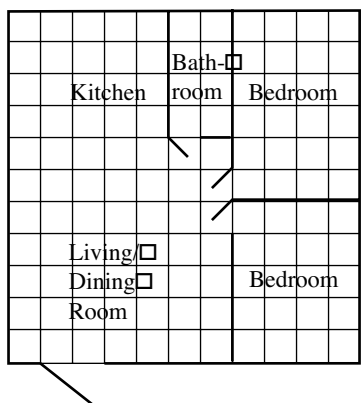
Source: K. Berger. *The developing person through the life span.* Copyright © 2005 Worth Publishers. Reprinted by permission.

daughters in the other. Alternatively, everyone sleeps in one bedroom, perhaps with mats on the floor, making the second bedroom a reading, studying, or computer room. In short, close quarters pose no problem for people from many cultures in which the company of others whether awake or asleep is preferred. Richard Schweder and his colleagues write:

> If you are from a (Western) culture . . . however, you believe in the ritualized isolation of children during the night, the institution of "bedtime," and the protection of the privacy of the "sacred couple" upheld by a cultural norm mandating the exclusive co-sleeping of the husband and wife (p. 873).

Viewed negatively, Westerners might associate communal sleep with sexual abuse; on the other hand, Easterners might see isolated sleeping as child neglect. Clearly, every culture uses strategies that guide children to develop abilities, values, and expectations that are well-suited for their particular setting. Children who sleep with their parents are learning to depend on their parents for warmth and protection; children who sleep alone are learning to become independent.

Berger, K. (2010). *Invitation to the life span.* New York: Worth.

Schweder, R. A., Goodnow, J., Hatano, G., Levine, R. A., Markus, H., & Miller, P. (1998). The cultural psychology of development: One mind, many mentalities. In W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology: Vol. 1: Theoretical models of human development* (5th ed., pp. 865–937). New York: Wiley.

Gender Development

Gender Similarities and Differences

Classroom Exercise: Beliefs About the Personality Characteristics of Men and Women

To introduce gender differences, distribute a copy of Handout 9, prepared by Robert Larsen and David Buss,

to each student. In an effort to examine beliefs about the personality characteristics of men and women, John Williams and Deborah Best measured responses in 30 countries over a period of 15 years. Included were countries in Western Europe, Asia, South America, and Africa.

University students considered 300 trait adjectives and indicated whether each trait was more often associated with men, women, or both sexes. Results indicated that many trait adjectives were strongly associated with one or the other sex and that there was very strong consensus about these differences across cultures. Traits associated with men included active, adventurous, aggressive, arrogant, autocratic, bossy, coarse, conceited, enterprising, hardheaded, loud, obnoxious, opinionated, opportunistic, pleasure-seeking, precise, quick, reckless, show-off, and tough. Traits associated with women included affected, affectionate, appreciative, cautious, changeable, charming, dependent, emotional, fearful, forgiving, modest, nervous, patient, pleasant, prudish, sensitive, sentimental, softhearted, timid, and warm.

Ask students, "Why do we have cultural universals in beliefs about the personality characteristics of men and women?" Their answers are likely to refer to both nature and nurture. Some are likely to say that these reports reflect enduring, biological differences in personality. Others are likely to state that these beliefs reflect stereotypes based on the roles that men and women tend to occupy across cultures. For example, Williams and Best suggest that society assumes men are stronger than women and thus places them in military and construction roles. Over long periods of time, people develop stereotypes about the typical personality characteristics of men and women.

Larsen, R. J., & Buss, D. M. (2008). *Personality psychology: Domains of knowledge about human nature* (3rd ed.). New York: McGraw-Hill.

Williams, J. E., & Best, D. L. (1994). Cross-cultural views of women and men. In W. J. Lonner & R. E. Malpass (Ed.), *Psychology and culture* (pp. 191–196). Boston: Allyn & Bacon.

Lecture/Discussion Topic: Gender Differences in Personality?

You can complement your coverage of gender differences (as well as extend the previous classroom exercise on *beliefs* about the personality characteristics of men and women) by discussing research on gender differences in personality. Randy Larsen and David Buss provide an excellent summary, including findings from a massive study of personality in 50 different cultures. This topic also provides the opportunity to anticipate a discussion of the Big Five personality traits: conscientiousness, agreeableness, emotional stability, openness, and extraversion.

On the trait of agreeableness, research suggests a small to medium gender difference, with women scoring higher than men. Women are both more trusting (e.g., they view others as basically good) and tenderminded (e.g., they sympathize with those who are disadvantaged). Differences in smiling may reflect women's greater agreeableness, although some investigators view smiling as more a sign of submissiveness than of agreeableness.

Extraversion reflects the characteristics of gregariousness, assertiveness, and activity level. Women score slightly higher on gregariousness, and men score slightly higher on activity level. The gender difference for assertiveness is larger, with men scoring moderately higher. Men do seem to place greater value on power, as shown in their high concern for social status and dominance over other people.

In the 50-culture study, emotional stability showed a significant gender difference, with women scoring moderately lower than men. Impulsiveness and anxiety are both aspects of this personality dimension. Men and women are virtually identical on impulsiveness, but women score higher on anxiety than men. Larsen and Buss note that emotional stability may be the most value-laden dimension of the five-factor model and suggest that the continuum of emotional stability-instability might just as easily have been labeled emotionally constricted–emotionally expressive.

The gender difference for conscientiousness was negligible, with women scoring only slightly higher on the aspect of order. No sex difference was found on openness to experience (the range of thoughts or concepts a person entertains).

