

Part One

Framework for Organizational Assessment

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CHAPTER 1

INDIVIDUAL DIFFERENCES THAT INFLUENCE PERFORMANCE AND EFFECTIVENESS

What Should We Assess?

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Assessment in organizations can be carried out for a variety of purposes, many with high stakes for both individuals and organizations. The stakes can be particularly high when assessments are used to make decisions about personnel selection and placement or about advancement and development of individuals once they have been hired. If assessments focus on traits, attributes, or outcomes that are not relevant to success and effectiveness, both organizations and individuals may end up making poor decisions about the fit between people and jobs. If assessments are appropriately focused but poorly executed (perhaps the right attributes are measured, but they are measured with very low levels of reliability and precision), these assessments may lead to poor decisions on the parts of both organizations and individuals.

In this chapter, I focus on broad questions about the content of assessments (for example, What sorts of human attributes should assessments attempt to measure?) and say very little about the execution of assessments (the choice of specific tests

or assessment methods, for example) or even the use of assessment data. My discussion is general rather than specific, focusing on general dimensions of assessment (whether to assess cognitive abilities or broad versus narrow abilities, for example) rather than on the specifics of assessment for a particular job (say, the best set of assessments for selecting among applicants for a job as a firefighter).

This chapter provides a general foundation for many of the chapters that follow. It sets the stage by discussing broad dimensions of individual differences that are likely to be relevant for understanding performance, effectiveness, and development in the workplace. The remaining chapters in Part One start addressing more specific questions that arise when attempting to assess these dimensions. Chapter Two reviews the range of methods that can be used to assess the quality of measures, and Chapters Three through Eight provide a more detailed examination of specific domains: cognitive abilities, personality, background and experience, knowledge and skill, physical and psychomotor skills and abilities, and competencies.

Part Two of this book discusses assessment for selection, promotion, and development, and Parts Three and Four deal with strategic assessment programs and with emerging trends and issues.

I begin this chapter by noting two general strategies for determining what to assess in organizations: one that focuses on the work and the other that focuses on the person. The person-oriented approaches are likely to provide the most useful guidance in determining what to assess for the purpose of selection and placement in entry-level jobs, and work-oriented assessments might prove more useful for identifying opportunities for and challenges to development and advancement.

Two Perspectives for Determining What to Assess

A number of important decisions must be made in determining what to assess, but the first is to determine whether the focus should be on the person or the work. That is, it is possible to build assessment strategies around the things people do in organizations in carrying out their work roles (work oriented) or

around the characteristics of individuals that influence what they do and how well they do it in the workplace (person oriented). For example, it is common to start the process of selecting and deciding how to use assessments with a careful job analysis on the assumption that a detailed examination of what people do, how they do it, and how their work relates to the work of others will shed light on the knowledge, skills, abilities, and other attributes (KSAOs) required to perform the job well. An alternative strategy is to start by examining the individual difference domains that underlie most assessments and to use knowledge about the structure and content of those domains to drive choices about what to assess.

The choice of specific assessments is a three-step process that starts with choosing between a broadly person-oriented or work-oriented approach, then making choices about the domains within each approach to emphasize (for example, whether to focus on cognitive ability or on personality), and finally narrowing down the choice of specific attributes (say, spatial ability) and assessment methods (perhaps computerized tests). As I noted earlier, this chapter focuses on the first two of these steps.

Work-Oriented Strategies

Different jobs involve very different tasks and duties and may call on very different sorts of knowledge or skill, but it is possible to describe the domain of work in general terms that are relevant across a wide range of jobs and organizations; such a wide-ranging description provides the basis for worker-oriented strategies for determining what to assess. Starting in the late 1960s, considerable progress was made in the development of structured questionnaires and inventories for analyzing jobs (for example, the Position Analysis Questionnaire; McCormick, Jeanneret, & Mecham, 1972). These analysis instruments in turn helped to define the contents and structure of the O*NET (Occupational Information Network; Peterson, Mumford, Borman, Jeanneret, & Fleishman, 1999) Generalized Work Activities Taxonomy, arguably the most comprehensive attempt to describe the content and nature of work. Table 1.1 lists the major dimensions of this taxonomy.

