

# Applied Psychology Module

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## Psychology

S E V E N T H E D I T I O N

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SUMMARY

# Alan Shepard: Sitting on Top of a Rocket

THE DATE IS MAY 5, 1961. Alan Shepard, the first American to be put into space, awaits his moment in history inside his tiny Mercury capsule. He is just going to go up and come back down. He isn't even going to orbit Earth. The whole trip is supposed to last only 15 minutes, so why bother equipping his spacesuit with a device that would allow him to urinate safely, right? However, after Shepard is strapped into his seat, delay after delay occurs. He communicates to mission control that he needs to urinate. Mission control tells him to hang in there, launch is about to occur.

Think about this situation. You are the first astronaut to sit on top of a rocket—a potential bomb. Wouldn't you be just a little nervous? Shepard radios down that he can't hold it much longer. NASA begins to worry because the "window" for launch requires perfect timing. They tell Shepard that he can't get out of the capsule now. And besides, the hatch is bolted shut, so charges would have to be ignited to blow off the door. Finally, Shepard radios NASA that he can't wait any longer. So what does NASA do? They tell him to go ahead and wet his pants.

Shepard is wired from head to toe, electronically connected to all sorts of technical equipment. When he follows NASA's instructions and wets his pants, instruments start short-circuiting all over the place. We'll skip the disgusting details except for this: In the cockpit on the launchpad, Shepard's head was lower than his feet! With all the time and money NASA spent planning the mission, you'd think they would have considered something as basic as an astronaut's need to urinate! (Neufeldt, 1997).

## What Is Applied Psychology?

In recent years, there has been a surge of interest in applied psychology. Applied psychology is the field that uses psychological principles to improve the lives of human beings and solve human problems. Like all psychologists, applied psychologists are trained in the basic science of psychology. Their unique contributions result from their application of psychological concepts to problems of human behavior (Aamodt, 1999). In the first half of the twentieth century, most psychologists taught at universities and engaged in basic research. However, today about two-thirds of psychologists work in applied settings, such as business, industry, clinics, hospitals, schools, community agencies, or government.

Applied psychology is at work when

- an industrial psychologist advises a corporation about improvements in the selection of employees
- an organizational psychologist develops a plan for company restructuring that can facilitate communication and productivity
- an environmental psychologist helps an architectural firm design buildings in which space is used to improve job satisfaction
- a forensic psychologist conducts research on witness testimony and serves as a consultant to an attorney
- an educational psychologist gives psychological tests to a child who is having problems in school and consults with his teachers and parents about ways to improve his academic performance

## Industrial/Organizational Psychology

Work is what most of us will do at least half of our waking hours for more than 40 years of our lives. Industrial/organizational (I/O) psychology is the branch of psychology that focuses on the workplace—both its workers and the organization that employs them—to make work more enjoyable and productive. I/O psychology is commonly partitioned into industrial psychology and organizational psychology.

### Industrial Psychology

Industrial psychology is the subdivision of I/O psychology that involves personnel and human resource management. This includes job analysis, selection and retention of employees, performance appraisal, and training. Industrial psychology is increasingly referred to as personnel psychology. Let's explore each of these dimensions of industrial psychology.

**Job Analysis** Virtually all personnel functions stem from job analysis, which helps determine which candidates to hire as well as how to train and evaluate them (Aamodt, 1999). By carefully conducting a job analysis and then using the results to guide personnel decisions, industrial psychologists increase the likelihood that they will give all job applicants (regardless of race, religion, national origin, sex, and so on) equal employment opportunities.

The important steps in conducting a job analysis include these:

1. Identify the job's component tasks and behaviors. For example, some of the component tasks of a sales job with a medical equipment company might be communication with doctors and nurses, working long hours, coping with stressful circumstances, and learning at a high level of competence.
2. Specify the skills, abilities, and knowledge needed to carry out the tasks and behaviors. Standardized tests are often used as part of this step, along with interviews with people who do the job or are affected by it.
3. Based on the first two steps, generate a job description that can be used for recruitment, hiring and training.

**Selection of Employees** Industrial psychologists use many different selection tools to pick the right person for the right job (Gatewood, Perloff, & Perloff, 1998). Among the most widely used personnel selection tools are application forms, psychological tests, interviews, and work sample tests.

Psychological tests used by industrial psychologists include general aptitude tests (such as IQ tests), specific aptitude tests (such as those designed to assess mechanical ability, clerical ability, or spatial relations), personality tests (such as the Myers-Briggs Type Indicator [MBTI]), and vocational inventories (like the Strong Interest Inventory).

Personality tests are often given to indicate whether the applicant's characteristics match those needed on the job. For example, the University of Michigan is considering using a test of common sense to determine admissions to its business school. More commonly, factors such as conscientiousness and emotional stability from the five-factor model of personality tend to be good predictors for general selection (Salgado, 1997). Unfortunately, many personality tests are easy to fake, creating exactly the impression the applicants desires, and believes is desired by the employer. For this reason, tests using so-called "lie scales" are often used to help determine if the applicant is responding truthfully (Aamodt & Raynes, 2001). Interestingly, it appears that most integrity tests are really measuring conscientiousness (Schultz & Schultz, 2002).

To be sure that applicants possesses the skills necessary to perform a job, asking them to perform a work sample test is useful (Riggio, 1999). In addition to using current performance as a predictor of the future, past behavior has also been used. Some research suggests that the type of biographical information asked for in applications, such as education and work history, is one of the best predictors of future job performance (Hough & Oswald, 2000; Mount, et al., 2000),

Interviews are often given special weight in hiring decisions (Barber & others, 1994). Interviews can be especially helpful in evaluating a candidate's interpersonal and communication skills. However, unstructured interviews have shown little success in predicting job performance (Huffcutt & Arthur, 1994). Untrained interviewers may focus on attractiveness, similarity, and other characteristics of the applicant that are not related to how well they would perform on the job (Aamodt & Raynes, 2001). Interviews that are structured, standardized and focus on specifics rather than generalities are the most successful at selecting employees who eventually perform well (Campion, et al., 1998). They also help protect the employer from allegations of discrimination in the hiring process because they limit the negative effects of racial and ethnic stereotypes (Huffcutt & Roth, 1998).

