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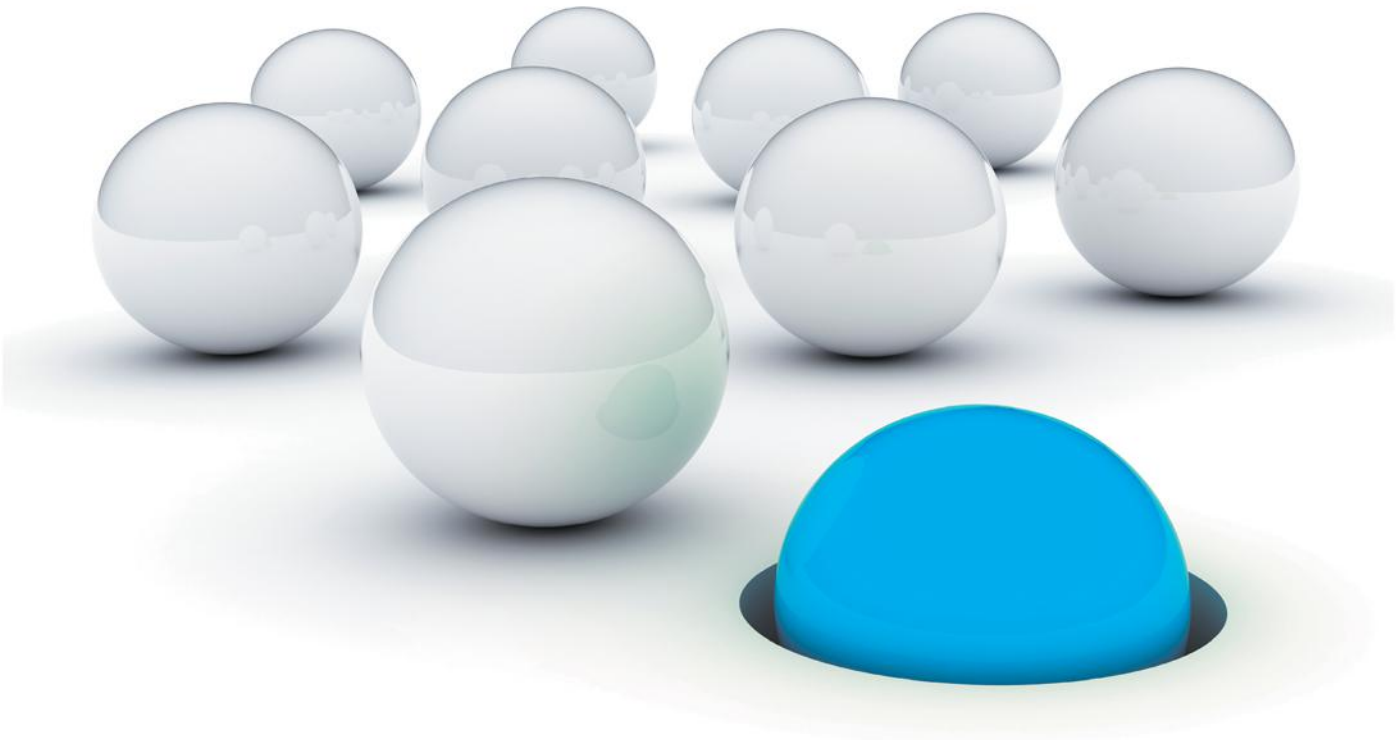

human resource selection

Gatewood | Feild | Barrick

HUMAN RESOURCE SELECTION

EIGHTH EDITION

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Human Resource Selection, Eighth Edition

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DEDICATION

To those whom we love and who have made our lives very, very, happy and fun—Chris, Claire, Courtney, Eithne, Huon, Ivy, Jenn, Jennifer, Mason, Mikaela, Nat, Owen, Sarah, and Taylor.

And to some of the memorable teaching moments that now bring smiles to our faces and help us keep our work and lives in perspective—

A student came up after class and said, "I missed class yesterday and just wanted to ask if you did anything important." I was appalled because I thought that all the stuff I did in class was important or else why would I do it. I thought for a moment and said, "It was a day like the rest of the days." Naturally I expected the student to realize from my response that he had erred and to start the conversation again beginning with an apology. He said, "Good! I just thought I should ask in case there was something important that I should know about." Want to guess what the student's final grade was? Well, you don't have to because it wasn't very important for his graduation!

* * *

I was lecturing on validity one Monday morning. I was really into the topic (the class?—not so much). Anyway while I was lecturing, a woman on the front row all of a sudden projectile vomited. Shockingly, the long, white stream shot up toward the ceiling and was coming down at me! I spun on the heel of my shoe and contorted my body to get out of the way in time. While this was going on, the student got up from her desk, left her open notes, and proceeded out of the classroom to a water fountain just outside the classroom door. The remaining students had no immediate reaction other than being stunned. After drinking some water, she walked back into class as if nothing had happened, took her seat, grabbed her pen, and then raised her hand to speak. I was shocked to say the least. (If it were me, I would have dropped the class and hoped to never be seen again.) I called on her, and she said, "Would you mind repeating what you were saying about validity?" Now, that's what I call "a serious student." Nonetheless, I stayed on the side of the room for the rest of the class.

* * *

A student asked if it was really necessary to buy the book to take my selection class. Based on the incredulous expression on my face, he then went on to opine that since I was one of the authors, couldn't I just summarize all the important material that was going to be on the tests in my lectures? What really left me speechless was his concluding comment, "after all, this isn't rocket science. All you have to do is listen to your gut and you'll know who to hire." I don't think this story will embarrass the student who was involved because I am sure that he will not read it. Based on his subsequent grade, I am sure that this student didn't read the book for the course much less any other selection book.

BRIEF CONTENTS

CONTENTS

ACKNOWLEDGMENTS

One of the nicest aspects of writing a book is that it presents a formal opportunity for the authors to thank individuals who have had positive influences on both them and this text.

Bob Gatewood. I thank my very smart and loving wife, Chris, for her advice on how to present some of the material in this book in an understandable way (rather than the way that I originally wrote it). Chris knows how to convey academic knowledge in clear and interesting ways to those who don't think like an academic but may have to use the information. Even more importantly, she put up with my complaining about having to work on "The Book." I am a terrible patient when I am sick, carrying on about how bad I feel and how others can help me. I am worse as a book writer. I thank each of my four children who have contributed to the various editions of this book in different ways. My oldest two, Jennifer and Nat, actually developed the topic and author indices for the first several editions. They have by now trained their children, my grandchildren, to ask what grandfather's book is about. Of course, I tell them in great detail. They seem very interested, even though I know they do not have the slightest idea of what I am saying. I guess in that way they are preparing for college. My younger two children, Mikaela and Mason, often ask "How is your book going, Dad?" They then congratulate me on any progress and tell me to hang in there because I am almost finished. They also ask what the book is about and have the same reaction as the grandchildren. Maybe this is because they all are about the same ages. At any rate, the interest and love of all of these people have been valuable and important to me. It is good to have personal and professional parts of one's life mix so well.

Hubert (I prefer "Junior") Feild. In writing a book, and for that matter, even a research article published in an academic journal, most authors are aware that their publication resulted, in part, because of other individuals who played key roles in their personal and professional development. I am one of those authors; there are so many to whom I am indebted.

I'm particularly grateful to Art Bedeian, who gave me the opportunity to work with Bob Gatewood, a wonderful friend and colleague, and Murray Barrick, a good man and one of the top names in our field, to explore some of the mysteries of human resource recruitment and selection. Without Art's encouragement, this book would not have been published, and I would have missed the opportunity to work with two great colleagues. My coauthors and I have been able to laugh together through eight editions of this book.

In learning about assessment, several former professors of mine were most instrumental—William Owens, Lyle Schoenfeldt, Bob Teare, and Jerry Bayley. My colleagues at Auburn have been particularly helpful in "keeping the buzzards off" and "keeping me vertical and on this side of the dirt." These include Achilles and Wilma Armenakis, Art Bedeian (now at LSU), Bill Giles, Stan Harris, Bill Holley, Brian Connelly, and Kevin Mossholder. My past doctoral students, namely Brett Becton, Katherine Buckner, Michael Cole, Robert Hirschfeld, Amy Livingston, and Jack Walker, have made me very proud; I learned and continue to learn so much from them. Thanks, folks! I (N4CLT) am also indebted to Bill Alsup (N6XMW) who has entertained and challenged me (physically and mentally) since age 5. (To hear some of our ham radio discussions, use a shortwave radio to tune into 14.190 MHz on Saturdays at 9:30 a.m. CST.)

In addition, I am indebted to my family. The first is Claire, my wife. She's listened to my many comments regarding chapter writes and rewrites, patiently put up with my idiosyncrasies and shenanigans (e.g., wearing t-shirts to work and other inappropriate places, installing a 50-foot-tall ham radio tower beside our house with a 25-foot horizontal beam antenna having five elements at the top), and yet has always loved, supported, never nagged, and encouraged me to be me. What more can one ask of a spouse or, for that matter, another person? Taylor (my Main Man) is a wonderful son, professional colleague, and close friend. He has provided guidance, counsel, support, and simply brought joy to me throughout my life in ways he could never imagine. My grandchildren, Huon (My Man) and Ivy (My Girl) are lights of my life. In the future, I look forward to watching Owen light my life as well. I simply did not know one could feel like I do about these kids. I also thank Bernice and Hubert Feild (my parents) and Carole and Ridley Parrish (my sister and brother-in-law) for their unwavering support throughout my 70 years. Finally, Catherine Helmuth is a hero of mine. She is a role model who reflects intelligence, grit, and humanness to all who encounter her. She demonstrates daily the plasticity and determination of people faced with challenges and that one can succeed (no matter how one defines success) and "keep on keeping on." Soon, she will make a fine faculty member for a most fortunate university.

Murray Barrick. I suspect I might be the luckiest person on Earth. While I did not know anything about selection when my wife and I started dating back in high school, I certainly made an excellent choice and have benefited from that good recruiting decision. In retrospect, I now realize this was a very lucky outcome indeed, given my applicant pool was not as plentiful as it should have been. Education has been the other fortunate opportunity for me, as I have had some outstanding teachers who were willing to invest in my path of lifelong learning. Although numerous people have directed and impacted my progress over the course of my life, a few mentors have been particularly influential including: Mrs. Anfinson, Mr. Herbst, David Whitsett, Ralph Alexander, Frank Schmidt, Mick Mount, John Hollenbeck, and most recently, Ricky Griffin and Mike Hitt. It is simply impossible to acknowledge the numerous ways my life was improved by being around you all. And every day, I have the unique opportunity to work with some of the smartest and most amusing academic colleagues (both faculty and Ph.D. students) in the entire field of HR. Thank you for converting the hours and hours I spend in the office into playtime rather than worktime.

Finally, I would like to acknowledge how fortunate I am to work with these two coauthors in revising this book. It has been a joy interacting with them as we hashed through the plethora of issues and concerns associated with selection and life.

No acknowledgment would be complete without recognizing the inestimable love, inspiration, and confidence my family has delivered. My wife Sarah and daughters Courtney and Jenn are the wellspring from which I draw motivation for everything I achieve. You three explain why I feel like the luckiest person around. Of course, this would not have been realized if not for the unflagging support, encouragement, and sacrifice provided by my parents Ray and Marietta Barrick and my in-laws, Jack and Bea Burt. You taught me to plan my work, then work my plan. I remain forever indebted to all of you.

Several people have been instrumental in reviewing this book. We especially thank the following reviewers for their time and comments, which improved the various editions:

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In closing, the people at Cengage were, of course, a main force behind this edition. We appreciate the hard work and dedication from our colleagues at Cengage who made this revision possible. A special thanks goes out to Mike Roche—Senior Product Manager, Jeffrey Hahn—Developmental Editor, and Rajachitra Suresh—Project Manager at Cenveo Publisher Services.

ABOUT THE AUTHORS

(Note: Each of the brief biographies has substantial contributions that are written by the other two coauthors. Therefore, they go a bit further than merely extolling each person's many achievements.)

ROBERT D. GATEWOOD had an uneven start to his career. Specifically, he attended three different universities for his undergrad degree. He started in one that his father picked for him because it offered a financially-needed scholarship. He accumulated many credits but didn't have much fun. So he dropped engineering as his major (much to his father's disgust), and transferred to an unnamed university in New Orleans. There, he became the embodiment of a very immature male in a sin-inducing city. Luckily, he was broke by Thanksgiving and saved his academic career by transferring to Washington University in St. Louis where he finished his degree after 3½ total years at college and losing 18 credits by transferring. Better yet he was a psychology major. He then went to Purdue University for grad school not only because of its excellence, but also it had good sports teams to watch and occupy his time.

