



Customer Relations and Interpersonal Skills

C.R.I.S.

HR•Assessments®

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Administrator's Manual



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To ensure that you are obtaining the full benefits available to you from the use of HR•Assessments® products, please read all information contained in this manual carefully. By using this assessment product, you are acknowledging that you have read and understand the general guidelines provided in this manual, and that if you have any specific questions, you have referred them to a competent testing and/or legal expert for advice. The test developer and publisher do not assume liability for any unlawful use of this product.

The test developer and publisher do not assume any responsibility for the employer's use of this test or any decision the employer makes which may violate local, state or federal law. By selling this test, the publisher is not giving legal advice.

While HR•Assessments® are designed to help predict various aspects of human behavior, score results are presented in terms of probabilities. False Positives and False Negatives are expected. EDI and the test developer are not liable for test taker, applicant or employee behaviors.



HR•Assessments® Products: An Investment in Your Company's Future

The decision to use assessment products in the employment process is one that can be very beneficial to your company in many ways. A well-designed, properly validated assessment, when used in conjunction with other employment screening tools, can save your company from investing training resources in an applicant who is not suited to perform the job for which he or she was hired, and, as a consequence, can help protect your company from negligent-hiring lawsuits.

Each HR•Assessments product has been researched and developed by our staff of testing professionals, which includes experienced industrial psychologists.

Use of Assessment Products as “Tools”

Validity studies of the assessment products we offer have shown them to be predictive of job performance and therefore quite useful during the selection process. It is important to remember that assessments should be used in conjunction with other, equally important employment screening tools – such as criminal background checks, work histories and employer references – to present a balanced picture of the particular job candidate. Only when used in coordination with one another will you be able to truly determine a “fit” between the candidate and the particular job for which he or she is applying.

Employment assessments, as defined in this manual, can be of several different varieties, including trustworthiness or integrity assessments, skills-oriented assessments and personality assessments. Each assessment can center on one of these elements, or may include several different components, assessing a variety of factors. Choosing the proper assessment product for your needs is a key factor in making your selection process more effective.

Legal Aspects of Assessment Use and Administration

Although employment assessments have been in use for more than 40 years, their use became more prevalent after the passage of the Employee Polygraph Protection Act (EPPA) of 1988, which made it illegal for most private employers to use polygraph examinations as a routine pre-employment screening tool. Employment assessments that are not prohibited by the EPPA are designed to give the employer a legal way to gauge an employee's job-related skills and personality traits as an alternative to the polygraph test. Whereas the polygraph test is designed to monitor an applicant's physiological reactions to certain questions, the employment assessments seek to gain information on the job candidate through a series of questions designed to measure job-related attributes.

Today, the use of employment assessments continues to increase. Many of the country's largest corporations use such screening devices on a regular basis, and have found great success in using them to hire and promote the best candidates.



Assessment Products and “Adverse Impact”

A common misperception of these assessments is that they all tend to discriminate against certain classes of applicants, in violation of state and federal laws against discrimination in employment decisions. In fact, this is not the case. Although there is evidence of poorer performance by some members of protected classes on some skills tests that include language and mathematical components, the use of such tests is still justified, so long as the skills assessed by the test are essential for the successful performance of one or more of the job's key functions. In addition, researchers have found no evidence that well-constructed personality assessments discriminate on any unlawful basis.

However, it is incumbent upon employers who use assessment products to continually monitor selection procedures to ensure that no “adverse impact” is occurring in the overall selection process. Adverse impact is defined as a situation in which there is a substantially different rate of selection in hiring, promoting or other employment decisions that works to the disadvantage of members of a race, sex or ethnic group. If adverse impact does occur, the employer needs to be able to demonstrate the job-relatedness of the selection process. For further guidance in this area, read the *Assessment Selection and Follow-Up Procedures* section of this manual.

Federal Laws

There are federal laws and regulations governing the use of “selection” tools, such as employment assessments, insofar as they have any “adverse impact” on the employment opportunities of protected classes of individuals. Some of the more subtle aspects of these laws as they apply to the selection process are discussed in the section of this manual titled, *Using Job Analysis to Justify Use of Assessment and Its Sections (Legal Implications)*.