**Performance Appraisal** A performance appraisal involves a systematic description of an employee's strengths and weaknesses. Systematic is a key word here because performance appraisal can be biased if it is not systematic. While few of us like the process of getting negative feedback, getting an accurate performance appraisal can allow us to get the additional training we need, learn ways to improve performance in the future, and to achieve the rewards of a job well done. Appropriate performance criteria can be used to reinforce effective work behavior and provide incentives to set new goals for future performance. This process works best when employees can participate in it (Mayer & Davis, 1999).

It is illegal to discriminate against an employee on the basis of race, color, creed, national origin, or sex. Title VII of the Civil Rights Act of 1964 was intended to protect individuals from such discrimination (Riggio, 1999). One way to minimize the potential for illegal discrimination is to base performance appraisals on actual job behaviors (He failed to reach his production quotas in 10 out of 12 months) rather than vague, global judgments (She is a cold person who hurts the company's image). Performance ratings using global judgments are easily influenced by rating errors such as halo error (giving all positive ratings to someone you like) (Arvey & Murphy, 1998) as well as biases, but training the raters can reduce these errors and make the process more effective.

**Training** More than 90 percent of the private corporations in the United States conduct some form of employee training. Training is often used to bring newly hired employees up to a level where they can function competently in the job. Increasingly, this training is in basic skills. In 1999, the American Management Association found that 38% of job applicants did not possess sufficient basic reading, writing, and math skills to do the jobs, up from 22% in 1997. As technological advances continue, training will be necessary to prevent worker obsolescence. Industrial psychologists can determine how employers' needs will change and design retraining strategies to keep the workforce responsive to such changes (Salas & Cannon-Bowers, 2001).

## Organizational Psychology

Organizational psychology is the subfield of I/O psychology that examines the social and group influences in an organization. Organizational psychologists deal with such issues as changes in the nature of the workforce, changes in the company's organizational structure, diversification of a product line, changes in workers' schedules, and modification of workspace. Among organizational psychology's areas of study are job satisfaction, motivation, leadership, communication, and changes in the organization.

**Job Satisfaction** Imagine what type of job you will have 15 years from now. What will it take for the job to satisfy you? Many factors are involved in job satisfaction, including organizational factors such as pay, promotion opportunities, and rewards intrinsic to the work itself. Job satisfaction also includes group factors such as how much you like your co-workers and supervisor (Robbins, 2002).

Organizational psychologists know that it is important for workers to be satisfied with their job, because those who are dissatisfied miss more work and are more likely to seek employment elsewhere (Fowler, 1998). Satisfied workers are also healthier (Pearson, 1998; Tang, 2001) and more productive. Job satisfaction increases steadily through an individual's work life, on the average. A variety of explanations have been suggested including the frustration of the initial job search for younger workers, an increasing sense of resignation among older workers, and more opportunities to find fulfillment and self-actualization on the job as age and experience bring increases in confidence, competence, and responsibility (Schultz and Schultz, 2002). Organizational psychologists advise management about how these and other factors affect workers' job satisfaction.

**Motivation** An important task in the work world is to motivate employees to do their best work possible. Organizational psychologists often use behavior modification strategies to improve worker productivity and morale. The reinforcements or incentives they typically recommend include bonuses, awards, time off, promotions, and praise. For example, an organizational psychologist might suggest that the company designate someone as "employee of the month." Chapter 11 ("Motivation and Emotion") suggested a variety of theories that explain what motivates people. On the job, motivation may be related to feeling a sense of equity or fairness, getting out of the job as much as we put into it; to the opportunity to excel and achieve, or to the opportunity to develop our skills. When we feel taken advantage of, bored, or unappreciated, work and workers may suffer.

Another aspect of motivation that interests organizational psychologists is whether workers are more productive and happy when they work individually or in groups. Historically, Americans have worked individually. By contrast, employees in many Eastern countries, such as China, Japan, and Korea, have traditionally worked as teams. Interestingly, though, because of changes in productivity and labor-market conditions in the last decade, firms in both countries have increasingly studied how businesses in the other country work.

**Leadership** In chapter 16, "Social Psychology," we discussed different models of leadership and concluded that leadership is likely a function of both the leader's personality characteristics (such as being assertive and cooperative) and situational influences (such as the type of work involved). The contemporary view of leadership involves creating a vision for others to follow, establishing values and ethics, and transforming the way an organization does business to improve its effectiveness and efficiency (Nickels, McHugh, & McHugh, 2001). The workplace is changing from a place where a few people dictate what others do to a place where all employees work together to reach common goals. Good leaders are openly sensitive to the concerns of employees, give them responsibility, and gain their trust. Their workers are much less likely to change jobs (Zipkin, 2000).

In recent years, minority and female employees have increasingly entered the upper ranks of corporate life, but [their](#) progress has been slow. Both women and minorities report many barriers to advancement, such as having to work harder and

meet higher standards than their counterparts, having difficulty finding successful mentoring, and not having their achievements as easier-easily recognized by the company's leaders (Schultz & Schultz, 2002).

**Communication** The field of business recognizes the growing importance of communication (Lussier, 2002). Surveys of major corporations suggest that effective communication is the main reason executives get promoted. Yet there are 25 million people in the workforce who cannot read or write. Another 35 million have reading skills that are so weak they cannot even read the simplest of written instructions. AT&T spends \$6 million a year on getting its workers to have minimal reading skills.