Once in grad school, Bob learned that taking just three courses a semester actually consumed him. After completing his Ph.D. in industrial psychology, he worked as a consultant and then joined academia. His first position was as a member of the Department of Management at the Terry College of Business, University of Georgia. Thinking he may stay 5 years, Bob left 34 years later. During these years, Bob climbed the academic ranks from assistant to full professor and pursued an administrative career at Terry as a department chair and associate dean in the College of Business. Bob commented on several occasions, "I never saw an academic committee I didn't like." An indication of how well he did these jobs is contained on a plaque that he received when he retired that thanked him "… for his creative solutions to problems and unfailing sense of humor"—no mention, however, of how good these solutions were. Bob was also elected to five executive positions, including President, within the Human Resources Division of the Academy of Management. At the conclusion of his service, someone commented that the HR Division "… will never be the same." Debates still occur among the Academy as to precisely what that comment meant.

Since leaving the University of Georgia, Bob has lived in Fort Worth, Texas; Denver, Colorado; Lexington, Kentucky; and as of this writing was moving to Garden City, New York. On a personal level, Bob got lucky and has a very talented wife, who has built an exceptional career in academia both in research and in university leadership, serving as a Dean, a Provost, and University President. Bob celebrates her success and has enjoyed numerous good seats for events such as college football, hockey, lacrosse, Denver Bronco games, and NCAA basketball tournaments. It's like grad school was supposed to be. Over the years, Bob has been active with his four children by coaching his sons' various teams. Both sons are excellent soccer players—a sport he never helped them with. His sons think that is probably a key to their success. With his daughters, Bob has enjoyed keeping up with whatever bands are currently popular, the drama of middle and high school, but not with boyfriends. For his older daughter he called each one "Ralph" figuring why bother to learn the name of a short time visitor. For his younger daughter, he has dropped names and uses "The Boy." It is even easier to remember.

Bob really enjoys working on this selection book with his two coauthors every 3 or 4 years. He finds his interactions with Murray to be intellectually stimulating and complex. He finds his interactions with Jr. to be a much needed comic relief to the intense intellectual environment that he and Murray share.

HUBERT S. FEILD (I prefer "Junior") There are four things that you need to know about Feild to understand him completely. First, he has lived in the same house in Auburn, Alabama, for 42 years; second, in the year 2000 he threw out all clothing except for jeans, shorts, t-shirts, and tennis shoes because he never wore anything else; third, he refuses to go to professional meetings or to serve on academic journal review boards because these take too much of his time; fourth, when he was in college, a girl gave him a baseball signed by the 1927 New York Yankees team. He said "thank you" but did not ask why she gave it to him or how she got it. Even worse, he took it home, went back to college, and never saw it again. Never asked his parents what happened to it. Can you say "inquisitive"? Apparently Jr. can't. Would you say "individualistic" to describe Jr.? No, well try "eccentric"! He went to Mississippi State for undergrad school and played third base on great baseball teams. He was asked if he was interested in a contract for pro baseball from the Los Angeles Angels but said no because he had agreed to go to work with Humble Oil (now Exxon), which he quit after 5 months. Something about having regular hours and having to wear business dress.

Jr. received his Ph.D. in industrial psychology from the University of Georgia. While there he met Bob Gatewood, another author on this book. They have been good friends for over 40 years mainly because they have seen each other only four times during that time. They get along very well if it happens only once every 10 years. Murray Barrick has taken this fact to heart, which explains why he has not met Jr. First he would have had to travel to Auburn to do that, and second Gatewood has told him to wait 10 years for the first meeting. Then another 10 for the second.

Jr. has been both an impactful and influential faculty member during his time at Auburn. He has published consistently in the leading research journals in both management and psychology in a number of the major areas of human resource management; but especially in selection. In doing this he has been very successful as a mentor and friend of his many Ph.D. students who have gone on to be successful themselves. He has remained a true friend and a strong support network for all of these. Jr. is also an excellent teacher. Most of his classes are in selection or in other HR topics. His usual strategy is to develop in-class exercises to demonstrate principles in the text. He has shared these with his two coauthors of this book who have equally experienced success with these. Both of them attribute Jr.'s success to the fact that he thinks like 19- to 21-year-olds, especially immature ones. It is quite natural for him to come up with things to do that answer questions pertinent to this age group. It's adults that he has trouble dealing with.

Of his many fine attributes, perhaps Jr.'s strength is that once a friend, always a very good friend. This means that he is fun to be with, laughs at jokes about himself (which are numerous), does what he says he is going to do, and treats others with respect and emotional understanding. He could be the most popular person in the United States if he would ever leave Auburn and meet people. Of course the rest of the United States would have to have 10 years to get used to that thought.

MURRAY R. BARRICK is the thought leader of this book—partially because Feild does not think and Gatewood has known Feild too long to think. Murray proved how smart he was with this edition. He was the one who came up with the idea of making major changes to the conceptual framework of the book and then got Gatewood to write

the chapters that were the most work because they explained the changes. As will become apparent, manipulating coauthors is an effective strategy for him. Murray attained his Ph.D. in industrial and organizational psychology (the same degree as the other two authors) from the University of Akron. His main reason for getting this degree is that he has always wanted to be like Gatewood since he was a small boy. If he would have known that Feild was an I/O psychologist, he probably would have gone into physics.

Murray has been quite successful. Currently, he is a University Distinguished Professor, the Robertson Chair at the Mays Business School at Texas A&M, and Director of the Center for Human Resource Management (all of which is very hard to get on one business card so he hands out flash drives instead). Following Gatewood's example again, he has spent time as Department Head of Management while at A&M. (It was a tossup as to who was happier about the end—Murray or his faculty.) He has also been a faculty member at the University of Iowa (twice, something to do with a bad penny) and Michigan State. Hence, he has frequently been involved in either trying to get a job or deciding whom to hire. And yes, he uses a structured interview and tries to assess each candidate's personality when visiting with them. Murray is famous because of his 50 published articles (all with coauthors) in research journals and numerous presentations (yep, coauthors) at professional meetings (Gatewood asked him to stream these presentations because he wants to sell the link to people who have trouble sleeping). Even more importantly to academics, is that these articles have been cited nearly 7,000 times. (This means that the article title has been printed in the reference section of other research articles. It doesn't necessarily mean that the article has been read.) His first publication as an Assistant Professor, published in 1991, has been cited over 2,000 times alone. The other two authors of this book, based on their own experiences, think all of this publication stuff is further proof that he is really good at selecting hard working coauthors and then manipulating them. Again mimicking Gatewood, Murray was elected as President of the HR Division of the Academy of Management and completed that 5-year term. His success can be measured by the question he was asked by a division member the year after concluding his term, "Barrick would you ever consider running for President of the HR Division?" When he is not maneuvering coauthors, Murray and his wife travel. They go anywhere that someone pays their way. So, he has served as a keynote speaker in South Africa and Australia, and has given a series of tutorial workshops in New Zealand, Switzerland, Israel, Saudi Arabia, and New Jersey (somehow he thought this was a distant country). When they stay in the United States, they head north and have been many places between Bar Harbor, Maine, and Puget Sound, Washington. This is the third edition of this book for which Murray has contributed his selection expertise. Given this, he now feels he has fully paid his dues and looks forward to the opportunity to actually meet one of his coauthors, Jr., before the next edition of the book. Gatewood thinks this is a mistake, like thinking that New Jersey was a distant country.

PART 1

FOUNDATION FOR A SELECTION PROGRAM

In today's competitive business environment, managers in organizations are quite interested in increasing the performance of their employees. Their hope is that this increased performance will provide a competitive advantage over other firms. Many tactics and methods have been developed to enhance performance. Some, such as customer service and employee involvement programs, are organization-wide tactics. Others, such as the redesign of particular jobs and the improvement of communication between a manager and a work group, are specific to parts of the organization. In either case, almost all of these performance-enhancing tactics are based on the assumption that employees of the organization have the necessary capabilities to do the work. These tactics allow employees to use these capabilities more effectively.

Because having capable employees is so important for success, it is obvious (at least to us) that selection is the basis for employee performance. It identifies those individuals who have the characteristics to perform a job well. If employees do not have the appropriate talents for the jobs to which they are assigned, programs to improve performance will be unsuccessful. For example, changes such as increasing employees decision making or involving employees in customer satisfaction issues assume that employees can diagnose problems, evaluate alternative solutions, implement one of these alternatives, and communicate effectively with others. If, however, the employee does not have the necessary abilities to do these tasks, these changes may result in a decrease in job performance rather than an improvement.

We know that this description of selection brings an important question to mind: "Because selection is so important to the performance of employees, all organizations must have excellent selection programs—right?" Unfortunately, there is ample evidence that many selection programs in organizations do not function as well as they should. An appropriate match between worker talents and job demands frequently is not achieved. That is the downside. The upside, at least for us, is that selection programs often can be improved fairly easily, and that creates the need for this book. Selection programs can be useful if (a) proper steps are taken to develop selection instruments that collect job-related information from applicants and (b) this information is then used appropriately in making selection decisions. As you probably have guessed, the purpose of this book is to go into much (some say much too much) detail over how to accomplish these two objectives. Part 1, "Foundation for a Selection Program," explains the information that is necessary to gather and to understand before a selection program can be designed. (The word *foundation* in the part title also might have given a hint.) The five chapters in Part 1 should give you an understanding of these topics:

1. The steps to be taken in developing a selection program.
2. The various forms of job performance.
3. The steps necessary to identify worker characteristics that lead to job success.
4. The specific legal demands of selection. These demands take the form of laws, executive orders, court decisions, and guidelines for selection practices.
5. The composition of recruitment programs that will attract appropriate applicants.

CHAPTER 1

An Introduction to Selection

DEFINITION OF SELECTION

In a time of increasing global competition, every organization is concerned about the level of work performance of its employees. This is because the performance of employees is a major determinant of how successful an organization is in reaching its strategic goals and developing a competitive advantage over rival firms. Therefore, influencing the work performance of employees is a major objective of organizations. Fortunately, there is agreement about how this can be accomplished. Organizational specialists have determined that an individual employee's work performance is made up of two factors: the ability of the individual and the effort that the individual puts forth.

Both of these factors can be influenced by the organization. Ability is a function of two organizational practices, selection, and training. An organization either finds individuals with the characteristics to do the work or it develops those characteristics in existing employees. Effort is a function of the organization's numerous practices for motivating employees. These practices include almost every topic found in an introductory management course, such as employee participation programs, compensation, goal setting, job design, and communication between managers and subordinates. All of these motivation practices, however, assume that the employee has the characteristics to perform the job. Motivation practices are intended to get the employee to use these characteristics in a concerted and continuous manner. Selection, in our unbiased but passionate viewpoint, is critical for an organization.

In this text we will use the following definition of human resource (HR) selection:

> Selection *is the process of collecting and evaluating information about an individual in order to extend an offer of employment. Such employment could be either a first position for a new employee or a different position for a current employee. The selection process is performed under legal and market constraints and addresses the future interests of the organization and of the individual.*

This is much too long to memorize. We will try to make it understandable so you can use it to meet people the next time you go out. (Like asking someone, "Hey what is your favorite selection text?") This works every time.

Collecting and Evaluating Information

The basic objective of selection is to separate from a pool of applicants those who have the appropriate characteristics to perform well on the job. We cannot assume that everyone who applies for a job is qualified to actually perform it well. Therefore, to separate the

qualified applicants from those who are not qualified, the selection specialist must systematically collect information from the applicants about how much of the necessary characteristics each possesses. These characteristics are human attributes that can be demonstrated to be related to performance of the job of interest, and we will refer to these with the acronym *WRCs* (work related characteristics).[1] We also will discuss in great, great detail in later chapters the major types of WRCs, how they are determined, and how they can be measured. (These chapters will provide you with even more lines to use at parties!)

[**An Important Aside:** Those of you who have had experience in human resources (HR) or who have taken previous HR courses may be familiar with the term KSAs. This term is the traditional one that has been used to refer to human characteristics that are related to work. However, this term refers only to knowledge, skills, and abilities (hence, KSA). Selection specialists have long used other characteristics in selection, such as personality, which are not strictly KSAs. We use WRCs because we think it more accurately describes the range of human characteristics that are of interest to selection and HR.]

This systematic collection of information about characteristics of applicants can range from being fairly simple to very complex. For some jobs, a brief interview may provide all the data necessary to evaluate the applicant. For complex, managerial jobs, it may be necessary to use interviews, tests, job simulations, or other measures to properly assess candidates. A major purpose of this book is to discuss the various devices that are used to evaluate applicants.

