An Overview of Industrial and Organizational Psychology

Assessing People, Jobs, and Job Performance

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SUMMARY
If you have a full-time or part-time job, you know that workdays blend demands, challenges, difficulties, and rewards—all of which can affect job satisfaction. Understanding the causes and effects of job satisfaction is just one aspect of industrial and organizational (I/O) psychology, the topic of this chapter. We will describe how I/O psychologists conduct their research and how they apply that research to improve the performance and welfare of workers and of the organizations that employ them.

S uppose that you are the manager of a department store. You want to hire someone to head up the cosmetics department, but you are not sure how to choose the best person for the job. Should you rely on interviews with each of the candidates, or should you also give them some psychological tests? Perhaps you decide to do both, but what questions should you ask during the interviews? What kinds of tests should you use? And how should you interpret the results? Further, what happens after you make your hiring decision? Do you have procedures available to train, motivate, supervise, and reward employees so that they perform at their best and are happy in their work?

For answers to questions like these, many human resource managers and other company executives seek the help of industrial and organizational (I/O) psychologists. We briefly mentioned I/O psychology in the chapter on introducing psychology; here we describe it in more detail, including a summary of what I/O psychologists do and some of the ways that their work benefits organizations and employees.

An Overview of Industrial and Organizational Psychology

We have said that psychology is the science of behavior and mental processes. The subfield of industrial and organizational (I/O) psychology is the science of behavior and mental processes in the workplace. Industrial and organizational psychologists conduct scientific research on all sorts of people-oriented workplace topics, such as what personality traits predict good performance under stress and what social factors cause conflict in work groups. I/O psychologists are also hands-on practitioners who help organizations apply research findings to problems such as matching employees to jobs and maximizing cooperation in workplace teams. The link between scientific research and professional practice can be especially strong in I/O psychology because the workplace provides both a natural laboratory for studying psychological questions and a setting in which research-based answers can be applied and evaluated.

Industrial and organizational psychologists address two main goals in their research and practice. The first is promoting effective job performance by employees, which ultimately leads to enhanced performance by the organization as a whole. The second goal is to contribute to human welfare by improving the health, safety, and well-being of employees. This second goal is important in itself but is also related to the first one. In effective organizations, employees are not only capable of performing their jobs well but are also healthy and well adjusted in the workplace.

Industrial and organizational psychology emerged early in the 1900s as psychologists began to apply laboratory-based principles of learning, memory, and motivation to solve practical problems in the workplace. Over the years, research and applications in I/O psychology have continued to be influenced by laboratory research in many
Teaching I/O Psychology

Some graduates pursue careers in I/O psychology after completing a master’s degree, but salaries and opportunities are better for those with a Ph.D. For example, virtually all I/O psychologists who are hired as college or university professors have completed a doctoral degree. Master’s or doctoral training in I/O psychology is available at more than one hundred universities in the United States, ten in Canada, and more than eighty in other countries (Society for Industrial and Organizational Psychology, 2007; for more information on these programs, visit www.siop.org).

Assessing People, Jobs, and Job Performance

If you apply for a job with a large corporation or government agency, you will probably be asked to take one or more standardized tests of personality or mental ability and to participate in other assessments whose results will help determine whether you will fit well into the organization and have the “right stuff” for the job you seek. Organizations commonly turn to I/O psychologists to design or conduct these assessment programs, so one of the main areas of scientific research in I/O psychology is the development and evaluation of new and better assessment devices.

Knowledge, Skills, Abilities, and Other Characteristics

Industrial and organizational assessments are often used to identify the human attributes necessary for doing jobs successfully. Those attributes are referred to collectively as KSAOs, which stands for knowledge, skill, ability, and other personal characteristics. Knowledge refers to what the person already knows. Skill refers to how well a person does a particular task. Ability is defined as the person’s relatively enduring capacities in areas such as thinking, physical coordination, and the like. Skills and abilities are closely related; some researchers consider skills to be the products of inherent abilities (Muchinsky,
Other personal characteristics can be almost anything else about a person, including attitudes, personality traits, physical characteristics, preferences, and values.

**Job Analysis**

How do organizations know which KSAOs are important for which jobs? The answer lies in job analysis, in which I/O psychologists collect information about particular jobs and job requirements. This job analysis information is then used to guide decisions about whom to hire and what kind of training is needed to succeed at a particular job (Brannick & Levine, 2002; Krause & Thornton, 2009).

There are three major approaches to job analysis. The **job-oriented approach** focuses on the tasks involved in doing a job, such as wiring circuit boards, creating a computer database, or driving a truck. The **person-oriented approach** focuses on the KSAOs needed to do those job tasks (see Table 19.1). The **personality-oriented approach** focuses on the specific personality characteristics associated with success in a job. Most job analyses take either the job-oriented or person-oriented approach, but the personality-oriented approach is often used by organizations in which high-quality customer service is of great importance (Aguinis, Mazurkiewicz, & Heggestad, 2009).

A job analysis report can be a relatively superficial description, a microscopically detailed examination, or anything in between. The approach taken and the level of detail included in a job analysis depend mainly on how the report will be used. When the analysis will guide the hiring of employees, it should contain enough detail to make it clear what a particular job requires and to show—in a court of law, if necessary—how the selection process is related to the requirements established by the job analysis. The person-oriented approach is the most useful one for this purpose because it describes the KSAOs that the employer should be looking for in the new employee.

Job analysis can also help organizations recognize the need to train employees, and it can even outline the kind of training required. Suppose that you have five job openings, but when you test candidates for hiring or promotion, too few of them possess the KSAOs that a job analysis says are necessary for success in these positions. Obviously, some training will be needed, and because the job analysis lists specific KSAOs, you can use that analysis to determine exactly what the training should include. Suppose that a job analysis reveals that people in a computer sales position must be familiar with the Linux operating system. As a result, you would provide Linux training for all individuals hired for that position unless they already knew that operating system.

The most common method of job analysis is to ask current employees (known as **job incumbents**) to fill out questionnaires about what they do in the workplace. However, a somewhat more reliable picture may emerge when specially trained job analysts observe people as they do their jobs or even perform those jobs themselves (Dierdorff & Wilson, 2003). If the goals of job analysis include comparing one job to another, I/O psychologists might use an instrument such as the Position Analysis Questionnaire, or PAQ (McCormick, Jeanneret, & Mecham, 1972). The 189 items on the PAQ can describe almost any job in terms of a particular set of characteristics, or dimensions, such as the degree to which a job involves communicating with people, lifting heavy objects, or doing mental arithmetic. The results of thousands of job analyses have been collected and used to construct normative tables, which are published in job analysis manuals for various industries.

### TABLE 19.1 Knowledge, Skill, Ability, and Other Characteristics (KSAOs)

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Knowledge</th>
<th>Skill</th>
<th>Ability</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secretary</td>
<td>Knowledge of office procedures</td>
<td>Skill in using a word-processing program</td>
<td>Ability to communicate with others</td>
<td>Willingness to follow instructions</td>
</tr>
<tr>
<td>Plumber</td>
<td>Knowledge of county building codes</td>
<td>Skill in using a wrench</td>
<td>Good hand-eye coordination</td>
<td>Willingness to work in dirty environments</td>
</tr>
</tbody>
</table>
LINKAGES  What methods are used to select good employees? (a link to Personality, p. 588)

Measuring Employee Characteristics

I/O psychologists use a wide variety of instruments to measure a person’s knowledge, skill, ability, and other characteristics. These instruments range from simple paper-and-pencil tests—perhaps an arithmetic test for a sales clerk—to several days of hands-on activities that simulate the tasks required of a midlevel manager. Some assessments are used to select new employees, others are designed to choose employees for promotion, and still others are meant to determine how well employees are doing their jobs at the moment. The three main methods to measure employee characteristics are psychological tests, job applicant interviews, and assessment center exercises.

Psychological Tests  A psychological test is a systematic procedure for observing behavior in a standard situation and describing it on a number scale or a system of categories (Anastasi & Urbina, 1997). Some tests present a standardized series of problems or questions, each of which has one correct answer, much like the multiple-choice exams used in some college classrooms. Others are more like essay exams in which the respondent is asked to, say, describe an ideal sales organization. These essay-type exams are not scored by a computer but by experts who use job analysis information and their own job experience to judge the correctness or quality of the responses. Still other tests require the respondent to demonstrate skill by performing a task such as typing a letter, debugging a computer program, repairing a car, or giving a sales talk.

The tests I/O psychologists most often use to measure general mental ability and skill are the standard intelligence tests described in the cognitive abilities chapter. These tests are relatively inexpensive and easy to administer, and they do a reasonably good job of predicting how well people will do on a wide variety of occupational tasks (Bertau, Anderson, & Salgado, 2005; Jansen & Vinkenburg, 2006; Rooy et al., 2006). In addition, job applicants might be asked to participate in situational judgment tests (SJTs) in which they read about or view videos of various workplace situations, such as a conflict between coworkers. The applicants are then asked to rate which of several responses to that situation would be best or to describe what they would do if confronted with that same situation (Sackett & Lievens, 2008). The information provided by SJTs supplements cognitive and personality tests and provides an additional perspective from which to predict an applicant’s eventual job performance (Lievens, Peeters, & Schollaert, 2008; Salter & Highhouse, 2009).

Tests of job-relevant knowledge—such as basic accounting principles or stock-trading rules and regulations—may also be used to confirm that an individual has the information necessary to succeed at a particular job. Finally, personality tests are used to assess a wide variety of other employee characteristics. As described in the personality chapter, some of these tests provide information about personality dimensions that may be relevant to hiring decisions. For example, a person’s score on conscientiousness (i.e., reliability and industriousness) has been linked to job performance in many occupations (Dudley et al., 2006; Meyer, Dalal, & Bonaccio, 2009; Thoresen et al., 2003). Personality-related integrity tests are sometimes used to identify people who have tendencies that might lead them to steal or engage in dangerous or disruptive acts (Berry, Sackett, & Wiemann, 2007; Casillas et al., 2009; Ones & Viswesvaran, 2001). These are usually paper-and-pencil tests that ask respondents about their thoughts or temptations regarding theft, their perceptions of norms regarding dishonesty, their own social conformity, and their history of associating with delinquents (Wanek, Sackett, & Ones, 2003).

TRY THIS  For anyone who is in the process of choosing a career. You might want to visit the site online.onetcenter.org, O*NET is an excellent source of information about occupations in each and how each job fits into its organizational context. Accessible online at online.onetcenter.org, O*NET is an excellent source of information about occupations for anyone who is in the process of choosing a career. You might want to visit the site yourself; you may find descriptions of jobs you have never before considered pursuing.

A Matter of Degree

When hiring employees for some jobs, organizations often rely on credentials rather than knowledge tests. For example, an undergraduate degree in any major may be enough to qualify for some white-collar jobs because it is assumed that college graduates have enough general knowledge and “mental horsepower” to succeed. For jobs in medicine, law, accounting, engineering, and other specialty fields, candidates’ knowledge is assumed if they have completed a particular degree program or earned a particular license. These assumptions are usually correct, but credentials alone do not always guarantee competence.
Job Applicant Interviews are designed to determine an applicant's suitability for a job. Interviews usually take place in person, though some are conducted by telephone, videoconferencing, or even e-mail. As mentioned in the personality chapter, interviews can be structured or unstructured (open-ended). In a structured interview, the interviewer has prepared a list of specific topics or even specifically worded questions to be covered in a particular order (Chapman & Zweig, 2005). In unstructured interviews, the course of the conversation is more spontaneous and variable. Following some interviews, especially structured interviews, the candidate's responses will be rated on a set of dimensions such as product knowledge, clarity of expression, and poise. After other interviews, the interviewer's subjective impression of the candidate is used to make a yes-or-no judgment about the candidate's suitability for the job.