A leading authority on managerial behavior, William Haney (1986), believes that a common problem occurs when communicators miss each other's meanings. Consider the following humorous examples of cloudy communication:

- A Peruvian manager received a cable from his boss in the United States. The cable read: "Send me factory and office head count broken down by sex." The reply went like this: "249 in factory, 30 in office, 3 on sick leave, none broken down by sex—our problem is with alcohol."
- Sign over a greasy-spoon diner: "Eat Here and Get Gas."
- "Wanted: Man to handle dynamite. Must travel unexpectedly."
- "For sale: Large Great Dane. Registered pedigree. Will eat anything. Especially fond of children."

Communication is one of the keys to any successful relationship—whether between marital partners, parents and children, management and workers, or simply between workers (Adler & Elmhorst, 2002). Communication varies in direction (who talks to whom), what is intended, what is understood, and how the information is interpreted (Aamodt & Raynes, 2001). When communication is inefficient or breaks down, so does the quality of the organization.

In a survey of its members by the National Association of College Employers (Collins, 1996), communication skills were at the top of employers' lists of important employee skills. Indeed, the top three items on the employers' wish list all involved communication skills: (1) oral communication skills, (2) interpersonal skills, and (3) teamwork skills. According to the survey, employers also want candidates to be proficient in their field, have leadership and analytical skills, and be flexible. Organizational psychologists can offer on-site training to improve these skills or consult directly with employees who are considered to be deficient in these areas (Gamble & Gamble, 2001).

**The Changing Places and Faces of Organizations** Which jobs will be more plentiful in the future? What will the workplace be like as we move into the twenty-first century? Expect changes in jobs, the organization, and the worker.

**Tomorrow's Jobs** The long-term shift from goods-producing to service-producing employment will continue. Today, nearly 4 of 5 jobs are in industries that provide services, such as banking, insurance, health care, education, data processing, and management consulting. Jobs that require the most education and training will be the fastest growing and highest paying.

Employers especially recommend that students do the following during their college years:

- Get work-related experience
- Be involved in some extracurricular activities on or off campus
- Get good grades
- Develop good computer skills

Students can get positive work experiences during college by participating in cooperative education programs, internships, or part-time or summer work relevant to their field of study.

**Changing Organizations** Organizations themselves also will change. Many companies are "downsizing" to improve profits. Mergers and acquisitions also displace workers with increasing regularity. In addition, more businesses are expanding their international operations. This means that the success of many companies increasingly will depend on the ability of employees to communicate effectively with people from diverse backgrounds.

Many jobs also are becoming more complex and cognitively demanding. As knowledge increases, technically trained workers, such as engineers, face a "half-life" of 5 years. That is, half of what engineers know in any given year will be obsolete 5 years later because of rapid technological advances. This means that continuing education and retraining of workers will increase.

Recently, some organizational psychologists have recommended that their companies consider flextime arrangements (flexible work schedules) for employees, a strategy that serves some employees' needs without increasing the employer's costs. Flextime increases job satisfaction and worker effectiveness (Clay, 1998). The virtual workplace requires some adjustments to function efficiently and productively. These include having material available online and accessible from remote locations, and having a way to monitor both employees and assignments (Cascio, 1998).

Millions of workers center their lives on the workplace. Heads of organizations realize that the workplace is an important setting for promoting health and well-being. Consequently, many companies have established programs to help workers balance work and family and promote health through fitness centers and stress management programs.

**Gender and Ethnicity** Workers today are culturally diverse. Thirty-five percent of all new workers in the twenty-first century are of African, Asian, and Hispanic heritage (Schultz & Schultz, 2002). Larger numbers of women are entering the workforce, putting increased pressure on society to help balance the demands of work and family (Schein & others, 1996). In the 1980s the concept of the "glass ceiling" emerged. This concept refers to a subtle barrier that is virtually transparent yet prevents women and ethnic minorities from moving up the management ladder (Schultz & Schultz, 2002). Today women fill 40% of all executive, management, and administrative positions, up from 24% in 1976. However, only 2.6 percent of all senior executives are women, and only one Fortune 500 head (Feminist Majority Foundation, 2002) The picture for ethnic minorities is equally dismal. Only one African American heads a Fortune 1000 company.

Many organizational psychologists believe that the workplace needs to adjust to accommodate women and ethnic minorities. Eastman Kodak and Dupont are two companies that have implemented programs to help managers diversify their workforce and reduce discrimination. The companies invested in special recruiting initiatives and offer ongoing diversity sensitivity training to promote effective collaboration. One value of such programs is that issues are brought out in the open, allowing individuals to express their perspectives on diversity issues.

Support groups can help increase the number of women and ethnic minorities in management. For example, in Washington, D.C., the Executive Leadership Council is made up of fifty African American managers who recruit and hire ethnic minorities. Such support groups provide career guidance and psychological support for women and ethnic minorities who seek management positions. Mentoring can also provide assistance. Interestingly, the mentoring relationships that are most successful for the employees are those with white male mentors. (Ragins & Cotton, 1999; Dreher & Cox, 1996).

The future is not entirely bleak for women, because they are advancing the fastest in "cutting-edge" industries like computers, finance, and advertising. The reasons for this rapid advancement are that (1) there was no time to establish old rules, or the old rules that favored males don't apply because the "game" has changed so much, and (2) the types of jobs now being created are different. American women have filled two-thirds of the millions of new jobs in the information and service industries in the last two decades. This type of work is not done on an assembly line and can't be managed as if it were. Historically, management has been masculine in orientation, with an emphasis on independence and power. Leadership in the information and services industries has often not followed this masculine orientation. Rather, it often has emphasized a facilitative role for leaders that involves building worker loyalty and developing positive relationships.