Our use of the term *selection* does not include all offerings of employment that may occur within a firm. We make a distinction between selection and hiring. Selection, as we have just said, occurs when job-related information is collected from applicants and offers of employment are given to those who apparently possess the necessary levels of WRCs to do well on the job. Often, however, offers of employment are given with no evaluation of the applicant's job-related qualifications. We refer to this type of employment as *hiring*. One example of hiring occurs when family members, friends, or relatives of customers are given jobs. In these cases, employment is based primarily on one's relationship to a member of the organization, not on the possession of job-related qualifications. Such hiring is not necessarily inappropriate, nor does it always lead to employing incompetents. It is simply not selection as discussed in this text. Hiring also occurs when a company desperately needs individuals to fill unskilled or semiskilled positions within a very short period of time. As a result, the organization does little or no evaluation of the applicants' WRCs. Availability is the critical variable.

Selection for Initial Job and Promotion

You may think that selection refers only to choosing people for their first jobs with the organization, and not to the promotion or transfer of existing employees. We don't think that way. The basic objective is common in both selection situations. The company should be trying to collect job-related information from applicants for open positions so that it can identify individuals who have the best chance of performing well in the job activities and have a high level of productivity. There are, however, differences between selection for an initial job and selection for promotion.

Characteristics of Selection for an Initial Job

The following characteristics pertain to the selection of applicants:

1. Applicants are external to the organization. They are commonly students, people who have recently completed an education, those who are currently not employed, or those who are employed at other organizations.

2. Applicants are recruited through formal mechanisms such as media advertisement, Internet contact, employment agencies, and suggestions of present or former employees of the organization.
3. These recruitment mechanisms frequently produce a large number of applicants, especially when jobs are in short supply.
4. When there is a large number of applicants, the costs of selection become an important factor for an organization. Frequently, this number is reduced drastically by a brief selection instrument, such as an application form that collects only limited information. Only a small number of applicants complete additional selection instruments that gather more extensive information.
5. These remaining applicants go through a formalized program that has a series of steps such as interviews, ability tests, and job simulations.
6. Decisions about to whom to extend employment offers also are formalized. Either statistical analysis is used or multiple people meet to discuss the candidates and identify those who are offered positions.

Characteristics of Selection for Promotion

The following characteristics pertain to the selection of candidates for promotion:

1. Candidates are already internal to the organization—that is existing members of organization compete for a position.
2. A limited number of recruitment techniques are used, for example, postings of job vacancies either online or on bulletin boards, announcements by HR specialists or managers of the organization, and requests for nominations including self-nominations. Often no formal recruitment techniques are used. One or a small group of managers identify a small number of individuals who are thought to be able to do the job. Frequently these individuals do not even know they are being considered (are actual applicants) for the job.
3. Because the applicants are members of the organization, there is already a great deal of information about them, such as performance reviews, training records, work history, records of attendance, reprimands, awards, and so on. Few formal selection instruments are used.
4. Often the evaluation of applicants is not formalized—that is, the decision makers make the decision about whom to promote based on subjective decision making. As we will explain many times, we do not agree with such subjective selection decisions. Actually, we hate them.

Our view is that because internal and external applicant pools are so different, it is inevitable that selection of external applicants and promotion of internal ones seem to be very different. The fundamental task, however, is the same in both of these types of employment decisions and should be carried out as similarly as possible. There are more applicants than positions available. The decision maker must choose among applicants and identify the individuals who have the most developed WRCs. It is necessary to collect job-related information systematically for each applicant so direct comparisons of candidates can be made. Following these steps leads to better decisions being made more often. So, the truth and wisdom in this book is useful for both initial job selection and promotions. Matching the WRCs of individuals with the demands of the job is desirable and fair and should lead to a stronger economy. What more could you want out of life—or a textbook?

Constraints and Future Interests

From an organization's viewpoint, the selection decision is ideally made in circumstances in which the organization has a great deal of control over the number of applicants who seek the job, the information that can be gathered from these applicants, and the decision rules used by the organization in evaluating this information. The world, however, is not perfect for selection. For example, there are great fluctuations in the market of applicants, frequently the result of general economic or education conditions over which the organization has little control. Also, numerous federal and state laws and administrative rulings restrict both the information that can be gathered from applicants and the way this information can be evaluated. Equal Employment Opportunity laws and guidelines regarding discrimination in selection are good examples.

There is also a growing realization that the usefulness of the selection decision should be viewed in terms of its effects over time. The future interests of both parties must be considered in the selection process or the result will be less than optimal. Rapid and costly turnover, lower performance levels, and friction between an employee and the organization are among the results of a mismatch of interests.[2]

Now that you have a better understanding of what is meant by selection, our next task is to provide a clear overview of the various parts of this subject. To do this, the first chapter of a textbook frequently follows one of two paths: It either traces the history of the subject matter to the Greeks, Romans, and Egyptians, or it details how the subject relates to all that is important in the universe. We traced selection back to the Chinese, somewhere around 200 B.C. That reached only the Romans. Falling short of selection information for the Greeks and Egyptians, we adopted the second path for this chapter. The following sections, therefore, describe how selection is the foundation of all that is good. Specifically we will discuss how selection influences the performance of firms, how it relates to other human resource management (HRM) activities, and what HRM specialists must do to develop an effective selection program. We know you will be amazed. We hope you will gain a better understanding of the complexity of this field and the technical knowledge it requires. Our goal for the first chapter of the next edition of this book is to follow both paths—just to make the book longer—and, undoubtedly, more interesting. So please buy that edition, too. We think that Plato included his thoughts about selection when he wrote *The Republic*. That brings us back to the Greeks. Now if we can just find something about the Egyptians and selection!

Is There Evidence That Selection Is Important?

We summarize three studies that developed clear evidence that selection is significantly related to various types of performance of organizations. In one of these studies, Russell Crook and his colleagues focused on the importance of human capital, in our terms the WRCs, that were possessed by the members of organizations.[3] The resource-based theory of organizations holds that organizations can gain advantage over competitors by having and holding a valuable resource that is in short supply in the marketplace. If a resource is not in short supply, competitors of the firm could simply purchase the same resource and wipe out the competitive advantage of another firm. As the global economy becomes increasingly knowledge based, the acquisition and development of superior human capital is essential to a firm's success. The acquisition and development of human capital includes selecting and training employees. Analyzing the results of 66 different studies, the authors found that human capital, as measured by such variables as knowledge and skills, tenure, total years of experience, and education and training programs completed, was positively related to various operational measures of performance, such as

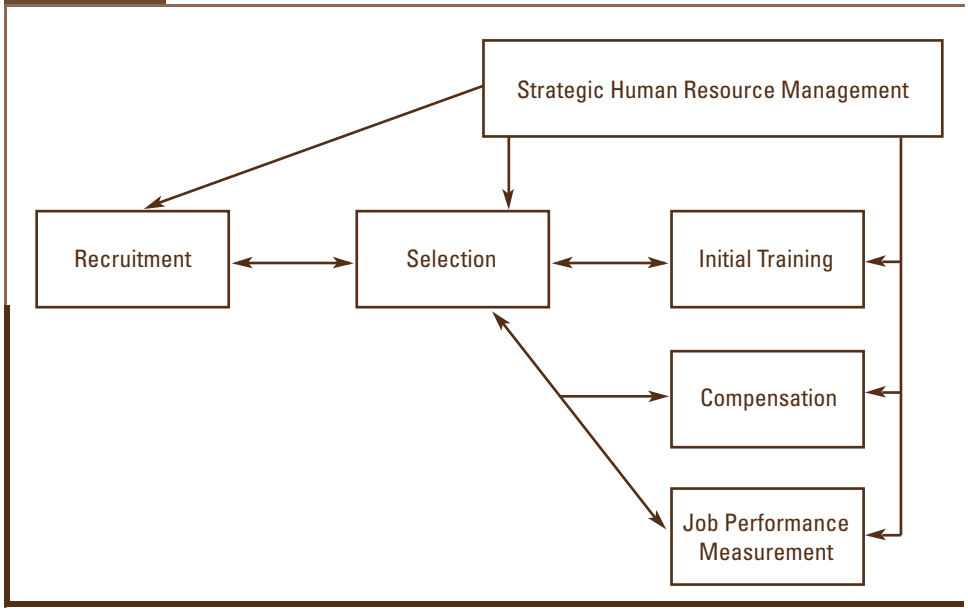
customer satisfaction and innovation, that were direct products of human capital and also were related to financial performance of the firm. A second study looked at the effects of staffing and training on firm productivity and profit growth before, during, and after the Great Recession.[4] The years studied included 1999–2011 and 369 firms were included. The results indicated that selective staffing (selection) and internal training directly influence a company's profit because they influence labor productivity. The authors' concluded that high labor productivity helped buffer the negative effects of the recession and also aided recovery during the recession. Moreover, selection and training had different effects. Training was more important for prerecession profitability, and selection was more important for postrecession recovery. The results clearly indicated that firms that more effectively select and train employees outperformed competitors throughout pre- and postrecession periods even after controlling for how profitable the firms were before the recession occurred. The third study looked at the performance of 861 different units of the same fast-food restaurant chain.[5] Contrary to what many think, there are large differences between units of the same chain in terms of both selection and training. For this research, selection was scored on the basis of what percentage of new, entry-level workers had scored at or above a score that was recommended by the chain for employment on the combination of five selection tests. It was possible to employ applicants who scored below the recommended minimum if there were sufficient other reasons to employ. Similarly, training was scored on percentage of total employees that had completed a recommended two-week training course. Results were that selection and training were related to customer service performance and retention, which, in turn, were related to unit financial performance, such as profits. Data collection and analyses were completed at several different time periods so that causality could be identified more easily. The authors' concluded that selection and training applied to even low-skill jobs could yield returns in terms of customer service, retention of employees, and profits.

SELECTION AND OTHER HUMAN RESOURCE SYSTEMS

In addition to selection, other HR systems important for employee performance include recruitment, training, compensation, and job performance review. The relationships among these human resource systems are shown in Figure 1.1. To get the maximum benefits from the HR systems shown in this figure, firms must design all of the HR systems so they greatly enhance employees' work performance.[6] Therefore, selection should be coordinated with the activities the firm carries out under recruitment, training, compensation, and job performance review.

For example, training is designed to teach necessary job skills and abilities to those individuals who have accepted a job offer as a result of the selection process. The content, length, and nature of training are affected by the level of the skills and abilities of the individuals selected. If these skills and abilities are well developed for the job, then minimal training should suffice. If the new employees' job skills and abilities are low, then training should be more extensive. Compensation and selection interact; on the one hand, the specific qualifications possessed by the individual selected may affect the amount that he or she is paid. On the other hand, the salary offer that is determined through the organization's recruitment and selection activities affects the applicant's decision to accept the offer or not. As we will frequently point out, selection and work performance measurement also are linked. The purpose of selection is to identify those individuals who will perform well on the job. Work performance data are used to design the selection system and also measure its effectiveness. These topics are discussed in both Chapter 2, "Job Performance Concepts and Measures" and Chapter 8, "Validity of Selection Procedures."