Table 1.1. O*NET Generalized Work Activities

Information input	Looking for and receiving job-related information Identifying and evaluating job-relevant information
Mental processes	Information and data processing Reasoning and decision making
Work output	Performing physical and manual work activities Performing complex and technical activities
Interacting with others	Communicating and interacting Coordinating, developing, managing, and advising Administering

If you were to ask, “What do people do when they work?” Table 1.1 suggests that the answer would be that they gather information, process and make sense of that information, make decisions, perform physical and technical tasks, and interact with others. The specifics might vary across jobs, but it is reasonable to argue that Table 1.1 provides a general structure for describing jobs of all sorts and for describing, in particular, what it is that people do at work. Each of these major dimensions can be broken down into subdimensions (which are shown in this table), most of which can be broken down even further (for example, administering can be broken down into performing administrative activities, staffing organizational units, and monitoring and controlling resources) to provide a more detailed picture of the activities that make up most jobs.

In the field of human resource (HR) management, the detailed analysis of jobs has largely been replaced with assessments of competencies. The term *competency* refers to an individual’s demonstrated knowledge, skills, or abilities (Shippmann et al., 2000). The precise definition of competencies and the similarities and differences between traditional job analysis and competency modeling are matters that have been sharply debated (Shippmann et al., 2000),

and it is not clear whether competency modeling is really anything other than unstructured and informal job analysis. Nevertheless, the business world has adopted the language of competencies, and competency-based descriptions of work are becoming increasingly common.

Some competency models are based on careful analysis and compelling data, most notably the Great Eight model (Bartram, 2005):

Great Eight Competency Model

- Leading and deciding
- Supporting and cooperating
- Interacting and presenting
- Analyzing and interpreting
- Creating and conceptualizing
- Organizing and executing
- Adapting and coping
- Enterprising and performing

Bartram summarizes evidence of the validity of a range of individual difference measures for predicting the Great Eight. Unlike some other competency models, assessment of these particular competencies is often done on the basis of psychometrically sound measurement instruments.

Drilling Deeper

Work can be described in general terms such as the competencies detailed in the previous section. A more detailed analysis of what people do at work is likely to lead to an assessment of more specific skills and an evaluation of background and experience factors that are likely to be related to these skills. In this context, *skill* has a specific meaning: the consistent performance of complex tasks with a high level of accuracy, effectiveness, or efficiency. Skills are distinct from abilities in three ways: (1) they involve the performance of specific tasks, (2) they involve automatic rather than controlled performance, and (3) they are the result of practice. These last two features of skills are especially critical. The acquisition and mastery of skills usually requires a substantial amount of

practice or rehearsal, which suggests a link between assessment of skills and assessments of background and experience. In the past two decades, considerable progress has been made in assessments of background and experience (Mael, 1991), but it is fair to say that there are not well-established taxonomies of job-related skills or of background and experience factors, making it difficult to describe these domains in a great deal of detail.

Inferring Job Requirements

One of the most difficult challenges that proponents of worker-oriented approaches face is to convincingly translate information about what people do at work into judgments about the KSAOs required for performing well in particular jobs. This is sometimes done on an empirical basis (for example, the Position Analysis Questionnaire provides data that can be used to determine the predicted validity of a range of ability and skill tests), but it is most often done on the basis of subjective judgments. Virtually all methods of job analysis and competency modeling involve inferences about the attributes required for successful performance, but these judgments are rarely themselves validated. Indeed, there is little scientific evidence that given a good description of the job, analysts can make valid inferences about what attributes are required for successful performance beyond a handful of obvious prerequisites; knowing that electricians work with wires that are often color-coded, it is not hard to infer that color vision is required for this job, for example. Usually inferences of this sort are based on the assumption that if the content of the test matches the content of the assessments, those tests will be valid predictors of performance on the job.

Murphy, Dzieweczynski, and Yang (2009) reviewed a large number of studies testing the hypothesis that the match between job content and test content influences the validity of tests and found little support for this hypothesis. Nevertheless, an analysis of the job, whether it is done in terms of competencies, generalized work activities, or detailed questionnaires, is often the first step in making a decision about the content and the focus of workplace assessments.

