Work Activities Matcher

WAM

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ADMINISTRATOR'S GUIDE

INTRODUCTION

The *Work Activities Matcher (WAM)* is designed to help people identify and explore career options based on their preferred work activities. It works on the very practical notion that people will be more satisfied with their jobs if they like what they are doing; therefore, career decisions should take into account the work activities a person enjoys. The assessment is based on an analysis of data gathered by the U.S. Department of Labor.

This assessment is useful to anyone involved in career exploration, including students deciding on a career or educational direction, unemployed adults identifying alternative job objectives, and individuals in the middle of a career transition. It is designed to be usable by anyone reading at the eighth-grade level or beyond, and is ideally suited for both group and individual administration.

The *WAM* is designed to be self-scored and self-interpreted, and takes about 20 minutes to complete. The following guide presents useful information on the theoretical background and development of the instrument, as well as tips for administering and interpreting it.

Please note: Like any career assessment, the *WAM* is not meant to prescribe the ideal job for a user. It is meant only to assist in the career-exploration and decision-making process. Users should apply their common sense to combine the results of this assessment with other information about themselves and their work options. They should also talk to people who know them and are familiar with their school and work experiences.

BACKGROUND AND DEVELOPMENT

The *Work Activities Matcher* works under the assumption that individuals will be more satisfied with their work if they are performing tasks that they find stimulating, fulfilling, and rewarding. Theories and studies concerning worker motivation usually incorporate contentment with work activities as an important predictor of overall job satisfaction. Herzberg, Mausner, and Snyderman's (1959) two-factor theory of job satisfaction divides satisfaction and dissatisfaction into two sets of processes. They identify factors associated with *job content* to be the primary motivators leading to job satisfaction. Work tasks—or one's ability to engage in stimulating and satisfying activities—fall within this category.

In addition, theories of work adjustment, such as those posited by Dawis and Lofquist (1992) or Hershenson (1996), place a great emphasis on task requirements as a key to meeting an individual's work needs. The need to not only be competent at one's work tasks, but to also get a feeling of accomplishment and satisfaction from performing them, is integral to overall career satisfaction and wellness.

Hackman and Oldham (1976, 1980) see job satisfaction and productivity as linked directly to the *fit* of the person to the job, defining a good fit as conditions wherein productive work is a personally satisfying experience. Thus work commitment and productivity are contingent, in part, upon the extent to which work activities are found to be personally satisfying, particularly to the extent that those work activities use an assortment of the employee's skills (skills variety) and allow the employee to positively

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impact others (task significance), as well as the extent to which employees are allowed to complete a task from start to finish (task identity). Leibowitz and Lea (1992) reiterate this: "Satisfaction and success in an occupational field or in a specific job depends on the person/environment fit. That is, individuals must be able to express their values and interests and play roles and perform activities that they deem appropriate for themselves."

Satisfaction derived from work activities has consistently been found to be a primary work motivator. Linder (1998) studied the relative importance of all work motivators and found that "interesting work ranked as the most important motivational factor," further stipulating that jobs can be enriched by ensuring that employees engage in a wide variety of work activities that they find enjoyable.

While theorists and researchers differ on the relative importance of satisfying work activities compared to other intrinsic or extrinsic rewards (such as pay, achievement, autonomy, or security), most identify the enjoyment of work tasks or work activities as a central component to determining overall job satisfaction. Thus it follows that an analysis of one's preferred work activities provides a useful entry point for career exploration and decision making alongside other factors such as interests, values, and skills.

In addition, extensive research has been done linking performance and satisfaction as they relate to activities. That is, the better people are at an activity, the more they are likely to enjoy doing it. Likewise, the more they enjoy an activity, the more likely they are to continue improving their ability to perform it. People enjoy doing work they feel competent at; it satisfies their needs for self-esteem and self-actualization, as well as providing a sense of security. Insomuch as it is a self-assessment of a person's perceived or predicted *enjoyment* of an activity, then the *WAM* also reflects a person's potential ability to *perform* that activity.

Because activities are central to the experience of being at work, many of the more widely used career assessments use specific work activities as a means of assessing occupational interests. For example, the *Campbell Interest and Skills Survey (CISS)* includes a section asking users to rate their preference for work activities such as organizing a political campaign or appraising the value of jewelry. Likewise the *Self-Directed Search (SDS),* developed by John Holland, uses work activity statements to assess career interests.