FIGURE 1.1 Interaction of Selection and Other HRM Systems

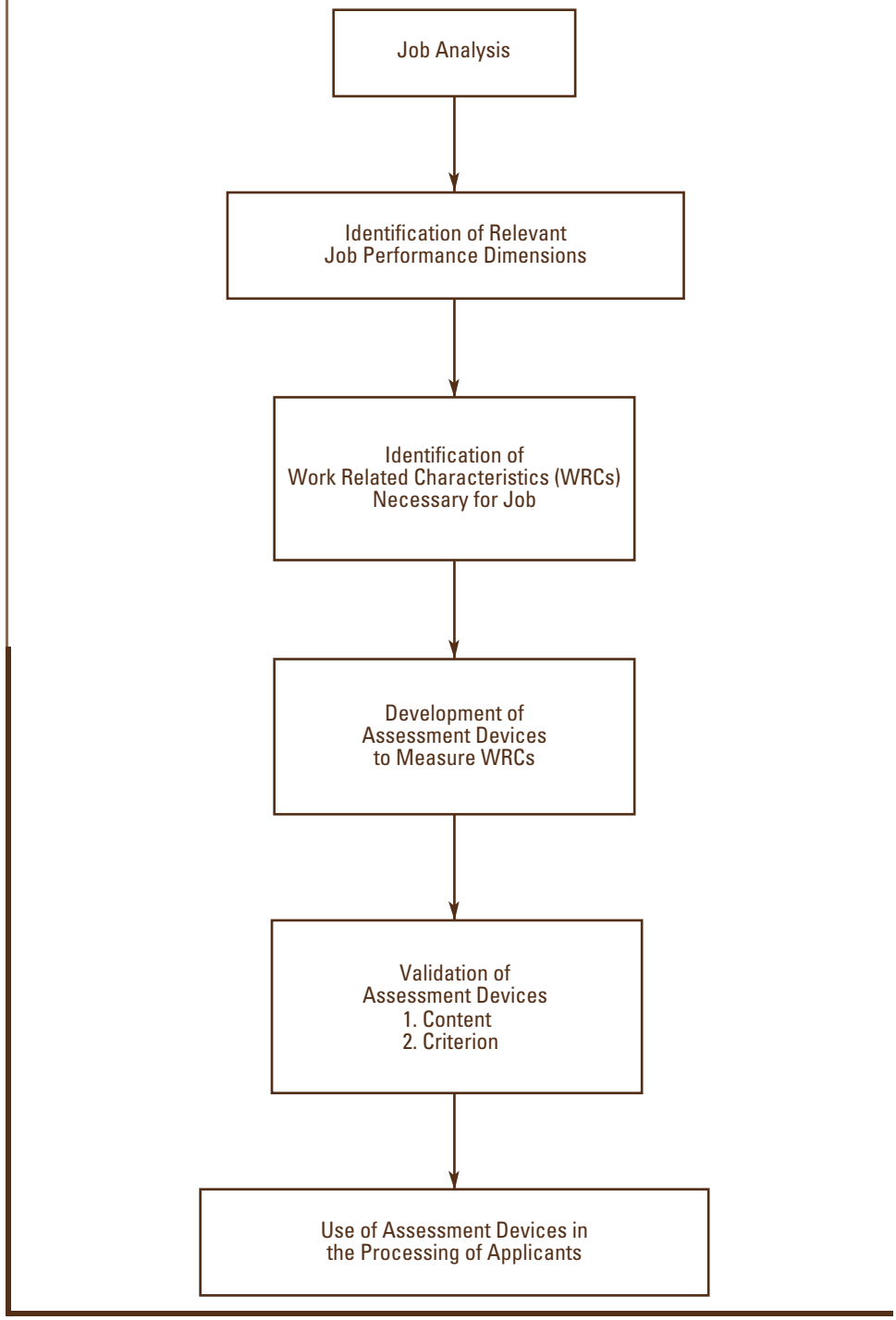


Selection is more closely related to recruitment than it is to the other HRM programs, because both recruitment and selection are concerned with placing individuals into jobs. Other HRM activities deal with individuals after they have begun working. We will define recruitment as those organizational activities (such as choosing recruiting sources, developing recruitment ads, and deciding how much money will be spent) that influence the number and types of individuals who apply for a position—and that also affect applicants' decisions about whether or not to accept a job offer.[7] We use this definition because it is important to think not only about attracting people but also about increasing the probability that those people will accept a position if it is offered. It is senseless to motivate people to apply and then turn them off when they do—but we all know this happens. Sara Rynes, in an extensive review of recruitment, points out the relationship between selection and recruitment.[8] At the very least, the WRCs of the job directly influence both the recruitment sources used and some of the specific information about the job that is included in the recruitment message. For example, an entry-level HR manager's position in a unionized manufacturing plant may require applicants to know about Equal Opportunity Employment laws, the interpretation of union contracts, and employee benefit plans. These requirements could limit recruitment sources to law schools, industrial relations programs, and HR programs. Also these knowledge requirements should be included in the recruitment message that is used. This information should help to reduce inappropriate applicants who may be interested in the position. We will go into much detail about recruitment in Chapter 5. See if you can control your curiosity and hunger to know about this topic until then.

DEVELOPING A SELECTION PROGRAM

We turn now to the way effective selection programs should be developed. HR specialists must complete a good deal of work before the selection process is applied to those who are being recruited. We contend that the adequacy of these developmental steps, illustrated in Figure 1.2, strongly determine the adequacy of the selection process. If little

FIGURE 1.2 Steps in the Development of a Selection Program



attention and effort are devoted to developing the selection program, its usefulness will be limited. If these developmental steps are seriously addressed, the usefulness of the selection program is maximized. Another way of viewing this issue is that what looks like a selection process itself can be implemented quite easily. An application form can quite easily be printed or purchased; interviews can be conducted without too much prior work; employment tests (with descriptions indicating that they should produce useful information for selection) can be purchased and administered to applicants. The crucial issue, however, is not whether an organization can collect information from applicants and then decide who among them are to be given employment offers. Obviously this is possible. Rather, the issue is whether the organization can collect information from applicants that is *closely* related to job performance and *effectively* use this information to identify the best applicants. It is the developmental steps of the selection program that make the information that is collected closely related to the job and useful in identifying applicants who have the WRCs to succeed on the job. The following paragraphs briefly describe these steps.

Job Analysis Information

If the purpose of the selection program is to identify the best individuals for a job, then information about the job should be the starting point in the development of this program. *Job analysis* is the gathering of information about a job in an organization. This information includes the tasks, outcomes produced (products or services), equipment, material used, and environment (working conditions, hazards, work schedule, and so on) that characterize the job. This information serves two main purposes. The first purpose is to convey to potential applicants information about the nature and demands of the job. This helps minimize inappropriate expectations. The second purpose is actually the more critical for the development of selection programs: The job analysis information provides a database for the other steps in the development of the selection program.

Identifying Relevant Job Performance Measures

A second type of information important for developing the selection program is determining how job performance is measured and what level of performance is regarded as successful. The main purpose of selection is to identify those applicants who will be successful on the job. To build such a program, selection specialists must know what constitutes success.

In many jobs in which individuals produce an object or meet customers, finding what should be measured and how much of this equals success is relatively straightforward. The objects can be counted and inspected for quality, or the customers who receive a service (for example, from a teller) can be counted and surveyed about their satisfaction with the service. There are other jobs, however, in which measurement of job performance is not as direct. For example, in team-based jobs, it is difficult to determine how much any one individual has accomplished. In research and development work, it may take an extended amount of time to translate an idea into a product. In situations such as these, the best source of information about job performance is usually the judgment of the supervisor or the other work team members. Whatever its source or nature, the information as to what constitutes successful job performance is used to help develop which WRCs are to be measured in the selection program.

Identification of Work-Related Characteristics

Using both job analysis information and job performance data, the HR specialist must identify the WRCs that a worker should possess to perform the job successfully. These WRCs become the basic pool of characteristics to be evaluated in applicants. This identification is difficult. As we discuss in Chapter 3, a few job analysis methods attempt to identify these WRCs directly. In most cases, however, HR specialists rely on their own judgments. *Work requirements, worker attributes, worker characteristics,* and *job requirements* are terms frequently used in the same context in which we use WRCs.

Development of Selection Measures

After the WRCs have been identified, it becomes necessary to either find or construct the appropriate selection measures or instruments. These measures can be classified into the following groups: application blanks, biographical data forms, and reference checks; the selection interview; mental and special abilities tests; personality assessment inventories; simulation and performance measures; and integrity measures There are two requirements for choosing selection devices to be used. The first is that the device must measure the WRCs the selection specialist has identified as needed for the job. "Duh!" you say. The problem is that many selection instruments that can be purchased or that have been developed by companies measure broad WRCS that are thought to be useful for work in general (like ambition) rather than the specific WRCs for a particular job. For example, application forms usually ask for brief information about previous job titles and job duties but do not collect enough detailed information to clearly determine whether the previous work experience matches the present job. In such cases, the person evaluating the application form must make some inferences (guesses) as to how closely the job title matches the job of interest. As you probably realize, making such inferences (guesses) reduces the accuracy of the selection decision of to whom to offer employment. Similarly, interviews frequently attempt to measure general skills, such as leadership, attitude, motivation, and personal interaction. These skills are difficult to measure and often are not closely related to the specific skills necessary for doing the job, such as the verbal ability to discuss computer hardware and software topics in a way that will be understandable to employees. Selection specialists use test construction principles, which we will discuss in later chapters, to determine the match of WRCs with the selection measure.

The second requirement of a selection measure is that it should be able to differentiate among applicants. The assumption in selection is that applicants possess *different amounts of the WRCs necessary for job performance.* The purpose of the selection instrument is to measure these differences by means of numerical scores. It is in this way that promising applicants can be distinguished from unpromising applicants. If nearly all applicants perform about the same on these selection instruments, selection decisions are difficult because the applicants appear to be equal. Choosing a few applicants from a large group of equals is guessing. The problem of lack of applicant differentiation often occurs when interviews use general questions about career goals (What is your ideal job?) or ask the interviewee for self-assessment of strengths and weaknesses (What are your weak points?). It also occurs when personality inventories are transparent in purpose—for example, scales measuring the amount of social interaction preferred (Do you prefer working with others or by yourself?) or attitudes toward stealing or dishonesty (Do you think that stealing should always be punished?). Training programs teach applicants how to respond to these questions. Knowing how tests are constructed will help the professional develop—or choose among—tests.

Let us briefly summarize the steps completed by an organization at this point in the selection program development process. Information has been collected describing important aspects of both job activities and outcomes. This information has been used to identify a set of WRCs a worker needs to succeed on the job. A set of selection measures has been identified that will measure the amount of the WRCs possessed by applicants. If these steps are performed with care, an organization should reasonably expect to obtain the information needed to choose the right applicants. Frequently, however, the developmental work of the selection program stops at this point. When this happens, very little direct evidence is available to verify the accuracy of these steps. Robert Guion has likened these first steps to the development of hypotheses.[9] That is, the HR specialist has formulated testable statements as to the worker characteristics that should be related to successful job performance. The last steps in the development of a selection program can be viewed as a testing of these hypotheses. Technically referred to as *validation,* these steps focus on the collection and evaluation of information to determine whether the worker characteristics thought to be important, in fact, are related to successful job performance. If they are related, then the selection program should be useful to the organization. If, on the other hand, it turns out that the identified worker characteristics are not related to job performance, it is better to learn this as early as possible so that the selection program can be changed.

Validation Procedures

There are several ways to validate the selection process. In *empirical validation,* for example, two types of data are collected: (a) the scores on the selection devices from a representative sample of individuals and (b) measures of how well each of these individuals is performing in important parts of the job. The purpose of validation is to provide evidence that data from the selection instruments are related to job performance. Statistical data analysis, usually correlational analysis (which measures how closely related two different sets of scores are), is the most straightforward manner of producing this evidence. Empirical validation involves calculating correlation coefficients between scores on the selection instruments and on the job performance measure.

In addition to empirical validation, *content* validation can be used. Content validation systematically takes the data produced by the judgments of workers and managers and uses them to determine the relationship between the selection test and job performance. We will discuss validation in more detail in Chapter 8. No matter which type is employed, it is really only after the validation phase has been completed that one has evidence that the information collected by the selection instrument is indicative of job performance and, therefore, useful for choosing among applicants. It is these steps from job analysis to validation that we are referring to when we say that much developmental work must precede the installation of the selection program. If all these steps are not completed, then, in Guion's terms, the organization is using a set of selection instruments believed to be useful for the identification of potentially successful workers but lacking the proper evidence to support this belief.

If the selection measures are not related to job performance, their use can be costly because a less-than-optimum group of workers is being selected for employment. Organizations, however, often choose not to fully carry out these steps in the development of their selection programs. Less time-consuming and less rigorous procedures are adopted. In such cases, long-term consequences and costs are downplayed or ignored. This is very, very bad and probably will lead to the end of the world.

CONSTRAINTS IN DEVELOPING A SELECTION PROGRAM

The essence of selection is *prediction* or forecasting. Specifically, we wish to use the information gathered from the selection devices to determine differences among applicants with regard to job-related WRCs and then choose those applicants who we predict will do well in the future in the job under consideration. In HR selection—as in medicine, stock market analysis, meteorology, and economics—prediction is an uncertain activity. Even with a well-developed selection program, not all of the decisions about future job performance will be correct. A number of factors greatly affect the accuracy of the selection process.

Limited Information on Applicants

The correctness of selection decisions depends in part on the accuracy and completeness of data gathered from the applicants. In general, the greater the amount of accurate data obtained, the higher the probability of making a correct selection decision. Especially early in the processing of applicants, however, the amount of the data collected often is limited severely by the cost of obtaining the data. The organization incurs costs for such things as materials and facilities, staff time, travel expenses for staff and applicants, and data storage and analysis. For example, a college campus interviewer frequently spends only 30 minutes with each applicant, and part of this time is devoted to presenting information about the organization. In other cases, application forms and résumés are used extensively as major screening devices. Campus interviewing and application and résumé forms, however, obtain only limited, basic information about applicants. When many people apply for only a few positions, the large majority of applicants will be dropped after this step. Because the information is limited and often superficial, mistakes will be made both with those who are selected and those who are rejected.