Work-oriented approaches to assessment are likely to be particularly useful as part of the process of making decisions about

placement and development. In particular, comparisons between the content of previous and current jobs and the content of future jobs are useful for identifying developmental needs and gaps between the knowledge, skills, and experiences developed in previous jobs and those required in future assignments.

Person-Oriented Analyses

A very different strategy for making decisions about what attributes should or should not be included in assessments starts from the perspective of differential psychology: using what we know about individual differences to drive what we assess. In particular, this approach takes our knowledge of the dimensions and structure of human cognitive ability, normal personality, and interests and value orientations as a starting point for determining what to assess.

Cognitive Ability

There are enduring and stable individual differences in performance on virtually all tasks that involve the active processing of information; these individual differences form the core of the domain we refer to as cognitive ability.

The key to understanding the structure of human cognitive abilities is the fact that scores on almost any reliable measure that calls for active information processing will be positively correlated with any other reliable measure that also involves cognitive activity. That is, scores on virtually all cognitively demanding tasks exhibit positive manifold (Carroll, 1993). Thus, scores on paragraph comprehension measures will be correlated with scores on numerical problem solving, which will be correlated with scores on spatial relations tests and so on. The existence of positive manifold virtually guarantees that the structure of human abilities will be hierarchically arranged, with virtually all specific abilities (or groups of abilities) positively correlated with more general ability factors. Theories of cognitive ability that give little emphasis to *g* or deny the utility of a general factor do not seem to provide any convincing explanation for positive manifold.

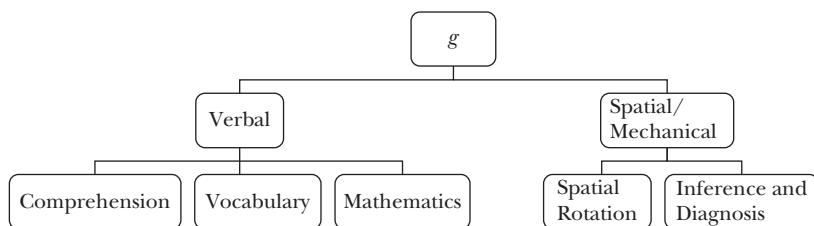
Carroll's (1993) three-stratum model of cognitive ability (based on the results of a large number of factor-analytic studies) nicely

illustrates the nature of modern hierarchical models. The essential features of this model are shown in Figure 1.1. At the most general level, there is a g factor, which implies stable differences in performance on a wide range of cognitively demanding tasks. At the next level (the broad stratum) are a number of areas of ability, which imply that the rank ordering of individuals' task performance will not be exactly the same across all cognitive tasks, but rather will show some clustering. Finally, each of these broad ability areas can be characterized in terms of a number of more specific abilities (the narrow stratum) that are more homogeneous still than those at the next highest level.

The hierarchical structure of the domain of cognitive abilities has important implications for understanding three key aspects of cognitive ability tests: (1) the validity of these tests as predictors of job performance and effectiveness, (2) the relationships among abilities and the relative importance of general versus specific abilities for predicting performance, and (3) adverse impact. First, abundant evidence shows that cognitive ability is highly relevant in a wide range of jobs and settings and that measures of general cognitive ability represent perhaps the best predictors of performance (Schmidt & Hunter, 1998). The validity of measures of general cognitive ability has been established in all sorts of jobs and settings, and it is reasonable to believe that a good ability test will be a valid predictor of performance in virtually any application of testing.

The hierarchical structure of the cognitive domain is almost certainly a key to the widespread evidence of the validity of cognitive tests. All jobs require active information processing (such as retrieving and processing information, making judgments), and

Figure 1.1. The Cognitive Domain



even when the content of the job focuses on very specific tasks or types of ability (a job might require spatial visualization abilities, for example), the strong intercorrelations among abilities virtually guarantee that measures of general ability will predict performance. This intercorrelation among cognitive abilities also has important implications for evaluating the importance of general versus specific abilities.