While work activities provide the basis for items on these and other instruments, those items are used to measure constructs *outside* of work activity preference, such as interests, personality, or skills competencies. The *WAM*, in contrast, uses work activity preference as the basis for career exploration in and of itself, and not as a means of evaluating other dimensions of a person's career orientation.

Development of the O*NET Work Activities

In the 1990s the U.S. Department of Labor (DOL) created a database known as the O*NET (Occupational Information Network) to describe occupations on a wide variety of factors, many of which are useful in career exploration. One of the factors is work activities.

The developers of the O*NET taxonomy of work activities (officially called Generalized Work Activities) based it on an analysis of previous taxonomies, such as the *Position Analysis Questionnaire* (McCormick, Jeanneret, and Mecham, 1969, 1972), the *Occupation Analysis Inventory* (Cunningham, 1988), the *Generalized Work Inventory* (Cunningham, Wimpee, and Ballentine, 1990), and the *Job Element Inventory* (Cornelius, Hakel, and Sacken, 1979). They also reviewed research on the tasks of managerial and professional occupations, such as Mitchell and McCormick (1976), Borman and Brush (1993), Outerbridge (1981), and the MOSAIC project (U.S. Office of Personnel Management, 1991). They focused on empirical research rather than on theoretical analyses, such as the data-people-things structure proposed by Fine (1989).

The O*NET developers identified four large categories of generic work activities: Information Input, Mental Processes, Work Output, and Interacting with Others. Within each of these large categories, they identified more-specific categories. For example, within Information Input they identified "Looking for and Receiving Job-Related Information" and "Identifying/Evaluating Job-Relevant Information." Finally, within these specific categories they identified the lowest level of generic work activities. To continue the example, within "Looking for and Receiving Job-Related Information," they identified "Getting Information Needed to Do the Job" and "Monitoring Processes, Materials, and Surroundings."

The work activity database that was included in the initial (1998) release of the O*NET had three scales on which occupations were rated: Level, Importance, and Frequency. The original ratings were based on analysis of previous research, but new ratings made by job analysts, incumbents, and occupational experts have gradually replaced the earlier ratings (Dietrich, 2006). Since the O*NET debuted in 1998, several of the original O*NET Generalized Work Activities have had their names or definitions changed slightly, and one has been dropped. The Frequency rating scale has been eliminated. Essentially, however, the taxonomy has stayed the same.

Development of the Scales Used in the *WAM*

The O*NET content model presently includes 41 Generalized Work Activities that are the basis of the work activities used in the *WAM*. To avoid the length, tedium, and impracticality of an assessment based on 41 different kinds of activities, the O*NET activities were collapsed into 26 work activities. A statistical analysis of the ratings of the O*NET occupations on the 41 work activities showed pairs of activity ratings that are highly correlated; in other words, the ratings for one work activity can predict the ratings for another work activity almost all the time. In such cases, there was no need for two activities, and they were collapsed.

For example, the occupational ratings (on the Importance scale) for the activity "Coaching and Developing Others" have a correlation of 0.93 with the ratings for "Training and Teaching Others," 0.89 with the ratings for "Guiding, Directing, and Motivating Subordinates," 0.88 with the ratings for "Developing and Building Teams," and 0.85 with the ratings for "Coordinating the Work and Activities of Others." High correlations such as these made it possible to collapse several activities.

Note that these high correlations can be found for both scales—Importance and Level—that are used in the O*NET to rate occupations. However, the ratings on the Importance scale were used for development of the *WAM*, because the importance of an activity is relevant to questions of preference, whereas the level of an activity is more relevant to questions of skill mastery.

Another important consideration was that the new activity created by the fusion of two or more O*NET activities be a construct that people could readily understand. That is, the combined work activity needed to be expressed in wording that would summarize and encompass all the component activities. For example, the three O*NET work activities "Coordinating the Work and Activities of Others," "Developing and Building Teams," and "Staffing Organizational Units" had high correlations (averaging 0.82) and could be easily summarized as "Hiring, Promoting, and Coordinating Staff." Table 1 matches the 41 O*NET Generalized Work Activities with the 26 collapsed work activity names that are used in the *WAM*.