Title VII

Title VII of the Civil Rights Act of 1964 (Title VII), covering employers with 15 or more employees, prohibits discrimination in employment decisions on the basis of race, sex, color, religion and national origin. Title VII authorizes the use of “any professionally developed ability test, provided that such test, its administration or action upon the results, is not designed, intended or used to discriminate” on any unlawful basis. In 1971, the U.S. Supreme Court, in *Griggs v. Duke Power Co.* (401 U.S. 424), adopted the standard that employer practices that had an adverse impact on minorities and were not justified by a business necessity violated Title VII. Congress amended Title VII in 1972, adopting this legal standard.

As a result of these developments, the government sought to produce a unified governmental standard on the regulation of employee selection procedures because the separate government agencies had enforcement powers over private employers, and each used different standards. This resulted in the adoption of the Uniform Guidelines on Employee Selection Procedures (Guidelines), codified at 29 CFR Part 1607, which established a uniform federal position in the area of prohibiting discrimination in employment practices on the grounds of race, color, religion, sex or national origin, and applies to all public and private employers covered by Title VII, Executive Order 11246, the State and Local Fiscal Assistance Act of 1972, the Omnibus Crime Control and Safe Streets Act of 1968, and the Intergovernmental Personnel Act of 1970.



Highlights of the Guidelines include:

Provision of a uniform set of principles governing use of employee selection procedures that is consistent with applicable legal standards.

Setting out validation standards for employee selection procedures generally accepted by the psychological profession.

The Guidelines do not require a validation of the selection device unless evidence of adverse impact exists. It is important to note also that compliance with the Guidelines does not remove the affirmative action obligations for assessment users, including federal contractors and subcontractors.

The Americans with Disabilities Act

The Americans with Disabilities Act (ADA) provides that an employer “shall not conduct a medical examination or make inquiries of a job applicant as to whether such applicant is an individual with a disability or as to the nature or severity of such disability.” (42 USC Sec. 12112(d)(2)(A); see also 29 CFR Sec. 1630.13.) Inquiries into a person’s disabilities are prohibited at the pre-offer employment stage, except in a very narrowly defined situation when the applicant has *voluntarily* disclosed a medical condition requiring accommodation. The ADA protects disabilities, not a characteristic that an employer may consider to be a personal flaw or undesirable aspect of an applicant’s personality. The ADA does not prohibit inquiries into such personality attributes as propensity for honesty, ability to get along with others, organizational skills or management skills, to cite a few examples. No question or series of questions designed to elicit information about a person’s mental impairment (as defined by the ADA), or questions that would even tend to elicit such information, should appear on an assessment product. Each HR•Assessments product has been carefully reviewed under this standard, to avoid any conflict with ADA guidelines.

Recordkeeping Requirements

Various federal laws require employers to retain tests and test results for at least one year from the date the test is administered or from the date of any personnel action relating to the testing, whichever is later.

State and Local Laws

Due to the wide variety, complexity and ever-changing nature of state laws, it is impossible to summarize each state’s requirements in this brief overview. If you are unfamiliar with the state and local laws governing the use of screening devices applicable in your locale, consult with a qualified labor law attorney or testing specialist who may provide competent guidance on this topic.



Assessment Selection and Follow-Up Procedures

Selection

Generally, when selecting an assessment or any other selection tool, you should choose one that has been designed specifically to measure the skills or traits necessary for the position in question. It is recommended that a thorough job analysis be performed to determine the connections between job functions and the attributes the assessment product is designed to measure.

Monitoring

Monitor your selection process to ensure compliance with all applicable federal, state and local laws, checking your selection process for evidence of adverse impact. This should be conducted on a continual basis. HR•Assessments products include testing logs that can be used to record each assessment taker's scores, as well as other important data that may be used to compute your own norms and adverse impact statistics.

Validation

Should your monitoring results indicate that adverse impact is occurring in the selection procedures, you should determine in which component of the selection process it is happening. If the use of a certain assessment product is found to be the cause, you will need to conduct a validation study of the assessment. Qualified testing professionals may be contacted to help in conducting a validity study. These professionals will be able to help determine whether the assessment is the cause of the adverse impact and whether the assessment is emphasizing a bona fide occupational qualification for the job. In some instances, assessments that in some context may be considered discriminatory may be lawful to use in others, so long as the assessment is centered on a bona fide occupational qualification.