One final issue that is not new to the workplace, but has received increasing coverage recently is sexual harassment. Sexual harassment is an abuse of power involving unwelcome sexual advances, requests for sexual favors, and other unwelcome verbal or physical contact of a sexual nature. More than 15,000 complaints were filed with the EEOC (Equal Employment Opportunity Commission) in 1996 (Aamodt, 1999), and Moulton (1994) indicates that 40% of women and 15% of men have been victims. Research by the Working Women United Institute suggests that less than 20% of women report the harassment, indicating that the problem is even larger than it appears. This serious problem is an issue in academia as well, with a recent survey indicating that over 23% of female students have experienced at least one episode in the last six months (Huffman, 2002)

So far, we have seen how I/O psychologists are involved in personnel and human resource management, as well as improving human relations in organizations. Human factors psychologists also contribute their expertise to making the workplace safer and more efficient by focusing on the design of machines that workers use and their environments they work in (see chapter 5). As you will see next, the physical setting of business and work is but one of the many environments that interest environmental psychologists.

# Environmental Psychology

Environmental psychology explores the physical setting of all other areas discussed in this book, including perception, cognition, learning, development, personality, abnormal behavior, and social relations. Whether we are looking, thinking, learning, talking to a friend, working, or walking in the woods, we do it in a physical setting. Everything we do is in either a built or a natural environment. Environmental psychology is the study of transactions between people and the physical environment.

The topics that environmental psychologists study include these:

- How different building and room arrangements influence behavior
- The characteristics of preferred landscapes
- Strategies for navigating in various environmental arrangements
- The psychological impact of pollution
- How crowding affects behavior
- The effects of noise and light on behavior

Let's examine two of these topics, density and crowding, and environmental damage.

## Density and Crowding

Human beings continue to populate the earth in ever increasing numbers. The result is that many parts of our planet have become very densely populated. In one study, the strongest and most consistent predictor of whether a person would help someone else in thirty-six U.S. cities was population density (Levine & others, 1994). The lower the population density, the more likely people were to help a blind person, return a dropped pen, or give to United Way.

Nonetheless, some cultures have to live with high density. Hong Kong's density is about four times that of downtown Toronto. However, Hong Kong's crime rate is about one-fourth of Toronto's and Toronto has a low crime rate by North American standards. After centuries of living together in close proximity, the Chinese have learned to interact with each other without raising tensions.

In many cases, though, density can harm a person's health, increase aggression, and poison social interactions (Gifford, 1987). As density increases in prisons, discipline problems and death rates go up (Paulus, McCain, & Cox, 1981). At colleges, students who live in densely populated dorms (ones with long corridors that have common bathrooms and lounge facilities) are more socially withdrawn and perceive themselves as having less control than students in less crowded dorms (with smaller suites and private bathrooms) (Baum & Valins, 1977).

Environmental psychologists make a distinction between density and crowding (Veitch & Arkkelin, 1995). Density refers to the number of people per unit area. Crowding is the psychological experience that others are too close. Usually, when density (the objective measure) is high, crowding (the psychological measure) also is high. However, feeling crowded may depend on whom we are with and our interpretation of the situation (Baron & Byrne, 2003). Many people don't think ~~it is~~ a ~~good~~ party is good unless the guests are all crammed in together. By contrast, sometimes people feel crowded when density is low, as when we must ride fifty floors in a large, otherwise empty elevator with someone we detest.

An important aspect of understanding crowding is how much control people perceive themselves as having over the situation they are in. The less control they perceive themselves as having, the more stressful they find their densely packed surroundings. For example, if we think that we can leave the crowded conditions at any point, we feel less stress than if we think we can't leave.

## Environmental Damage

Our planet's natural resources are decreasing and the planet has become more polluted (Enger & Smith, 2001). Tropical and temperate rain forests are being depleted. And too often we act as if our planet were a huge garbage pail—as if we could endlessly dump toxic wastes and litter into it without harming it. How can we get people to treat the planet better?

Most people agree that people should not pollute the environment and squander its resources. However, their behavior does not always match their professed beliefs. So, one strategy is to arouse awareness of cognitive dissonance in people by getting them to understand that they are not practicing what they are preaching. For example, some people say that they should not throw trash out the window of a car but do it anyway. Getting these people to be aware that their professed beliefs and their actions don't match up may help. Another strategy is to get people to understand that their environment-damaging

behavior is not socially acceptable. That is, get them to become aware that a large majority of the people believe that what they are doing is wrong (Cunningham, et al., 2001).

Some people may damage the environment because they are not aware that it is possible to restore it. Hartig and others (2001) have found that people who believe the environment can be restored do more to protect natural environments. Unfortunately, cynicism is not uncommon. ~~in~~ A recent ~~recent~~ report sent recently by the administration of President George W. Bush to the United Nations concluded that there was no point in changing our behavior because nothing could be done about the environmental consequences of past behavior (Revkin, 2002). One thing is clear: if we believe this, and do nothing, we will prove ourselves correct.

As a society, we have become increasingly interested in environmental issues. Our fascination for legal matters also has increased. Next, we explore the intriguing psychological aspects of the legal system.

## Forensic Psychology

The field of forensic psychology applies psychological concepts to the criminal justice system. In the trials of O. J. Simpson, Timothy McVeigh, and less famous suspects, the research and knowledge of forensic psychologists is at work in many ways. Social and cognitive psychologists increasingly conduct research on topics related to psychology and the law. And forensic psychologists increasingly are hired by legal teams to provide input about many aspects of a trial. In chapter 8, we discussed eyewitness identification, one of forensic psychology's many domains. Following are some of the other activities of forensic psychologists:

- Conducting research on the role of defendants' characteristics in determining conviction
- Providing input about which potential jurors to select
- Analyzing the nonverbal behavior of jurors to assess their attitude toward the defendant
- Conducting research with mock juries to see what factors influence juries' decisions
- Testifying as expert witnesses

Let's explore these areas of forensic psychology further: defendants and juries, and psychologists as expert witnesses.