Research consistently shows that structured interviews are far more effective than unstructured interviews in leading to good hiring decisions (e.g., Huffcutt & Arthur, 1994). The difference is due largely to the fact that structured interviews focus specifically on job-related knowledge and skills, especially interpersonal skills, whereas unstructured interviews do not (Huffcutt et al., 2001). Further, lack of structure makes it easier for personal bias to enter the hiring picture. Ratings from an unstructured interview might have more to do with the interviewer's personal bias about the candidates' appearance and presentation style than with the candidates' objective qualifications (Barrick, Shaffer, & DeGrassi, 2009). There is some evidence that job candidates tend to prefer interview-based assessments over test-based assessments. This preference is of interest, especially when competing for top candidates, because those who have positive views of the selection process are more likely to like the organization and to accept a job offer (Hausknecht, Day, & Thomas, 2004).

Assessment Centers are an extensive set of exercises designed to determine an individual's suitability for a particular job. Assessment centers are often used to hire or promote managers, but they can be employed in relation to other positions as well. A typical assessment center consists of two to three days of exercises that simulate various aspects of a job and that are rated by a team of judges, usually psychologists or specially trained managers (e.g., Gibbons & Rupp, 2009; Spychselinski et al., 1997). Because assessment centers allow live observation of applicants' reactions in a variety of realistic work situations, they provide information about specific aspects of behavior that might not emerge from a test or an interview (Gibbons & Rupp, 2009).

The in-basket is a typical assessment center exercise for managers. Candidates are seated at a desk and asked to imagine that they have just taken over a new management job. On the desk is the previous manager's overflowing in-basket, containing correspondence, memos, phone messages, and other items. The candidate's task is to go through all this material and write on the back of each item what action should be taken to deal with it and when. Later, experts read what the candidate has written and assign an appropriateness score to each action. For example, candidates who prioritize tasks well—taking immediate action on critical matters and delaying action on less important ones—would receive higher scores than those who, say, deal with each task in the order in which it is encountered regardless of its importance.
Other assessment center exercises tap interpersonal skills. The job candidate might be asked to play the role of a manager who is working with others to solve a problem or who must discipline a problem employee. As in the in-basket task, each candidate is given a score by each judge on the knowledge, skills, abilities, and other job-related characteristics displayed during each exercise. Later, the evaluation team meets to arrive at a group evaluation, using total scores from all assessment center exercises to classify individuals in terms of their suitability for a particular position.

There is considerable evidence to support the value of assessment centers (Arthur et al., 2003; Jansen & Vinkenburg, 2006; Meriac et al., 2008). For example, the assessment center scores earned by first-year college students predicted their performance as teachers several years after graduation (Shechtman, 1992). Assessment centers have also successfully predicted the performance of police officers, pilots, and managers, among others (Dayan, Kasten, & Fox, 2002; Liews et al., 2003; McEvoy & Berat, 1989). Assessment centers can be expensive and time-consuming, though, and their results sometimes add little beyond what can be determined from an applicant’s performance on interviews and cognitive tests. With these factors in mind some researchers suggest using assessment centers only as a second step in the selection process and only for applicants whose interview and test scores are neither high enough nor low enough to guide a final hiring decision (Dayan, Fox, & Kasten, 2008).

**Measuring Job Performance**

Almost all employees of medium to large organizations receive an annual **job performance appraisal**, which, much like a student’s report card, provides an evaluation of how well they are doing in various aspects of their work. Organizations use job performance appraisals to guide decisions about employee salary raises and bonuses and about retention, promotion, and firing. The appraisals are also used to give employees feedback on the quality and quantity of their work (Rynes, Gerhart, & Parks, 2005). The feedback function of job performance appraisals is important because it helps employees recognize what they are doing right and what they need to do differently to reach their own goals and to promote the goals of the organization.

**Establishing Performance Criteria**

One of the most important roles for I/O psychologists in designing job performance appraisal systems is to establish **criteria**, or benchmarks, that define what the organization means by “good” or “poor” performance (see Table 19.2). These criteria can be theoretical or actual. A **theoretical criterion** is a statement of what we mean by good or poor performance in theory. A theoretical criterion for good teaching, for example, might be “promotes student learning.” This criterion certainly sounds reasonable, but notice that it does not specify how we would measure it in order to decide if a particular teacher is actually promoting student learning. So we also need an **actual criterion**, which specifies what we should measure to determine if the theoretical criterion has been met. An actual criterion for good teaching might be defined in terms of students’ performance on a standardized test of what their teacher has taught them. If, on average, the students reach or exceed some particular score, the teacher will have satisfied one of the school district’s criteria for good teaching.

Keep in mind, though, that the match between theoretical criteria and actual criteria is never perfect. The actual criterion chosen should provide a sensible way to assess the theoretical criterion, but the actual criterion may be flawed. For one thing, actual criteria are usually incomplete. There is probably more to good teaching, for example, than just ensuring that students attain a particular score on a particular test. The teacher may have done a great (or poor) job at teaching material that did not happen to be covered on that test. Second, factors other than the employee’s performance can affect the actual criterion. Perhaps students’ scores on a standardized test were affected partly by the work of a good (or poor) teacher they encountered before
Assessing People, Jobs, and Job Performance

their current teacher was hired. I/O psychologists are sensitive to these problems, and they usually recommend that job performance appraisals be based on several actual criteria, not just one.

### Methods of Performance Appraisal

The information used in job performance appraisals can come from objective measures and subjective measures.

**Objective Measures**

Objective measures of job performance include counting the frequency of particular behaviors or the results of those behaviors. The number of calls made by a telemarketer, the number of computers shipped out by a factory worker, and the total value of items sold per month by a shoe store employee are just three examples of objective measures of job performance. Other objective measures might include records about the number of days employees are absent from work, how often they are late for work, or the number of complaints that have been filed against them (Roth, Huffcutt, & Bobko, 2003). Objective appraisal measures are especially valuable because they provide a close link between theoretical and actual performance criteria. If the theoretical criterion for good performance as a salesperson is to sell a company's products, the most closely linked actual criterion would be an objective count of the number of those products sold per month.

Objective methods of job performance are not right for all jobs, however, because some performance criteria cannot be evaluated by counting things. For example, it would make no sense to evaluate a teacher's job performance by counting the number of students taught per year. Teachers usually have no control over their class size, and in any case, an enrollment count tells us nothing about what the students learned. In other words, except for the simplest jobs, objective measures may fail to assess all the aspects of performance that are of interest to an organization. A salesperson may have sold twenty cars last month, but it would also be important to know how this was accomplished. If the person used high-pressure tactics that harmed the organization's reputation, the sales count tells only part of the story of this employee's performance. Similarly, this month's top salesperson may have done well only after inheriting a territory full of loyal customers who buy the company's products no matter what.

**Subjective Measures**

No wonder, then, that I/O psychologists sometimes recommend that objective performance measures be supplemented, or sometimes even replaced, by subjective measures (Rynes, Gerhart, & Parks, 2005). Subjective measures of job performance take the form of a supervisor's judgments about various aspects of an employee's work, including overall level of performance, consistency of performance from day to day, and longer-term positive or negative performance trends (Reb & Greguras, 2010). Typically, the supervisor records these judgments on a graphic rating form or a behavior-focused rating form.
Graphic rating forms list several criterion-related dimensions of job performance and provide a space for the supervisor to rate each employee’s performance on each dimension, using a scale ranging from, say, 1 to 10 or from poor to outstanding (see Figure 19.1). These graphic ratings can be valuable, but they do reflect the supervisor’s subjective judgment. And as in unstructured interviews, factors other than the employee’s performance can influence the results (Wong & Kwong, 2005). For example, most graphic ratings are affected by leniency error, meaning that supervisors tend to use only the top of the scale. As a result, almost all employees in most organizations receive ratings that are “satisfactory” or better. Many supervisors also show errors based on the halo effect, meaning that they tend to give the same rating on every dimension of job performance. So if Tasha receives an “outstanding” rating on one dimension, she will probably be rated at or near “outstanding” on all the others. Similarly, if Jack is rated as only “satisfactory” on one scale, he will probably get “satisfactory” ratings on the rest of them.

To some extent, these “errors” reflect reality. After all, most people try to do their jobs well, and they may do about equally well (or equally poorly) in various aspects of their work (Balzer & Sulsky, 1992; Solomonson & Lance, 1997). However, when using graphic rating forms, supervisors may not carefully discriminate aspects of job performance that are satisfactory from those that need improvement. Further, many tend to go easy on their employees, especially if they like the employees (Ferris et al., 1994) or if other factors such as political correctness are operating in the situation (Tziner, Murphy, & Cleveland, 2005). This kind of bias can result in favoritism in which supervisors intentionally inflate ratings beyond what an employee’s performance deserves (Fried & Tiegs, 1995; Rynes, Gerhart, & Parks, 2005). Supervisors who are biased against certain employees on ethnic or other grounds may give those employees undeservedly low ratings (Heilman & Haynes, 2008; Stauff er & Buckley, 2005). The operation of such biases can lead to employee dissatisfaction with the entire performance appraisal process (Ferris & Treadway, 2008).

To help minimize the errors and bias associated with graphic rating forms, I/O psychologists developed behavior-focused rating forms, which ask supervisors to rate employees on specific behaviors rather than general dimensions of performance (Smith & Kendall, 1963). These forms contain lists of critical incidents that illustrate different levels of performance—from extremely effective to extremely ineffective—on important job dimensions (Flanagan, 1954). A critical incident list relating to customer relations, for example, might include “listens patiently,” “tries to reach a compromise,” “coldly states store policy,” and “angrily demands that complaining customers leave.”
Once these behavior-focused forms are constructed, supervisors choose which incidents are most typical of each employee.

Behavior-based rating forms help supervisors and their employees come to a better understanding of what constitutes good and poor performance. Somewhat surprisingly, however, these forms do not appear to eliminate supervisor bias and error (Bernardin & Beatty, 1984; Latham et al., 1993). Accordingly, some employers assess employees’ job performance on the basis of ratings by peers and subordinates as well as supervisors. These “360-degree” ratings are designed to provide a broader and potentially less biased picture of an employee’s performance (Oh & Berry, 2009). (“In Review: Assessing People, Jobs, and Job Performance” summarizes our discussion of these topics.)

**IN REVIEW**

**Assessing People, Jobs, and Job Performance**

<table>
<thead>
<tr>
<th>Target of Assessment</th>
<th>Typical Purpose</th>
<th>What Is Assessed</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees</td>
<td>Employee selection</td>
<td>Knowledge, skill, ability, and other personal characteristics (KSAOs)</td>
<td>Tests of ability, achievement, or personality; structured or unstructured interviews; assessment centers requiring simulated job tasks</td>
</tr>
<tr>
<td>Jobs</td>
<td>Matching employees to jobs; identifying training needs</td>
<td>Job tasks and personal attributes needed for the job</td>
<td>Job-oriented analysis (identifies required tasks); person-oriented analysis (identifies KSAOs required for success); personality-oriented analysis (focuses on specific personality characteristics associated with success)</td>
</tr>
<tr>
<td>Job performance</td>
<td>Feedback on performance; decisions about retention, salary adjustments, or promotion</td>
<td>Work activities or products; supervisors reports</td>
<td>Evaluating employees’ work in relation to theoretical and actual criteria as measured by objective (counting) or subjective (rating) methods</td>
</tr>
</tbody>
</table>

1. Lists of critical incidents are contained in ____________-focused employee rating forms.
2. An employer might use a two-day ____________ to measure your skill at the job you want.
3. In general, ____________ interviews are more useful in employee selection than ____________ interviews.

**Recruiting and Selecting Employees**

We have described a number of assessment methods developed by I/O psychologists to help organizations hire, train, and evaluate employees. Let’s now consider the role of I/O psychology in finding candidates for employment and in selecting the right people for each job.

**Recruitment Processes**

It is generally agreed that people are an organization’s most valuable assets, because it is people who are ultimately responsible for success in achieving an organization’s goals. Accordingly, there is often intense competition among organizations to recruit the “best and brightest” employees. It is a disciplined competition, however. There is no point in hiring this year’s top ten accounting graduates if your organization only needs two new accountants. So the first step in effective recruiting is to determine what employees are needed and then to go after applicants to meet those needs.
Determining employment needs means more than just counting empty chairs. Analyses by I/O psychologists help organizations determine how many people in each position are needed at the moment and how many will be needed in the future. Suppose that a computer company anticipates a 20 percent growth in business over the next five years. That growth will require a 20 percent increase in the number of customer service representatives, but how many new representatives should be hired each month? An I/O psychologist’s analysis would help answer this question. The analysis would take into account the growth projections as well as estimates of how many representatives quit each year and whether the existing ratio of customer service employees to customers is too high, too low, or about right for efficient operation. In making recommendations about recruitment plans, I/O psychologists must also consider the intensity of demand for employees in various occupations. More active recruitment plans will be necessary to attract the best people in high-demand areas (see Table 19.3).