Scoring

Cutoffs and suggested "pass" or "fail" scores are not provided with these assessments. Instead, norms and, in some instances, average assessment scores for various levels of job performance are provided. This information is provided for the elements the assessment is designed to measure. This information is a result of the testing universe used in the validation studies performed by HR•Assessments, and is for demonstrative purposes only. Assessment results always should be interpreted, along with other information gathered through your selection process, to ensure that you get a complete picture of the job candidate or employee. It is recommended that you administer the assessment to your current employees so you may develop your own company-specific norms for assessment performance. These norms then can be used as benchmarks during your assessing and selection process.



The Importance of Profiling Customer Service

Excellent customer relationships are critical to the success of any company. With the increasing number of businesses capable of providing quality products at reasonable prices, outstanding customer service, can make a significant difference in a company's success in years to come.

Building strong customer relationships requires that your employees possess specific service-oriented personality attributes, meaning they must enjoy helping others, they must be able to adapt to changing customer requests and work situations, they must be able to manage stress adequately and they must be team players. The HR•Assessments Customer Relations and Interpersonal Skills test (C.R.I.S.) has been created to predict these essential service-oriented behaviors. Listed below are the scales included in this test along with a brief description of what each assesses.

- 1. Flexibility** – Does the applicant adapt well to change and is he/she more open-minded than stubborn?
- 2. Helping Disposition** – Is the applicant friendly and is he/she likely to go out of his or her way to assist or help customers and/or coworkers?
- 3. Stress Management** – Does the applicant demonstrate patience and stress tolerance during times of conflict with customers, coworkers and other stressful work-related situations?
- 4. Team Player** – Will the applicant cooperate in all aspects of his/her work relationships including working in harmony with others to achieve a common goal?

In addition to providing an objective measure of service skills, the C.R.I.S. can also be used as an interviewing tool. Specifically, you can follow up with interview questions to probe the applicant's responses to specific assessment questions. This exercise could help you uncover hidden behavioral tendencies.

Research has consistently shown that the scales that make up the C.R.I.S. are accurate predictors of an individual's service-oriented job performance. Incorporating this assessment into your hiring process should significantly increase the accuracy of your hiring decisions, and as a result, provide a more effective and cost-efficient way to build your customer-oriented team.



Description of the C.R.I.S.

The C.R.I.S. provides a reliable measurement of four service-oriented personality traits (i.e., flexibility, helping disposition, stress management and team player). Research has shown that this assessment should significantly help you identify and hire service-oriented individuals. The C.R.I.S. profile consists of 65 questions with a strongly agree/strongly disagree answer format. Although the assessment is untimed, most people complete it in less than 20 minutes.

The questions that assess each service-related trait measured by the C.R.I.S. were developed based on information gathered from interviews with human resources professionals and managers in different industries, and from an extensive review of the psychological literature on personality measurement. Each question was written specifically with the employment environment in mind, unlike most other “clinically based” personality assessment instruments. Assessments designed specifically for the employment setting are viewed by applicants as more job relevant (face valid) than those developed for clinical assessment and therefore are less likely to be questioned in terms of their relevance to the position in question.

The validation studies presented in this manual will demonstrate how an individual’s scores on the nine C.R.I.S. scales are predictive of various aspects of job performance. The 5th scale of the C.R.I.S. is the Deception Scale which helps to determine the degree to which the applicant is responding to the profile items in a socially desirable manner. This scale will be discussed more thoroughly later in this manual. Below are the assessment instructions and a sample question.

DIRECTIONS

The following questionnaire consists of statements that describe work-related behaviors and attitudes. Each statement is followed by a rating scale that defines the extent to which you agree or disagree with the statement. The scale ratings are defined as follows:

- SA = Strongly Agree**
- A = Agree**
- N = Neutral**
- D = Disagree**
- SD = Strongly Disagree**

A sample statement similar to those found in the questionnaire is provided below.

**Individuals who work hard are usually
compensated for their efforts.**

SA A N D SD

As you read each statement, please think of how it applies to you during your day-to-day working situations. Please **circle** the scale rating that best defines the extent to which you agree or disagree with each statement.

Do you have any questions?