Applicant and Organization at Cross-Purposes

All applicants for a job are seeking to receive an offer of employment from the organization. The organization, on the other hand, usually is trying to not offer employment to the large majority of applicants but rather to offer employment only to one person or a few number of people. Therefore, the large majority of applicants and the organization are at cross-purposes. To improve the chances of being selected, an applicant tries to present him- or herself in the best manner possible. For example, it has been estimated that as many as 40 percent of applicants distort or falsify their applications, resumes, and interviews. Horrors! "Why would they do that?" you ask. (Which is better than you saying, "Wow, you've given me a good idea! I have finally gotten something useful out of this book.") You can guess the reasons. Applicants need jobs. They know that organizations usually are looking for employees who are friendly, honest, and hardworking, and who have experience in related jobs and have education related to the job. Without such background, and characteristics they probably will be rejected. So what have they got to lose? Probably the most that will happen is that even if the company discovers the distortion, they only will be eliminated from consideration. Most companies do not have the time, interest, or resources to try to punish the applicant in some way. If these applicants didn't distort the truth, they would be eliminated from consideration. So, in varying degrees ranging from slight exaggeration to cleverly planned deception, many applicants try to convince the people from the organization that they are the one or among the few that have the WRCs to do the job well. Applicants can even pay to go to training programs that will help them present themselves to their best advantage by teaching them how to

write resumes, complete application forms, and respond to interview questions. Most of these programs "polish the delivery techniques" of the people who attend, but others outright fabricate company documents and degrees to form impressive files. The latter are bad, bad programs. At any rate, this distortion makes it more difficult to evaluate applicants because it adds a new issue into selection: the necessity to discern what is true and what may be false in the data collected from applicants. The chapters in this book that describe how to develop and use various selection measures are useful for addressing this problem. The general premise in these chapters is that the selection specialist should gather information that is related to job activities. This information should require an applicant to demonstrate that they know how to and can do job tasks as well as model the behaviors that are essential to working with others in these tasks.

Measurement of Jobs, Individuals, and Work Performance

A basic assumption of this book is that the development of a selection program requires the measurement of characteristics of jobs, individuals, and work performance. By *measurement* we mean quantitative description—that is, the use of numbers. Numbers are used to represent information such as the amount of time an applicant has spent in a job activity, or the level of mathematical knowledge an applicant needs to perform a task, or an applicant's score on a verbal skills test, or the quality of a worker's performance in preparing an advertisement. Numbers are necessary because they facilitate the comparison of people. They transmit information more succinctly than words, and they permit statistical manipulation (such as the adding of scores across selection tests to get a total score for each applicant), which provides even more information into the selection program. For example, assume that 12 people apply for an entry-level position in the loan department of a bank. All of the applicants are interviewed and all complete a brief test on financial terms and analysis. Quantifying the performance of each candidate on each of the two selection instruments is the most practical way to compare them. If scores are not developed, the selection specialist is placed in a complex situation; differences must be determined among the 12 using descriptive information, such as "He seemed able to express himself pretty well," or "She knew most of the financial terms but did not seem comfortable judging the risk of the loan." Obviously, when there are such statements about a number of individuals, the difficulty in identifying the most promising of the applicants is enormous.

The problem of measurement for the HR specialist, however, is to ensure that the numbers generated are accurate descriptions of the characteristics of the applicant, the job, or the job performance under study. We address specific measurement issues throughout this text, especially in Chapters 6 through 8. For now, we can say that the measurement of many WRCs is difficult and not as precise as we would wish.

A comment is necessary at this point to ensure that we do not give you a false impression. We have mentioned that it is important, when making selection decisions, to use selection instruments that generate scores about the characteristics of applicants. That is not to say, however, that selection decisions are always made by counting the scores and offering employment only to those who score the highest, even though some maintain that the best results occur when this is done. It is common that other factors also enter into the decisions—for example, a desire to balance the demographic composition of the workforce or an intuition about a specific applicant. In this type of situation, our position is that these additional factors should come into play only after the applicants have been measured on the selection devices and a group has been identified as being appropriate for the job. These other factors then can be considered when choosing

individuals from this group. Very different, and much less desirable, results can occur if these other factors are used early in selection, before the applicant pool has been measured. In such situations, a great number of errors can be made before the selection instruments are even used.

Other Factors Affecting Work Performance

Another issue to keep in mind regarding selection programs is that many factors affect work performance. The primary purpose of selection is to enhance the probability of making correct employment decisions—extending offers to those persons who will perform well in the organization and not extending job offers to those who will not do well. Typically, any evaluation of the adequacy of the selection program is made in terms of job performance.

It is apparent, however, that the WRCs of those hired are not the sole determinants of job performance. Practitioners and researchers have identified numerous other factors in an organization that affect individual performance. Among these organizational factors are training programs for employees, appraisal and feedback methods, goal-setting procedures, financial compensation systems, work design strategies, supervisory methods, organizational structure, decision-making techniques, and work schedules.

The implication of these findings for the evaluation of selection programs is clear. A selection program focuses on a few of the many variables that influence performance. Often it is difficult to adequately assess its effectiveness. At times, a thoughtfully developed program might seem to have only a minimal measurable relationship to performance. It is possible in such cases that one or more of the other variables that we have mentioned may be affecting performance levels adversely and negating the contribution of the selection program. The conclusion is that it is advisable, in judging selection programs, to examine several other organizational systems when attempting to diagnose deficiencies in employee performance.

Selection Research versus Selection Practice

Both selection researchers and organizational employees who implement selection programs have realized during the past several years that the two groups differ in how they treat selection. Edward Lawler III, an academic researcher who works with organizations, has made this statement:

> *A great deal that passes as "best practice" in HRM most likely is not. In some cases, there simply is no evidence to support what is thought to be best practice. In other cases, there is evidence to support that what are thought to be best practices are, in fact, inferior practices. In short, most organizations do not practice evidence-based human resource management. As a result, they often underperform with respect to their major stakeholders: employees, investors, and the community.*[10]

This difference between what academic research has shown and what often is implemented in organizations is true of many fields in addition to HRM. *Evidence-based management* is a term that means managing by translating principles based on evidence into organizational practice. Through evidence-based management, practicing managers develop into organizational experts who make decisions informed by social science and organizational research. They move professional decisions away from personal preference and unsystematic experience toward those based on the best available scientific evidence.[11] Said another way, evidence-based management means that managers should

become knowledgeable about research results in specific topics of management and how this research is translated into practice. Knowing this will help guide the decision making of managers so that more decisions are based on evidence and data rather than intuition and hunch.

Unfortunately, evidence-based management is not universal in organizations. Some organizations practice it, but many others do not. This divide between research findings and organizational practice occurs in many areas of management, not just in HRM. It is relatively common that practicing managers do not know about academic research and instead base decisions on their own experience, that of close associates, or common practices within their organizations. There are many reasons for this discrepancy. Most basic among them is that management is not an occupation like medicine, law, or teaching in which entrants to the field must pass some exam, provide a specific degree, or pass a specific test. As we know, managers come from all educational backgrounds. Some have little education, and some resist academic research findings as being too theoretical and impractical. Another reason for this discrepancy is that courses that make up a management major can vary greatly between colleges. Some majors require HRM courses; others do not even offer such courses. Related to this, some faculty members are quite good at translating HRM research into practice and others are unable to make this translation. Yet another reason is that practice managers usually do not have the research, statistical, and content knowledge to be able to read published academic research, understand the findings, and recognize the practice implications of these findings. This lack of understanding is to be expected; the knowledge of research and the specialized content of academic areas is what Ph.D. programs teach. Managers do not often attend Ph.D. programs. It is for this reason that some firms, including State Farm Insurance, recommend that some executives employ academic consultants who can discuss relevant research findings with them.

What this means is that this book makes recommendations about selection that you may not find implemented by a specific organization with which you are familiar. We know, however, that many organizations do practice the recommendations we make here. Think of the book as your basis for evidence-based selection (EBS). After you finish this course, send us a copy of your final grade and a blank, signed check; we will send you an official EBS button in the day-glow color of your choice. Wearing that button will add a nice touch when you interview for jobs.

So Why Should I Devote My Life to Selection? What Is Selection Doing That's Good for the World?

This section is based on John F. Kennedy's famous statement, "Ask not what selection can do for you but rather what you can do for selection." Here are three of the many important areas of selection that will be pertinent in the future.

Big Data

We are all familiar with the increased use of data and statistical analyses to assist and make decisions for sports teams, financial investments, health care diagnosis and delivery, and product marketing. In HR and especially selection this is becoming known as *people analytics.* Companies are in the early phases of collecting enormous amounts of electronic data about their employees' characteristics, their movements and actions at work, and their performance in a diverse set of work-based outcomes. Companies such as Google, HP, Intel, General Motors, and Proctor & Gamble have dedicated analytics teams in their HR departments.[12] Because selecting workers is so valuable and selection has used statistical analyses as a tool for many years, it is also at the forefront of this

movement. One example of the analytics described in this book is Xerox's selection of employees for its call centers. Up through 2010, these positions had been filled using interviews and a few basic measures, such as a typing tests and previous work experience. In 2010, the company began to use an online series of tests of personality, cognitive skill, and multiple-choice questionnaires about how the applicant would handle specific situations. We will discuss each of these types of selection measures in depth in later chapters. Applicants' answers to these measures are entered into a statistical analysis, which results in a rating for each applicant of poor, middling, or superior in terms of selection for employment. Shortly after switching to this format, the rate of employees leaving the job fell by 20 percent and the promotion rate rose. Managers began using the scoring categories almost exclusively in employment decisions. We are familiar with this scenario in people analytics. The future of selection, however, could get more complex than the actions at Xerox. For example Knack, a small application-based video game operation, has developed games that have been designed by a team of neuroscientists, psychologists, and data analysis experts. Playing for as little as 20 minutes on these games generates large amounts of data about how information is used and how problems are solved. These data then are used to develop such scores as creativity, persistence, capacity to learn, and ability to prioritize. One such game was used by a department at Royal Dutch Shell with the purpose of identifying potentially disruptive business ideas and startups. Data collected from about 1,400 individuals who played this game were compared with their performance data collected over time by the company. Results were that the top 10 percent of idea generators as predicted by Knack's analyses were those who had done the best in company performance. Another example of what the future may hold is seen in an electronic badge developed in the Human Dynamics Laboratory of MIT. These badges transmit data about employee interactions throughout the workday, capturing information about such variables as formal and informal conversations; the tone of voice and gestures of people involved; how much people talk, listen, and interrupt; and the degree of various emotional and personality traits they demonstrate. The idea is to relate scores on these variables to many dimensions of job performance. People analytics will be a developing movement that could greatly increase the appropriate match between people and jobs and be a benefit for both workers and companies. On the other hand, it could be invasive of private lives, force compliance with arbitrary organizational rules or expectations, and make job and careers regimented. You, working in people analytics for selection, could help influence which alternative occurs.

The Magnitude of Demographic Group Differences and Their Effects

As we have mentioned many times already and will mention even more times in the following chapters, selection is best done when tests and assessments are used to measure the amounts of WRCs that applicants possess and numbers are used to represent those amounts. Using these numbers to make selection decisions has been done since the early 1900s so there are much data on scores of many individuals on many WRC tests. Selection researchers have used these data to find out more about what these tests measure and how the scores on these tests are related to various measures of work performance. One consistent finding in this examination about measures and scores on them is that there are consistent differences among demographic, ethnic, and racial groups in these scores. Some groups score consistently higher than do other groups. Because scores are used to make decisions on whom to select for employment, you can guess one of the effects of making such decisions—various groups are selected at different rates. Because employment is key to many aspects of life, these differences among various groups are of major concern and discussion. Some conclude that these differences are the result of tests that are culturally biased in item presentation, language, and content and, therefore, inherently unfair to use

in making employment decisions. Others conclude that because test results are consistently related to various measures of job performance, they are not unfairly biased. Rather, they reflect actual differences among groups in abilities to perform jobs. We will present what has been found about subgroup differences in scores as we discuss each of the major types of selection measures. Selection researchers have looked at the types of items and specific WRCs that may be most frequently associated with these group differences. Others have examined the effects of training before selection testing or directly after selection to see whether differences in groups can be negated or minimized through training. Such investigation will continue in the future. Perhaps technology can be used to produce different types of selection tests that do not rely on language as a delivery method, such as the game-playing actions that we described earlier. The understanding of what constitutes work performance also may be relevant. Performance measures usually have been based on production items counted or supervisor judgment of how much work was done. We now think that other factors are more directly related to an individual's actions that are important to the final production of goods or services. These actions include behaviors such as helping coworkers, trying alternative work actions, finding customer problems, and improving customer satisfaction. It could be that using these types of measures of work performance are useful because they are both direct measures of an individual and they reduce the amount of measured differences in groups work performance. Want to take on a social-economic-psychometric problem?