Once employment needs are established and the competitive landscape has been explored, the next step in recruitment is to persuade people with the right kinds of knowledge, skill, ability, and other characteristics to apply for the jobs to be filled. The six most common methods for identifying and attracting candidates are (1) newspaper advertising; (2) posting jobs on hotjobs.com, Monster.com, or other recruitment

### TABLE 19.3 Fast-Growing Occupations

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Projected Employment Change, 2006–2016 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network systems and data communications analysts</td>
<td>53.4</td>
</tr>
<tr>
<td>Personal and home care aides</td>
<td>50.6</td>
</tr>
<tr>
<td>Home health aides</td>
<td>48.7</td>
</tr>
<tr>
<td>Computer software engineers, applications developers</td>
<td>44.6</td>
</tr>
<tr>
<td>Veterinary technologists and technicians</td>
<td>41.0</td>
</tr>
<tr>
<td>Personal financial advisers</td>
<td>41.0</td>
</tr>
<tr>
<td>Makeup artists, theatrical and performance artists</td>
<td>39.8</td>
</tr>
<tr>
<td>Medical assistants</td>
<td>35.4</td>
</tr>
<tr>
<td>Veterinarians</td>
<td>35.0</td>
</tr>
<tr>
<td>Substance abuse and behavioral disorder counselors</td>
<td>34.3</td>
</tr>
<tr>
<td>Skin care specialists</td>
<td>34.3</td>
</tr>
<tr>
<td>Financial analysts</td>
<td>33.8</td>
</tr>
<tr>
<td>Social and human service assistants</td>
<td>33.6</td>
</tr>
<tr>
<td>Gaming surveillance officers and gaming investigators</td>
<td>33.6</td>
</tr>
<tr>
<td>Physical therapist assistants</td>
<td>32.4</td>
</tr>
<tr>
<td>Pharmacy technicians</td>
<td>32.0</td>
</tr>
<tr>
<td>Forensic science technicians</td>
<td>30.7</td>
</tr>
<tr>
<td>Dental hygienists</td>
<td>30.1</td>
</tr>
<tr>
<td>Mental health counselors</td>
<td>30.0</td>
</tr>
<tr>
<td>Mental health and substance abuse social workers</td>
<td>29.9</td>
</tr>
</tbody>
</table>
Recruiting and Selecting Employees

Web sites; (3) interviewing graduating seniors on college campuses; (4) collecting information from current employees about potential candidates; (5) working with employment agencies, recruiting consultants, and private “headhunting” firms; and (6) accepting walk-in applications from job seekers who appear on their own. The recruitment methods used for any particular job will depend on how easy or difficult it is to attract high-quality applicants and on the importance of the position in the organization. For relatively low-level positions requiring few skills, it may be possible to rely on walk-in applicants to fill available positions. Much more effort and a variety of recruitment methods may be required to attract top-notch candidates for higher-level jobs that demand extensive experience and skill.

Selection Processes

Selecting the right employee for a particular job is generally a matter of using tests, interviews, and assessment centers to find the best fit between each candidate's characteristics and the tasks and characteristics that a job analysis identified as necessary for successful performance. This matching strategy would suggest that a candidate who is better at written communication than at computer skills would do better in, say, the marketing department than at the computer help desk.

Is this strategy the best way to select employees? Usually it is, but I/O psychologists help ensure that the characteristics identified as predicting success at particular jobs are in fact associated with success. To do this, they conduct validation studies, which are research projects designed to determine how well a particular test, interview, or other assessment method predicts an employee's job performance (Chan, 2005). For example, on the basis of a job analysis conducted many years ago, a department store might require applicants for sales clerk positions to pass a test of mental arithmetic. A validation study could determine whether scores on that test are actually related to sales clerks’ performance. The easiest way to conduct this study would be to ask a representative sample of the store’s current sales clerks to take the arithmetic test. A correlation coefficient would then be computed that describes the relationship between their test scores and some objective or subjective performance criterion, such as monthly sales figures or a supervisor’s ratings. If those who score highest on the mental arithmetic test also do best at their jobs, the test can be considered valid for predicting job performance. If not, it may be that for clerks using today’s computerized sales terminals, mental arithmetic is no longer as important to job success as it was in the past.

A large body of results from I/O psychology research is available to tell organizations which types of tests and other assessments are valid in predicting performance in which types of jobs. This database saves organizations a great deal of time and money because it eliminates the need to conduct their own validation studies for each assessment device they use in selecting employees for every job they want to fill.

Legal Issues in Recruitment and Selection

The United States and many other industrialized countries have established the principle that hiring, firing, and promotion processes should not discriminate against anyone on the basis of characteristics that have nothing to do with job performance. This principle has been translated into laws designed to protect all employees and job candidates against unfair discrimination. U.S. laws have also identified and created special safeguards for several protected classes—including women, Asians, blacks, Hispanics, American Indians, and other groups whose members have been discriminated against in the past. Together, these laws make it illegal for employers in the United States to discriminate in hiring or promotion on the basis of a candidate’s age, ethnicity, gender, national origin, disability, or religion. In some states and in some other countries, discrimination on the basis of sexual orientation is also prohibited.
Ensuring Equal Opportunity

Affirmative action (AA) is an important element of the U.S. government’s Uniform Guidelines on Employee Selection Procedures. A major goal of AA was to encourage organizations to actively seek job applicants from underrepresented minority groups and in the process ensure that qualified minority candidates are not overlooked. Critics claim, though, that AA establishes quota systems in which certain percentages of people from particular groups must be hired or promoted, even if they are not all well qualified. AA has thus become an increasingly controversial aspect of employment law.

In 1978, I/O psychologists helped the U.S. government create its Uniform Guidelines on Employee Selection Procedures, a document that outlines the steps organizations must take to ensure fairness in hiring and promotion. (You can review this document at www.uniformguidelines.com/uniformguidelines.html.)

The most important element of these guidelines is the requirement that personnel decisions be based solely on job-related criteria. This means that in choosing new employees, for example, organizations should hire those whose knowledge, skill, ability, and other characteristics match the KSAOs requirements previously established by the job analysis process described earlier. The guidelines also state that organizations should use only test scores and other assessment data that validation studies have established as good predictors of job performance.

Training Employees

Every year, organizations in the industrialized world spend billions on training their employees (Thompson et al., 2002); the figure is more than $126 billion each year in the United States alone (Paradise, 2007). I/O psychologists are often directly involved in identifying the need for training, in designing training methods and content, and in evaluating the outcome of training efforts. Some I/O psychologists actually conduct training programs, but in most cases, these programs are delivered by professional trainers.

Assessing Training Needs

To help organizations identify which employees need what kind of training, I/O psychologists typically carry out a training needs assessment that takes into account the organization’s job categories, workforce, and goals (Goldstein, 1993). One aspect of this assessment is to look at job analysis reports. As mentioned earlier, the need for training is indicated when job analyses reveal that certain jobs require KSAOs that employees do not have or that could be strengthened. A second aspect of a training needs assessment is to give employees a chance to describe the training they would
like to have. This information often emerges from *personal development plans* that employees and their supervisors create. These plans usually include an evaluation of the person's strengths and weaknesses. The weaknesses suggest where training might be useful, especially for employees who are motivated to improve their skills (Klein, Noe, & Wang, 2006). For example, if the supervisor notes that an individual is awkward when making presentations, a course in public speaking might be worthwhile. Finally, the I/O psychologist will look at the goals of the organization. If those goals include reducing workplace accidents or improving communication with international customers, training in safety procedures or foreign language skills would be in order.

### Designing Training Programs

In designing training programs for use by organizations, I/O psychologists are always mindful of the basic principles that govern the learning and remembering of new information and skills. These principles, which are described in the learning and memory chapters, guide efforts to promote *transfer of training*, *feedback*, *training in general principles*, *overlearning*, and *sequencing*.

#### Transfer of Training

The most valuable training programs are those that teach knowledge and skills that will generalize, or transfer, to the workplace. If employees don’t see how to apply what they have learned so as to improve their job performance, the training effort will have been wasted. Because promoting *transfer of training* is not always easy, I/O psychologists develop written materials and active-learning exercises that not only clarify the link between training and application but also give employees a chance to apply new knowledge and skills in simulated work situations. So trainees might first complete reading assignments, attend lectures, and watch videos illustrating effective approaches to dealing with customer complaints or defusing an office conflict. Then they might form groups to role-play using these approaches in a variety of typical workplace scenarios. These experiences enhance transfer of training, especially when the trainees’ newly learned skills are supported and rewarded by their coworkers and supervisors (Kontoghiorghes, 2004).

#### Feedback

People learn new skills quicker when they receive *feedback* on their performance (Smither, London, & Reilly, 2005). In organizational training, this feedback usually comes from the trainer or other trainees. It takes the form of positive reinforcement following progress, constructive suggestions following errors or failure, and constant encouragement to continue the effort to learn. For example, after one trainee has participated in a videotaped role-play of a new way to deal with an angry customer or a disgruntled employee, the trainer might play the video for the entire trainee group so that everyone can offer comments, compliments, and suggestions for improvement.

#### Training in General Principles

People tend to learn better and remember more of what they learn when they can put new information into a broader context—in other words, when they get some insight into how the information or skill they are learning fits into a bigger picture (Linou & Kontogiannis, 2004). The Linkages sections in this book are designed specifically to promote this kind of learning. In organizational settings, the “big picture” approach takes the form of *training in general principles*, which teaches not only how to do things in particular ways but also why it is important to do so. When training new customer service agents at a hotel, a bank, or an airline, for example, trainers often include an orientation to the basic characteristics of these businesses, including how competitive they are. Understanding their company’s need to survive intense competition will help employees recognize the importance of courtesy training in determining whether a customer remains a customer or goes elsewhere.
Overlearning  Practice makes perfect in all kinds of teaching and training, so I/O psychologists emphasize the need for employees to practice using the information and skills learned in a training program until they reach a high level of performance. In fact, many training programs encourage employees to continue practicing until they are not only highly competent but are also able to perform the skill or use the information automatically without having to think much about it. This overlearning is seen in many everyday situations, most notably among experienced drivers, who can easily get from one place to another without paying much attention to the mechanics of steering, braking, and turning. Athletes and musicians, too, practice until their skills seem to unfold on their own. In the workplace, overlearning can save time and improve efficiency. For example, members of an experienced medical team can perform surgery using skills and information that, through overlearning, have become second nature to them. They do not have to stop to think about how critical tasks must be done; they simply do them.

Sequencing  Is it better to cram organizational training into one or two long, intense sessions over a single weekend or to schedule it in several shorter sessions over a longer period? Obviously, an intense, massed training approach is less expensive and less disruptive to employees’ work schedules than distributed training. However, I/O psychologists know that, as described in the learning chapter, people do not retain as much after massed training as they do after distributed training (Rohrer & Pashier, 2007). Among other problems, massed training can lead to boredom, inattention, and fatigue, all of which interfere with the learning and retention of new material. As most students can appreciate, an employee may remain motivated and interested during a one-hour training session but will probably be exhausted and inattentive by the end of an eight-hour training marathon. With this in mind, organizational training programs are often set up on a distributed schedule whenever possible.