Larsen, R. J., & Buss, D. M. (2008). *Personality psychology: Domains of knowledge about human nature* (3rd ed.). Boston: McGraw-Hill.

McCrae, R., Terracciano, S., & 78 Members of the Personality Profiles of Cultures Project. (2005). Personality profiles of cultures: Aggregate personality traits. *Journal of Personality and Social Psychology, 89,* 407–425.

McCrae, R., Terracciano, S., & 78 Members of the Personality Profiles of Cultures Project. (2005). Universal features of personality traits from the observer's perspective: Data from 50 cultures. *Journal of Personality and Social Psychology, 88,* 547–561.

Classroom Exercise: Gender Differences on a Motor-Skills Task

Jennifer Knight, Michelle Hebl, and Miriam Mendoza of Rice University provide a wonderful classroom exercise using toys to stimulate discussion of gender differences. You will need two Barbie dolls with clothes and six Transformer toys to conduct the activity.

Begin by recruiting six male and six female volunteers. Ask three of the men and three of the women to wait outside the classroom until they are called back in. Then have the remaining three men and women form two lines of same-sex teams to participate in a race. Give a Transformer toy to each student along with a picture of what the toy will look like after it is manipulated. The students are to perform the task in sequence such that the second member of the team cannot begin the task until the first member has successfully transformed his or her toy, and so on. The team to have all three members complete the task first wins. Time the two teams; encourage the class to cheer their favorites on. After both teams have completed the task, invite the remaining six volunteers back into class.

This time, each team receives a Barbie doll, which they are to dress as quickly as possible. Each person on a team is responsible for one item of clothing (i.e., dress, jacket, or shoes). Again, the audience may applaud and support their favorite team.

The authors report that men were able to complete the stereotypical male Transformer task more quickly than women (123 seconds versus 200 seconds), whereas the women were able to successfully complete the stereotypical feminine Barbie task more quickly than men (a whopping 85 seconds versus 300 seconds).

Engaging your class in an open-ended discussion about the exercise will lead to a consideration of central issues in the literature on gender differences. You might begin by noting that performance on motor-skill tasks often depends on the type and gender stereotypicality of the task. Ask your students to generate hypotheses about why the gender differences on the task might occur.

Consistent with gender socialization theory, some students may note that the difference may be because in childhood boys and girls play different games and with different types of toys. Other students may suggest that women excel in tasks involving fine motor skills (e.g., the Barbie task) because of smaller finger sizes. Similarly, men's stronger visual-spatial aptitude might translate into better performance with Transformer toys. Still others may argue that students may feel evaluation concern that is based on a negative stereotype (men on the Barbie task; women on the Transformer task). This concern may interfere with their performance (as discussed in relation to the concept of stereotype threat, which is covered in the unit on Intelligence). Finally, students may indicate that social desirability is a factor—e.g., men may not have wanted to "succeed" on a female-typed task, and women may not have wanted to "succeed" on a male-typed task.

In anticipation of a discussion of gender roles and gender typing, you might ask your class why they automatically cheered for the team members who were of their own sex. Might such ingroup bias implicitly encourage greater division and stereotyping of men and women?

Knight, J. L., Hebl, M. R., Mendoza, M. (2004). Toy story: Illustrating gender differences in a motor skills task. *Teaching of Psychology, 31,* 101–103.

Lecture/Discussion Topic: Are Women More Social?

Roy Baumeister raises this question in a provocative APA invited address titled, "Is There Anything Good About Men?" In carefully reviewing the differences between men and women, Baumeister concludes that both sexes have a need to belong. However, men and women are social in different ways. Women excel in the sphere of intimate relationships. They may be more likely to cultivate close friendships. But being social may also refer to having large networks of shallower relationships, which is a male specialty. Baumeister notes that we should not automatically see men as second-class citizens, because a large network of shallow relationships may also be important. This is reflected in any list of large group activities. For example, compared with women, men are more likely to pursue and enjoy involvement in team sports, politics, large corporations, economic networks, and so on.

Baumeister also places research findings on apparent gender differences in aggression and helping in the context of these different ways of being social. He notes that women can be very aggressive in close relationships. If anything, they are more likely than men to perpetrate domestic violence against romantic partners with everything from a slap in the face to assault with a deadly weapon. On the other had, women do not hit strangers. The likelihood that they will have a knife fight with another woman at the mall is extremely low. There is a much greater risk that men, in the broader network of relationships, will engage in such behavior.

Research also suggests that a similar pattern holds for gender differences in helping. Men are more likely to help strangers; in the context of the family, women are at least as helpful as men. In conclusion, Baumeister argues that women both help and aggress more in the intimate sphere of close relationships because it is the area of social life they care about most. In contrast, men are more helpful and aggressive in the broader network of shallower relationships because it is the area of social life in which they have the greatest investment.

> Baumeister, R. F. (2007, August). *Is there anything good about men?* Paper presented at the 115th Annual Convention of the American Psychological Association, San Francisco, CA.

Classroom Exercise: Gender Differences in Smiling

The unit on Developing Through the Life Span includes an exercise that would also be useful here in relation to the discussion of gender differences in social connectedness.

The Nature of Gender

Lecture/Discussion Topic: Innate Sex Differences

Neuroscientist Larry Cahill provides an excellent review of research on differences in the architecture of male and female brains. Cahill notes that neuroscientists once believed that brain differences were largely limited to those regions responsible for mating behavior, for example, the hypothalamus. However, he concludes, "over the last decade, investigators have documented an astonishing array of structural, chemical, and functional variations in the brains of males and females." According to Cahill, these differences may not only explain why more men than women enjoy the *Three Stooges* but also raise the possibility that we might need to develop sex-specific treatments for a host of conditions, including depression, addiction, schizophrenia, and post-traumatic stress disorder.