The Use of Various Internet-Based Selection Measures

Like everything else in the world, selection is being transformed—from a testing-in-an-office to an electronic-based system. The advantages of this change are ease and financial savings. The traditional method required applicants to travel to a company facility to go through the selection program with the side effects of costing applicants time and money. For the company, the costs were mainly time of staff, maintenance of facilities, provision of testing supplies, and costs of scoring and report writing. Having applicants complete selection measures that can be presented, scored, and written up by programs is much less expensive and faster. There are, of course, different costs and issues. There are two general types of Internet selection testing. One is computer-based, supervised assessment. In this type, applicants come to a physical facility designated by the company and equipped with computers either in individualized spaces or in a large room that houses multiple computer stations. Such testing is very similar to traditional selection methods with the big difference being the computer versus paper-pencil or discussion-based testing. The second type is unproctored assessment. In this, the applicant can complete the selection measures at any location he chooses, at any time, and with any electronic device that can access the Web. Serious problems and limitations are common to both types. The main ones are as follows:

- **Computer literacy.** Can applicants easily and quickly operate equipment? We all know that there are large differences among individuals in their ability to operate electronic devices. The issue for selection is whether or not these differences are reflected in different scores among people. Selection is supposed to measure the differences in the WRC that is the subject of the test, not in the ability to operate equipment.
- **Graphic transmission.** For multiple reasons, it is not unusual for various electronic devices to present the same message differently. This can be a very serious especially when questions contain graphs that are essential to interpret. This issue is another example of a factor other than the content of the test being a cause of differences in selection test scores.

- **Technical failures.** This may never have happened to you, but we (especially the particularly inept coauthor) have experienced screens going blank and all work vanishing. Knowing what to do when this happens during electronic testing is serious, especially if the problem is one of transmission of the completed test, and the applicant does not even know that the transmission failed. Would you be happy about having to start from scratch?
- **Equivalence of electronic testing results to those from traditional testing.** Almost all we know about the test construction and validity of selection instruments is based on traditional testing, for example, paper-pencil, interactive discussions like interviews, and work simulations that closely replicate the actual materials used on the job. Can we use the same norms, correlations with other tests, and performance measures generated from traditional testing for electronic tests? Are differences among demographic groups less, the same, or more? Making the assumption that scores from electronic tests are the same as scores from traditional tests and that individuals will get the same score on both electronic and traditional tests seems a bit of a stretch.

Other problems are characteristic of unsupervised, online testing:

- **Cheating.** Applicants could get others (smarter others) to take their tests, use the Internet to get answers (it must be right if it is on the internet), or use books, notes, or friends sitting next to them.
- **Security of test items.** Groups of people could combine what they know and make copies of tests that have alternate questions (as happens on SAT tests) and develop a list of all questions that could be sold to others before they take the test.
- **Standardization of test environment.** One of the assumptions of test interpretation is that all respondents should complete the test in nearly identical situations. Such control reduces the chance of factors of noise, lights, temperature, and weather affecting scores differently. There can be no control in unsupervised, online testing (even telling people to stand in a closet would not do it). Therefore, we know that the chances of having test results differ somewhat because of factors other than differences in the WRC among applicants is probable.

These are the issues that selection will face in the future. Want to write an app to solve these issues?

PLAN OF THIS BOOK

The major purpose of this book is to discuss each of the steps necessary to develop selection programs within organizations. We will concentrate on the characteristics of the data that should be gathered and the types of decisions the HR specialist should make at each step. We incorporate research about selection and discuss its implications for the development of selection programs. There is no one blueprint for the development of selection programs, and we do not wish to give that impression. The steps we refer to are different stages in the accumulation and processing of information about jobs, individuals, and job performance. At each step, the HR specialist must make a number of decisions, not only about the kind of data needed, but also about the statistical analyses that should be done and about what decisions can be made based on that data. The particular selection needs of the organization will dictate the appropriate actions; we hope this book will provide the information necessary to evaluate options at each stage.

The book is divided into four parts. Part 1, "Foundation for a Selection Program," explains the data and information that must be gathered before a selection program is developed. It also includes a chapter on recruiting methods to attract applicants to enter the selection program. Part 2, "Measurement in Selection," provides the basic information necessary for assigning numbers to the characteristics of applicants, job, and job performance. These are the data used in selection decisions. Part 3, "Selection Measures," contains six chapters. Each one discusses a specific type of selection test. This discussion includes the content of the type of test, what WRCs are measured by the test, how the test may be best constructed, and how it can be used. Part 4, "Using Selection Data," explains how to use the data about WRCs to decide on which applicants to offer employment.

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CHAPTER
2

Job Performance Concepts and Measures

Now for a pop quiz! Complete the following multiple-choice question: In Chapter 1, we said that the objective of selection was the prediction of future _____.

a. batting averages in baseball
b. weather
c. JOB PERFORMANCE
d. stock market swings

Congratulations, you are right! The answer is job performance. (If you chose one of the other responses, you should probably find a different course or at least be more observant of chapter titles and capital letters.)

Specifically, those applicants who score high on selection tests are predicted to do well in their future job performance and are offered jobs. This is similar to what universities do when they admit freshmen. It is very common to use high school grades, ACT or SAT scores, and graded recommendations to predict future first-year GPA, the academic measure of student job performance. This emphasis on predicting job performance makes sense. But what is being predicted when we say *job performance*? What is the work equivalent of academic GPA? Traditionally, that is meaning for most of the past century or more, the answer has been task performance. That is, how well workers completed job activities (commonly referred to as job tasks) was how well they performed on their jobs. This thinking was born during the time when much of work was physical activities. A large portion of employed workers assembled various parts into complete products such as cars, clothing, toys, household furnishings, and so on. Many employees not working in manufacturing were in agriculture or small business. Both of these industries had physical tasks. In addition most workers operated individually with limited interaction with other workers. In the majority of jobs during this time, the results of these tasks could be seen and counted. The number of cars completed, animals milked, bushels of apples harvested, or dollars taken in sales could all be easily tallied. Moreover, these items were directly related to the success of the company, farm, or organization. The relationship between cars made, cows milked, apples harvested, and the resulting dollars earned by the firm was easy to understand. It was straightforward to think of job performance as the number of job activities completed because these activities were related to the number of items produced and sold. High performance from individual workers meant more money for the organization.

Selection at this time mainly involved gathering information from applicants that measured their knowledge of how to perform tasks, knowledge of topics necessary to perform tasks (e.g., how tools should be used, mathematical operations necessary for bookkeeping calculations, explaining product usage to customers), or actual performance

on trial job tasks (e.g., cutting wood boards, repairing brakes on a car). Scoring of selection measures was also generally straightforward. Knowledge tests could be scored for right answers; mistakes in performing a task could be counted.

Over time, however, the nature of work changed and following that so did the concept of job performance and the nature of selection tests used to choose among applicants. Manufacturing jobs have decreased dramatically both because of less expensive labor in developing countries and the increased use of computerized assembly machines. With the decline of manufacturing jobs, the service industry has steadily increased. This was prompted by the growth of cities and the movement from farms and towns to urban centers to find employment. Urban dwellers had to purchase clothing, food, furniture, entertainment, and so on. This demand led to clothing stores, restaurants, furniture marts, entertainment venues, and so on that employed workers to interact with customers and deliver goods and services. As society and technology became more complex, the proportion of knowledge-based jobs grew dramatically. Specialized trades such as electricians, carpenters, heating specialists, teachers, physicians, and lawyers became major employment vehicles. Entertainment grew tremendously with the development of radio, television, sports, movies, and video games. Each of these fields was dominated by employees who had specialist training and education in somewhat narrow topics. The manner in which work was performed also changed drastically. Traditionally, manufacturing was usually done by individual workers. After the assembly line was developed, manufacturing was one person doing one or a few tasks and then passing the work on to another employee to add another step in the production process. With the rise of service and knowledge-based work, groups of employees interacting became common. Teams became more autonomous, with work groups frequently able to change work processes as they deemed appropriate. In addition, work such as health care, video production, computer engineering, and gaming became very complex and required collaboration among large numbers of experts in narrow fields. In addition, the observable part of job performance lessened. The most important parts of knowledge-based jobs really do not have easily observable actions. Incumbents think, plan, make observations, draw conclusions, interpret data, and so on.

With this change in work, the concept of job performance became more complex and more difficult to measure. For example in a restaurant, what should be counted? One could count the number of food items sold or their dollar value, but employees' interactions toward customers are also very important. Food may taste fine, but if it is uncomfortable or irritating to go to the restaurant, many customers will not return. How can these interactions be measured? What is a "good" interaction? The same situation exists with tellers at banks and health care professionals at clinics. One can count the number of interactions with customers or patients, but a high number of interactions can often negatively affect quality of interaction and, therefore, not be a useful performance measurement, especially if it is the only one collected. The reactions of customers or patients to interactions with employees are often important to know but are very difficult to collect systematically. The move to work teams has created similar problems with defining and measuring job performance. For example, teams are frequently used to install kitchen cabinets and appliances, with each team member having specific duties. When evaluating job performance of team members, what is counted? Do cabinet installers get a higher performance score than appliance installers because more cabinets than appliances are put in? Do all work team members get the same performance score because the same number of kitchens is completed for all members of the installation team?

These changes in the nature of work have led to major changes in how job performance is viewed, how it is measured, and the nature of selection measures that are or can be used to predict job performance for applicants. Let's discuss each of these changes briefly.

How Job Performance Is Viewed

Task performance is still the primary type or facet of job performance. That is, success in most jobs is based largely on how well an employee is carrying out the major activities that make up the job. Engineers are judged by the quality of their designs, marketing professionals on the change in sales resulting from marketing campaigns, managers on the amount and quality of products/services provided by their subordinates. However, selection researchers and practitioners realize that because work is knowledge-based and involves employees interacting with one another and customers, many complex facets of job performance are necessary before results such as engineering designs, marketing campaigns, and products and services can be produced. Evidence of the expansion of work behaviors necessary for performance is demonstrated on an online database called O*NET.[1] Sponsored by the U.S. Department of Labor/Employment and Training Administration through a grant to the North Carolina Department of Commerce, O*NET is, perhaps, the foremost source of occupational/job information. The O*NET database contains descriptive information about 277 work and worker characteristics for 974 occupations. These data are continually updated and the number of occupations described increases at each update. Work characteristics that are measured include numerous scales of social processes, culture, and work context. For our purposes, these characteristics require many work behaviors in addition to those that are strictly task behaviors. All of these behaviors are included in job performance.

Due to this expansion of the concept of job performance, we will discuss three facets of job performance in addition to task performance: organizational citizenship, adaptive performance, and counterproductive work behaviors. Organizational citizenship behaviors (OCBs) are most often helping behaviors that one employee directs to other employees such as assisting in finishing a task, sharing knowledge that is important to the job, and contributing to discussions about solutions to job problems. Adaptive performance (AP) is, as the name implies, how an employee responds to changes in the work environment, such as shorter time for project completion, change in work procedures, or change in managers or new work group members. The third category of work performance that has been of great interest in selection over the last several years is counterproductive work behaviors (CWBs). As you can guess, these are bad, bad behaviors such as stealing, embezzlement, fighting, fraud, and sabotage. As you can also guess, companies are trying to *not choose* those applicants who do these behaviors well. Rather they are trying to *avoid* selecting those applicants who have a higher probability of engaging in these behaviors.

How Job Performance Is Measured

As we mentioned, task performance was most frequently measured by counting the number of produced items or services rendered. As work changed, other methods of measuring performance were introduced. The most used method was asking supervisors to make judgments about how well employees were performing. That is, supervisors were asked to assign a number to a worker's adequacy in such job behaviors as deadlines met, quality of service, and generating new business. In doing this, supervisors evaluated the performance of subordinates by either rating (for example, on a 1 to 5 scale) or ranking (ordering from best to worst). The use of judgments has been expanded from being done only by supervisors to include fellow workers and customers. In this chapter, we will discuss the various ways that job performance is measured.