Evaluating Training Programs  Did a training program produce enough benefits to the organization to make it worth the time and money it cost? Should it be repeated? If so, should it be refined in some way? I/O psychologists are prepared to conduct research on these important evaluation questions. As described in the chapter on research in psychology, controlled experiments offer a way to draw reasonably strong cause-and-effect conclusions about the impact of a training program. A representative sample of employees who need training would be selected and then randomly assigned either to receive training or to spend an equivalent amount of time away from their jobs pursuing some alternative activity. The value of the training program could then be measured in terms of the size of the difference in job performance between the trained (experimental) group and the untrained (control) group. However, organizations rarely request experimental research on their training programs. Most of them merely hope that what seemed to be valuable training did, in fact, deliver information and build skills that will be retained by employees and will improve their job performance. Accordingly, evaluation tends to focus on nonexperimental designs using criteria such as employees’ reactions to training, what they remember about it, and the changes in behavior that follow it.

Evaluation Criteria  The first kind of evaluation criteria, called training-level criteria, includes data collected immediately after a training session. Trainees are typically asked to fill out questionnaires about how much they liked the training and how valuable they felt it was. Training sessions that receive low ratings on enjoyment, value, and effectiveness are not likely to be repeated in the same format, especially if the sessions are also low on other criteria.

A second class of criteria, called trainee learning criteria, includes information about what trainees actually learned from the training program. These criteria are usually measured by a test, similar to a college final exam, that is designed to
determine each trainee’s knowledge and skills in the areas covered by the training. In some cases, alternative forms of this test are given to the trainees both before and after training to assess how much improvement has taken place.

Finally, performance-level criteria measure the degree to which the knowledge and skills learned in training transferred to the employee’s workplace behavior. If employees now know how to do a better job on the assembly line or at the hotel’s front desk but do not apply this knowledge to improve their performance, the training program has not been successful. So organizations often evaluate training on the basis of criteria such as number or quality of products produced or frequency of customer complaints. Significant improvements following training may be a result of that training, but because so few organizations conduct controlled experimental evaluations of training, drawing this conclusion is usually risky. The improvement may have had less to do with the training than with some uncontrolled factor, such as a downturn in the economy that motivated employees to work harder in an effort to keep their jobs.

I/O psychologists recommend evaluating training programs on as many criteria as possible because the apparent value of training can depend on which criteria you consider (Sitzmann et al., 2008). A program that looks great on one criterion might be dismal on another. In particular, many programs that get high employee ratings on enjoyment, value, and other training-level criteria fail to show effectiveness in terms of increased productivity, efficiency, or other performance-level criteria (Alvarez, Salas, & Garofano, 2004; May & Kahnweiler, 2000). For example, one training program that was designed to improve employees’ interviewing skills received high ratings from the trainees, who showed improved interviewing during training. Unfortunately, these skills did not transfer to real interview situations (Campion & Campion, 1987). (“In Review: Recruiting, Selecting, and Training Employees” summarizes our discussion of these topics.)

### IN REVIEW

<table>
<thead>
<tr>
<th>Process</th>
<th>Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruitment</td>
<td>Perform hiring needs assessment; place ads in newspapers and on Web sites; contact employment agencies; conduct campus interviews; solicit nominations from current employees; accept walk-in applications</td>
</tr>
<tr>
<td>Selection</td>
<td>Measure candidates’ knowledge, skill, ability, and other personal characteristics using interviews, tests, and assessment centers; conduct validation studies to ensure that these KSAO criteria predict job success</td>
</tr>
<tr>
<td>Training</td>
<td>Conduct training needs assessment; design training to promote transfer of training, feedback, understanding of general principles, overlearning, and distributed practice sequencing; evaluate training in terms of employee ratings of the experience and improvement in employee performance</td>
</tr>
</tbody>
</table>

1. Employees tend to remember more from a training program when it is set up on a ____________ schedule.
2. Depending on walk-in applications is usually acceptable when hiring ____________ level employees.
3. Ensuring that your hiring criteria actually predict employees’ job performance requires a ____________ process.

### Employee Motivation

In the chapter on motivation and emotion, we define motivation as the reason people behave as they do. It includes biological, emotional, cognitive, and social factors that influence the direction, intensity, and persistence of behavior (Reeve, 1996; Spector, 2003). These factors are as important in the workplace as they are anywhere else. We can see motivation affecting the direction of work-related behavior in people’s decisions about whether to work and what kind of job to seek. The effect of motivation
on the intensity of work can be seen in how often an employee misses work, shows up late, works overtime, or goes beyond the call of duty. Motivation is also reflected in a worker’s persistence at a task. Some employees give up as soon as difficulties arise, perhaps not bothering to pursue information if it is hard to find. Others keep trying, using every strategy possible until their efforts are successful.

Let’s consider three theories that I/O psychologists have used to increase our understanding of employee motivation. One theory focuses on general factors that can affect behavior in the workplace and all other areas of life, too. The others highlight factors that are more specifically associated with motivation in the workplace.

**ERG Theory**

In the chapter on motivation and emotion, we describe Abraham Maslow’s theory in which human behavior is seen as based on a hierarchy of needs or motives (Maslow, 1943, 1970). These motives range from such basic physiological needs as food and water to higher needs, such as those for esteem and self-actualization (see Figure 11.6). Maslow believed that people have to at least partially satisfy needs at the lower levels of the hierarchy before they will be motivated by higher-level goals. As discussed in the motivation and emotion chapter, though, this is not always true. Hunger strikers, for example, ignore their need for food in order to pursue a protest that brings them closer to self-actualization.

To address some of the problems in Maslow’s theory, Clayton Alderfer (1969) proposed existence, relatedness, growth (ERG) theory, which places human needs into three rather than five categories: Existence needs are things, such as food and water, that are necessary for survival. Relatedness needs involve the need for social contact, especially having satisfying interactions with and attachments to others. Growth needs are those involving the development and use of a person's capabilities. These three categories of needs form a continuum from the most concrete (existence) to the most abstract (growth), but ERG theory does not suggest that they must be satisfied in a particular order. Instead, the strength of people’s needs in each category is seen as rising and falling from time to time and from one situation to the next. If a need in one area is fulfilled or frustrated, a person may be motivated to pursue some other needs. For example, after a relationship breakup frustrates relatedness needs, a person might focus on existence or growth needs by eating more or volunteering to work late. Similarly, losing a job frustrates growth needs, so a laid-off employee might focus on relatedness needs by seeking the social support of friends. Finally, a person obsessed with work-related growth needs might ignore friends until after a big project is completed and it is time to party.

I/O psychologists apply ERG theory in the workplace by helping organizations recognize that employees may not be as motivated to pursue job-related growth needs if other need categories are frustrated or unfulfilled. We will see later, for example, that many organizations now allow flexible working hours in the hope that employees will be more motivated on the job once they can more easily satisfy family-oriented relatedness needs. Organizations also encourage employees—especially those in older age groups—to learn new skills and try out new job roles that help satisfy growth needs (Kanfer, Chen, & Pritchard, 2008).

**Expectancy Theory**

A second approach to employee motivation is similar in many ways to Julian Rotter’s expectancy theory (Rotter, 1954, 1982), which is discussed in the personality chapter. It seeks to explain how cognitive processes affect the impact of salary, bonuses, and other rewards on employees’ behavior (Vroom, 1964). The main assumption of expectancy theory in the workplace is that employees behave in accordance with the results they expect their actions to bring and how much they value those results. For example,
workers’ motivation to put out extra effort will increase if they expect a bonus for doing so and if they consider the bonus large enough to be worth the effort. Both expectancy and value are a matter of individual perception, though, so it is difficult to use expectancy theory to predict employee motivation by considering outcomes alone. If some workers don’t believe that a supervisor will actually provide a bonus for extra work or if certain individuals are not strongly influenced by money, the prospect of a bonus may not be equally motivating for all employees.

Workplace tests of expectancy theory provide strong support for it. One review of seventy-seven studies showed that how hard employees work and the quality of their work are strongly related to their expectancies about rewards and to the value they place on those rewards (Van Eerde & Thierry, 1996). In short, people tend to work hard when they believe it will be worth the effort. Part of the task faced by I/O psychologists is to help organizations make employees feel that high performance is worthwhile.

Goal-Setting Theory

A third approach to employee motivation, called goal-setting theory, focuses on the idea that behavior at work is affected not only by general needs and expectations but also by workers’ intention to achieve specific goals. These goals can be short term, such as finishing a report by the end of the week, or long-term, such as earning a promotion within the next two years. A basic prediction of goal-setting theory is that employees will be motivated to choose, engage in, and persist at behaviors that take them closer to their goals.

Goal-setting theory has proved quite useful in motivating employees. There is evidence that arranging for employees to spend some time setting specific goals can lead to better job performance (Locke & Latham, 1990). Many organizations today encourage their employees to engage in goal-setting activities, but I/O psychologists remind managers that some goals are more useful than others. As described in the motivation and emotion chapter, the most motivating goals are those that are chosen, or at least accepted, by the employees; difficult enough to be challenging but not so difficult as to be impossible; and specific enough (e.g., “increasing sales by 10 percent”) to allow employees to keep track of their progress and know when they have succeeded (Latham, 2004; Lord et al., 2010). These characteristics apply not only to individual goals but to group goals as well (Aarts, Dijksterhuis, & Dik, 2008; Wegge & Haslam, 2005).

Job Satisfaction

Success in achieving workplace goals is one of many factors that can affect job satisfaction, the degree to which people like or dislike their jobs. Like other attitudes described in the chapter on social cognition, job satisfaction is made up of cognitive, emotional, and behavioral components (Schleicher, Watt, & Greguras, 2004). The cognitive component of job satisfaction includes beliefs about the job, such as “this job is too demanding” or “this job always presents new challenges.” The emotional component includes positive or negative feelings about the job, such as boredom, excitement, anxiety, or pride. Finally, the behavioral component of job satisfaction is seen in how people act in relation to their work, perhaps showing up early and staying late or maybe taking every opportunity to avoid work by calling in sick.

Measuring Job Satisfaction

To measure job satisfaction accurately, I/O psychologists explore all three of these attitude components. They also assess employees’ attitudes about their jobs in general (a global approach) and about various aspects of it (a facet approach; see Table 19.4).

**goal-setting theory** A theory of workplace motivation focused on the idea that employees’ behavior is shaped by their intention to achieve specific goals.

**job satisfaction** The degree to which people like or dislike their jobs.
In most cases, job satisfaction is measured using questionnaires. Some questionnaires, such as the Job in General Scale (Ironson et al., 1989), take a global approach. Others, such as the Job Satisfaction Survey (Spector, 1985), are made up of subscales designed to assess attitudes about several job facets, including pay, promotion, benefits, coworkers, and supervision (see Figure 19.2).

**Factors Affecting Job Satisfaction**

Satisfaction with a job in general or with its various facets can vary widely from one person to the next, even among people doing the same job in the same organization (Bond & Bunce, 2003; Schleicher, Watt, & Greguras, 2004; Staw & Cohen-Charash, 2005). In other words, some employees like jobs or aspects of jobs that other employees hate. I/O psychologists have studied several environmental and personal factors that can influence people’s job satisfaction. Among the environmental factors are the requirements of the job, how much it pays, and how it affects workers’ lives outside of the workplace. Among the personal factors are workers’ gender, age, and ethnicity.

**Job Requirements** Some jobs, such as those of assembly line workers, involve performing the same relatively simple tasks again and again throughout the workday. Other jobs, such as those in management, are more complex, requiring workers to perform a different set of tasks each day, often in response to unpredictable requests or demands. Is the complexity of a job related to workers’ job satisfaction?

### TABLE 19.4 Facets of Job Satisfaction

<table>
<thead>
<tr>
<th>Facet</th>
<th>Satisfaction Rating (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationships with coworkers</td>
<td>94</td>
</tr>
<tr>
<td>Physical safety conditions of work</td>
<td>91</td>
</tr>
<tr>
<td>Supervisor</td>
<td>82</td>
</tr>
<tr>
<td>Job security</td>
<td>81</td>
</tr>
<tr>
<td>Health insurance</td>
<td>73</td>
</tr>
<tr>
<td>Salary</td>
<td>70</td>
</tr>
<tr>
<td>Promotion opportunities</td>
<td>64</td>
</tr>
<tr>
<td>Retirement plan</td>
<td>61</td>
</tr>
</tbody>
</table>

Source: Gallup (1999)

In most cases, job satisfaction is measured using questionnaires. Some questionnaires, such as the Job in General Scale (Ironson et al., 1989), take a global approach. Others, such as the Job Satisfaction Survey (Spector, 1985), are made up of subscales designed to assess attitudes about several job facets, including pay, promotion, benefits, coworkers, and supervision (see Figure 19.2).