### Defendants and Juries

Just because they have certain characteristics some defendants are more likely to be acquitted in a trial than others are. In the United States, with other factors being equal, low-income, poorly educated, ethnic minority persons are more likely to be convicted than are higher-income, better-educated, White persons. Unattractive defendants are more likely to be convicted than attractive ones (Quigley, Johnson, & Byrne, 1997). Also, low-income individuals are more likely to be given harsh sentences than are higher-income persons (Mazzella & Feingold, 1994). Another inequity in the legal system is that defendants who have very high incomes can hire expensive legal experts who have high rates of success in getting clients acquitted. Defendants from low-income backgrounds do not have this access. As a consequence, a disproportionate percentage of prison inmates are low-income persons.

Jury members with certain characteristics are more likely to convict defendants and recommend harsher sentencing. Jurors who are White, older, better educated, higher in social status, and politically conservative fit this profile. The match between the juror and the defendant plays a role in whether the juror will vote for conviction and harsher sentencing. Whites are more likely to be kinder to Whites, African Americans to African Americans, and so on. More affluent jurors are more likely to give affluent defendants a break, just as jurors from low-income backgrounds are less likely to convict poor people. Forensic psychologists counsel attorneys about which potential jurors should be challenged during what is called voir dire (jury selection).

The jury system has a long tradition in American law, and every person has a right to be tried by a jury. In recent years, the jury system has been in the media spotlight, especially in cases like the 1995 trial of O. J. Simpson for the murder of his wife, Nicole Brown Simpson, and her friend Ron Goldman. ~~trial~~ Of the millions of Americans who watched the Simpson trial on television, many formed strong opinions about whether the jurors' verdict of not guilty was fair or biased. Few people argue that the jury system should be abolished, but it is not a perfect system. According to psychological research, there are many reasons why juries might not always reach the right verdict (Aronson, Wilson, & Akert, 2002). As we see next, these reasons include the media and pretrial publicity.

**The Media and Pretrial Publicity** The media play an important role in trials. They usually get most of their information from the police and the district attorney, who want to convict the defendant. Not surprisingly, these sources give the media the strongest possible indication that the defendant is guilty, and this is the information that the media give the public. Researchers have found that the more information people get about a case from the media, the more likely they are to believe that the defendant is guilty (Otto, Penrod, & Dexter, 1994).

Lawyers usually ask potential jurors if they have heard anything about the case and, if so, whether they believe that they can still render a fair verdict. Judges can instruct juries to disregard what they have heard in the media or isolate juries until the trial is over. The best situation is to have jurors who have heard nothing about the case, but in high-profile cases, ~~such as those of O. J. Simpson, Timothy McVeigh, and Theodore Kaczynski,~~ that is virtually impossible. Canada restricts coverage ~~to~~ avoid biasing the jury (Farnsworth, 1995), but that may not be necessary as long as someone explains *why* this information might have been leaked to begin with (Fein, et al., 1997).

**Making Judgments and Decisions** Forensic psychologists conduct research to try to determine which factors influence the verdict in a trial. Many jurors form opinions early about whether a defendant is innocent or guilty. They often make this judgment before they hear all of the evidence.

Once jurors begin their deliberations, they try to reach a consensus by discussing, arguing, and bargaining. In the O. J. Simpson criminal trial, one juror voted guilty but quickly changed her mind. This is a common tendency in jury deliberations. As we saw in chapter 16, pressures to conform can be strong. Jurors can often bring dissenting peers to their side. If a jury is split, it will usually follow the lead of the first juror to change his or her mind (Baron & Byrne, 2003).

Even if dissenting jurors seldom can sway the majority about a defendant's guilt or innocence, they might be able to change the majority's view of the degree of guilt. For example, if a jury decision is guilty, several dissenting jurors might be able to persuade the majority to vote for second-degree instead of first-degree murder. Forensic psychologists are often called on after a verdict is made public to help explain the group dynamics behind the decision.

## Psychologists as Expert Witnesses

Psychologists serve as expert witnesses in the courtroom. Legal topics about which psychologists might testify include these (Nietzel, et al., 1998; Nietzel & Dillehay, 1986):

- **Insanity defense.** Psychologists regularly evaluate a defendant's mental condition at the time of the alleged offense. They also might judge the degree to which the defendant is responsible for the crime.
- **Competency to stand trial.** Psychologists testify to whether a defendant has an adequate understanding of the legal proceedings.
- **Civil commitment.** Psychologists decide whether a defendant with a mental-psychological disorder presents an immediate danger or threat of danger to self or others. This type of evaluation can influence whether the person is deemed to require treatment or not.
- **Psychological damages in civil cases.** Psychologists make judgments about what psychological damages an individual has suffered because of another's harmful conduct.
- **Negligence and product liability.** Psychologists testify about how environmental and perceptual factors affect a person's use of a product or ability to take precautions in its use.
- **Class action suits.** Psychologists judge whether people are being discriminated against in schools and the workplace because of their sex, race, age, and so on.
- **Guardianship and conservatorship.** Psychologists evaluate whether a person has the mental-cognitive ability to make decisions about her or his living conditions.
- **Child custody.** Psychologists recommend which parent to award custody to, or whether joint custody is desirable.

As can be seen, psychologists serve as expert witnesses about a wide range of matters involving human behavior.

## Educational Psychology

Educational psychology is the field that applies psychological concepts to teaching and learning (Woolfolk, 1998). Educational psychologists conduct research, consult with school administrators, and counsel teachers about how to make

students' educational experiences more productive and enjoyable. Recent work indicates that students possess both different intelligences and different styles of learning, which means a variety of teaching methods are necessary (Ediger, 2001). Educational psychologists might also work directly with students to improve their adjustment in school. We will explore several topics that concern educational psychologists: learner-centered psychological principles; assessment; exceptional learners; and socioeconomic status, ethnicity, and schools.