A good deal of evidence exists that the incremental contribution of specific abilities (over and above general ability) to the prediction of performance or training outcomes is often minimal (Ree, Earles, & Teachout, 1994). Because of the correlation among measures of general and specific abilities, payoff for the specific abilities required in a job is usually small. Measures of general ability will usually be as good as, and often better than, measures of specific abilities as a predictor of performance and effectiveness.

The strong pattern of intercorrelation among cognitive abilities poses a strong challenge to the hypotheses that many types of intelligence exist (Gardner, 1999) or that important abilities have not yet been fully uncovered. In particular, the overwhelming evidence of positive correlations among virtually all abilities raises important questions about the nature of emotional intelligence.

Organizations have shown considerable interest in the concept of emotional intelligence (EI: Murphy, 2006). There are many different definitions and models of EI, but the claim that it is a distinct type of intelligence is at the heart of the debate over its meaning and value. On the whole, little evidence exists that emotional intelligence is related to other cognitive abilities, casting doubts on its status as an "intelligence." Some evidence suggests that EI is related to a variety of organizationally relevant criteria, but on the whole, the claim that EI is a distinct type of intelligence and an important predictor of performance and effectiveness does not hold up to close scrutiny (Murphy, 2006). More generally, the idea that there are distinct types of intelligence does not square with the evidence.

Finally, the hierarchical structure of the cognitive domain has important implications for the likelihood that ability measures will lead to different outcomes for members of different ethnic and racial groups. Black (and, to a lesser extent, Hispanic) examinees

consistently receive lower scores on cognitive ability tests than white examinees, and the use of cognitive ability tests in personnel selection or placement will normally lead to adverse impact against black and Hispanic examinees (Schmitt, Rogers, Chan, Sheppard, & Jennings, 1997). Some differences in the amount of racial disparity are expected with measures of different specific abilities (in general, the stronger the correlation of specific abilities with g , the larger the racial disparities), but one consequence of the positive manifold among measures of various abilities is that adverse impact will be expected almost regardless of what specific abilities are measured. The hierarchical structure of the cognitive ability domain has several implications for research and practice in personnel assessment, including:

- General abilities have broad relevance in most settings.
- Identifying the right specific abilities is not necessarily important.
- The faults of general abilities will be shared with specific ones.
- The belief in multiple types of intelligence or newly discovered intelligences is not consistent with the data.

First, the hierarchical structure of cognitive abilities means that general abilities are more likely to be useful for predicting and understanding behavior in organizations than more narrowly defined specific abilities. This structure guarantees that even if it is the specific ability that is important, general abilities will also turn out to be good predictors in most settings. Because general abilities are usually measured with more reliability and more precision, making the case for focusing on specific rather than on general abilities is often hard.

Second, if the goal is predicting future performance and effectiveness, this structure suggests a diminishing payoff for getting it exactly right when drawing inferences about the abilities required by a job. For example, the spatial-perceptual branch of most hierarchical models of cognitive ability includes a number of specific abilities (say, three-dimensional spatial visualization versus the ability to estimate distance and range). The further down the chain of related abilities one goes (from general to spatial to

three-dimensional spatial visualization), the less difference choices among branches of the ability tree are likely to make in determining the eventual value and criterion-related validity of ability tests.

Third, the use of ability tests in making decisions about people in organizations such as personnel selection or placement will lead to adverse impact against members of a number of racial and ethnic groups, and the use of specific rather than general ability measures will rarely change this fundamentally. Specific ability measures do show slightly lower levels of adverse impact than general ones, but they also typically show lower levels of criterion-related validity. The decision to use cognitive ability tests in organizations is necessarily also a decision to accept a certain level of adverse impact; the decision to refrain from using such tests is almost always also a decision to sacrifice validity.

Finally, the long-standing assumption and hope of many researchers and practitioners (especially in educational settings) that we can identify many separate types of intelligence is exactly that: an assumption and an aspiration. Models that posit multiple intelligences or suggest that specific types of content such as emotional information require their own type of intelligence are popular but not well supported. In the case of emotional intelligence, which has attracted a great deal of attention in both educational and organizational settings, improvements in the models and measures of this construct may eventually lead to the acceptance of EI as a distinct and important domain of human cognitive ability, but there are few data on the immediate horizon to lead us to believe that current conclusions about the structure and nature of human cognitive ability will need to be radically changed to accommodate separate intelligences such as EI.