The Type of Selection Measures That Are Used to Predict Job Performance

As the nature of jobs changed and the concept of job performance expanded, selection specialists added to the types of selection measures used for prediction. Measuring WRCs

with job-knowledge tests and having applicants perform parts of the job have continued to be used. However, many additional characteristics of applicants are also measured. O*NET identifies numerous WRCs by providing four general categories of characteristics: abilities, occupational interests, work values, and work styles. Among the most important selection instruments are various measures of cognitive ability, personality traits, integrity, and judgment of the best option to pursue in specific job situations. The traditional application blank that asked applicants for superficial information regarding education, work history, and previous personal behaviors has also been updated to provide information that is clearly job- and task-related. We have six chapters that discuss each of the major types of selection measures in very detailed detail! These are very exciting chapters—at least to us.

TASK PERFORMANCE

There are two forms of task performance measures that we have previously mentioned: production data and judgmental data. We will discuss each of these.

Production Data

Production data consist of the results of work. The data comprise things that can be counted, seen, and compared directly from one worker to another. Other terms that have been used to describe these data are *output, objective*, and *nonjudgmental performance measures*. Such measures are usually based on the specific nature of the job tasks; quite different measures have been used for the same job title. The variety of measures that can be used is actually so great that it is not possible to summarize them in any representative manner. Instead, Table 2.1 contains a list of job titles and some of the various production measures that have been used for each title. It is apparent from the table that data about both quantity and quality of production have been used. Quantity is usually expressed as the number of units produced within a specified time period. Quality is the goodness of the product; it may be indirectly measured by the number of defects, errors, or mistakes identified either per number of units or per unit of time (for example, one working day).

TABLE 2.1 Examples of Production Criteria Measures for Various Jobs

	PRODUCTION MEASURE	
Job Title	**Quantity**	**Quality**
University faculty member	Number of student credit hours taught	Rating by students as to amount learned in course
Skilled machine operator	Number of units produced per week Weight of output per week	Number of defects Weight of scrap
Salesperson	Dollar volume of sales Number of orders	Number of customer complaints Number of returns
Manager	Profit of unit	Number of unit returns to his or her department because of defects

Many consider the use of production data the most desirable type of measure for a number of reasons. First, such data are often easy to gather because they are collected routinely for business operations such as production planning and budgeting. The importance of such measures is thought to be obvious and easily understood. Production data are the direct result of job actions. They are the objectives of the work process. Finally, these data are thought to be unchallengeable and easily accepted by workers. Production output can be seen and counted; therefore, no argument can be made about its measurement. Our opinion is that such enthusiasm about production data serving as criteria measures is overstated. None of the measures of the four major categories of work is without limitation. Each is appropriate in some circumstances and inappropriate in others. To illustrate this point, we will discuss some of the limitations inherent in the use of production data.

Consider first the argument about the ease of gathering data through commonly used business operations. Frequently, such operations are concerned with the records of total work administrative units rather than of individuals. For example, the budgeting operation usually compares a departmental unit's actual production and cost to a prior projection of these variables. Production planning is frequently concerned with the optimum movement of goods through various departments in the manufacturing process. In neither of these cases is attention paid to the individual worker, especially if he or she frequently moves to different work stations. However, data on individuals are essential for selection. A validity coefficient correlates individual workers' selection test scores with the same individuals' performance scores. Therefore, if accurate *individual* worker data cannot be gathered, then validation is difficult to carry out and interpret.

The assumption that production data are countable, and, therefore, indisputable, is also tenuous. As Table 2.1 indicates, numerous measures are used for sales performance. All seem to be straightforward measures that would be acceptable to those concerned. However, the literature and the practice of sales management contradict such a notion. The consensus in sales work is that the most often used measure of sales performance, dollar sales volume, is closely related to the characteristics of the territory that is worked. Such items as population, store density, socioeconomic status of customers, number of competitors, and amount of advertising are all relevant characteristics.

Various modifications of dollar sales volume have been suggested to control for these differences in territory. One of the most popular is to calculate monthly sales as a percentage of a quota for the territory.[2] Quotas are usually set by the sales manager. However, this assumes that the judgment of the sales manager is accurate and acceptable to all. Another adjustment is to divide sales volume by years that the salesperson has been in the territory.[3] The rationale is that as a salesperson learns the territory, sales should increase rather than merely stay level. This simplified judgment can obviously be inaccurate.

Similar issues have been raised regarding the use of production data that relate to managers. That is, managers' performance can be measured by using the amount of production yielded by their work groups. Managers are the leaders of work units and are supposed to make critical decisions that affect the group's performance. However, many other factors (for example, staffing levels across units, ability levels of subordinates, quality of machines and technology) can have a strong limiting effect on a group's performance. Managers are better evaluated with data that reflect only their job duties.

In summary, production measures have frequently been used in selection and are desirable mainly because of their direct relationship to job activities. However, these measures are often limited and often must be corrected. Most correction factors require that a manager make a judgment about how to correct the raw data, and these judgments can vary considerably in their effects on performance measurement.

Therefore, production data must be reviewed carefully to determine its accuracy as a measure of employee work performance.

Judgmental Data

In this form of the measurement of task performance, an individual familiar with the work of another is required to judge this work. This measurement is usually obtained by using a rating scale with numerical values. In most cases, the individual doing the evaluation is the immediate supervisor of the worker being evaluated. However, it should be noted that these evaluations can be done by others. Subordinates, peers, or customers are used in some judgmental evaluations.

The use of judgmental data is unavoidable in modern organizations. Many jobs such as managerial, service, professional, and staff positions no longer produce tangible, easily counted products on a regular basis—for which the use of production data would be appropriate. Almost by default, judgmental data are increasingly being used for performance measurement. In addition to availability, there are other arguments for using this type of data. The information is supplied by individuals who should know firsthand the work and the work circumstances; after appropriate initial development, the use of the judgment scales should be relatively easy and quite accurate.

Types of Judgmental Instruments

Many different types of instruments have been used to collect judgmental data. We discuss three of the most commonly used ones. All three are various forms of rating scales.

Trait Rating Scales. (This is a bad method! Read this section and then never use it.) This method requires the supervisor to evaluate subordinates on the extent to which each individual possesses personal characteristics thought to be necessary for good work performance. The evaluation uses rating scales that contain as few as 3 points or as many as 11. The scale points are usually designated with integers that may also have attached adjectives, for example, *unsatisfactory, average, superior*, and *excellent*. The personal characteristics that are most often used in this type of measure are personality traits such as dependability, ambition, positive attitude, initiative, determination, assertiveness, and loyalty. Frequently these traits are not defined on the rating scales that evaluators are asked to use. If they are defined, this is done in terms of general behaviors rather than specific work behaviors that demonstrate the trait. As a result, the rater is being asked to do a personality assessment of the person being evaluated without adequate definition of the trait.

Even though this type of judgmental data is commonly collected in organizations, it is regarded as inappropriate by selection specialists. Trait ratings are measures of personality characteristics that have no proven relationship to performance. Moreover, the accurate assessment of such traits by a supervisor is nearly impossible. John Bernardin and Richard Beatty have summarized the common viewpoint of these scales: "If the purpose of appraisal is to evaluate *past performance*, then an evaluation of simple personality traits … hardly fits the bill.… Trait ratings are notoriously error-prone and are usually not even measured reliably."[4] Instead of traits, therefore, acceptable judgmental measures require the evaluation of work behaviors. The following two types are examples.

Simple Behavioral Scale. (This is a better method! This scale could be used.) This type of measure is based on information about tasks determined from job analysis. The supervisor is asked to rate each subordinate on major or critical tasks of the job. For example, a manager of information systems within an organization may be evaluated by her

supervisor on the task of "Maintaining software packages to process compensation system data." The number of tasks used in the evaluation differs according to the complexity of the job, but commonly the range is between 4 and 10 tasks. A supervisor scores the subordinate using a rating scale similar to that described for use with trait rating scales, that is, usually 3-point to 7-point scales using integers and adjectives. The following is an example of such a scale.

	Unsatisfactory	Average	Superior
Reviews software packages that process compensation system data.	1	2 3 4	5

Scores can be added across all task scales to produce an overall measure of job performance, or an individual task scale can be used to obtain a measure of a specific aspect of job performance. The major limitation in using this type of measure is that supervisors of the same job often disagree on what level of performance on a task is required for a specific score (for example, a score of 3 or "average"). Training the supervisors in developing common interpretations of the performance associated with each scale point should be used to address this limitation.

BARS or BES. (This is an even better method!) *Behaviorally Anchored Rating Scales (BARS)* and *Behavioral Expectation Scales (BES)* are judgmental measures developed to define the scale's rating points by using job behaviors as examples.[5] Such definitions are intended to reduce the difficulty for supervisors of consistently interpreting the performance associated with various points on the scale. Figure 2.1 presents an example of one scale representative of this approach. This example has job behavior examples for four of seven points. Many scales have job behavior examples for all scale points.

These types of scales are systematically developed by obtaining information from workers and supervisors involved with a particular job. This development starts with gathering descriptions of important, specific job behaviors that make a difference between good and poor performance. Similar behaviors are grouped into dimensions and then assigned points depending on the extent to which the job behavior is indicative of good performance. These assigned points are then used to select behaviors that serve as the scale point for rating a worker's performance on each dimension.

The main difference between BARS and BES is in the wording of the incidents. BARS incidents are worded to reflect *actual* work behaviors, for example, "greets customer as he or she approaches." BES incidents are phrased as *expected* behavior, for example, "can be expected to greet a regular customer as he or she approaches."

FIGURE 2.1 An Example of a Behavioral Expectation Scale (BES) Rating Dimension for the Job of Bartender

Dimension: Interacting with Customers

7 Employee can be expected to smile, greet a regular customer by name as she approaches, and ask how specific family members are doing.

6

5 Employee can be expected to smile and ask to be of service to the customer.

4

3 Employee can be expected to greet customer by grunting or hissing.

2

1 Employee can be expected to remain silent until customer waves money or yells loudly.

The wording difference points out to supervisors that the employee does not need to demonstrate the actual behavior of the incident to be scored at that level. The incident is to be interpreted as representative of the performance of the employee. Scores can be obtained for each dimension or summed for a total score of job performance.

360-Degree Feedback. Another form of using judgment data for measuring performance is 360-degree feedback. This is a useful technique that is designed for evaluating managers. This method is based upon the assumption that the nature of managerial work is so complex and includes so many interpersonal relationships that ratings from only a supervisor would provide very limited information. Gathering judgmental information from all the levels of people with whom the manager works would provide more useful and more complete information about the manager's job performance. Therefore, the 360-degree feedback technique gathers judgmental performance ratings from three groups: superiors, peers, and subordinates of the individual being reviewed. Ratings of the three groups are averaged separately, which provides three scores on each scale. The ratings are interpreted by a trained evaluator who then discusses the results of the surveys (hence the term *feedback*) with the manager. All raters are guaranteed anonymity. This is a necessary feature of this method because it provides some protection from retaliatory behaviors by the person being evaluated for those who provide low ratings or negative comments. Obviously, this protection is less probable with small work groups.

Listed below are the generally agreed-upon guidelines that should be used in developing a 360 assessment system:

1. The content of items should be about the individual's skill (proficiency at performing a task), knowledge (familiarity with content of subject necessary for job such as statistical analysis), or style (a pattern of behavior used in responding to others or environmental demands, such as speed of completion of task).
2. The items should be specific job behaviors (communication of what is needed to accomplish) not personal traits (for example, warmth, motivation).
3. The ratings should be worded as the demonstrated frequency of behavior, effectiveness of behavior, or importance of behavior.
4. The rating scale should have behavioral anchors (see BARS or BES that we discussed).
5. The number of raters per group should be 7 to 10.
6. The 360 questionnaire should be administered online rather than paper-and-pencil.
7. The person being evaluated should be asked to provide names of raters; the list should be approved by a superior.
8. The raters should be given instructions on why data are collected and how the data are used; how to use the rating scale; and information that should be utilized in writing of comments.
9. A trained evaluator should provide an interpretation of the survey results to the manager.

Issues with Judgmental Scales

Skepticism of judgmental measures centers on the problem of intentional and inadvertent bias by the individual making the judgment. Intentional bias is when the rater

deliberately distorts the ratings to either be favorable or unfavorable. This bias is very difficult, if not impossible, to detect. The general thinking among selection specialists, however, is that it is not a widespread problem. In many situations there are multiple raters and an extreme deviation of one rater from others would be noted. In other situations, additional performance data are available, such as deadlines met, amount of sales, and complaints of customers. Large deviations from these data would also be noted.