For simplicity of scoring, it was helpful to group the 26 *WAM* work activities further into the six categories that make up the scales of the *WAM*. The grouping was guided primarily by correlation scores and secondarily by conceptual clarity. Even within these larger groups, the intercorrelations are high: The average correlation between any O*NET Generic Work Activity and any other activity grouped within the same scale is 0.73. The six scales on the *WAM* include the following:

- Communicating and Influencing
- Handling, Moving, and Operating
- Identifying and Monitoring
- Learning and Analyzing
- Managing, Supervising, and Teaching
- Repairing and Maintaining

These six scales appear in the rightmost column of Table 1 and are referred to in the *WAM* assessment as "Work Activity Categories."

Table 1: O*NET Generalized Work Activities Linked to Assessment Items and Scoring Scales		
Work Activity Name in O*NET	**Name of Activity in *WAM* Item**	**Scale Used in Scoring**
Assisting and Caring for Others	Assisting and caring for others	Communicating and Influencing
Communicating with Supervisors, Peers, or Subordinates	Communicating with others	Communicating and Influencing
Communicating with Persons Outside Organization		Communicating and Influencing
Interpreting the Meaning of Information for Others	Explaining what information means and how it can be used	Communicating and Influencing
Establishing and Maintaining Interpersonal Relationships	Building relationships, negotiating compromises, and resolving conflicts with others	Communicating and Influencing
Resolving Conflicts and Negotiating with Others		Communicating and Influencing
Performing for or Working Directly with the Public	Performing for or working directly with the public	Communicating and Influencing
Selling or Influencing Others	Convincing others to buy something or change their minds or actions	Communicating and Influencing
Controlling Machines and Processes	Operating the controls of machines or processes (not including computers or vehicles)	Handling, Moving, and Operating
Operating Vehicles, Mechanized Devices, or Equipment	Operating vehicles and mechanized equipment	Handling, Moving, and Operating
Handling and Moving Objects	Engaging in physical activity	Handling, Moving, and Operating
Performing General Physical Activities		Handling, Moving, and Operating
Identifying Objects, Actions, and Events	Monitoring materials, events, or the environment to check their status or detect problems	Identifying and Monitoring
Monitoring Processes, Materials, or Surroundings		Identifying and Monitoring
Inspecting Equipment, Structures, or Material	Inspecting equipment, structures, or materials to identify errors or defects	Identifying and Monitoring

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Work Activity Name in O*NET	Name of Activity in *WAM* Item	Scale Used in Scoring
Judging the Qualities of Things, Services, or People	Assessing the value, importance, or consistency of people, services, or things	Learning and Analyzing
Evaluating Information to Determine Compliance with Standards		
Processing Information	Processing, analyzing, or verifying information	
Analyzing Data or Information		
Getting Information	Gathering, reviewing, and using information	
Updating and Using Relevant Knowledge	Identifying information by observing changes in circumstances or events	
Interacting with Computers	Using computers to perform functions, enter data, or process information	
Making Decisions and Solving Problems	Solving problems creatively or creating works of art	
Thinking Creatively		
Estimating the Quantifiable Characteristics of Products, Events, or Information	Estimating sizes, distances, and quantities or determining the time, costs, and resources needed to complete a task	
Developing Objectives and Strategies	Goal-setting, planning, and scheduling	Managing, Supervising, and Teaching
Scheduling Work and Activities		
Organizing, Planning, and Prioritizing Work		
Coordinating the Work and Activities of Others	Hiring, promoting, and coordinating staff	
Developing and Building Teams		
Staffing Organizational Units		
Training and Teaching Others	Training, teaching, or coaching others	
Coaching and Developing Others		
Guiding, Directing, and Motivating Subordinates	Advising and guiding others	
Providing Consultation and Advice to Others		
Documenting/Recording Information	Doing administrative or clerical work	
Performing Administrative Activities		
Monitoring and Controlling Resources	Monitoring and controlling financial and material resources	
Repairing and Maintaining Electronic Equipment	Repairing and maintaining electronic equipment	Repairing and Maintaining
Repairing and Maintaining Mechanical Equipment	Repairing and maintaining mechanical equipment	
Drafting, Laying Out, and Specifying Technical Devices, Parts, and Equipment	(no equivalent; low correlations to all other work activities)	

Comparison of *WAM* Scales to the Holland Scales

Because preferred work activities are often related to work interests and because the *WAM* uses six scales, an obvious question is how its scales compare to the six interest areas developed by John L. Holland (1959).