Personality

The link between personality and behavior in organizations has a long history of interest. In a highly influential review, Guion and Gottier (1965) cast considerable doubt on the value of personality measures, especially as predictors of job performance. They concluded that “there is no generalizable evidence that personality measures can be recommended as good or practical tools for employee selection” (p. 159) and that “it is difficult to advocate, with a clear conscience, the use of personality measures in most

situations as a basis for making employment decisions about people” (p. 160). This review led to a long period of skepticism about the relevance of personality in understanding performance and effectiveness in the workplace. Not until the 1990s did personality reemerge as a viable tool for understanding and predicting performance and effectiveness (Barrick & Mount, 1991). It is now widely accepted that measures of normal personality have some value as predictors of performance, but the validities of these measures are often low. Nevertheless, they are also viewed as useful measures for helping to structure and manage development and placement programs.

As with cognitive ability, one of the keys to understanding the relevance and value of personality measures is to examine the structure and the contents of this domain. The Five Factor Model, often referred to as the “Big Five,” has emerged as a dominant model for describing normal personality. This model has been replicated across a number of methods, settings, and cultures, and it provides a good starting point for describing what exactly *personality* means. This model suggests that normal personality can be described largely in terms of five broad factors that are at best weakly related to one another and (with the exception of Openness to Experience) with cognitive abilities:

- Neuroticism: emotional instability, tendency to experience negative emotions easily
- Extraversion: outgoing, energetic, tending toward positive emotions
- Agreeableness: cooperates with, is compassionate and considerate toward others
- Conscientiousness: reliability, self-discipline, achievement oriented, planfulness
- Openness to Experience: curiosity, imagination, appreciation for new ideas and experiences, appreciation of art, emotion, adventure

The two structural aspects of the domain of normal personality that are most important for understanding the ways broad personality dimensions might be used in assessment are the relatively

weak correlations among the dimensions of normal personality and the relatively weak relationships between personality and cognitive ability. The weak correlations among the Big Five mean that different dimensions of personality really do convey different information and that all sorts of personality profiles are possible. The weak correlations between personality and cognitive ability have three very different and very important implications. First, personality measures will contribute unique information not captured by cognitive ability. That is, whatever variance in performance, behavior, or effectiveness is explained by personality will almost certainly be distinct from variance explained by cognitive ability. Second, personality measures will not share some of the characteristics common to ability measures. In particular, measures of normal personality are typically unrelated to the respondent's race, ethnicity, or gender.

Whereas the use of cognitive ability tests is a major cause of adverse impact in personnel selection, the use of personality measures can reduce adverse impact. Unfortunately, the reduction in adverse impact when ability and personality measures are combined is not as large as one might expect; the combination of ability tests (which have adverse impact) and personality inventories (which do not) leads to some reduction in adverse impact, but it will not cut it in half (Ryan, Ployhart, & Friedel, 1998). Third, the weak relationships between personality and cognitive ability are consistent with one of the most contentious issues in research on personality assessment in organizations: the validity of broad personality dimensions as predictors of performance and effectiveness. Although there is considerable interest in the use of personality assessments in organizations, studies of the validity of personality measures as predictors of performance have consistently shown that the correlations between personality and performance are small (Morgeson et al., 2007). If the goal is to predict performance and effectiveness, it is unlikely that measures of broad personality dimensions will help very much.

The two alternatives to using broad personality dimensions in assessment might yield higher levels of validity. First, it is possible to use finely grained measures. For example, measures of the Big Five often provide separate assessments of multiple facets

of each major dimension. For example, the NEO-PI (Costa & McCrae, 1995) yields scores on the Big Five and on several facets of each dimension; these are shown in Table 1.2. For example, Conscientiousness can be broken down into Competence, Order, Dutifulness, Achievement-striving, Self-discipline, and Deliberation. It is possible that different facets are relevant in different jobs or situations and from assessment of specific facets will yield different levels of validity from those that have been exhibited by measures of the Big Five.