This questionnaire contains 65 statements similar to the one presented above. There is no set time limit for completing this questionnaire, so please take your time and answer each question carefully and honestly. You should use a ballpoint pen when completing the questionnaire. If you make a mistake, **Do Not Erase** your mark. Draw an **X** over your first answer, then **circle** the desired response. Please make sure you answer every question.

The examiner will not answer any questions once you have started.



Using Job Analysis to Justify Use of Assessment and Its Sections (Legal Implications)

From a legal standpoint, if a test is to be used for selection or promotion purposes, it is important that users of the test take the necessary actions to establish a clear connection between the job tasks and the occupational environments measured by the test. This relevance should exist to meet the principles outlined in the Uniform Guidelines on Employee Selection Procedures (1978) and other federal government employment-related legislation, such as Title VII of the Civil Rights Act of 1964, the Civil Rights Act of 1991, and the American with Disabilities Act of 1990.

The tasks that are crucial or essential to the job in question should first be identified. Then, the abilities underlying each task can be determined. This process should reveal the traits that are relevant to the job in question and should be carefully documented to justify the appropriateness of the C.R.I.S. in the employee selection process. The following are examples of job abilities similar to those measured by the C.R.I.S.

| Task | Personality Scale |
|---|---------------------|
| Reprioritizes assigned projects on a frequent basis due to the continually changing business environment. | Flexibility |
| Assists customers with product problems and complaints. | Helping Disposition |
| Handles customer complaints in a calm and tranquil manner. | Stress Management |
| Works closely with coworkers to achieve the department's goals and objectives. | Team Player |



As a general guideline for compliance with federal discrimination and disability laws, test users should not subject test takers to any adverse employment decision based on a test result, unless the test result and other factors considered in the decision-making process reveal that the person does not possess qualifications that are crucial or essential to the job in question. To illustrate, if a test taker performs poorly on a test section designed to measure inspection skills, and inspection skills are not crucial or essential to the position for which the test taker is being considered, the test result should not serve as a basis for excluding the test taker from the position. Similarly, if a test result indicates that a test taker is unable to perform certain physical tasks that are not crucial or essential to the job position at issue, the test taker should not be excluded from that position on the basis of the test result.¹ Test users can avoid such a scenario altogether by carefully identifying the tasks that are essential to the job position at issue, and administering only those tests or test sections that are appropriate and relevant to the position's requirements.

Test sections measuring proficiency in the English language also should be administered in accordance with these principles. Thus, if spelling, grammar, vocabulary, or reading comprehension skills are not essential to a job position, a test taker should not be subjected to an adverse employment decision based on poor test results in those areas. Requiring employees or applicants to be fluent in English may constitute national origin discrimination in violation Title VII of the Civil Rights Act if the requirement is not justified by business necessity or directly related to job performance. There are some limited exceptions to this rule for jobs involving dangerous work requiring a heightened understanding of written or verbal safety instructions in English, or service positions that require significant communication in English with the public. Test users should consult with an attorney before subjecting any test taker to an adverse employment decision on the basis of English language deficiencies.

¹ If the test taker's ability to perform a particular physical task is essential to the job position at issue, the Americans with Disabilities Act may require the test user to provide certain accommodations to facilitate the test taker's performance of the task at issue. Test users should consult an attorney before making any adverse employment decision based upon a test taker's physical inability to perform a task measured by a test result.



Administration Instructions for Paper Tests

Please read these instructions before administering the C.R.I.S.

1. Before administering, you should be familiar with the assessment and its instructions. Be prepared to answer any questions that may be raised.
2. The assessment should be administered in a quiet room, free from distractions and interruptions.
3. Provide each applicant/employee with a ballpoint pen to ensure clear markings on the answer sheets.
4. Distribute the assessment and have the applicant/employee complete the information on the front page (i.e., name, Social Security number and date).
5. Introduce the assessment to the applicant/employee. Say, “This questionnaire is designed to assess your opinion of different work-related behaviors and attitudes. There are no right or wrong answers. Responses will vary depending on each individual’s personal beliefs.”
6. Have the applicant/employee read the directions. You should say, “Read the directions on the front cover. Remember there are no right or wrong answers, so please be as honest as possible. Your unique style of thinking about or handling various work-related situations may be exactly what the job requires. Remember, your first response is often your most candid and honest one.”
7. After the applicant/employee has read the assessment directions, ask, “Are there any questions?” If there are no questions, state, “There is no time limit, so please take your time and make sure you answer every question. Remember to think about the questions as they relate to your day-to-day working situations and not to situations outside of the working environment. You may begin.”