Inadvertent bias in responses is a more frequently found problem. Commonly called *rater error*, this bias most frequently is described in one of the following four ways: halo, leniency, severity, and central tendency. We will describe these errors from the viewpoint of a manager making ratings of a group of subordinates. *Halo* is rating the subordinate equally on different performance items because of a rater's general impression of the worker. The rater does not pay specific attention to the wording of each individual scale but rather makes the rating on the basis of the general impression. *Leniency* or *severity* occurs when a disproportionate number of workers receive either high or low ratings respectively. This bias is commonly attributed to distortion in the supervisor's viewpoint of what constitutes acceptable behavior. *Central tendency* occurs when a large number of subordinates receive ratings in the middle of the scale. Neither very good nor very poor performance is rated as often as it actually occurs.

The best way to overcome rater bias is to train supervisors to avoid these errors. Various types of programs have proven to be very effective.[6]

Another issue in using judgmental data is the extent to which it is based upon production data. If it is largely based upon these data, then the judgment data are superfluous and unnecessary because they do not provide additional information. One way of examining the relationship between these two forms of task performance is to correlate production and judgmental measures for the same group of workers. One such study found a significant, but small, correlation of 0.39 between the two.[7] This means that judgmental and production measures are not interchangeable—they probably measure different aspects of job performance. Our idea is that production measures are usually very narrow. They focus on end products, not on the behaviors that are necessary to get to end products. Judgments, especially overall job performance ratings, logically take into account a variety of actions that are part of job performance such as communication with the supervisor, interaction with customers, and punctuality at meetings. Neither measure is right or wrong. Both measure job performance, but they measure different characteristics of it. A related topic is the similarity of ratings and objective production measures as criteria for validation. Calvin Hoffman, Barry Nathan, and Lisa Holden compared the validity correlations of two objective (production quantity and production quality) and two judgmental (supervisor and self-ratings) performance measures with a cognitive ability test used as the WRC for selection. Both supervisory ratings and production quantity resulted in significant validity coefficients.[8] We can conclude that judgment ratings are appropriate as a job performance measure. They are useful in validating selection instruments.

ORGANIZATIONAL CITIZENSHIP BEHAVIORS

The second form of job performance is Organizational Citizenship Behaviors (OCBs). These are behaviors individuals do at work that are not formally part of their job task behaviors but are done by the individual to assist other workers or the organization itself. OCBs are conceptually related to two other very similar concepts: prosocial behaviors and contextual performance.[9] Our discussion will concentrate on OCBs but will also

include some comments that are applicable to the other two. That is an obtuse way of saying that for our purposes of discussing these types of behaviors we will not try to separate the three concepts.

OCBs became of great interest to researchers and managers in organizations after the nature of work changed from being individualized, task activities to service and team-based knowledge and technological activities. This interest most likely was prompted by the interpersonal interactions that were important for success in these types of work and the conceptual problems that inevitably accompany knowledge-based tasks. Google may be an extreme example, but the nature of teams interacting continuously, engaging in debates and arguments, and moving to different locations frequently is symbolic of an increasing amount of current work. The following are examples of specific OCBs that have positive effects on the interrelationships among team members and the team's productivity in terms of both task quantity and quality.

- *Teaching new workers*—New members to a work team usually need to develop additional technical knowledge, social knowledge of team interactions and norms, and organizational knowledge of what is expected within the organization and its important rules, policies, and procedures. The formal training of organizations is most often limited to technical knowledge and does not address the social or organizational knowledge. Fellow workers are most frequently the source of information about these types of knowledge.
- *Assisting other workers*—Individual differences in WRCs are the conceptual basis of selection. These differences exist even among those who are selected for employment. Some individuals work faster, pay more attention to details, or solve complex problems better than others. Usually the individual differences that are important for task performance are distributed across members of the work group, not concentrated in a few. Helping others in various ways becomes a reciprocal arrangement among high functioning teams.
- *Putting extra time and effort into work*—Demands and difficulties of work vary over time. When these increase it is useful if individual workers spend more hours at work. This behavior has become rather common in many professional occupations such as executives, investment managers, sales agents, teachers, and health care workers. Those workers who put in the extra effort contribute greatly to the success of the unit.

While behaviors such as these are beneficial and often times encouraged or somehow rewarded by the organization, they are not regularly included as statements in job analysis, which as we will explain in Chapter 3, is the process used by organizations to specify the activities that comprise each job. Task activities statements are the primary components of most job descriptions and are the actions that lead to task performance.

There are several models of the various dimensions of OCBs. We will use a model specified by Philip Podsakoff and his colleagues to present the dimensions of OCBs.[10] This work discusses the following dimensions:

1. Helping behavior—most frequently involves voluntarily helping others with, or preventing the occurrence of, work-related problems; also includes peacemaking, cheerleading, facilitation, and courtesy.
2. Sportsmanship—a willingness to tolerate the inevitable inconveniences and impositions of work without complaining, also maintaining a positive attitude even when things do not go one's way, not being offended when others do not follow

suggestions, willing to sacrifice personal interest for the good of the work group, and not taking the rejection of ideas personally.

3. Organizational loyalty—consists of speaking well of others, spreading goodwill, protecting the organization, and endorsing, supporting, and defending organizational objectives. Essentially, organizational loyalty entails promoting the organization to outsiders, protecting and defending it against external threats, and remaining committed to it even under adverse conditions.

4. Organizational compliance—internalization and acceptance of the organization's rules, regulations, and procedures, which results in unfailing adherence to them. The reason that this behavior is regarded as a form of citizenship behavior is that even though everyone is expected to obey company regulations, rules, and procedures at all times, many employees do not. Therefore, an employee who regularly obeys all rules and regulations, even when no one is watching, is regarded as a "good citizen."

5. Individual initiative—engaging in task-related behaviors at a level that is consistently above expected levels. Such behaviors include acts of creativity and innovation to improve one's job or the organization's performance, persisting with extra effort to accomplish one's job, volunteering to take on extra responsibilities, and encouraging others in the organization to do the same. All of these behaviors share the idea that the employee is going "above and beyond" the call of duty.

6. Civic virtue—commitment to the organization as a whole. This is shown by a willingness to participate actively in its governance (for example, attend meetings, engage in policy debates, express one's opinion about what strategy the organization ought to follow); to monitor its environment for threats and opportunities (for example, keep up with changes in the industry that might affect the organization); and to look out for its best interests (for example, reporting fire hazards or suspicious activities, locking doors), even at personal cost. These behaviors reflect a person's recognition of being part of a larger whole in the same way that citizens are members of a country and accept the responsibilities which that entails.

7. Self-development—improving one's knowledge, skills, and abilities on one's own. This includes seeking out and taking advantage of advanced training courses, keeping track of developments in one's field and area, and learning a new set of skills so as to expand the range of one's contributions to an organization.

Another common model of OCBs that we will mention later separates OCBs into the two categories of OCBI (individual) and OCBO (organizational). The first category would generally be helping behaviors, sportsmanship, individual initiative, and self-development. The second category includes organizational loyalty, organizational compliance, and civic virtue.

What Prompts OCBs?

This question is interesting to organizations because OCBs are not usually part of an employee's job duties and are, therefore, difficult to demand that employees do. However if we know what factors lead to OCBs, there may be ways of getting employees to do OCBs by manipulating or changing these factors (tricky, huh!). Research has focused on four major categories of probable causes of OCBs: employee characteristics, task characteristics, organizational characteristics, and leadership behaviors.

Several employee characteristics have consistently been found to be linked to OCBs. An early study found strong correlations with organizational commitment, perceptions of fairness, and perceptions of leader supportiveness.[11] Personality traits such as conscientiousness, self-definition, emotional maturity, and agreeableness also have positive relationships to OCBs. Indifference to rewards is negatively related to many OCBs—meaning that if one doesn't care about receiving rewards, he will not engage in many OCBs. Because of this and similar research, it is possible to identify traits as WRCs to be measured as predictors of OCBs in selection programs. Several other characteristics such as ability, experience, training, job knowledge, organizational tenure, and gender do not seem to be related to OCBs. That gender is not related is somewhat surprising as many thought that women exhibited this more often than did males.

Some task characteristics have consistent relationships with citizenship behaviors. Task feedback and intrinsically satisfying tasks are positively related to helping behavior, sportsmanship, and civic virtue.[12] On the other hand, routine tasks, role conflict, and role ambiguity are negatively related to OCBs. Therefore, there is evidence that jobs may be able to be specified in such a way as to encourage OCBs.

Studies of organizational characteristics found that group cohesiveness, organizational justice, goal setting, organizational climate, and organizational support were positively related to multiple OCBs whereas job stress was negatively related to OCBs.[13] These are also factors that organizations can change or design to encourage OCBs.

Research in the fourth category of interest, leadership behaviors, has found that articulating a vision, providing an appropriate role model, fostering the acceptance of group goals, high performance expectations, and intellectual stimulation have positive relationships with helping, sportsmanship, and civic virtue.[14]

Relationship of OCBs with Other Performance Measures

Evidence indicates that OCBs influence managers' judgments of individual workers' overall job performance. Podsakoff and his colleagues estimated that objective task performance accounted for 9.5 percent of the variance in judgmental performance evaluations, OCBs uniquely accounted for 42.9 percent, and the combination of OCBs and objective performance accounted for a total of 61.2 percent.[15] This suggests that OCBs account for substantially more variance in judgmental performance evaluations than does objective performance. A possible interpretation of this finding is that a leader's specified goals, rules, and policies may result in objective performance being relatively the same among workers. They all know how much they should produce. However, because OCBs are not usually included in goals and procedures, workers vary to a large extent in these behaviors. Because supervisors benefit from OCBs (generally OCBs reduce the supervisor's work load), they perceive that workers who demonstrate OCBs are better workers and contribute more to the productivity of the work group. Helping, sportsmanship, civic virtue, and individual initiative were the specific dimensions that accounted for the effects of OCBs in performance reviews.

Early research found that OCBs are positively related to measures of organizational effectiveness such as quantity of performance, quality of performance, financial efficiency (for example, operating efficiency), and customer service.[16] More recent research has indicated that the relationship between OCBs and organizational performance is complex. For example, one study found that OCBs were more strongly related to work unit performance in those units with decentralized, interactive decision making than in those that were more centralized.[17] In another example, the relationship between OCBIs and job performance was stronger in work units in which workers had discretion in carrying out their job tasks than in units in which that was not the case.[18]

Another indication of the complexity between OCBs and performance is that there is evidence that the use of OCBs may also have negative as well as positive outcomes to individuals. Diane Bergeron and her associates found that in organizations with outcome-based control systems (relying primarily on objective task performance to measure performance), time spent on OCBs had a cost. In such an organization, time spent on task performance was more important than OCBs in determining performance evaluation results, salary increases, career advancement speed, and promotions. Even when time spent on task performance was statistically controlled, employees who spent more time on OCBs had lower salary increases and advanced more slowly than employees who spent less time on OCBs.[19] Related to this research is a finding that there may be a curvilinear relationship between task performance and the amount of OCBs performed by an individual. That is, the two increased together until OCBs became very frequent and task performance then began to decrease. This was especially true when the OCBs were directed toward the organization (OCBO). These findings indicate that individuals can spend too much time on OCBs, thereby reducing the time available for task performance.[20]

Measurement of OCBs

Because OCBs are not job tasks, there are no measures that are usually gathered by organizations for measuring performance that would score individual workers on the frequency or quality of the OCBs that the person has performed. So, as you can guess, if there is nothing to count, the way of measuring OCBs is through judgmental scales. Early research about OCBs used self-report judgmental scales. In these scales, the worker responds to questions about how often she does the OCB action stated in the item. Table 2.2 contains examples of behaviors that make up OCB questionnaires. In other research, supervisors and/or other work group members made the ratings about OCBs for individual workers. There are arguments pro and con each source of ratings. The arguments concerning individual ratings are: because OCBs are not job tasks, they are usually not observed by many others so the individual may be the only one who actually knows how often he does these behaviors. However, because the questions used to measure OCBs are usually transparent as to what is good, a worker may deliberately rate herself very high on these behaviors. For example, for items such as, "How often have you helped others who have missed work time?" there would be a temptation (not for honest you, of course, but for others) to simply respond with the highest, most desirable response possible. Why look anything less than excellent? The arguments concerning supervisor or other-worker ratings are the

TABLE 2.2 Behaviors Commonly Used in OCB Scales*

1. Help others who have missed work
2. Give time to help others who have work-related problems
3. Adjust own work schedule to accommodate others' request for time off
4. Make new employees feel welcome
5. Express concern and courtesy toward coworkers even under trying times
6. Express loyalty to the organization
7. Defend organization when others criticize it
8. Offer ideas to improve the functioning of the organization
9. Attend functions that are not required but help the organization's image

*Based on Kibeom Lee and Natalie J. Allen, "Organizational Citizenship Behavior and Workplace Deviance: The Role of Affect and Cognitions," *Journal of Applied Psychology* 87 (2002): 131–142.