Of particular interest is Cahill's review of research suggesting that some sex differences in the brain arise before a baby draws its first breath. For example, to determine whether long-noted sex differences in toy preferences (e.g., girls preferring dolls, boys liking toy trucks) are innate, Melissa Hines and Gerianne Alexander of Texas A&M presented a group of vervet monkeys with a selection of toys, including rag dolls, trucks, and some gender-neutral toys such as picture books. They found that male monkeys spent more time playing with the "masculine" toys than their female counterparts did, and female monkeys spent more time interacting with the playthings typically preferred by girls. Both sexes spent equal time playing with the picture books. Because vervet monkeys are unlikely to be influenced by the social pressures of human cultures, the results suggest that toy preferences in children result at least in part from innate biological differences.

Simon Baron-Cohen and his colleagues at the University of Cambridge examined the origin of disparities in how "people-centered" male and female infants are. They found, for example, that 1-year-old girls spend more time looking at their mothers than boys of the same age do. When these babies were shown two films, the girls looked longer at a film of a face, whereas boys leaned toward a film of cars (viewing time was taken as a measure of interest). Might these differences be due to the way adults treat boys and girls? Baron-Cohen and his students took a video camera into a maternity ward to examine the preferences of babies that were only one day old. The infants saw either the friendly face of a live female student or a mechanical mobile that matched the color, size, and shape of the student's face but scrambled her facial features. To avoid bias, the experimenters were unaware of each baby's sex during testing. The results indicated that the girls spent more time looking at the student; the boys spent more time looking at the mechanical object.

The difference in social interest was evident on the first day of life, suggesting that we come out of the womb with some cognitive sex differences built in.

Cahill, L. (2005, May). His brain, her brain. *Scientific American,* 22–29.

Lecture/Discussion Topic: Abnormal Sex Chromosome Patterns

A pair of XX sex chromosomes directs the development of a girl and a pair of XY sex chromosomes, a boy. What if there is a sex chromosome deficit or surplus? At least one X chromosome is essential for life. A single Y is never enough for development. The following represent abnormal sex chromosome patterns.

Turner's syndrome: Some women have only one X chromosome (XO) and are often short and immature in appearance. They usually have webbed necks, eyelid folds, receding chins, and a rather broad chest. Although studies have shown these women to be extremely interested in "feminine" activities—for example, playing with dolls and becoming mothers when they grow up—because they are missing the X chromosome that directs the development of functioning ovaries, they are sterile. Supplemental estrogen therapy provided in adolescence does stimulate breast development and other secondary sex characteristics. There is little or no impairment in intellectual ability; in fact, some Turner females show above average IQ.

Kleinfelter's syndrome: One or two out of a thousand men have an additional X chromosome, that is, an XXY pattern. Kleinfelter men are often above average in height and may appear rather gangling because of their long arms and legs. Other physical characteristics include some breast development during puberty, an unusually high-pitched voice, and little beard growth. Kleinfelter men are sterile, and their intellectual functioning is sometimes impaired. Prison populations show a disproportionate number of men with Kleinfelter's syndrome. However, this is likely due to their committing more minor crimes and getting arrested more often rather than to some genetic predisposition to criminal activity.

The double Y syndrome: Approximately one out of every thousand men has an extra Y chromosome, thus an XYY pattern. These men are even taller than those with Kleinfelter's syndrome. The double Y syndrome attracted much public attention when it was first reported that a disproportionate share of prison inmates were XYY men. For a time, even some psychologists thought that an extra Y chromosome might predispose men to a life of violent crime. Richard Speck, who drew national attention in the 1960s for killing eight student nurses in Chicago, is an XYY man. The vivid example provided by this criminal, who was tattooed with the phrase "Born to Raise Hell" on his body, may have added credence to the theory. More recent research has indicated that the crimes for which XYY individuals were imprisoned were mostly nonviolent crimes, such as car theft, larceny, embezzlement, and reporting false alarms to the police. In fact, the evidence indicates that the rate of violent criminal activity for XYY prisoners is lower than that for other prison inmates. The double Y syndrome is also associated with intellectual impairment, which may better explain the disproportionate share of XYY men in prison: Lower intelligence may simply increase the criminal's probability of getting caught.

The fragile-X syndrome: Part of the X chromosome may be such a thin string of molecules that it seems about to break off. This abnormality is caused by the mutation of a single gene, which can intensify as it is passed from one generation to the next. Of women who carry it, one-third show some mental deficiency. Among men who carry it, about 20 percent are normal, about 33 percent are somewhat deficient, and the rest are severely deficient. In fact, about half the residents in homes for the mentally deficient have the fragile-X syndrome.

Daniel Berch and Bruce Bender provide an excellent and readable review of research on these and other sex chromosome abnormalities (SCAs). They suggest that many SCA children do not have the serious behavioral abnormalities that had originally been predicted. In addition, these children have varied intellectual abilities: Some have severe learning disabilities, but others do well in school and go on to college or university. Berch and Bender emphasize that the quality of the child's environment is an important factor in development. They suggest that SCA children from stable families tend to have developmental skills similar to their chromosomally normal brothers and sisters, while those from stress-filled families have more problems than their brothers and sisters.

Berch, D., & Bender, B. (1987, December). Margins of sexuality. *Psychology Today,* 54–57.