**Figure 19.2 Pay Satisfaction Subscale from the Job Satisfaction Survey**

Try This Here are just four items from the pay satisfaction subscale of the Job Satisfaction Survey (Spector, 1985). As its name implies, this subscale focuses on employees’ attitudes about the pay they receive in their jobs. Other subscales assess attitudes toward other job facets, such as promotion opportunities, benefits, coworkers, and supervisors. If you have a job, rate it on all these facets, and then compare your ratings with those of a friend or coworker. What facets would you add to make rating forms like this one give a better picture of job satisfaction?

<p>| Please circle the one number for each question that comes closest to reflecting your opinion about it. |</p>
<table>
<thead>
<tr>
<th>Disagree very much</th>
<th>Disagree moderately</th>
<th>Disagree slightly</th>
<th>Agree slightly</th>
<th>Agree moderately</th>
<th>Agree very much</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel I am being paid a fair amount for the work I do.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Raises are too few and far between.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I feel unappreciated by the organization when I think about what they pay me.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I feel satisfied with my chances for salary increases.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In general, yes; people tend to be more satisfied with jobs that are more complex (Chung-Yan, 2010; Melamed, Fried, & Froom, 2001). As described in the chapter on motivation and emotion, this higher satisfaction may relate to the fact that more complex jobs tend to be more interesting, more challenging, and more likely to create a sense of responsibility and control in setting and achieving goals (Maynard, Joseph, & Maynard, 2006). However, not everyone responds to complex jobs in the same way (Jex et al., 2002). A complex job may generate dissatisfaction among people who do not have the KSAOs to do it successfully. Even individuals who have the necessary knowledge and skills may be dissatisfied with a complex job if their personality characteristics lead them to prefer simpler, less intellectually demanding work (Loher et al., 1985).

Salary Many workers feel underpaid, but as discussed in the motivation and emotion chapter, higher salaries alone do not necessarily lead to higher levels of job satisfaction (Tang, Tang, & Homaifar., 2006). One study of recent college graduates found a correlation of only +.17 between starting salary and overall job satisfaction (Brasher & Chen, 1999). A main reason for such a low correlation is that a good salary may not compensate for unsatisfactory aspects of a job, such as poor working conditions or lack of respect from supervisors. In fact, knowing that salary and pay raise decisions are made in a fair way can be more important to job satisfaction than the amount of money employees receive (Cloutier & Vilhuber, 2008; DeCremer et al., 2010; Liao & Rupp, 2005). As a result, students working at low-paying jobs may be more satisfied than executives who earn six-figure salaries. The students' satisfaction may come from knowing that everyone doing the same job is getting the same pay, whereas the executives may experience a sense of relative deprivation, the perception that others are unfairly receiving more benefits for the same or lesser effort (see the social cognition chapter).

Work-Family Conflict The number of two-career couples and single-parent families is on the increase in the industrialized world (e.g., Demo, Allen, & Fine, 2000; Weinraub, Horvath, & Gringlas, 2002), meaning that more and more people experience conflict between the demands of a job and the demands of family life (Eby et al., 2005; O’Driscoll, Brough, & Kalliath, 2008). One common example is the conflict that occurs when the need to care for a sick child or attend a school play interferes with a parent’s work responsibilities. Work-family conflict appears highest among police officers, firefighters, physicians, and others whose jobs require them to be responsible

Minimizing Work-Family Conflict

To help working couples deal with both job demands and family obligations, many organizations have adopted family-friendly programs and policies, including workplace day care services and flexible work schedules (flextime). These programs and policies have been associated with higher levels of job satisfaction and less absenteeism among employees with children (Baltes et al., 1999; Scandura & Lankau, 1997). Fortune magazine publishes an annual issue listing the best U.S. companies to work for. Look through this year’s issue and the companies’ Web sites to see what kinds of family-friendly policies these companies have established.
for others (Dierdorff & Ellington, 2008). Greater work-family conflict is strongly and consistently associated with lower job satisfaction as well as with elevated blood cholesterol levels and lower physical energy (Berkman et al., 2010; Ford, Heinen, & Langkamer, 2007; van Steenbergen & Ellemers, 2009). These relationships appear in both men and women, although the impact of conflict appears to last longer for women (Baltes & Heydens-Gahir, 2003; Grandey, Cordeiro, & Crouter, 2005; Lapierre & Allen, 2006). Partly because of input from I/O psychologists, many organizations are dealing with this source of job dissatisfaction by establishing family-friendly work policies that help employees balance work and family responsibilities. One of these policies, called flextime, allows parents to work an eight-hour day but frees them from the standard 9:00 A.M.–to–5:00 P.M. schedule. One parent can come to work at, say, 9:30 A.M. after taking the children to school and then stay on the job until, say, 5:30 P.M. to complete an eight-hour day. The other parent can start work at, say, 7:30 A.M. and then leave early to pick up the children from school.

**Gender, Age, and Ethnicity** Few, if any, gender differences have been found in overall job satisfaction, even when the men and women being compared were doing quite different jobs (e.g., Greenhaus, Parasuraman, & Wormley, 1990; Moncrief et al., 2000). Job satisfaction is related to age, though, with older workers tending to be more satisfied than younger ones (Brush, Moch, & Pooyan, 1987). However, some studies suggest that the picture is a bit more complicated than that (Andreoli & Lefkowitz, 2009; Hedge, Borman, & Lammlein, 2006). For example, among people who enter the world of work immediately after high school or junior college, job satisfaction may at first be quite high but may soon begin to decline, especially among males. Satisfaction ratings then tend to increase slowly but steadily from about age 30 to retirement. This pattern may occur because young workers with relatively little education may find themselves in jobs that are not only poorly paid but also offer few of the features associated with job satisfaction, such as complexity, control over time, and freedom to select goals and tasks (White & Spector, 1987).

Some studies of workers in the United States have found slightly higher job satisfaction among whites than among nonwhites (e.g., Jones & Schaubroeck, 2004; Tuch & Martin, 1991), but others have found no differences (e.g., Brush, Moch, & Pooyan, 1987). In fact, when comparisons are made across groups doing the same jobs, ethnicity does not appear to be a major factor in job satisfaction.

**Is Job Satisfaction Genetic?**

In the chapter on motivation and emotion, we describe evidence that people’s overall level of happiness, or well-being, may be determined partly by genetics. Could genetic influences also be operating in the workplace in relation to job satisfaction?

**What am I being asked to believe or accept?**

Richard Arvey and his colleagues (1989) have suggested that differences in job satisfaction reflect genetic predispositions toward liking or not liking a job.

**What evidence is available to support the assertion?**

As described in the chapters on human development and personality, people’s temperament and personality are influenced by genetics. Research in I/O psychology shows that these genetically influenced personality characteristics are related to people’s job satisfaction. In one study, for example, hostility and other personality traits that were measured in adolescence were found to be significantly related to job satisfaction up to fifty years later (Staw, Bell, & Clausen, 1986). These data suggest that job satisfaction is at least indirectly shaped by inherited predispositions.

However, Arvey and his colleagues conducted what may be the only study to directly investigate the role of genetics in job satisfaction. They selected a sample of
thirty-four pairs of genetically identical twins who had been separated and raised in
different environments. They then arranged for these people to complete job satisfac-
tion questionnaires. The questionnaire responses showed a strong positive correlation
between the twins’ job satisfaction; if one twin was satisfied, the other one tended
to be satisfied too. If one was dissatisfied, the other twin tended to be dissatisfied as
well. The researchers suggested that because the members of each twin pair had been
raised in different environments, genetic factors were at least partly responsible for the
observed similarity in job satisfaction ratings.

Are there alternative ways of interpreting the evidence?
These results suggest a strong genetic influence, but they could have been affected by
factors other than a genetic predisposition to be satisfied or dissatisfied with a job.
For example, although the twins grew up in different home environments, their work
environments may have been quite similar. If so, these similar work environments
may have produced similar satisfaction ratings. Why would separated twins have
similar kinds of working environments? For one thing, the innate abilities, interests,
behavioral tendencies, or appearance that identical twins share could have led them
into similar kinds of jobs. Some pairs may have selected jobs that tend to be satisfying,
whereas other pairs entered jobs that tend to be less satisfying. A pair of bright, athletic,
or musically talented twins may have found it possible to have complex, interesting,
and challenging jobs and to enjoy a high level of satisfaction. A less fortunate set of
twins, having been unable to qualify for the kind of job they might want, may have
settled for more routine work that leaves them feeling unsatisfied. In other words, it
may be that genes don’t shape job satisfaction itself but do shape characteristics that
influence people's access to satisfying work.

What additional evidence would help evaluate the alternatives?
One way to assess the impact of job characteristics on the high correlation in twins’
job satisfaction ratings is to look at the nature of the twins’ jobs. When Arvey and his
colleagues did this, they found that the twins did tend to hold jobs that were similar in
several ways, including overall job complexity and some of the skills required. A more
complete assessment of the jobs and job environments would be required, however, to
determine the strength of these nongenetic factors in producing positively correlated
job satisfaction ratings.

Together Again
The notion that the inherited characteristics shared by identical twins might lead them into similar jobs was
dramatically illustrated in the case of Gary Nisbet and Randy Joubert. Separated as
babies thirty-five years earlier, these twins were accidentally reunited when Randy
was hired as a furniture mover by the same Waldoboro, Maine, company where Gary
already worked—as a furniture mover.
What conclusions are most reasonable?

Research in I/O psychology suggests that individual differences in job satisfaction are probably related to workers’ characteristics, some of which are influenced by genetics. However, the precise mechanisms through which genetics might affect job satisfaction are not yet clear (Ilies & Judge, 2003). It is most likely that job satisfaction, like so many other aspects of behavior and mental processes, is shaped by both genetic and environmental influences. There is no single reason why people differ in terms of job satisfaction. How satisfied we are with our work can be predicted to some extent by job characteristics and to some extent by personal characteristics (Gerhart, 2005), but the outcome in a given case is ultimately a matter of who does what job in what organization.

Consequences of Job Satisfaction

Organizations spend a lot of time, money, and effort trying to maintain a reasonable level of job satisfaction among their employees. They do so, if for no other reason, because job satisfaction is linked to a variety of positive consequences for individuals, their coworkers, and their organizations. Dissatisfaction with a job can lead to numerous negative consequences.

Job Performance. Research shows that people who are satisfied with their jobs tend to be more motivated, to work harder, and to perform better than employees who are dissatisfied (e.g., Fisher, 2003; Judge et al., 2001; Whitman, van Rooy, & Viswesvaran, 2010). The positive correlation between job satisfaction and performance makes sense, and although a correlation cannot by itself confirm that satisfaction is behind good performance, it is certainly consistent with that conclusion. In fact, one meta-analysis supports the view that job satisfaction and commitment to the organization shape performance rather than the other way around (Harrison, Newman, & Roth, 2006).

Organizational Citizenship Behavior

Job satisfaction is also associated with organizational citizenship behavior (OCB), a willingness to go beyond formal job requirements in order to help coworkers or the organization as a whole (Ilies, Scott, & Judge, 2006; Organ, Podsakoff, & MacKenzie, 2006). OCB tends to occur in return for fair treatment employees have received from others or in an effort to support a group to which employees feel connected (Dalal et al., 2009; Kamdar, McAllister, & Turban, 2006; Nishii, Lepak & Schneider, 2008). As in the case of job performance, though, it is difficult to determine whether job satisfaction increases OCB or whether engaging in OCB increases job satisfaction. Further, organizational citizenship behavior might reflect factors other than job satisfaction. One such factor is personality; OCB is particularly likely among people who are high on agreeableness and conscientiousness (Ilies et al., 2009). Other cases of OCB may occur as part of a strategy designed to attain a pay raise, promotion, or other personal goal. In one study, for example, employees who believed it would help their promotion chances engaged in high levels of OCB before being promoted and then reduced their OCB afterward (Hui, Lam, & Law, 2000). Another study found that teachers on temporary contracts felt less secure about their jobs and also engaged in more organizational citizenship behaviors than teachers who held permanent positions (Feather & Rauter, 2004).