An analysis of data from the O*NET does not show extremely high correlations between any of the *WAM* scales and any of the Holland scales. Table 2 matches each of the six *WAM* scales to the Holland scale with which it has the highest correlation.

Table 2: Highest Correlations Between *WAM* Scales and Holland Scales

WAM Scale	Correlation Score	Holland Scale
Communicating and Influencing	0.62	Social
Handling, Moving, and Operating	0.75	Realistic
Identifying and Monitoring	0.38	Realistic
Learning and Analyzing	0.60	Investigative
Managing, Supervising, and Teaching	0.46	Social
Repairing and Maintaining	0.61	Realistic

This comparison highlights the essential difference between the approaches used by the *WAM* and by Holland. Holland based his analysis on the results of an interest inventory and therefore focuses on the *contexts* in which activities are done. The *WAM,* on the other hand, focuses solely on preferences for work *activities* and plays down the role of work context. For example, activities such as "Performing for or working directly with the public" can certainly be performed in an Artistic or Enterprising context, but *WAM* focuses on people's preference (or lack of preference) for *the activity itself* and therefore classifies this activity in the Communicating and Influencing scale.

Another point of comparison between the two approaches considers the relationships between the scales within each system. Holland's analysis is famous for distributing occupations on a hexagon. The implication is that, for example, an occupation rated high on the Artistic scale will also tend to be rated fairly high on the Investigative and Social scales (the adjacent angles of the hexagon) but low on the Conventional scale (the opposite angle). Although the Holland hexagon is very well known, it is not the only way the world of work can be viewed, even in terms of interests. For example, Gati (1991) found that Holland's data conformed better with a hierarchical (tree-shaped) model.

In contrast, the correlations among the six *WAM* scales suggest a dumbbell-shaped distribution. (See Figure 1.) The six scales cluster into two main groups, one mainly covering mental and social activities, the other mainly covering object-related activities. It is worth noting that correlations among the O*NET *skills* ratings reveal a similar pair of clusters.

The context-focused Holland approach can be valuable for some career decision makers who are primarily interested in how work context matches their interests, but the *WAM* approach is designed for people who would rather focus on the implications of which specific activities they prefer.

Item Development

Each item of the *WAM* assessment represents one of the 26 specific activities that may be found in the middle column of Table 1. Although the names of these activities have been carefully constructed, test takers often need more than an activity's name to decide whether they prefer it. Therefore each of the activity items of the *WAM* is further exemplified by four examples of how it is used on the job.

The examples were chosen to meet the following requirements:

- They must be consistent with the construct defined by the name of the work activity.

- They must represent a variety of levels of ability.

- They must represent a variety of industries or work contexts.

- They must be concise.

- They must require no advanced technical knowledge to be understood.

One source of useful examples was the O*NET questionnaire that is administered to job incumbents and career experts so they can rate occupations on the O*NET's Generalized Work Activities. To help respondents decide how to rate an occupation, the questionnaire offers sample tasks at three levels. For example, for the activity "Getting Information" the questionnaire offers "Follow a standard blueprint" at level 2, "Review a budget" at level 4, and "Study international tax laws" at level 6. In the *WAM*, "Getting Information" became part of the activity called "Gathering, reviewing, and using information," and the first two of these O*NET examples appear as examples. Some of the O*NET questionnaire's examples were used in modified form because in their original wording they were considered too high- or low-level.

The other major source of useful examples was the specific task statements that the O*NET provides for all occupations in the database. Occupations that are rated high on the *WAM* activities were especially fruitful as sources of representative activities. However, because O*NET task statements tend to be wordy (on average, about 100 characters long), they required considerable editing to serve as examples for the *WAM*.