Berger, K. S. (2009). *The developing person through childhood and adolescence* (8th ed.). New York: Worth.

Doyle, J., & Paludi, M. (1998). *Sex and gender: The human experience* (4th ed.). Boston, MA: McGraw-Hill.

The Nurture of Gender

Lecture/Discussion Topic: Who Does the Housework?

In 1965, American women did 40 hours of housework a week, American men only 12. Are shifting gender roles apparent in a redistribution of household responsibilities?

In a study by the University of Michigan's Institute for Social Research, researchers F. Thomas Juster,

Hiromi Ono, and Frank Stafford had 6000 people from around the world keep a daily record of the work they did around the house, from sweeping the kitchen floor to changing the oil in the car. They report that American men are now doing about 16 hours of housework per week, up from the 12 hours reported in 1965. Interestingly, in the same interval of time, the weekly housework hours of American women declined sharply from 40 to 27. The gender gap has shrunk, notes Dirk Johnson, with overall housework decreasing at the same time average house size has ballooned. Why? With both husband and wife working, as well as transporting the kids everywhere for softball and piano lessons, no one has the time. A second important reason is that most people rate routine housework as the least enjoyable use of their time.

The study's other intriguing findings include the following:

- American women averaged 24 hours of paid work outside the home, while American men averaged 37 (thus, men totaled 53 combined hours of job and housework, women 51).
- In doing housework, American men were much more helpful than Japanese men (4 hours a week) but much less helpful than the Swedes (24 hours a week).
- Total work time (outside labor plus housework) tends to be higher for men than for women in countries with relatively high income, including Japan, the United States, and Sweden. In contrast, women have substantially more total work time than men in Russia, Finland, and Hungary.
- Hungarian women do the most housework, while Russian women do the least.
- Leisure time is greatest in Japan, Sweden, and the United States, and lowest in Hungary, for both men and women, with television viewing substantially higher in Japan than elsewhere, especially among women.

Recently, Oriel Sullivan and Scott Coltrane, in reviewing the continuing research on changing family roles, came to the important conclusion that "more couples are sharing family tasks than ever before, and the movement toward sharing has been especially significant for full-time, dual-earner couples." Among Sullivan and Coltrane's conclusions are the following:

- From the 1960s to the early twenty-first century, men's contribution to housework increased from about 15 percent to 30 percent of the total.

- The most dramatic increase in men's contribution has been to child care. From 1965 to 2003 it tripled.

- Data from 20 industrialized nations reveal an overall cross-country increase in men's proportional contribution to family work (including housework, child care, and shopping) from less than one-fifth in 1965 to more than one-third by 2003.

- Overall, there is a striking convergence of work-family patterns for U.S. men and women. Although the total hours of work (both paid and family work) done by men and women have remained roughly equal since the 1960s (especially for parents), there has been a growing convergence in the hours both women and men spend in the broad categories of paid work, family work, and leisure. That is, women's paid work has significantly increased while that of men has decreased. At the same time, the time that women devote to housework has decreased, while the time men spend in family work of all types has increased.

Johnson, D. (2002, March 25). Until dust do us part. *Newsweek,* 41.

Sullivan, O, & Coltrane, S. (2008, April). *Men's changing contribution to housework and child care.* Paper presented at the 11th Annual Conference of the Council on Contemporary Families, Chicago.

The University of Michigan News and Information Services (2002, March 12). U.S. husbands are doing more housework while wives are doing less, from www.umich.edu/~newsinfo/Releases/2002/Jan02/r013002a.html.

Classroom Exercise: Gender Roles in the Home

During childhood, we acquire not only our gender identity but also many masculine or feminine behaviors and attitudes. Social learning theory in particular suggests that observation of adult models is crucial in this process. Handout 10 asks students to reflect on the kinds of models their parents were. If your students are of quite different ages, it might be interesting to compare the responses of the younger students with those of the older students. Are shifting gender roles apparent?

Doyle, J. A. (1985). *Sex and gender: The human experience*. Dubuque, IA: Wm. C. Brown.

Classroom Exercise: Learning Gender Roles

Handouts 11a and 11b are designed to help students understand how gender roles are acquired through the socialization process. For men, the items focus on how society has traditionally discouraged free emotional expression. For women, the items examine how society has sent mixed messages regarding achievement and the pursuit of a meaningful career.

Divide your class into two groups by sex and distribute Handout 11a to each man and 11b to each

woman. Give students 10 minutes to complete the exercise before beginning small-group discussions. If students prefer anonymity, collect, shuffle, and redistribute the papers randomly among the group.

The following questions can be used to stimulate discussion in the male group. (You may prefer to type these out and give them to the group.)

> What messages do you remember picking up (from books, the media, teachers, peers or other adults) about men and their emotions?

> Do you think it's better to hide your emotions or "let them out"? Why?

> How comfortable do you feel about "nurturing" others (e.g., diapering a baby, comforting a friend, holding a sick child's hand)?

> What does it mean to be a "strong man"? Is this different from being a "strong woman"? If so, how is it different?

> As a child, if you lived with your father, how did he express tenderness, love, fear, sadness, joy? How do you feel about the way he expressed it?

> What (if any) of the messages on the list might you give to your own son? Do you think you might give your daughter the same or different messages?

> What (if any) additional statements did members of your group add to the end of the list?

Use some of the following questions as discussion starters in the female group.

> What messages do you remember picking up (from books, the media, teachers, peers, or other adults) about women having careers?

> If you could change some of the messages you received as a child, which would you change, and what would you substitute for them?