Turnover

Every organization must deal with a certain amount of turnover, or loss of employees. Some turnover is involuntary, as in cases of disability or dismissal, but much of it is voluntary (Harman et al., 2007). Some employees simply quit, and they tend to be employees whose job satisfaction is low (e.g., Griffeth, Hom, & Gaertner, 2000). However, in order to avoid unemployment, few dissatisfied workers quit until and unless they have found another job (Kammeyer-Mueller et al., 2005). So job dissatisfaction is related more strongly to turnover when people are able to find other jobs (Trevor, 2001). When alternative employment is unavailable, even dissatisfied workers tend to stay put.
Efforts to reduce turnover include establishing supportive relationships between new employees, called *protégés*, and more experienced employees, known as *mentors*. Such mentoring programs can be effective, especially when they involve structured rather than informal meetings and when care is taken to match protégés with mentors who are most likely to help them (Allen, Eby, & Lentz, 2006; Ortiz-Walters & Gilson, 2005; Payne & Huff, 2005).

**Absenteeism** You might expect that absenteeism, like voluntary turnover, would be strongly related to job satisfaction. However, the correlation between job satisfaction and attendance is surprisingly weak. True, there is a tendency for dissatisfied employees to be absent more frequently than those who are satisfied. But other factors, including personal or family illness, work-family conflicts, and the financial consequences of missing work are far more important in determining who shows up and who doesn’t (Dalton & Mesch, 1991; Erickson, Nichols, & Ritter, 2000).

**Aggression and Counterproductive Work Behavior** Job dissatisfaction is one cause of workplace aggression, as well as of theft and other forms of *counterproductive work behavior* (CWB). Assaults or murders involving coworkers or supervisors are rare (Barling, Dupré, & Kelloway, 2009; LeBlanc, Dupré, & Barling, 2006), but theft, computer hacking, and other forms of CWB by employees and former employees are commonplace. Employee theft in the United States alone costs organizations billions of dollars each year (Gatewood & Feld, 2001). In fact, employees steal more from their employers than shoplifters steal from retailers (Hollinger et al., 1996). The direct and indirect costs of other forms of CWB, such as sabotage, working slowly, or doing jobs incorrectly, are staggering. But the true cost of CWB can be hard to determine because so much of it goes unnoticed (Bennett & Robinson, 2000).

As illustrated in Figure 19.3, it is often stress in the workplace that leads to job dissatisfaction and negative emotions such as anger and anxiety (Rodell & Judge, 2009; Spector, Fox, & Domalagaski, 2006). These emotions can in turn result in CWB, especially among employees who feel that they have been treated unfairly or have little or no control over workplace stressors (Aquino, Tripp, & Bies, 2006; Fox, Spector, & Miles, 2001; Greenberg, 2002; Penney & Spector, 2005). Why does lack of control matter? As described in the chapter on health, stress, and coping, when people feel that they have control over the work situation, they are more likely to perceive stressors as challenges to be overcome and to try constructive means of meeting those challenges. Suppose that a supervisor suddenly assigns a difficult task to an employee who must complete it by the next day or face serious consequences. If the employee feels sufficiently in control of the situation to complete the task on time, this stressful assignment is likely to be perceived as a challenge to be mastered. If the employee doesn’t have that sense of control and believes it is impossible to meet the deadline, this assignment will probably lead to dissatisfaction and negative emotions such as angry resentment. This person is at elevated risk for engaging in CWB directed at the supervisor, the organization, or other employees.
Aggression in the Workplace

In the chapter on social influence, we describe a number of biological, psychological, and environmental factors that appear responsible for triggering human aggression and violence. These factors operate in the workplace, too, though incidents of aggression between or against workers differ in some ways from violence outside the workplace (Hershcovis et al., 2007).

For example, whereas nearly half of murder victims in the United States know their assailants (Cassell & Bernstein, 2007), about 85 percent of workplace homicides are committed against employees by strangers (LeBlanc & Barling, 2004). In other words, despite well-publicized cases of disgruntled employees killing coworkers or supervisors, employees actually commit only about 15 percent of workplace homicides and less than 10 percent of workplace assaults (LeBlanc & Barling, 2004). Convenience store clerks, taxi drivers, and other employees who deal directly with the public, handle money, and work alone at night are at particular risk to be victims of workplace aggression (LeBlanc, Dupré, & Barling, 2006). Most aggression against these people is instrumental aggression, meaning that the aggressor’s intent is not necessarily to injure but to attain a goal such as getting money or other valuables (Merchant & Lundell, 2001). Though the perpetrator often uses a weapon to intimidate the employee, these aggressive incidents do not usually result in physical injury.

Most cases of injury in the workplace occur in the course of aggressive assaults by patients or customers on doctors, nurses, and other health workers, sales clerks, and food servers (Büssing & Höge, 2004; LeBlanc & Barling, 2004). Often these injuries occur under stressful circumstances—such as during emergency room treatment—in which pain, anger, fatigue, and frustration lead to an impulsive, emotional, aggressive outburst. In contrast to instrumental aggression, the perpetrator’s intent in these cases is to injure the victim.

When aggression does occur between or among employees, the assault is usually verbal, not physical, and the result is usually resentment and bruised feelings, not bruised bodies (Barling, Dupré, & Kelloway, 2009; Grubb et al., 2005). Like road rage incidents, employee-to-employee aggression is often the by-product of an impulsive, emotional outburst under time pressure or other stressful conditions, including workplace injustices or abusive supervision (Berry, Ones, & Sackett, 2007; Inness, Barling, & Turner, 2005). Sometimes, though, this form of aggression may reflect an attempt by one employee to control others through bullying or intimidation (Grubb et al., 2005).

Occupational Health Psychology

In the chapter on health, stress, and coping, we defined health psychology as a field devoted to understanding psychological factors in how people stay healthy, why they become ill, and how they respond when they do get ill (S. E. Taylor, 2002). Occupational health psychology is concerned with psychological factors that affect the health, safety, and well-being of employees in the workplace. I/O psychologists promote the goals of occupational health psychology by consulting with organizations about ways to reduce threats to employees posed by undue stress, accidents, and hazards. Their success in this enterprise is reflected in the fact that today, most workplaces are safer and healthier than employees’ own homes (National Safety Council, 2004).

Physical Conditions Affecting Health

Many physical conditions in the workplace have the potential to cause illness and injury (Lund et al., 2006). Accordingly, in the United States, the government’s Occupational Safety and Health Administration (OSHA) establishes regulations designed to minimize employees’ exposure to hazards arising from infectious agents, toxic chemicals, dangerous machinery, and the like. For example, to guard against the spread of AIDS,
U.S. doctors, dentists, nurses, and other health care workers have been asked to follow a set of safety procedures called *universal precautions*. These precautions include wearing disposable gloves when drawing blood, giving injections, or performing dental procedures and also discarding needles and other sharp objects into special sealed containers. These procedures can be effective in reducing the spread of disease, but because of heavy workloads and lack of encouragement from supervisors, health care workers do not always follow them (McDiarmid & Condon, 2005). I/O psychologists play a role in this aspect of occupational health psychology by promoting organizational support for following proper safety procedures and by designing safety training that employees will actually apply in the workplace (Smith-Crowe, Burke, & Landis, 2003). They also help protect employees’ health by creating reminders to use caution on the job and by consulting with organizations to minimize stressors that can lead to illness or injury.

One of these stressors comes in the form of jobs that require performing certain movements in the same way over long periods of time, such as turning a screwdriver or making cut after cut in pieces of plastic. Eventually, these movements can create *repetitive strain injuries* in which joints become inflamed, sometimes causing permanent damage. The most familiar of these injuries is *carpal tunnel syndrome*, a condition of the wrist that produces pain, numbness, and weakness in the fingers. Although typically associated with using a computer keyboard or mouse, carpal tunnel syndrome can be caused by many other activities involving the fingers and wrists. Psychologists have been involved in two approaches to preventing repetitive strain injuries. First, as described in the introductory chapter, those working in *engineering psychology* (also called *human factors*) consult with industrial designers to develop equipment and tools that are less physically stressful to use. One result of their efforts is the wrist-rest pads that are commonly seen in front of computer keyboards used by people who perform typing tasks for many hours each day. These pads provide support and also keep the typists’ wrists from twisting. Second, I/O psychologists are working with organizations to ensure that employees whose jobs require repetitive actions be allowed to take breaks that are long enough and frequent enough to rest the body parts at risk for strain injuries. These psychologists are also working with employees themselves to make sure that they follow the recommended break schedule.

**TRY THIS** Performing the same movements on the job hour after hour and day after day can lead to repetitive strain injuries. This employee’s keyboard movements resulted in a painful and potentially disabling condition called *carpal tunnel syndrome*. Wearing a wrist brace can reduce the pain somewhat, but I/O and engineering psychologists know that improved wrist support for keyboard users can help prevent the problem in the first place. To appreciate the impact of psychologists’ consultation efforts, browse some online computer equipment catalogs, such as geeks.com or tigerdirect.com, and calculate the percentage of keyboards, mice, and other devices that have been designed to minimize the possibility of repetitive strain injuries.
Work Schedules, Health, and Safety

The flextime arrangements mentioned earlier that allow some employees to adjust their working hours are part of a more general trend away from the traditional 9:00 A.M.–to–5:00 P.M. workday. As many organizations expand their hours of service—some of them to twenty-four hours a day, seven days a week—more and more employees are on the job during what would once have been considered “odd hours.” They may work at night or on weekends, and they follow shift patterns once associated mainly with hospital, law enforcement, and factory employees. Others are working more than eight hours a day but fewer than five days a week, and in the face of staffing cutbacks, still others may be working more than forty hours a week. Whether undertaken by choice or by assignment, these nontraditional work schedules can cause stress and fatigue that can adversely affect employees’ health (Burch et al., 2009).

Rotating Shift Work These negative effects can be especially great among employees who change work shifts from week to week—rotating from evenings to days to nights, for example (Demerouti et al., 2004). As described in the chapter on consciousness, these shift changes disrupt employees’ circadian rhythms of eating, sleeping, and wakefulness, resulting in a number of unpleasant mental and physical symptoms. A major problem with working night shifts, for example, is fatigue, irritability, and reduced cognitive sharpness resulting from difficulty in getting to sleep or staying asleep during the day (Daus, Sanders, & Campbell, 1998). Some shift workers also experience upset stomachs and other symptoms of digestive distress (Rouch et al., 2005). These problems may be far less troubling for workers whose night shift assignments last long enough that they can get used to their “backward” schedule (Barton & Folkard, 1991), but rotating shift work can also be disruptive to employees’ social relationships and may lead to work-family conflicts (Barnes-Farrell et al., 2008). Absenteeism, too, may increase, especially among younger workers who are new to shift work, and there is some evidence that burnout and earlier retirement are more common among workers on rotating shifts than among those on fixed schedules (Shen & Dicker, 2008).

Long Shifts and Long Weeks Many organizations today are establishing longer-than-normal work shifts. For example, some have set up ten-hour shifts that allow employees to work forty hours in four days, thus giving them an extra day off. Others

Staying Sharp

Applying Psychology I/O psychologists’ research on the negative impact of extended work shifts has led to organizational and U.S. government rules requiring rest breaks at fixed intervals for commercial airline pilots, long-haul bus and truck drivers, and others whose jobs require constant attention to complex tasks and systems. These rules also limit the total number of hours these employees can work in any twenty-four-hour period.
have replaced three eight-hour work shifts with a more efficient system of two twelve-hour shifts that allow workers even more time off.

Many employees like such arrangements; longer shifts can lead to greater job satisfaction and better job performance (Baltes et al., 1999). However, extended workdays may cause health and performance problems for some workers in some jobs (Lamberg, 2004; Loudoun, 2008). This possibility is suggested by research on drivers of intercity buses. Those who drove longer routes that required being on the road for up to fourteen hours a day with few rest breaks tended to use stimulants to stay alert, to drink alcohol to counteract the stimulants after arrival, and to experience sleep disturbances, various physical symptoms, anxiety, and fatigue. They were also more likely than shorter-shift drivers to be involved in accidents (Raggatt, 1991).