Linking *WAM* Scales to Job Titles

Each of the six *WAM* scales represents from one to ten O*NET work activities. The rating of an occupation on a *WAM* scale is computed as the mean of the Importance ratings of that occupation for all the related O*NET work activities. An occupation is considered to be rated high on a *WAM* scale if its mean rating exceeds 3.5 (within a range from 1 to 5). The six lists of all occupations meeting this cutoff may be seen in the "*Work Activities Matcher* Master Job List," which is available for free download from www.jist.com.

The list of suggested occupations that appears in Step 4 of the *WAM* assessment is a subset of this larger list. There was not enough room on the assessment to include all the occupations. Also for the sake of room, some occupation names are slightly abbreviated. Occupations were selected to represent those rated highest on the scale, those at a variety of levels of required education and training, and those associated with a variety of interest fields.

ADMINISTRATION AND INTERPRETATION

The *WAM* can be used by many professionals, including counselors, instructors, trainers, job-search specialists, and career development researchers. The assessment takes approximately 20 minutes to complete, depending on such factors as age and reading ability. It can be self-scored and self-interpreted and is designed for ease of use with little administrator assistance.

Using the *WAM* in an Individual or Group Counseling Setting

Before you administer the assessment, it is strongly recommended that you take it yourself to understand the instructions and better prepare for potential questions.

First make sure that each person has a copy of the booklet and a pencil or erasable pen. Respondents should be told why they are taking the *WAM* and how the results will be used. Explain that the assessment is not designed to match them to one specific job but to help them explore potential careers that incorporate the kinds of work activities they enjoy. The *WAM* is not a crystal ball; it is up to the individual to make informed decisions based on the results obtained.

Have respondents fill out the personal information on the front page and read the directions. Reiterate that the *WAM* is not a test and that there are no right or wrong answers. Then direct them to Step 1.

Step 1

In Step 1, test takers respond to a total of 26 work activities by assessing their current and/or future enjoyment in doing each activity. The assessment uses a three-point Likert scale to measure the user's response.

Each item consists of the general work activity and four examples of how that activity is preformed in a given occupation or group of occupations. Respondents circle only one number for each item and complete all 26 items before moving on to Step 2.

Remind respondents that the examples are merely descriptive, designed to clarify the kinds of specific tasks represented by each work activity. Tell them that there are hundreds of other ways that each work activity can be expressed, and that they should not rule out the possibility of enjoying an activity simply because none of the four examples appeals to them. However, the examples do represent common ways that each work activity plays out in the world of work, and a strong reaction to the examples should inform each individual's response to the items themselves.

Step 2

In Step 2, respondents add their totals from the items they circled in Step 1. Items are grouped into six colored bands representing the six work activity categories on the *WAM*. The item distribution breaks down as follows:

- Learning and Analyzing (6 items total)

- Identifying and Monitoring (3 items total)

- Communicating and Influencing (6 items total)

- Handling, Moving, and Operating (3 items total)

- Managing, Supervising, and Teaching (6 items total)

- Repairing and Maintaining (2 items total)

Respondents add up the numbers they circled for the items in each colored band and then put that total in the box marked "Total." In order to weight each scale equally, respondents then multiply their totals by that scale's multiplier to get their "Final Score" for that category. Scores range from 0 to 12.

Step 3

In Step 3, respondents can interpret their scores on the six scales included on the *WAM*. Higher scores (9–12) generally indicate a stronger preference for doing that kind of work. Lower scores (0–3) suggest a lack of interest in that kind of work or even a dislike for it. Most respondents will score highly in one or more work activity categories, thereby providing a starting point for their career research. However, the following three scenarios could suggest the need for further discussion and career intervention:

All High Scores: Individuals with all high scores may lack the necessary self-awareness required to make the best use of this assessment. All-high scores could indicate an overconfidence in abilities (an "I can do anything" mentality), a lack of previous work experience (and thus a lack of personal history to base a judgment on), or a complete absence of vocational identity (respondents who have no idea what they want to do and see all options as ideal). In such cases, engage respondents in a discussion of their skills and interests, past work history, and favorite leisure activities. Then encourage respondents to make a connection between these and possible work activities they would enjoy.

All Low Scores: Individuals with all low scores may also lack self-awareness. They may have self-esteem issues or may see work as something that simply has to be done and is not meant to be fulfilling or enjoyable. Discuss with these respondents the importance of finding work that is meaningful. Then try to connect the respondents' leisure activities (or other things done for enjoyment) to potential work activities. Reconsider the respondents' results in light of any new information.