> If you have chosen a career field, would you classify it as traditionally "feminine," traditionally "masculine," or neither? Why? How do you feel about classifying careers this way? Do you think there are any careers women should not have?

> If you lived with your mother, what kinds of career choices did she make? How do you feel about her choices?

> Which (if any) messages on the list might you give your own daughter? Do you think you would give your son the same or different messages?

If time allows, bring the class together again and give each student a copy of the list he or she did not see. Ask one person from each group to report on the conclusions reached during the discussion. Were there disagreements? Use some of the following questions to stimulate a full-group discussion.

In an ideal world, what would men be like? What would women be like?

(For women) In your relationships with men, do you prefer them to express their emotions fully or to be cautious about expressing emotion? Why?

(For men) In your relationships with women, do you prefer that they plan to have careers or to be homemakers? Why?

Conclude the exercise with a statement such as the following: In traditional Western society men are seen as being fulfilled through their achievements, while women are fulfilled through friendships and family relationships. Therefore, we grow up with messages (some loud and clear, others more subtle) that convey this view. We may unquestioningly accept these messages; we may ignore them and hope they don't affect us; at some point, we may reject them entirely. It is important to be aware of our own responses to messages of this kind and to think about whether we want to continue giving the same messages to future generations. We hope that this exercise and discussion have stimulated your thinking about the past, the present, and the future.

Classroom Exercise: Sex-Role Egalitarianism Scale (SRES)

Lynda and Daniel King designed the SRES to measure attitudes toward the equality of men and women. It provides an excellent introduction to gender roles and is certain to stimulate classroom discussion regarding traditional expectations of men and women. It includes items that require judgments about the assumption of nontraditional roles by both men and women. The instrument contains five 19-item scales covering roles in marriage, parenting, employment, education, and social-interpersonal heterosexual relationships. It can be hand-scored in 5 to 10 minutes. The manual contains descriptive statistics for various sample groups, including high school students, college students, male police officers, and feminist women. An SRES Examination Kit, including manual (CD-ROM only), five question/answer documents, and five profile sheets, is available for $65 from Sigma Assessment Systems, Inc., P.O. Box 610757, Port Huron, MI 48061-0757, phone 1-800-361-9411.

Reflections on Nature and Nurture

Classroom Exercise: Self-Efficacy

In concluding the discussion of nature and nurture, Myers notes that we are both creatures and creators of our social worlds. The stream of causation runs through our present choices. Hopes, goals, and expectations shape our future. Self-efficacy is our sense of being

competent and effective in shaping our future. Research indicates that it is an important component of well-being. Handout 12, designed by Gilad Chen and his colleagues, assesses respondents' sense of self-efficacy.

To score their scale, students simply add up the numbers they placed in response to the eight items. Scores can range from 8 to 40, with higher scores reflecting a greater sense of self-efficacy. A large sample of undergraduates in upper-level psychology courses obtained an average (mean) score of about 31.

Chen and his colleagues report that higher scores on their scale are positively related to self-esteem. More generally, researchers have found that those with strong feelings of self-efficacy are less anxious, less depressed, and more persistent. They have a higher need for achievement and are more conscientious. They also live healthier lives and perform better in school.

Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational Research Methods, 4*(1), 62–83.

HANDOUT 1

Similarities Questionnaire

	ALIKE	DIFFERENT		ALIKE	DIFFERENT
Politics			Cigarette brand		
Music			Toothpaste brand		
Religion			Coffee brand		
Clothes			Newspapers read		
Jobs held			Favorite magazines		
Job goals			Any special or unusual talents or abilities		
Sports			Pets owned		
Hobbies			Family members (names, ages, interests)		
Favorite school subjects			Educational interests (major)		
Subjects you dislike			TV programs		
Favorite foods			Habits		
Foods you dislike			Personality traits		
Favorite colors			Vacation—activities, preferences		
Regional (climate) preferences			Social preferences (gregarious/reclusive)		
Automobile preferences			Marital status		
Sleeping habits			Handedness		
Reading tastes			Grade point average		
Talents			Major illnesses (age of occurrence)		
Aversions (What bugs you?)			Sensitivity to drugs		
Chewing gum brand					

Source: Adapted from a questionnaire by W. Joseph Wyatt.

HANDOUT 2

EAS Temperament Survey

To assess your own temperament, rate each of the items using the following scale.

1 = Not at all characteristic of me
2 = Somewhat uncharacteristic of me
3 = Neither characteristic nor uncharacteristic of me
4 = Somewhat characteristic of me
5 = Very characteristic of me

_____   1.   I like to be with people.
_____   2.   I usually seem to be in a hurry.
_____   3.   I am easily frightened.
_____   4.   I frequently get distressed.
_____   5.   When displeased, I let people know it right away.
_____   6.   I am something of a loner.
_____   7.   I like to keep busy all the time.
_____   8.   I am known as hot-blooded and quick-tempered.
_____   9.   I often feel frustrated.
_____   10.   My life is fast-paced.
_____   11.   Everyday events make me troubled and fretful.
_____   12.   I often feel insecure.
_____   13.   There are many things that annoy me.
_____   14.   When I get scared, I panic.
_____   15.   I prefer working with others rather than alone.
_____   16.   I get emotionally upset easily.
_____   17.   I often feel as if I'm bursting with energy.
_____   18.   It takes a lot to make me mad.
_____   19.   I have fewer fears than most people my age.
_____   20.   I find people more stimulating than anything else.