Test users who are subject to the Americans with Disabilities Act of 1990 may be required to provide accommodations to disabled test takers who need assistance during the testing process. This may include, for example, relaxing the time limitations of timed tests, offering visual or audio assistance, or providing special lighting or seating arrangements. Test users who are uncertain of their obligations under the Americans with Disabilities Act should consult an attorney if an accommodation is requested in the testing process.

8. Once the applicant/employee completes the assessment, ask him/her to make sure he/she has answered every question. When the assessment is turned in, say, “Thank you. We appreciate your taking the time to complete this questionnaire.”



Scoring Instructions for Paper Tests

1. Open the assessment and tear off the perforated tab on the right side. Carefully separate the assessment cover from the answer key.
2. Notice that the key is separated into five parts by horizontal lines. Each part corresponds to one of the five personality traits measured by the C.R.I.S.

Items 1-2 and 32-34 measure likelihood of Deception.

Items 3-9 and 35-42 measure Flexibility.

Items 10-16 and 43-50 measure Helping Disposition.

Items 17-24 and 51-57 measure Stress Management.

Items 25-31 and 58-65 measure Team Player

The applicant's/employee's answers should appear as circles on the carbonless key. There are no "correct" or "incorrect" answers. The Scale scores are determined by adding up all the point values for the items that correspond to each Personality Scale.

For example, to determine an individual's score on the Flexibility Scale, add the circled numbers to items 3-9 and 35-42. Write this number in the box along the right side of the key titled Flexibility Score. If an applicant/employee circles two answers for the same question, count the answer with the lower value. If an answer choice is marked with an **X**, this indicates that the applicant/employee made a mistake and it should not be counted. One point should be given for questions left unanswered.

For the five Deception Scale items, count the number of rectangles that have circles inside of them. Write this number in the box titled Deception Score on the right-hand side of the answer sheet. This is the Deception Scale Score. See the section of this manual titled Deception Scale Score for instructions on how to interpret this score.



Administration Instructions for Web-based Tests

Please read the following instructions before administering this test.

To access the Online Testing website:

Make sure to be using Internet Explorer to access the site

1. Open your web browser and go to <http://www.mytests.hrdirect.com>
2. Click **Administrator Login**
3. Enter the user name and password we've provided you via e-mail.

Step 1 – Create applicant(s)

It is important that you complete this step first as most of the other screens will not be functional until applicant names have been entered into the system.

In the Applicant Setup tab, fill out the form with the applicants information and click the **Save** button at the bottom left of the page. You should receive the message “You have successfully created a new applicant.” If you wish to create more applicants, click on the **Create New Applicant** button at the bottom of the page for a blank form and don't forget to click the **Save** button after entering each applicant.

Step 2 – Assign a test to an applicant

Click the “Assign Test” tab and select the applicant you would like to assign a test to from the drop-down list. Below you will see a list of tests that are available to the selected applicant. To the right of each test is a link to view their respective Administrator's Manuals. Click the checkbox next to the test you wish to assign, then click the **Assign Test** button at the bottom of the page.

Step 3 – Administer a test

Please inform your applicants:

1. Take the test using **only** Internet Explorer.
2. Make sure pop-up blockers are inactivated as the system will open a new screen.
3. Do not use the back button on the task bar during the test, as this will kick the applicant out of the test.

Click the “Administer Test” tab. Select an applicant, with previously assigned tests, from the drop-down list. Select the test that you want to administer. You may administer the test in one of three formats:

The **Begin Test Now** button will start the test immediately.

The **Send Email** button will e-mail an applicant the URL to our testing site along with a unique Session ID for them to enter to take the test.

The **Print Access Info** button will print out the URL to our testing site along with a unique Session ID, for the applicant, to enter to take the test.



Scoring Instructions for Web-based Tests

All web-based tests are scored automatically. Please read the following instructions to view the scores of a test.

View Test Results

Once a test has been completed, log in as an administrator and click the “Test Results” tab. You may view test results in one of two ways:

1. Select the applicant’s name from the “Applicant Name:” drop-down list and click the **Show Tests for Applicant** button. This presents all tests taken by the selected applicant. Click on one of the tests to present its results.