## Learner-Centered Psychological Principles

In the last decade, working groups of the Educational Psychology Division of the American Psychological Association crafted a number of principles they believe represent the best way for learning to take place (Presidential Task Force on Psychology and Education, 1993; Work Group of the American Psychological Association's Board of Affairs, 1995; Learner-Centered Principles Work Group, 1997). These "learner-centered psychological principles" move the focus of learning away from the teacher and toward the student (Lambert & McCombs, 1998). Following are a number of these learner-centered principles (Santrock, 2003):

- The nature of learning. Learning benefits when it is done naturally, involves personally meaningful goals, and is actively constructed. Learning consists of academic knowledge, cognitive skills and strategies, socioemotional skills, and motor skills. These recommendations are compatible with one of this book's main themes (skills), the discussion of Piaget's theory in chapter 4 ("Human Development"), and our coverage of the construction of memory and strategies in chapter 8 ("Memory").
- Goals of learning. Student learning improves when students set goals and plan. Teachers can help students learn how to set long-term and short-term goals, develop plans to reach these goals, and monitor their progress toward the goals. This recommendation is consistent with our discussion of goal setting, planning, and self-monitoring in chapter 11 ("Motivation and Emotion").
- The construction of knowledge and thinking. Successful learners link and integrate new information with existing knowledge in meaningful ways instead of keeping the new information isolated. Because of students' unique experiences and the mind's active construction of knowledge, students organize information in individualized ways. Students benefit when teachers help them develop shared understanding of important knowledge and skills. Successful learners use a range of competent thinking strategies, including thinking reflectively, deeply, and creatively. These recommendations are related to our discussion of thinking in chapter 9 ("Thinking and Language").
- Contexts of learning. Learning is influenced by the contexts in which it occurs. These contexts include such environmental factors as instruction, culture, and technology. Learning occurs best in a supportive context (Alderman, 1999). Because students live in an increasingly diverse world, it is important to provide opportunities for them to experience and learn about diversity (Diaz, Massialas, & Xanthopoulos, 1999).
- Motivational and emotional influences on learning. The depth and breadth of information processed, and what is learned and remembered, are influenced by personal expectations of success and failure, the motivation to learn, and emotions (Brophy, 1998; Schunk, 2000). Student learning benefits when teachers have high expectations for students and students are intrinsically (self-, internally) motivated. Intrinsic motivation increases when learning involves real-world tasks and contexts. Being a competent learner requires extended, persistent effort. Intense negative feelings such as anxiety, fear, and worry interfere with learning. These recommendations connect with one of this book's main themes (relevance) and our coverage in chapter 11 ("Motivation and Emotion").

## Schools for Thought

One educational approach that incorporates many of these learner-centered principles is the "Schools for Thought" program (Lamon, et al., 1996). Too often students leave classes with only a fragile understanding of the [material/course content](#). For example, in science, students might be able to repeat various scientific principles that they have been taught but run into difficulties when they have to explain everyday scientific phenomena. Similarly, in math, students might be able to plug numbers into formulas but, when confronted with variations of these problems, be unable to solve them. Thus, many students acquire enough information to pass tests in school but do not develop a deep understanding of concepts. Designed to encourage students to think more deeply and solve real-world problems, "Schools for Thought" involves a combination of three innovative educational projects: (1) the Jasper Project, (2) Fostering a Community of Learners, and (3) Computer Supported Intentional Learning Environments.

The Jasper Project, developed by the Cognition and Technology Group at Vanderbilt (1997), consists of twelve videodisc-based adventures that are designed to improve the mathematical thinking of students in grades 5 and up. These adventures help students make connections with other disciplines, focus on a number of real-world problems that need to be solved, and end with challenges that motivate students to generate new problems to solve. The Jasper Project encourages collaborative problem-solving among students:

Ann Brown and Joe Campione (Brown, 2000; Brown & Campione, 1996) have developed a program called Fostering a Community of Learners that focuses on literacy development and biology. It is appropriate for 6- to 12-year-old students. Three strategies encourage reflection and discussion: These include using adults, including visiting experts and classroom teachers, as role-models, using cross-age teaching, with older students working with younger students face-to-face and via e-mail and reciprocal teaching with students taking turns leading a discussion group; and on-line computer consultation, in which experts provide coaching and advice, as well as commentary about what it means to learn and understand, through e-mail. This approach has much in common with what educational expert Jerome Bruner (1996) recently recommended for improving the culture of education.

Computer-Supported Intentional Learning Environments (CSILE) provides problem-focused computer learning opportunities for students (Scardamalia & Bereiter, 1994). A typical CSILE classroom has eight linked computers, and classrooms are connected to form a communal base for the entire school. Students are encouraged to enter their views and questions, compare perspectives, and reflect on joint understanding of ideas. Students work both collaboratively and individually, by attaching notes to each other's work.

As indicated earlier, these three programs have been combined in the Schools for Thought project that is currently being implemented in a number of schools. The following web site gives periodic updates about the Schools for Thought project:

<http://peabody.vanderbilt.edu/projects/funded/sft/general/sfthome.html>

~~<http://peabody.vanderbilt.edu/projects/funded/sft/general>~~

## Assessment

Assessment is an important focus in educational psychology. Recent interest has focused on such areas as these:

- How assessment can be made an integral part of teaching. Good teachers frequently evaluate their students in relation to learning goals and adapt their instruction accordingly (McMillan, 2001). Assessment not only documents what students know and can do, but also affects their learning and motivation. These ideas reflect a change in the way assessment is viewed, away from the concept that assessment is an isolated outcome done only after instruction is over, and toward the concept of integrating assessment with instruction.
- What it takes to construct high-quality assessment. Establishing high-quality assessment builds on the concepts of validity and reliability that we explored in chapter 10, "Intelligence." Recall that validity refers to the extent to which an assessment measures what it intends to measure and that reliability ~~involves-is~~ the degree to which an assessment produces a consistent, reproducible measure of performance.
- Performance assessments. Historically, classroom assessment has emphasized the use of objective tests, such as multiple-choice tests, which have relatively clear, unambiguous scoring criteria. By contrast, a trend is to increase the use of performance assessments, which require students to write an essay, conduct an experiment, carry out a project, solve a real-world problem, create a portfolio, or perform some other task (Gronlund, 2002). In performance assessments, students create answers or products that demonstrate their knowledge or skills (Popham, 2002).