HANDOUT 3

Evolutionary Psychology

1. You are on a boat that overturns. It contains your 5-year-old and 1-year-old children (of the same sex). The boat sinks and you can save only one. Whom do you choose to save? Circle one:

   5-year-old   1-year-old

2. That same boat (you are slow to learn lessons) contains your 40-year-old and 20-year-old children (both of the same sex). Neither can swim. As the boat sinks, whom do you choose to save? Circle one:

   40-year-old   20-year-old

3. Would you rather marry (or have you married) someone older or younger than yourself? Circle one:

   older   younger

4. Of the following six, which three are most important in the selection of your mate? Circle the answers:

   a. good financial prospects

   b. good looks

   c. a caring and responsible personality

   d. physical attractiveness

   e. ambition and industriousness

   f. an exciting personality

5. You and your spouse are the proud parents of a new child. The grandparents are ecstatic. Who do you think will be kinder to the child? Circle one:

   the mother of the mother   the mother of the father

6. Who will mourn more at the death of a child? Circle the answer in each pair:

   a. father   mother

   b. parents of the father   parents of the mother

   c. younger parents   older parents

7. Which will elicit more grief? Circle the answer in each pair:

   a. death of a son   death of a daughter

   b. death of an unhealthy child   death of a healthy child

HANDOUT 4

Rate the following characteristics in terms of their importance to you in choosing a mate. Use the following scale:

3 = indispensable
2 = important but not indispensable
1 = desirable but not important
0 = irrelevant

_____	1.	ambition and industriousness
_____	2.	chastity (no previous experience in sexual intercourse)
_____	3.	dependable character
_____	4.	desire for home and children
_____	5.	education and intelligence
_____	6.	emotional stability and maturity
_____	7.	favorable social status or rating
_____	8.	good cook and housekeeper
_____	9.	good financial prospect
_____	10.	good health
_____	11.	good looks
_____	12.	mutual attraction—love
_____	13.	pleasing disposition
_____	14.	refinement, neatness
_____	15.	similar education
_____	16.	similar religious background
_____	17.	similar political background
_____	18.	sociability

HANDOUT 5

Sexual Attitudes Scale

Instructions: The following statements reflect different attitudes about sex. For each fill in the response that indicates how much you agree or disagree with that statement. Some of the items refer to a specific sexual relationship, whereas others refer to general attitudes and beliefs about sex. Whenever possible, answer the questions with your current partner in mind. If you are not currently dating anyone, answer the questions with your most recent partner in mind. If you have never had a sexual relationship, answer in terms of what you think your responses would most likely be.

For each statement:

1 = strongly agree
2 = moderately agree
3 = neutral—neither agree nor disagree
4 = moderately disagree
5 = strongly disagree

____   1.   I do not need to be committed to a person to have sex with him/her.

____   2.   Casual sex is acceptable.

____   3.   I would like to have sex with many partners.

____   4.   One-night stands are sometimes very enjoyable.

____   5.   It is OK to have ongoing sexual relationships with more than one person at a time.

____   6.   It is OK to manipulate someone into having sex as long as no future promises are made.

____   7.   Sex as a simple exchange of favors is OK if both people agree to it.

____   8.   The best sex is with no strings attached.

____   9.   Life would have fewer problems if people could have sex more freely.

____   10.   It is possible to enjoy sex with a person and not like that person very much.

____   11.   Sex is more fun with someone you don't love.

____   12.   It is all right to pressure someone into having sex.

____   13.   Extensive premarital sexual experience is fine.

____   14.   Extramarital affairs are all right as long as one's partner doesn't know about them.

____   15.   Sex for its own sake is perfectly all right.

____   16.   I would feel comfortable having intercourse with my partner in the presence of other people.

____   17.   Prostitution is acceptable.

____   18.   It is OK for sex to be just good physical release.

____   19.   Sex without love is meaningless.

____   20.   People should at least be friends before they have sex together.

____   21.   In order for sex to be good, it must also be meaningful.

____   22.   Birth control is part of responsible sexuality.

____   23.   A woman should share responsibility for birth control.

____   24.   A man should share responsibility for birth control.

HANDOUT 5 *(continued)*

____ 25. Sex education is important for young people.

____ 26. Using "sex toys" during lovemaking is acceptable.

____ 27. Masturbation is all right.

____ 28. Masturbating one's partner during intercourse can increase the pleasure of sex.

____ 29. Sex gets better as a relationship progresses.

____ 30. Sex is the closest form of communication between two people.

____ 31. A sexual encounter between two people deeply in love is the ultimate human interaction.

____ 32. Orgasm is the greatest experience in the world.

____ 33. At its best, sex seems to be the merging of two souls.

____ 34. Sex is a very important part of life.

____ 35. Sex is usually an intensive, almost overwhelming experience.

____ 36. During sexual intercourse, intense awareness of the partner is the best frame of mind.

____ 37. Sex is fundamentally good.

____ 38. Sex is best when you let yourself go and focus on your own pleasure.

____ 39. Sex is primarily the taking of pleasure from another person.

____ 40. The main purpose of sex is to enjoy oneself.

____ 41. Sex is primarily physical.

____ 42. Sex is primarily a bodily function, like eating.

____ 43. Sex is mostly a game between males and females.

HANDOUT 6

Event 1

Yuri, an exchange student from Russia, was gratified by the warm reception he got upon his arrival in the United States. He was greeted by broad smiles and frequently was invited to homes for meals. Several times he was invited to stay in American homes. At cultural events, people would say to Yuri, "You must drop by and see us sometime."

Yuri called home and enthusiastically told his family that "Americans are so friendly! We are going to be close friends and see a lot of each other."