-or-

2. Select the test from the “Test Name:” drop-down list and click the **Show Applicants for Test** button. This presents all applicants who have taken the selected test. Click on the applicant’s name to present test results.

At any time in the future you may go back and view past applicants’ test results. They are saved in our system indefinitely.

Interpreting the Test Results

There are five tabs on a test’s results page:

Test Scores: Presents raw score, corresponding percentile with interpretive text and the average score for each test scale.

Test Score Graphs: Presents the same information as Test Scores along with the graphical view of the corresponding percentile score.

Interview Questions: Presents suggested follow-up questions to help you further evaluate the candidate’s responses to particular test items. If the test does not include this feature, clicking on this tab will result in the following message: “There are no follow-up interview questions for this test.”

Candidate Responses: Lists each test question along with the applicant’s response. If a test includes multiple scales, the test questions and applicants’ responses are separated by Scale.

Utilities: Allows you to change your online testing password and print the various test result sections.



Interpretation and Use of Scores

To help you hire the best individual for your organization, the C.R.I.S. subscale scores should be used in conjunction with other applicant information (e.g., the applicant's work history, references and skills assessments). A high Scale score indicates the applicant/employee is likely to demonstrate behaviors indicative of the personality traits the Scale measures. The definition of each Scale is presented below.

Flexibility: Does the applicant adapt well to change and is he/she more open-minded than stubborn?

Helping Disposition: Is the applicant friendly and is he/she likely to go out of his or her way to assist or help customers and/or coworkers?

Stress Management: Does the applicant demonstrate patience and stress tolerance during times of conflict with customers, coworkers and other stressful work-related situations?

Team Player: Will the applicant cooperate in all aspects of his/her work relationships including working in harmony with others to achieve a common goal?

The job requirements for the position that is being filled should be identified first when using the C.R.I.S. (or any selection instrument) as a component of the selection process. Once this is done, the C.R.I.S. Scales can help you identify individuals who have the personality traits that are important for success on the job.

Deception Scale

Two issues that arise regarding measuring personality tendencies in applied settings such as (1) whether the test taker has the ability to improve their score, or "fake" results, and (2) whether trying to improve the outcome is an undesirable quality.

When job candidates take a personality inventory, a common critique is that they have the opportunity to answer in ways intended to enhance their score. In studies where test takers are instructed to try to enhance their scores, there is evidence that some people can indeed alter personality measures. Despite this fact, empirical evidence also shows that the base rate of faking during the actual employment screening process is rare and infrequent (Dunnette, McCartney, Carlson & Kirchner, 1962)², (Hough, Barge, Houston, McGue, & Kamp, 1985)³.

The fact that there are rare cases where some people can enhance personality scores raises the second issue; the question of whether or not self-enhancement tendencies are merely reflecting a function of most normal interaction. In a social context, people habitually participate in casting the best possible light on themselves, and, in fact, are judged positively when successful. Consequently, it may be viewed that the ability to improve a personality score is an index of social competence.

² Dunnette, M.D., McCartney, J., Carlson, H.C., & Kirchner, W.K. (1962). A study of faking behavior on a forced-choice, self-choice, and self-description checklist. *Personnel Psychology*, 15, 13-24.

³ Hough, L.M., Eaton, N.K., Dunnette, M.D., Kamp, J.D., & McCloy, R.A. (1990). Criterion-related validities of personality constructs and the effect of response distortion on those validities. *Journal of Applied Psychology*, 75, 581-595.



Although test faking is uncommon and even when it does take place, it changes criterion-related validities only slightly (Hough, Easton, Dunnnette, Kamp, & McCloy, 1990)⁴, the C.R.I.S. takes extra precaution against attempted test faking.

As seen in the validation studies presented in this manual, the C.R.I.S. is demonstrably valid for personnel selection purposes regardless of any faking that may have occurred. Further, the C.R.I.S. includes a Deception Scale that detects test takers who attempt to present themselves in an overly favorable light, and alerts the employer to the apparent response distortion. This Deception Scale is designed to alert you about applicants who gave answers that varied from the norm. This is not a polygraph or lie detector test, and its results should not be used as such.