## Exceptional Learners

Educational psychologists are instrumental not only in designing programs for children with special needs but also in identifying students who might benefit from such programs. Exceptional learners are students who require additional services to meet their individual needs. Exceptional learners include students with physical and health problems, ~~a-~~learning disabilities, mental retardation, communication problems, and behavioral problems (Hallahan & Kaufman, 2002; Hardman, Drew, & Egan, 2002). Exceptional learners also include students who are gifted and talented.

More than a decade ago it was considered appropriate to educate exceptional learners outside the regular classroom. The trend today is to include all students in the regular classroom as much as possible (Friend & Bursuck, 2002). This ~~used~~ ~~practiceto be called mainstreaming. However, the contemporary term~~ is known as inclusion, ~~which means educating~~

~~exceptional learners in regular classrooms.~~ Some of the education of exceptional learners might take place in a resource room, ~~in addition to the regular classroom. The resource room is a separate~~ instructional classroom ~~where for~~ exceptional learners ~~and they receive special instruction from~~ trained resource professionals, ~~who work with them.~~

## Socioeconomic Status, Ethnicity, and Schools

Educational psychologists are on the “front line” in advocating for educational experiences that are equitable for all students regardless of their socioeconomic or ethnic background (Hollins & Oliver, 1999; Tiedt & Tiedt, 2002). Criticisms have ~~been charged~~ leveled that schools do a much better job of educating children from White, middle-socioeconomic status backgrounds than they do of educating children from ethnic minority, low-income backgrounds. The critics point out that schools have not effectively educated low-income and ethnic minority children to overcome the barriers that block their achievement (Bennett, 2002; Edelman, 1997). Others ~~point to~~ argue that the interplay of family, school, and classroom culture ~~as is~~ an issue (Pintrich & Schunk, 2002).

Children from low-income and ethnic minority backgrounds do have more difficulties in school than their middle-class White counterparts. African American and Latino students are much less likely than White or Asian American students to be enrolled in academic, college preparatory programs, and they are much more likely to be enrolled in remedial and special education programs. And completing high school, or even college, has brought less attractive job opportunities for African American and Latino youth than for White youth.

The social and academic achievement of children from low-income and ethnic minority backgrounds benefits when schools have

- positive, strong expectations for achievement,
- teachers who are sensitive to sociocultural diversity, and
- positive links with the community,

and when parents have

- positive involvement in their children’s education, and
- high expectations for their children’s achievement.

We have ~~now~~ explored a number of the ways ~~that in which~~ psychology can be applied in a wide variety of contexts. I/O psychologists can help match us with the right jobs, and keep us happier and more productive in those jobs. Environmental psychologists can help us live and work in healthier, more pleasing environments. Forensic psychologists can help ~~us~~ protect our rights and learn about the forces acting in the justice system. Educational psychologists can help us get more out of our courses, and make sure everyone gets access to a good education.

## Knock 'Em Dead in an Interview

Business communication expert Martin Yate (2002) offers these recommendations for handling a job interview:

- **Be prepared to give detailed examples of your past experiences.** Employers figure that your past performance is a good predictor of what you will do if they hire you. Make a list of your best past experiences, work- and non-work-related, and be prepared to describe them.
- **Put together a great resume.** If you don't have a resume, make one. Employers use resumes to decide whether they want to interview you in the first place. Make sure the resume is very organized. Write it clearly and don't use jargon.
- **Do your homework before the interview.** Don't just "wing" the interview. Find out as much about the prospective employer as possible. Employers are impressed by applicants who have taken the time to learn about their company.
- **Try to figure out what questions you will be asked and practice answering them.** Some typical interview questions are these:

"What are your greatest strengths?"

"Why should I hire you?"

"What motivates you?"

Also, be prepared for some zingers like these:

"What is your greatest weakness?"

"Tell me something you did that you are not proud of."

- **Put together some questions of your own.** Ask some detailed questions about the nature of the job, the people you will be working with, what the expectations for the job are, and so on.
- **Always stay cool.** No matter how stressful the interview is, be polite and mannerly.

Can you come up with other good job interviewing strategies?

## SUMMARY

This field uses psychological principles to improve the lives of human beings and solve human problems. Areas of applied psychology include industrial/organizational, human factors psychology, environmental psychology, forensic psychology, sport psychology, and educational psychology.

- I/O psychology is the branch of applied psychology that focuses on the organizational workplace—both its workers and the organization that employs them.
  - Industrial psychology involves personnel and human resource management. Among the main interests of industrial psychologists are job analysis, selection of employees, performance appraisal, and training.
  - Organizational psychology examines the social and group influences in an organization. Organizational psychology's areas of study include job satisfaction, motivation, leadership, communication, and changes in the organization. Changes in the organization include more jobs in service-related industries and an increasingly diverse labor force.
- Environmental psychology studies transactions between people and the physical environment. Environmental psychologists explore the physical setting of all other topics discussed in this book, ranging from perception to social relations.
  - Density is the objective measure of how many people are in a unit area. In many cases, high density can harm a person's health, increase aggression, and poison social interaction. Crowding is the psychological experience that others are too close to us. Usually, density and crowding are closely related, but not always. As with noise, perceived control is an important factor in understanding crowding.
  - Two strategies for decreasing environmentally damaging behavior are to increase awareness of cognitive dissonance between professed beliefs and behavior, and to get people to understand that their environmentally damaging behavior is not acceptable to most people.