Event 2

A Dutch woman living in Paris enjoyed talking with a French friend and invited him to her apartment for dinner one evening. The meaning she intended to convey was "we are going to eat dinner together and have a nice conversation" and nothing more. But her friend interpreted the gesture as implying an invitation for sexual intimacy. He discovered the miscommunication in the middle of dinner. At this point the French man stood up and said, "You don't think I'm going to cross Paris just to have dinner, do you?" and stormed out the door.

Event 3

An American botanist, visiting a Mexican friend in Guadalajara, had the opportunity to go to the home of his friend's gardener to see some seedlings the gardener was growing. Invited to come inside the home, a very small adobe house with an earthen floor, the American was struck by the gardener's poverty. An unfinished pine table and a couple of wobbly chairs were all the furnishings in view. He then noticed a beautiful, large serape on one wall. "What a beautiful serape," exclaimed the American. "Wonderful colors!" At this, the gardener insisted that the American take the serape as a gift. The American was aware that it was a form of politeness in Mexico for a person to tell someone who admired something of his or hers that the object was theirs (*Es suyo or Está a la orden*). But what was happening in the gardener's home was not a polite perfunctory gesture; the man insisted the American take the serape. In fact, he even removed it from the wall and pressed it into the American's hands. The American, realizing that the weaving was the only thing of value in the whole household, did not know what to do. Later, telling this story back in the United States, he would shake his head and say, "Mexicans are so generous!" This generosity should have been promptly—and generously—reciprocated. (The American should have really tried to avoid accepting the serape. Perhaps saying something on the order of "Thank you very much, but it looks so beautiful on your wall that that is how I want to remember it. . . .") In many cultures, such as in Japan, it is the custom to give gifts, but it is expected that the giver will return the favor.

Source: Lovejoy, E. (1996). Positive red flags. In H. N. Seelye (Ed.)*, Experimental activities for intercultural learning* (pp. 199–202). Copyright 1996. Reprinted by permission of Intercultural Press.

HANDOUT 7

Preference Scale

Respond to each of the items below using the following scale.

5 = strongly agree
4 = moderately agree
3 = neutral
2 = moderately disagree
1 = strongly disagree

___   1. I am probably too much of an individualist to be a good team member.

___   2. When there is a choice between working by myself and working together with some friends, I ordinarily choose to work with my friends.

___   3. I would suspect that few group reports or papers can match the quality of those turned in by individuals.

___   4. I would rather do a group paper or lab than do one alone.

___   5. The spirit of togetherness can easily be overdone and stifle individual initiative and creativity.

___   6. What I want most from my neighbors is respect for my privacy.

___   7. I would prefer a neighborhood in which everyone pretty much goes their own way.

___   8. I would like to live in a neighborhood where everybody knows everybody else.

___   9. Neighbors should take a personal interest in each other.

___ 10. It is very important to me to know that there is a group, clique, neighborhood, or community to which I can belong.

___ 11. For me, life would be pretty empty without some kind of group to identify with, belong to, feel a part of.

___ 12. In life, an individual should for the most part "go it alone," assuring oneself of privacy, having much time to oneself, attempting to control one's life.

___ 13. To me, one of the most attractive features of family life is the very deep sense of belonging it provides.

___ 14. My freedom and autonomy mean more to me than almost anything else.

___ 15. The best way to avoid trouble is to be as completely self-sufficient as possible.

HANDOUT 8

The Self-Construal Scale

This is a questionnaire that measures a variety of feelings and behaviors in various situations. Read each of the following statements as if it referred to you. Indicate your agreement or disagreement with the statement using the following scale:

1 = strongly disagree
2 = disagree
3 = disagree somewhat
4 = don't agree or disagree
5 = agree somewhat
6 = agree
7 = strongly agree

__   1.   I enjoy being unique and different from others in many respects.
__   2.   I feel comfortable using someone's first name soon after I meet them, even when they are much older than I am.
__   3.   Even when I strongly disagree with group members, I avoid an argument.
__   4.   I have respect for the authority figures with whom I interact.
__   5.   I do my own thing, regardless of what others think.
__   6.   I respect people who are modest about themselves.
__   7.   I feel it is important for me to act as an independent person.
__   8.   I will sacrifice my self-interest for the benefit of the group I am in.
__   9.   I'd rather say "No" directly than risk being misunderstood.
__   10.   Having a lively imagination is important to me.
__   11.   I should take into consideration my parents' advice when making education or career plans.
__   12.   I feel my fate is intertwined with the fate of those around me.
__   13.   I prefer to be direct and forthright when dealing with people I've just met.
__   14.   I feel good when I cooperate with others.
__   15.   I am comfortable with being singled out for praise or rewards.
__   16.   If my brother or sister fails, I feel responsible.
__   17.   I often have the feeling that my relationships with others are more important than my own accomplishments.
__   18.   Speaking up during a class is not a problem for me.
__   19.   I would offer my seat in a bus to my professor.
__   20.   I act the same way no matter who I am with.
__   21.   My happiness depends on the happiness of those around me.
__   22.   I value being in good health above everything.
__   23.   I will stay in a group if they need me, even when I'm not happy with the group.
__   24.   Being able to take care of myself is a primary concern for me.
__   25.   It is important to me to respect decisions made by the group.
__   26.   My personal identity independent of others is very important to me.
__   27.   It is important for me to maintain harmony within my group.
__   28.   I act the same way at home that I do at school.

HANDOUT 9

For each trait, indicate whether it is more often linked with men, with women, or with both sexes.