An alternative to the use of finely grained measures is the use of composite measures. For example, there is evidence that

Table 1.2. Facets of the Big Five

Neuroticism	Extraversion
Anxiety	Warmth
Hostility	Gregariousness
Depression	Assertiveness
Self-consciousness	Activity
Impulsiveness	Excitement seeking
Vulnerability	Positive emotions
Conscientiousness	Agreeableness
Competence	Trust
Order	Straightforwardness
Dutifulness	Altruism
Achievement-striving	Compliance
Self-discipline	Modesty
Deliberation	Tender-mindedness
Openness	
Fantasy	
Aesthetics	
Feelings	
Actions	
Ideas	
Values	

integrity tests capture aspects of Conscientiousness, Neuroticism, and Agreeableness (Ones, Viswesvaran, & Schmidt, 1993); the breadth of the domain these tests cover may help to explain their validity as a predictor of a fairly wide range of criteria. In principle, there might be no effective limit to the types of composite personality tests that might be created, and some of these might plausibly show very respectable levels of validity. However, this strategy almost certainly involves a trade-off between the potential for validity and interpretability.

The use of personality assessments to make high-stakes decisions about individuals is controversial (Morgeson et al., 2007), in large part because most personality inventories are self-reports that are potentially vulnerable to faking. The research literature examining faking in personality assessment is broad and complex (Ones, Viswesvaran, & Reiss, 1996), but there is consensus about a few key points. First, people can fake, in the sense that they can often identify test responses that will paint them in the most favorable light. Second, while faking can influence the outcomes of testing, it often does not greatly affect the validity of tests. This is because positive self-presentation biases are often in play when job applicants and incumbents respond to personality inventories, meaning that everyone's scores might be inflated. Although faking is a legitimate concern, it is probably more realistic to be worried about the possibility of differential faking. That is, if some people inflate their scores more than others, faking could change both the mean score and the rank order of respondents. In other words, if everyone fakes, it might not be a big problem, but if some people fake more or better than others, faking could seriously affect the decisions based on personality inventories.

As with cognitive ability, the structure and nature of the domain of normal personality have important implications for research and practice in organizational assessment:

- The relative independence of major personality dimensions puts a greater premium on identifying the right dimensions and the right rules for combining information from separate dimensions.

- Personality measures provide information that is distinct from that provided by ability measures.
- The relatively low correlations with ability suggest that personality measures will be poor predictors of performance and effectiveness; the available evidence seems to confirm this prediction.
- Narrow dimensions of personality are easiest to interpret, but are often similarly narrow in terms of what they predict. The broadest dimensions show more predictive power but are hard to sensibly interpret.

First, the broad dimensions that characterize the Big Five are relatively distinct, which poses both opportunities and challenges. On the opportunity side, it is more likely that the complex models (for example, configural models, in which the meaning of a score on one dimension depends on a person's score on other dimensions) will pay off in the domain of personality than in the domain of cognitive ability. In the ability domain, the pervasive pattern of positive correlations among virtually all ability measures means it is hard to go too far wrong. Even if you fail to identify the exact set of abilities that is most important, you can be pretty certain of capturing relevant variance with measures of general abilities. In the personality domain, choices of which dimensions to assess and how to combine them are likely to matter. This also means that identifying the best way to use personality information is likely to be a much more difficult challenge than identifying the best way to use information about abilities.

Second, personality and ability seem to be largely independent domains. There are some broad personality dimensions that may be related to *g*, but most are not. This means that potential exists for personality measures to contribute to the prediction of performance and effectiveness above and beyond the contributions of ability measures. Unfortunately, as noted in our third point, this often does not happen. The validities of personality measures are statistically different from zero but are often not much greater than zero (Morgeson et al., 2007).

Finally, personality assessment often poses trade-offs. One trade-off is often between predictive power and interpretability

and another between ease of use and trustworthiness. Personality measures are usually self-reports, and they are not necessarily hard to develop. They are, however, vulnerable to faking. Ability tests have many defects, but at least it is hard to “fake smart.” A personality inventory that shows an applicant to be high on Conscientiousness and Agreeableness might mean exactly what it appears to mean—or it might mean that the respondent knows that high scores on these dimensions are viewed favorably, and is faking.