- Forensic psychology applies psychological concepts to the legal system. Social psychologists and cognitive psychologists conduct research on psychology and the law. Also, forensic psychologists are increasingly being hired by legal teams to provide input about many aspects of a trial.
  - Characteristics of defendants and jurors affect jury decision making. Defendants from low-income, poorly educated, ethnic minority backgrounds, as well as unattractive defendants, are more likely to be convicted. White, older, better-educated, higher-social-status, and politically conservative jurors are more likely to vote for conviction and harsher sentencing. The match between the juror and the defendant plays a role in whether the juror votes for conviction: the greater the similarity, the less likely a vote of conviction.
  - The media play a prominent role in trials. People getting more information from the media are more likely to find a defendant guilty, probably because the media get much of their information from the police and the district attorney.
  - Many jurors form early judgments about the defendant's guilt or innocence, before all of the evidence is presented. The pressures to conform are strong in jury deliberation, and the majority of the jurors usually can bring the minority of jurors to their side.
  - Psychologists increasingly serve as expert witnesses in the courtroom. They testify about the insanity defense, competency to stand trial, civil commitment, psychological damages in civil cases, negligence and product liability, class action suits, guardianship, and child custody.
- Educational psychology's concepts to teaching and learning.
  - Learner-centered psychological principles involve the nature of learning, goals of learning, construction of knowledge, contexts of learning, and motivational and emotional influences.
  - Recent interest in assessment has focused on such areas as making assessment an integral part of teaching, constructing high-quality assessments, and using more performance assessments.
  - Exceptional learners are students who require additional services to meet their educational needs. The trend is toward inclusion, which means educating exceptional learners in the regular classroom.
  - Critics have argued that schools do a better job of educating White, middle-socioeconomic-status students than they do of educating ethnic minority and low-socioeconomic-status students. It is important to have strong positive expectations that these children will have high levels of achievement.

## Web Links

### GENERAL

Social Psychology Network

[www.socialpsychology.org](http://www.socialpsychology.org)

Links to divisions in the APA

<http://www.apa.org/about/division.html>

### INDUSTRIAL/ORGANIZATIONAL

Society for I/O Psychology

[www.siop.org](http://www.siop.org)

### SELECTION TESTS

Psychometric Testing

<http://www.mindtools.com/page12.html>

Psychological and other tests

[www.davideck.com](http://www.davideck.com)

The Big Five Factors of Personality

<http://www.psych-test.com/bigfive.htm>

## **PERFORMANCE APPRAISAL**

Conducting Performance Appraisals

[www.work911.com/performance/art.htm](http://www.work911.com/performance/art.htm)

## **TRAINING**

American Society for Training and Development

[www.astd.org](http://www.astd.org)

## **JOB SATISFACTION**

Employee satisfaction measurement

[www.busreslab.com/tips/tipses.htm](http://www.busreslab.com/tips/tipses.htm)

Job Satisfaction improvement program

<http://st13.yahoo.com/lib/wackenhutstore/bucks.html#q1>

## **LEADERSHIP**

To complain about your boss, or read other people's complaints

[www.donsbosspage.com](http://www.donsbosspage.com)

The Entrepreneur Test

<http://www.liraz.com/webquiz.htm>

## **DISCRIMINATION**

Discrimination against the overweight: National Association to Advance Fat Acceptance

[www.naafa.org](http://www.naafa.org)

Women's Progress and Hurdles

[www.aflcio.org/women](http://www.aflcio.org/women)

National Association for Female Executives

[www.nafe.com](http://www.nafe.com)

Violence against Women Office

<http://www.ojp.usdoj.gov/vawo/>

NAACP On-line

<http://www.naacp.org/>

## **JOB TIPS**

Communication Tips

<http://www.ecglink.com>

Interviewing and other employment tips

<http://www.channel3000.com/employment/>

Why have a Resume?

<http://www.compu-clinic.com/CLINIC/WHYRES.HTM>

## FORENSIC PSYCHOLOGY

The Forensic Science Society

<http://www.demon.co.uk/forensic/fortop.html>

David Willshire's Forensic Psychology and Psychiatry links

<http://members.optushome.com.au/dwillsh/index.html>

## EDUCATIONAL PSYCHOLOGY

School psychology Resources online

[http://mail.bcpl.lib.md.us/~sandyste/school\\_psych.html](http://mail.bcpl.lib.md.us/~sandyste/school_psych.html)

Educational Psychology tutorial page

<http://snycorva.cortland.edu/~andersmd/edpsy.html>

Special Education Glossary of Terms

<http://specialed.miningco.com/>

## GLOSSARY

**applied psychology** The field that uses psychological principles to improve the lives of human beings and solve human problems.

**crowding** The psychological experience that others are too close.

**density** The number of people per unit area.

**educational psychology** The field that applies psychological concepts to teaching and learning.

**environmental psychology** The study of transactions between people and the physical environment.

**exceptional learners** Students who require additional services to meet their individual needs.

**forensic psychology** The area of psychology that applies psychological concepts to the legal system.

**inclusion** Educating exceptional learners in the regular classroom.

**industrial/organization (I/O) psychology** The branch of psychology that focuses on the workplace—both its workers and the organization that employs them—to make work more enjoyable and productive.

**industrial psychology** The subdivision of I/O psychology that involves personnel and human resource management. This includes job analysis, selection and retention of employees, performance appraisal, and training.

**objective tests** Tests that have relatively clear, unambiguous scoring criteria; exemplified by multiple-choice tests.  
**organizational psychology** The subdivision of I/O psychology that examines the social and group influences in an organization.

**performance appraisal** An assessment method that involves a systematic description of an employee's strengths and weaknesses.

**performance assessments** Tests that require students to write an essay, conduct an experiment, carry out a project, solve a real-world problem, create a portfolio, or perform some other task.

**sexual harassment** An abuse of power involving unwelcome sexual advances, requests for sexual favors, and other unwelcome verbal or physical contact of a sexual nature.

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