M	W	B	
____	____	____	Active
____	____	____	Adventurous
____	____	____	Affected
____	____	____	Affectionate
____	____	____	Appreciative
____	____	____	Arrogant
____	____	____	Autocratic
____	____	____	Bossy
____	____	____	Cautious
____	____	____	Changeable
____	____	____	Charming
____	____	____	Coarse
____	____	____	Conceited
____	____	____	Dependent
____	____	____	Emotional
____	____	____	Enterprising
____	____	____	Fearful
____	____	____	Forgiving
____	____	____	Hardheaded
____	____	____	Loud
____	____	____	Modest
____	____	____	Nervous
____	____	____	Obnoxious
____	____	____	Opinionated
____	____	____	Opportunistic
____	____	____	Patient
____	____	____	Pleasant
____	____	____	Pleasure-seeking
____	____	____	Precise
____	____	____	Prudish
____	____	____	Quick
____	____	____	Reckless
____	____	____	Sensitive
____	____	____	Sentimental
____	____	____	Show-off
____	____	____	Softhearted
____	____	____	Timid
____	____	____	Tough
____	____	____	Warm

Source: Adapted from *Personality psychology: Domains of knowledge about human nature, 2/e* by R. J. Larsen and D. M. Buss. Copyright 2004.

HANDOUT 10

Gender Roles in the Home: A Quiz

	Father	**Mother**
1. When you go out, who drives?		
2. Who fills out the income tax forms?		
3. Who writes the "Thank you" notes for the gifts received?		
4. Who is more likely to ask, "Where are my socks/stockings?"		
5. When the car needs repair, who takes it to the garage?		
6. Who does the laundry?		
7. Who dusts and vacuums?		
8. Who knows where to find the thermometer?		
9. Who knows where to find the pipe wrench?		
10. Who knows where to find the summer clothes?		
11. When you had guests for dinner, who made the drinks?		
12. When you had guests for dinner, who made the coffee?		
13. Who waters the house plants?		
14. Who waters the lawn?		
15. When you went on a trip, who packed the suitcases?		
16. When you went on a trip, who packed the car?		

Source: Gender Roles in the Home: A Quiz in *Sex and Gender: The Human Experience* (1985 Wm. C. Brown) by James A. Doyle. Reprinted by permission.

HANDOUT 11a

Socialization of Gender Roles

Many scholars have observed that our society has traditionally socialized men and women differently. Think for a minute about your childhood: What did you learn about "men"? Below is a list of statements. You may have heard these exact phrases or something like them when you were young. The ideas may have come to you directly or indirectly from adults around you. Read the descriptions of the two columns. Then read each statement and mark "Y" for yes or "N" for no in Column A. Then write "Y" or "N" in Column B. If you recall hearing any other statements about men, add these to the end of the list and mark them accordingly. This is *not* a test; there are no right or wrong answers.

Statement	Column A I remember hearing something like this when I was a child.	Column B I might say something like this to my own child.
1. "Big boys don't cry."		
2. "Stand up and prove how tough you are."		
3. "Boys don't play with dolls."		
4. "Fathers fight the battles of life so mothers can raise the children."		
5. "Boys who hug other boys are weird."		
6. "Keep a stiff upper lip."		
7. "Only the strong survive."		
8. "Don't act like a sissy."		
9. "You need to learn to take it like a man."		
10. "Nice guys finish last."		
11. "Learn to hide your fears."		
12. "A good man protects and provides for his family."		
13. "Never admit defeat."		
14. "Boys will be boys."		
15. _____		
16. _____		

Source: Copyright by Catalyst and used by permission.

HANDOUT 11b

Socialization of Gender Roles

Many scholars have observed that our society has traditionally socialized men and women differently. Think for a minute about your childhood: What did you learn about "women"? Below is a list of statements. You may have heard these exact phrases or something like them when you were young. The ideas may have come to you directly or indirectly from adults around you. Read the descriptions of the two columns. Then read each statement and mark "Y" for yes or "N" for no in Column A. Then write "Y" or "N" in Column B. If you recall hearing any other statements about women, add these to the end of the list and mark them accordingly. This is *not* a test; there are no right or wrong answers.

Statement	Column A — I remember hearing something like this when I was a child.	Column B — I might say something like this to my own child.
1. "A woman's place is in the home."		
2. "Sugar and spice and everything nice— that's what little girls are made of."		
3. "You're a tomboy if you climb trees and play sports."		
4. "Someday you'll meet Prince Charming (or Mr. Right)."		
5. "Girls can't do math."		
6. "That's too big (or too dangerous) for you to handle."		
7. "You need to learn how to cook and clean so you can be a good wife."		
8. "Boys don't like smart girls."		
9. "Girls grow up to be mommies, nurses, and teachers."		
10. "Women are screechy shrews."		
11. "If you work too hard, you'll end up an old maid."		
12. "Women bosses are worse than men."		
13. "Nice girls know how to keep their mouths shut."		
14. "Girls are cry-babies."		
15. _____		
16. _____		

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HANDOUT 12

Respond to the following statements with a number from 1 = strongly disagree to 5 = strongly agree.

____ 1. I will be able to achieve most of the goals that I have set for myself.

____ 2. When facing difficult tasks, I am certain that I will accomplish them.

____ 3. In general, I think that I can obtain outcomes that are important to me.

____ 4. I believe I can succeed at most any endeavor to which I set my mind.

____ 5. I will be able to successfully overcome many challenges.

____ 6. I am confident that I can perform effectively on many different tasks.

____ 7. Compared to other people, I can do most tasks very well.

____ 8. Even when things are tough, I can perform quite well.