There are also dangers in requiring employees to work more than forty-eight hours per week, especially when they would prefer not to do so. These involuntary workweek extensions have been associated with a number of employee health problems, particularly heart disease (Sparks et al., 1997). Accordingly, nations of the European Union have adopted regulations setting workweeks at a maximum of forty-eight hours. So far, there are no such government regulations in the United States.

**Stress, Accidents, and Safety**

Although most accidents occur away from the job, workplace safety is still a major focus of organizations and of I/O psychologists. In just one recent year, 5,734 workers were killed and 4.2 million others were injured on the job in the United States alone (U.S. Bureau of Labor Statistics, 2007). Motor vehicle accidents account for nearly half of workplace fatalities. Falls and equipment accidents account for about another one-third of these deaths.

Longer-than-normal work shifts and extended workweeks are among many sources of occupational stress that contribute to the fatigue, inattention, cognitive impairment, sleepiness, and other problems that elevate the risk of workplace accidents. I/O psychologists have identified numerous other individual and organizational factors that contribute to stress-related accidents, including lack of clear instructions, heavy workloads, concern about job security, sexual harassment or ethnic discrimination, burnout, and workplace bullying (Berdahl & Moore, 2006; Hoel, Faragher, & Cooper, 2004; Schabracq, 2003; Schneider, Hitlan, & Radhakrishnan, 2000; Sparks, Faragher, & Cooper, 2001). Accidents are also more likely when the **climate of safety** in the workplace is poor, meaning that there is a lack of safety training, too little supervisory emphasis on following safety rules, and a tendency for workers to ignore those rules (Beus, et al., 2010; Clarke, 2006; Griffin & Neal, 2000). Accidents are least common in organizations that provide adequate safety training for employees, conduct thorough and frequent safety inspections, and ensure that supervisors consistently communicate the need for safety (Christian et al., 2009; Hansez & Chmeil, 2010; Newman, Griffin, & Mason, 2008).

**Work Groups and Work Teams**

A great deal of workplace activity is accomplished by groups of individuals working together. Industrial and organizational psychologists have been at the forefront of efforts to help organizations maximize the effectiveness and efficiency of work groups and work teams. A **work group** is defined as two or more people who interact as they perform workplace tasks. A **work team** is a special kind of work group in which the members’ specialized activities are coordinated and interdependent as they work toward a common goal.
chapter 19  Industrial and Organizational Psychology

Medical Teamwork

The doctors, nurses, and technicians who join forces to perform surgery are a perfect example of a work team. Everyone on the surgical team is devoted to the same goal of completing a successful operation, but each performs a somewhat different task in a coordinated manner under the direction of the surgeon, who acts as the team leader.

Autonomous Work Groups

In most organizations, work groups and work teams operate in a traditional way, meaning that as in the case of a restaurant or grocery store, all workers report to a manager who directs and supervises their activities. However, a growing number of organizations today are establishing autonomous work groups (AWGs) that manage themselves and do not report to anyone for routine daily supervision. Instead, once AWGs are given a work assignment, it is up to them to determine how best to accomplish their goal and then to work together to achieve it. The classic example of AWGs can be seen in the manufacturing sector. Automobiles and other consumer products were once built on long assembly lines by large numbers of workers who each performed only one small part of the process before passing the product on to another worker who performed the next step. In autonomous work groups, however, each member rotates among jobs such that everyone performs every aspect of assembly from time to time. The group members also design and order their own tools, conduct their own product inspections to ensure quality and performance, and even participate in hiring and firing decisions. Many brands of automobiles and other large pieces of equipment are

autonomous work groups

(AWGs)  Self-managed employee groups that do not report to anyone for routine daily supervision.
now assembled in AWG factories that feature a series of workstations where perhaps a half-dozen employees assemble the entire product or a substantial portion of it.

Autonomous work groups have benefits for employees and for organizations. In one comparison study, employees in AWG factories reported higher levels of job satisfaction than employees of traditional factories (Cordery, Mueller, & Smith, 1991). Further, the productivity of AWGs has been shown to be at least as good as traditional arrangements despite the fact that AWGs cost less in the long run because organizations don’t need as many supervisors (Banker et al., 1996; Glassop, 2002; Hoegl & Parboteeah, 2006; Stewart, 2006). AWGs may be particularly effective when they are created in organizations that had previously suffered from an inefficient and unsatisfying work climate (Morgeson et al., 2006).

**Group Leadership**

Workplace groups almost always have leaders. Even in autonomous work groups, leaders usually emerge (Foti & Hauenstein, 2007; Zaccaro, Heinen, & Shuffler, 2009), although the leadership roles may sometimes be shared by more than one person (Uhl-Bien, Marion, & McKelvey, 2007). And AWGs are themselves embedded in organizations that operate through a leadership hierarchy (Kaiser, Hogan, & Craig, 2008). At each level, designated leaders direct or supervise the activities of others, set group and organizationwide objectives, decide how individual employees can best contribute to those objectives, and make sure employees perform the tasks assigned to them. Let’s consider some of the characteristics of good leaders, how good leaders behave, and how they relate to various members of their work groups and work teams.

**What Makes a Good Leader?** One way to study leadership is to look at lots of leaders to see if particular kinds of knowledge, skill, ability, or other personal characteristics are associated with those who are effective and those who are ineffective. Much of what social and I/O psychologists have learned about the KSAOs of effective leaders comes from research on managers (e.g., Peterson et al., 2003; Zaccaro, 2007). That research suggests that some characteristics are regarded by almost everyone as necessary for good leadership. For example, a large study of leadership effectiveness in sixty-two countries found that being intelligent, trustworthy, and team-oriented were universally rated as important traits of good leaders (House et al., 1999). These results are supported by other studies showing that intelligence is consistently important for competent managerial performance (Chemers, Watson, & May, 2000; Judge, Colbert, & Ilies, 2004). In other words, smarter leaders tend to be better leaders. Good leaders also tend to score high on agreeableness, emotional stability, extraversion, and conscientiousness (Silverthorne, 2001). The value of other leadership traits can depend on social, cultural, and situational factors (Felfe & Goihl, 2002). For instance, a willingness to take risks tends to be seen as a positive leadership trait in some countries and as a negative trait in other countries (House et al., 1999).

**How Do Good Leaders Behave?** Another way to study leadership is to explore the things that effective and ineffective leaders do. The foundation for this research was provided by the Ohio State leadership studies, which began in 1945. The first step in this extensive program was to collect eighteen hundred “critical incidents” of effective and ineffective leader behavior. An incident of “effective” leadership might be to suggest that a troubled employee transfer to a less demanding job. An incident of “ineffective” leadership might be to shout at an employee who questioned the leader’s decision. These and other studies have revealed that specific kinds of leader behaviors can have profound effects on group members and organizations. For example, one study found that army platoons led by active and involved leaders were especially effective under combat conditions (Bass et al., 2003).

The Ohio State researchers identified two dimensions on which leaders typically vary. The first, called *consideration*, is the degree to which a leader shows concern...
for the welfare of employees, including friendly and supportive behavior that makes the workplace more pleasant. The second dimension, called *initiating structure*, is the degree to which a leader coordinates employee efforts by assigning tasks and clarifying expectations so that group members know what is required of them to perform well.

Relationship-motivated leaders (described in the social influence chapter) tend to be high on the consideration dimension, while task-motivated leaders tend to be high on the initiating-structure dimension. Where managers fall on each of these dimensions of leadership style can have important effects on employees (Eagly, Johannesen-Schmidt, & van Engen, 2003; Judge, Piccolo, & Ilies, 2004; Keller, 2006; Zaccaro, 2007). In one study, workers in a truck manufacturing plant were asked to rate their immediate supervisors on the consideration and initiating-structure dimensions (Fleishman & Harris, 1962). These ratings were then related to the number of formal complaints these employees filed against their supervisors and the rate at which they quit their jobs (voluntary turnover). Grievances and turnover were much higher among employees whose supervisors had been rated low on consideration than among those whose supervisors had been rated high on consideration. More grievances were also filed by employees whose supervisors were higher on initiating structure, but there is more to that part of the story. The highest rates of grievance and turnover occurred among employees whose supervisors who were not only high on initiating structure but also low on consideration. As long as supervisors were high on consideration, they could be high on initiating structure without creating a lot of grievances and turnover. In other words, it is possible for a leader to be firm but fair, thus promoting maximum performance with a minimum of complaints and employee losses.

**Leader-Member Interactions** Are leadership styles like the relatively stable traits described in the personality chapter? Do they create consistent leadership behaviors toward all group members in all situations? Some leaders might fit this description, but leader-member exchange (LMX) theory suggests that most leaders tend to adopt different styles with two different kinds of subordinates (Bhal et al., 2009; Dansereau, Graen, & Haga, 1975). Leaders tend to offer the most consideration and best treatment to subordinates who make up the employee *ingroup*. These individuals tend to be the best performers and are regarded by the leader as competent, trustworthy, loyal, and dependable (Bauer & Green, 1996). As such, ingroup members’ opinions and requests tend to carry more weight with the leader than those of *outgroup* employees, whom the leader regards as less competent, less reliable, and potentially expendable. Ingroup members may also benefit from having “inside” information from the leader, more helpful mentoring, and perhaps even inflated performance evaluations (Duarte, Goodson, & Klich, 1993; Sandora & Schriesheim, 1994). Leaders give outgroup employees less opportunity to influence decisions and tend to supervise them by giving high structure and low consideration (Dansereau, Graen, & Haga, 1975). More than eighty studies of leader-member interaction patterns support the existence of employee ingroups and outgroups and the tendency for ingroup members to experience more job satisfaction and less occupational stress and to more often engage in organizational citizenship behaviors (Gerstner & Day, 1997; Ilies, Nahrgang, & Morgeson, 2007; Schyns, 2006).

Traditional leadership models are based on situations in which there is face-to-face interaction among team members and leaders. Do these models apply equally well to virtual teams whose members communicate electronically via e-mail or videoconferencing from different parts of the country or different parts of the world (Eagly & Chin, 2010).
Can People Learn to Be Charismatic Leaders?

Some people's leadership abilities are so effective that they are described as charismatic. A charismatic leader is one who inspires followers to embrace a vision of success and to make extraordinary efforts to achieve things they would not have done on their own (Bass & Riggio, 2006; Erez et al., 2008). Charismatic leaders like Martin Luther King Jr. and Winston Churchill captured the imaginations of their followers. King led the fight for civil rights in the 1960s, inspiring countless thousands of followers to overcome entrenched opposition and personal danger to achieve the long-sought goal of equality under the law for African Americans. Prime Minister Churchill rallied the British people to resist and overcome the effects of Nazi air attacks during the darkest days of 1940 and throughout World War II. It has long been assumed that charismatic leadership is a by-product of a charismatic personality, not something that one can learn.

What was the researcher’s question?

I/O psychologists wonder whether that assumption is correct. Might it be possible to train leaders to be charismatic, and if so, how would such training affect the job satisfaction and performance of those leaders’ employees? Julian Barling, Tom Weber, and E. Kevin Kelloway (1996) addressed these questions by designing and evaluating a charisma-building training program for corporate managers.

How did the researchers answer the question?

Their study was conducted in twenty branches of a large Canadian banking corporation. The managers of these branches were randomly assigned to a charisma training group or a control group that received no training. Two weeks before training began and again five months after it was completed, the people working for each manager filled out a questionnaire on which they rated their manager’s charisma. They also reported on their own level of job satisfaction. In addition, the financial performance of each branch office was measured before and after training.

Charisma training was delivered in five sessions over a three-month period. At the first session, managers met as a group to spend an entire day learning what makes charismatic leaders charismatic and practicing these behaviors in order to increase their own charisma. In the next four sessions, managers worked individually with one of the researchers, receiving additional training, getting feedback on performance, and setting goals for further progress.

What did the researchers find?