One High, Five Low: Individuals with only one high score and five low scores may be excessively focused on a particular career path, perhaps to the point of myopia. With such respondents, discuss their reasons for ranking the one category so highly and the kinds of specific work activities they enjoy most. Encourage them to keep their options open and to consider career choices related to, but different from, those they prefer most.

In all cases, when interpreting assessment results, explain that low scores are not bad and high scores are not good. The scoring is simply a way to help users identify areas they want to explore in more detail.

Step 4

In Step 4, respondents are encouraged to explore potential job titles based on their results. Respondents should begin with those categories they scored highest in. Direct respondents to circle those job titles they would be most interested in exploring further. In the case of ties, respondents should explore jobs from both categories.

Remind respondents that the job titles listed on the assessment are simply *samples* of the kinds of jobs that incorporate that work activity. A more complete listing of jobs by work activity is available for free download from www.jist.com.

Additional Administration Tips and Activities

The *Work Activities Matcher* is well suited for use in a class or group setting. Following are some additional tips for using the *WAM* in a career exploration class or workshop:

- **Small group discussion:** Divide the large group into small discussion groups and give these groups a specific task. For example, ask that each person in the group tell the others his or her highest three scores, whether the scores make sense to the person, and why. Alternatively, you could ask group members to discuss specific jobs or job activities that interest them the most to get an even clearer understanding of what they want in a career.

- **Homework:** You can assign the *Work Activities Matcher* as homework. The results or experiences can be discussed when the group meets again. Alternatively, you can assign homework based on the results. For example, group members might be asked to research one or more jobs that interest them and report back to the group what they learned.

- **Action activities:** Action activities encourage participants to use the knowledge they've gained from taking the assessment and to physically go out and act on it. For example, you can ask group members to make one or more personal contacts to learn more about an occupation through an informational interview or job shadowing program. Participants can document what they learn and later share it with the group.

- **Field visits and guest presenters:** You can take your group to a public library and have the librarian explain the career resources that are available there, including any computerized systems or Internet resources. You can also have a vocational counselor, employer, or other person come to a session to make a presentation or to answer questions.

Suggestions for Additional Resources

The *Work Activities Matcher* is ideal for career exploration purposes. However, it is designed only to introduce possible career paths to explore. Further career research requires learning about the job titles that individuals found to match their preferred work activities.

Because the job titles were derived from the O*NET database, there is a wide variety of career reference materials and other resources individuals can use to further their exploration. While Step 4 of the *WAM* assessment briefly explains some of these resources, what follows is a more exhaustive list of the print sources useful for career exploration:

- *O*NET Dictionary of Occupational Titles:* This book includes thorough descriptions of the approximately 900 jobs in the O*NET database. Descriptions feature information on earnings, projected growth, education and training, knowledge and skills, and other helpful details. The jobs listed on the *WAM* are drawn directly from the O*NET database.

- *Best Jobs for the 21st Century:* This book includes lists of O*NET jobs with high pay, numerous openings, or fast growth, plus descriptions for the O*NET jobs on these lists.

- *Occupational Outlook Handbook:* Published by the U.S. Department of Labor, this book describes about 270 major jobs covering 90 percent of the workforce. Descriptions offer details on pay, working conditions, training or education required, related jobs, projected growth, and additional information sources, including Internet addresses for further research.

- *New Guide for Occupational Exploration:* Previously titled the *Guide for Occupational Exploration,* the newest edition of this book organizes more than 900 O*NET job descriptions into 16 major occupational clusters and then into many specialized work groups. The 16 clusters are based on those developed by the U.S. Department of Education. Each group includes useful information on jobs in that group, education and training requirements, and other details.

ABOUT THE AUTHOR

Laurence Shatkin, Ph.D., is a major researcher-writer in the field of career information and career decision making. He is the author of several career reference books, including *250 Best-Paying Jobs, 150 Best Jobs for Your Skills,* and *90-Minute College Major Matcher*. He was a principal developer of the computer-based SIGI PLUS and Career Oasis systems, which combine assessment and career information in easy-to-use interactive formats. He has researched the career information resources used by American high school students, the work-related values of Saudi college students, and the distinguishing characteristics of college majors. He is a Senior Product Developer at JIST.