Interests and Value Orientations

Organizational assessments are used not only to predict performance and efficiency but also to evaluate the fit between people and environments or jobs. Ability and personality measures can be very useful in assessing fit, but many discussions of fit focus on interests and value orientation, based on the argument that the congruence between the interests and the values of an individual and the environment in which he or she functions is an important determinant of long-term success and satisfaction. There are important questions about the extent to which fit can be adequately measured and about the importance of person-environment fit (Tinsley, 2000), but the idea of congruence between individuals and environments is widely accepted in areas such as career development and counseling. Numerous models have been used to describe the congruence between individuals and environments; Lofquist and Dawis’s (1969) Theory of Work Adjustment represents the most comprehensive and influential model of fit. The theory examines the links between the worker’s needs and values and the job’s ability to satisfy those needs, and it also considers the match between the skills an individual brings to the job and the skills required for effective performance in that job.

Assessments of interests have long been an important part of matching individuals with jobs. Strong (1943) defined an interest as “a response of liking” (p. 6). It is a learned affective response to an object or activity. Things in which we are interested elicit positive feelings, things in which we have little interest elicit little affect, and things in which we are totally disinterested elicit apathy or even feelings of aversion. Interest measures are widely used to

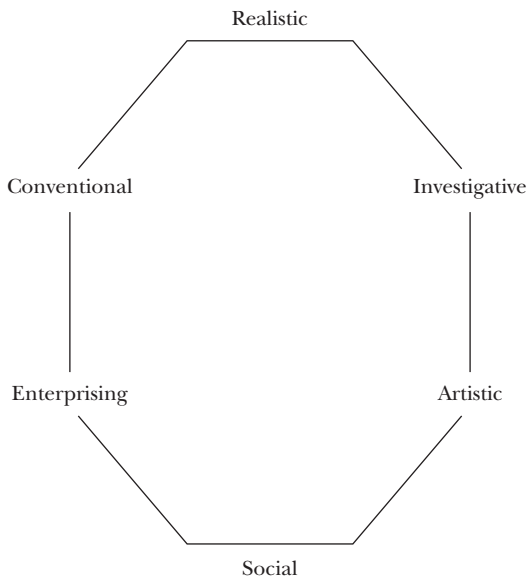
help individuals identify vocations and jobs that are likely to satisfy and engage them.

The dominant theory of vocational choice was developed by Holland (1973), who suggested that vocational interests can be broken down into six basic types: realistic (interest in things), investigative (interest in ideas), artistic (interest in creating), social (interest in people), enterprising (interest in getting ahead), and conventional (interest in order and predictability). The Holland RIASEC model is shown in Figure 1.2.

The hexagonal structure of Figure 1.2 reflects one of the key aspects of the Holland model. Interests that are close together on the Holland hexagon, such as Realistic and Investigative, are more likely to co-occur than interests that are far apart such as Realistic and Social. The great majority of measures of vocational interests and theories of vocational choice are based on the Holland model.

Unlike the field of interest measurement, there is no single dominant model of work-related values. Probably the best-researched

Figure 1.2. Holland Taxonomy of Vocational Interests



model is that proposed by Lofquist and Dawis (1969). Their taxonomy of work-related values, shown in Table 1.3, was adopted by O*NET as a way of characterizing the values most relevant to various occupations.

Like many other taxonomies, the O*NET Work Value Taxonomy is hierarchically structured. At the highest level of abstraction, jobs can be characterized in terms of the extent to which they are likely to satisfy value related to opportunities for achievement, favorable working conditions, opportunities for recognition, emphasis on relationships, support, and opportunities for independence. One of the many uses of O*NET is to match jobs to people's values. For example, individuals who value achievement and recognition can use O*NET to identify jobs that are likely to satisfy those preferences. The lower level of the taxonomy helps to clarify the meaning of each of the higher-order values and provides a basis

Table 1.3. O*NET Work Value Taxonomy

Achievement	Relationships
Ability utilization	Coworkers
Achievement	Social service
	Moral values
Working conditions	Support
Activity	Company policies and practices
Independence	Supervision, human relations
Variety	Supervision, technical
Compensation	
Security	
Working conditions	
Recognition	Independence
Advancement	Creativity
Recognition	Responsibility
Authority	Autonomy
Social status	

for a more finely grained assessment of person-job fit. For example, good working conditions might refer to almost any combination of opportunities for activity, independence, variety, compensation, or job security.