All the results indicated that this training program had a positive impact on managers’ charisma. First, branch employees’ ratings showed that managers in the training group were now more charismatic. There was a small decline in charisma for those in the control group. Second, those who worked for the charisma-trained managers reported higher levels of job satisfaction after training was over than those who worked for the untrained managers. Finally, the financial performance of the trained managers’ branches increased, whereas that of the untrained group decreased somewhat.

What do the results mean?

This charisma training program may not have produced a Martin Luther King Jr. or a Winston Churchill, but its impact supports the notion that charisma can be taught, at least to some extent (Frese, Beimel, & Schoenborn, 2003). The trained managers became more charismatic and more effective than their untrained colleagues, suggesting that charisma involves behavior that can be learned by people with many different personality characteristics.

What do we still need to know?

The findings of this study are encouraging, but we should be cautious in interpreting them. For one thing, the changes seen in the trained managers may have been due to factors other than the training itself. As described in the chapter on research in

FOCUS ON RESEARCH METHODS

A Charismatic Leader

Former British prime minister Margaret Thatcher is considered by many to exemplify the kind of leader whose charisma inspires followers to accomplish what they might not otherwise have done.
psychology, improvements following some treatment may be due partly or largely to placebo effects or other factors that create positive expectations among research participants. If the managers expected to be better at their jobs as a result of training and if their subordinates expected them to be better managers, it could have been these expectations, not the training, that caused the behavior changes and increased charisma ratings (Groves, 2005). Even the improved financial performance could have been the result of expectation-driven efforts to do better, efforts that had nothing to do with the training itself. Interpreting the results of this experiment would have been easier if members of the untrained group had participated in some sort of placebo control program that, like the charisma training, would have raised their expectations and those of their employees.

Even if the training program actually was responsible for the improvements seen, it would be important to know if its effects will last beyond the five-month follow-up period. If it does have long-term effects, it would then be important to evaluate the charisma training with leaders in other kinds of organizations and at other levels of leadership. It will take time and a lot of research to explore these matters, but if charisma can indeed be taught, we may someday see candidates for political office lining up to learn it.
An Overview of Industrial and Organizational Psychology

Industrial and organizational (I/O) psychology is the science of behavior and mental processes in the workplace. I/O psychologists not only study the psychology of the workplace but also apply psychological research to enhance the performance of employees and organizations and to improve the health, safety, and well-being of employees. I/O psychology grew out of experimental psychology early in the twentieth century as psychologists began to apply laboratory research to workplace problems.

Assessing People, Jobs, and Job Performance

The development and evaluation of methods for assessing employees, jobs, and job performance is one of the main areas for scientific research in I/O psychology.

Knowledge, Skills, Abilities, and Other Characteristics

The human attributes necessary for doing jobs successfully are referred to collectively as KSAOs, which stands for knowledge, skill, ability, and other personal characteristics.

Job Analysis

A job analysis is the assessment of jobs and job requirements. It may be job-oriented (describing job tasks), person-oriented (describing the KSAOs necessary to perform job tasks), or personality-oriented (focusing on specific personality traits associated with success). Organizations use job analysis information for many purposes, including to guide employee hiring and training.

Measuring Employee Characteristics

The three main methods used to measure employee characteristics are psychological tests, interviews, and assessment centers. Tests can focus on employees’ knowledge, abilities, skills, and other characteristics, such as personality traits. A job applicant interview is designed to determine an applicant’s suitability for a job. It can be structured or unstructured, but structured interviews are far more effective in selecting successful employees than unstructured interviews, in which no preplanned questions are asked. An assessment center is an extensive set of exercises used to determine if a person is suited for a particular job.

Measuring Job Performance

Most organizations give an annual job performance appraisal to all employees. Much like a school report card, these appraisals describe how well a person is doing in various job domains. Performance is measured in relation to general (theoretical) criteria as well as in relation to more specific (actual) criteria.

Methods of Performance Appraisal

Objective measures of performance appraisal rely on counting behaviors or the results of behaviors. These measures are valuable, but they are not appropriate for evaluating performance in jobs that have little or no objectively measurable output. Subjective measures can be used in any job situation, but because they rely on supervisor ratings of performance, they may be distorted by judgment bias or error.

Recruiting and Selecting Employees

Assessment tools are used frequently by I/O psychologists to help hire people who will be best able to succeed in particular jobs.

Recruitment Processes

The first step in effective recruiting is to determine what employees are needed and then to attract applicants to fill those needs, using employment agencies, newspaper and Internet advertising, and campus visits; encouraging nominations from current employees; and accepting walk-in applications.

Selection Processes

The I/O psychology approach to hiring is to use scientific principles to match the needs of the job to the KSAOs of applicants. Establishing the KSAO requirements of a job helps determine which employee assessment tools will be most appropriate, and validation studies may be used to confirm that particular scores on the chosen assessments actually predict success on the job.

Legal Issues in Recruitment and Selection

Many industrialized countries have established laws and regulations barring discrimination in hiring, firing, or promotion based on ethnicity, age, gender, or any other characteristics unrelated to job performance.

Training Employees

I/O psychologists help organizations establish the need for training, design training methods and content, and evaluate the outcome of training.

Assessing Training Needs

Using a training needs assessment, organizations determine what training employees need to perform their jobs safely and well. Training needs assessments can focus on what KSAOs are required for specific jobs, on what training employees say they need, and on the objectives of the organization, such as to improve production and decrease accidents.

Designing Training Programs

The design of training programs is guided by research on the processes through which people acquire new information and skills. These principles, such as generalization, reinforcement, insight, and practice, are translated into employee training that emphasizes transfer of training (applying newly learned skills in the workplace), feedback (providing reinforcement for progress, as well as guidance and encouragement following errors), training in general principles (providing “big picture” information to show the relevance of training), over-learning (practicing new skills to the point of automaticity), and sequencing (distributing training over time to improve learning and retention).
Evaluating Training Programs
A training program can be evaluated in terms of how trainees felt about the training (training-level criteria), what trainees actually learned during training (trainee learning criteria), and the degree to which trainees used what was learned during training in doing their jobs (performance-level criteria).

Employee Motivation
Motivation in the workplace refers to factors that influence the direction, intensity, and persistence of employees’ behavior. Three motivational theories have special workplace applications.

ERG Theory
ERG theory divides human needs into existence needs (such as food and water), relatedness needs (e.g., social contact), and growth needs (the development and use of one’s capabilities). It suggests that the strength of each type of need affects workers’ motivation to do their jobs well.

Expectancy Theory
According to expectancy theory, employees work hard if they expect a valued reward to result from their efforts. These expectations and the value placed on particular rewards differ from person to person.

Goal-Setting Theory
Goal-setting theory suggests that workers’ motivation stems mainly from their desire to achieve short- and long-term goals. Organizations are advised to help employees set clear, specific goals that are challenging but not impossible.

Job Satisfaction
Job satisfaction is a cluster of attitudes that reflect the degree to which people like their jobs.

Measuring Job Satisfaction
Job satisfaction is usually assessed using questionnaires that ask employees to say how they feel about their job in general (global approach) or about pay, supervision, or other specific job components (facet approach).

Factors Affecting Job Satisfaction
I/O psychologists have studied several environmental and personal factors that can influence people’s job satisfaction. Among the environmental factors are the requirements of the job, how much it pays, and how it affects workers’ lives outside the workplace. Among the personal factors are workers’ gender, age, and ethnicity. For the most part, complex jobs tend to be more satisfying than simple jobs. Salary itself may be a less important factor in job satisfaction than the fairness of the salary system. Excessive work-family conflict can reduce job satisfaction. Because of temperament and experience, some individuals may have a tendency to be more satisfied with their jobs than others.

Consequences of Job Satisfaction
Job satisfaction has been associated with better job performance and with organizational citizenship behavior, but it isn’t clear if satisfaction is a cause or an effect of these attributes. Job dissatisfaction is clearly at work in causing people to quit their jobs (turnover) but has a smaller effect on absenteeism. Job dissatisfaction can also lead to aggression and counterproductive work behavior (CWB) such as theft or sabotage. CWB is especially likely among dissatisfied employees who work under conditions of high stress and low perceived control.

Occupational Health Psychology
Occupational health psychology is concerned with psychological factors that affect the health, safety, and well-being of employees.

Physical Conditions Affecting Health
A number of physical conditions in the workplace can affect health, including infectious agents, toxic chemicals, dangerous machinery, and stressors such as the need to perform repetitive actions.

Work Schedules, Health, and Safety
Work schedules have implications for health and well-being. Rotating shift work, extended shifts, and longer-than-normal workweeks have been associated with a variety of problems ranging from fatigue and sleeping problems to substance abuse and increased risk of heart disease.

Stress, Accidents, and Safety
Most accidents in the United States occur away from work, but workplace safety is still a major concern. Reducing workplace accidents can be accomplished not only by reducing occupational stressors but also by promoting a climate of safety. Workplace accidents are least frequent in organizations that provide rigorous safety training, conduct frequent safety inspections, and encourage adherence to safety procedures.

Work Groups and Work Teams
A work group is a collection of people who interact on the job, whereas a work team is a group in which members depend on one another as they work at specialized, coordinated tasks aimed at accomplishing a common goal.

Autonomous Work Groups
Unlike traditional, closely supervised work teams, autonomous work groups are assigned tasks and then allowed to manage themselves, solve their problems, and even influence hiring and firing decisions, all of which tends to result in greater job satisfaction among autonomous work group members than among members of traditional teams.

Group Leadership
Leaders direct or supervise the activities of others, set group and organizational objectives, and ensure that employees perform their assigned tasks. Certain characteristics, such as intelligence, tend to be universally seen as a desirable leadership attribute; others, such as a willingness to take risks, may not be seen as ideal in all cultures. Two dimensions of leadership style have been found to exert strong effects on employees’ performance and job satisfaction. Consideration, which means showing concern for the welfare of employees, is associated with relationship-motivated leaders, while initiating structure (coordinating employee efforts by assigning tasks) is associated with task-motivated leaders. Leaders who are low on consideration tend to have less satisfied employees and higher turnover rates.
than those who are high on consideration. Leaders high on initiating structure may also create such problems, unless they are also high on consideration. Leader-member exchange theory suggests that leaders adopt different styles toward ingroup and out-group employees. Charismatic leaders have the ability to influence and inspire employees to accomplish things they would not have done on their own. Charisma tends to promote job satisfaction in employees, and there is some evidence that training programs may help managers enhance organizational effectiveness by becoming more charismatic.

**LINKAGES TO FURTHER LEARNING**

Now that you have finished reading this chapter, how about exploring some of the topics and information that you found most interesting? Here are some places to start.

**Books**


**On the Internet**

Access an integrated eBook and chapter-specific learning tools including flashcards, quizzes, videos, and more. Go to CengageBrain.com.

**CENGAGENOW**

Want to maximize the value of your online study time? Take this easy-to-use study system's diagnostic pre-test, and it will create a personalized study plan for you. By helping you identify the topics that you need to understand better and then directing you to valuable online resources, it can speed up your chapter review. CengageNOW even provides a post-test so you can confirm that you are ready for an exam. Go to CengageBrain.com.

**TALKING POINTS**

Here are a few talking points to help you summarize this chapter for family and friends without giving a lecture.

1. Industrial and organizational psychology is the science of behavior and mental processes in the workplace.
2. The tests and interviews that employers use to select employees are meant not just to choose the best candidates but also to find people who will be the "best fit" in their organizations.
3. To get the fairest picture of employees’ job performance, some organizations collect ratings not just from their supervisors but also from their peers and subordinates.
4. It is illegal for employers in the United States to base hiring or firing decisions on any criterion (such as gender or ethnicity) unrelated to job performance.
5. Job satisfaction is not always related to salary; other factors—such as fair treatment and a sense of control at work—can be at least as important.
6. Many organizations have adopted family-friendly policies such as flextime to help reduce work-family conflict and increase job satisfaction.
7. Stress and lack of perceived control can be at the root of employee theft and workplace aggression.
8. Autonomous work groups supervise themselves and can be at least as productive and satisfied as groups that receive closer supervision.