REFERENCES

Borman, W.C., & Brush, D.H. (1993). More progress toward a taxonomy of managerial performance requirements. *Human Performance, 6,* 1–21.

Cornelius, E.T., Hakel, M.D., & Sacken, P.R. (1979). A methodological approach to job classification for performance appraisal purposes. *Personnel Psychology, 32,* 283–297.

Cunningham, J.W. (1988). Occupation analysis inventory. In S. Gael (Ed.), *The job analysis handbook for business, industry, and government* (pp. 975–990). New York: Wiley.

Cunningham, J.W., Wimpee, W.E., & Ballentine, R.D. (1990). Some general dimensions of work among U.S. Air Force enlisted occupations. *Military Psychology, 2,* 33–45.

Dawis, R.V., & Lofquist, L. (1984). *A psychological theory of work adjustment: An individual differences model and its application.* Minneapolis, MN: University of Minnesota.

Dietrich, E. (2006). *O*NET occupations reference guide.* Des Moines: National Crosswalk Service Center. Retrieved May 17, 2007, from ftp://ftp.xwalkcenter.org/download/onet10/ONET10UserGuide.pdf.

Fine, S.A. (1989). *Functional job analysis scales: A desk aid.* Milwaukee: Sidney A. Fine.

Gati, I. (1991). The structure of vocational interests. *Psychological Bulletin, 109,* 309–324.

Hackman, J.R., & Oldham, G.R. (1980). *Work redesign.* Reading, MA: Addison-Wesley.

Hackman, J.R., & Oldham, G.R. (1976). Motivation through the design of work: A test of a theory. *Organizational Behavior and Human Performance, 16*, 250–279.

Herzberg, F., Mausner, B., & Snyderman, B.B. (1959). *The motivation to work.* New York: John Wiley & Sons.

Hershenson, D.B. (1996). Work adjustment: A neglected area in career counseling. *Journal of Counseling and Development, 74,* 442–446.

Holland, J.L. (1959). A theory of vocational choice. *Journal of Counseling Psychology, 6,* 35–45.

Leibowitz, Z., & Lea, D. (Eds.). (1992). *Adult career development: Concepts, issues, and practices* (2nd Ed.). Alexandria, VA: National Career Development Association.

Linder, J. (1998). Understanding employee motivation. *Journal of Extension, 36.* Retrieved May 15, 2007, from http://www.joe.org/joe/1998june/rb3.html.

McCormick, E.J., Jeanneret, P.R., & Mecham, R.C. (1969). *A study of job characteristics and job dimensions based on the Position Analysis Questionnaire.* Lafayette, IN: Purdue University, Occupational Research Center. (Technical Report No. 6).

McCormick, E.J., Jeanneret, P.R., & Mecham, R.C. (1972). A study of job characteristics and job dimensions as based on the Position Analysis Questionnaire (PAQ). *Journal of Applied Psychology Monograph, 56,* 347–368.

Mitchell, J.L., & McCormick, E.J. (1976). *Professional and Managerial Position Questionnaire (PMPQ).* Lafayette, IN: Purdue University, Department of Psychological Sciences. (Published by Consulting Psychologists Press, Palo Alto, CA.)

Outerbridge, A.N. (1981). *The development of generalizable work behavior categories for a synthetic validity model.* Washington, DC: U.S. Office of Personnel Management, Personnel Research and Development Center.

Peterson, N.G., Mumford, M.D., Borman, W.C., Jeanneret, P.R., & Fleishman, E.A. (1995). *Development of prototype Occupational Information Network (O*NET) content model.* Salt Lake City: Utah Department of Employment Security.

U.S. Office of Personnel Management (1991). *Leadership effectiveness survey for federal supervisors, managers, and executives.* Washington, DC: Author.

Visit www.jist.com to get the most from the *Work Activities Matcher*. There you can download the "*Work Activities Matcher* Master Jobs List," linking the six scales of the assessment to hundreds of additional O*NET job titles. An additional worksheet, "Next Steps: Using Your *WAM* Results to Explore Careers," is available for free download as well.