Assessments of cognitive abilities and personality traits are often used to predict criteria such as performance and effectiveness. Assessments of interests and values are not likely to reveal as much about performance, but are related to criteria such as satisfaction, burnout, and retention. Good person-job fit is thought to enhance the attractiveness and the motivational potential of a job, and in theory these assessments can be used for both individual counseling and placement. In practice, systematic placement (hiring an individual first and deciding afterward what job or even what occupational family to assign that person to) is rarely practiced outside the armed services. However, interest measures might be quite useful for career planning activities at both the individual and the organizational levels. For example, executive development programs often involve a sequence of jobs or assignments, and the use of interest and value assessments might help in fine-tuning the sequence of assignments that is most likely to lead to successful development.

Implications for Assessment in Organizations

Individual differences in cognitive ability, personality, values, and interests are likely to affect the performance, effectiveness, motivation, and long-term success of workers at all levels in an organization. A general familiarity with the structure and the content of each of these domains provides a good starting point for designing organizational assessments.

The essential feature of cognitive abilities is their interrelatedness. This presents both opportunities and challenges when using ability tests in organizations. Because virtually all abilities are correlated (often substantially) with general abilities, it is hard to go seriously wrong with the choice of ability measures; jobs that require one ability also tend to require the constellation of other related abilities. Because virtually all jobs require and involve the core activities that define cognitive ability (the acquisition, manipulation, and use of information), it is generally a safe bet

that ability measures will turn out to be valid predictors of performance. Unfortunately, the interconnectedness of abilities also implies that any of the shortcomings of general cognitive ability as a predictor will be broadly shared by more specific measures. In particular, ability measures of all sorts are likely to show substantial adverse impact on the employment opportunities of black and Hispanic applicants and employees, and this impact has both legal and ethical implications. Depending on the weight you give to predictive validity versus the social impact of using ability tests to make high-stakes decisions, you might come to very different conclusions about whether including these measures in organizational assessments makes sense (Murphy, 2010).

The domain of normal personality has a much different structure. The Big Five personality factors are interrelated, but the correlations among dimensions are generally quite weak, and no general factor describes human personality. Like many other taxonomic structures, the Big Five can be broken down into facets, or they can be combined into composites, but moving from the level of the Big Five to either higher (composite) or lower (facet) levels of abstraction often involves trade-offs between interpretability and predictive value.

Two issues seem especially important when using personality measures as part of assessment in organizations. First, these are usually self-reports and are vulnerable to manipulation and misrepresentation. There are important debates about the actual effects of faking on validity and the outcomes of selection (Morgeson et al., 2007), but the possibility that respondents might be able to consciously inflate their scores on high-stakes assessments is likely to be a realistic barrier to their use in many settings. More important, the validity of these measures as predictors of criteria such as performance or effectiveness is often disappointing, and the value of obtaining these assessments is not always clear.

Vocational interests are well understood and are captured nicely by Holland's hexagonal model. This model posits relationships among interests that can be captured by the distance between any pair of interests on the hexagon; this model has been applied with considerable success in vocational counseling. However, it is not always clear how to use assessments of interests or values to make

more detailed predictions of judgments. There are many models of person-job fit, and different models often depend on different sets of values. No single agreed-on taxonomy adequately captures the universe of organizationally relevant values. Nevertheless, the general proposition that some jobs are more likely than others to fit an individual's values and that some individuals are more likely than others to fit any specific job seems well established, and the measurement of work-related values has potential for both research and practice.

This chapter has been intentionally broad in its focus, and the implications for assessment laid out in the preceding paragraphs are similarly broad. Chapters Two through Eight examine more specific issues in assessments of domains ranging from abilities to personality to background and experience. Chapters Nine through Fourteen show how assessments of these domains are used in making decisions in occupations ranging from hourly or skilled work to executive and managerial positions. Chapters Fifteen through Twenty-Four discuss a wide range of questions encountered when developing and using assessments in a range of organizational contexts.

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