The Deception Scale score can range from “0” to “5.” The higher the score the likelier the applicant was trying to present him/herself in a favorable light. This suggests that some of their responses to the inventory may reflect how they want you to perceive them and not necessarily how they truly feel. The following is a general guideline that you can use when interpreting the Deception Scale. However, as you test more applicants and follow-up with more targeted interview questions that offer more insight into the applicants’ responses, you may develop your own interpretation guidelines.

A score range of 0-1 suggests that there is a Low Likelihood that the applicant was attempting to “fake” his/her responses. The applicant’s responses are likely to be an accurate representation of his/her attitudes and behaviors.

A score range of 2-3 suggests that there is a Moderate Likelihood that the applicant attempted to “fake” some of his/her responses. Some of the applicant’s responses may not accurately represent his/her true attitudes. However, as mentioned above, it is normal for some applicants to attempt to present themselves in a favorable light during the interview/testing process. This score range is not likely to invalidate the test results.

A score range of 4-5 suggests that there is a High Likelihood that the applicant attempted to “fake” some of his/her responses. Some of the applicant’s responses may not accurately represent his/her true attitudes. Follow-up interview questions asking the applicant to give job or work-related examples of some of his/her overly positive responses are recommended.

Norms

When evaluating applicants, norms provide a point of reference regarding the relative Scale score of each applicant/employee. Norms are the average scores or distribution of scores obtained from the study sample. These score “patterns” can be compared to your own applicants’/employees’ Scale scores to better define their performance on the C.R.I.S. These scores are presented for each Scale, as well as for the total C.R.I.S. score.

Table 1 to 6 on the following pages present the distribution of scores and corresponding percentile rank for thousands of applicants who have taken the C.R.I.S. These scores are presented for each Scale, as well as for the Total C.R.I.S. score. The percentile rank is the percentage of applicants/employees in the sample who obtained scores lower than the corresponding assessment score. For example, when reviewing Table 1, it can be said that an applicant/employee obtaining a score of 58 scored in the 70th percentile. This means the applicant/employee scored higher than 70% of the applicants/employees in the norm sample.

⁴ Hough, L.M., Barge, B.N., Houston, J.S., McGue, M.K., & Kamp, J.D. (1985, August). Problems, issues, and results in the development of temperament, biographical, and interest measures. Paper presented at the 93rd Annual Meeting of the American Psychological Association, Los Angeles.



Table 1
Flexibility Scale

| Scale Score | Corresponding Percentile |
|-------------|--------------------------|
| 69+ | 99 |
| 68 | 98 |
| 67 | 97 |
| 66 | 96 |
| 65 | 95 |
| 64 | 94 |
| 63 | 91 |
| 62 | 88 |
| 61 | 85 |
| 60 | 81 |
| 59 | 76 |
| 58 | 70 |
| 57 | 63 |
| 56 | 57 |
| 55 | 49 |
| 54 | 41 |
| 53 | 34 |
| 52 | 28 |
| 51 | 22 |
| 50 | 17 |
| 49 | 13 |
| 48 | 10 |
| 47 | 7 |
| 46 | 6 |
| 45 | 4 |
| 44 | 3 |
| 43 | 2 |
| 42 or less | 1 |

| | |
|------------------------|-------|
| Average Score | 56 |
| Standard Deviation | 5.90 |
| Number of Participants | 8,306 |



Table 2
Helping Disposition Scale

| Scale Score | Corresponding Percentile |
|-------------|--------------------------|
| 66+ | 99 |
| 64-65 | 98 |
| 63 | 97 |
| 62 | 95 |
| 61 | 93 |
| 60 | 91 |
| 59 | 88 |
| 58 | 84 |
| 57 | 80 |
| 56 | 73 |
| 55 | 67 |
| 54 | 60 |
| 53 | 51 |
| 52 | 43 |
| 51 | 35 |
| 50 | 28 |
| 49 | 21 |
| 48 | 16 |
| 47 | 11 |
| 46 | 8 |
| 45 | 5 |
| 44 | 4 |
| 43 | 3 |
| 42 | 2 |
| 41 or less | 1 |

| | |
|------------------------|--------|
| Average Score | 54 |
| Standard Deviation | 5.35 |
| Number of Participants | 16,040 |



Table 3
Stress Management Scale

| Scale Score | Corresponding Percentile |
|-------------|--------------------------|
| 71+ | 99 |
| 69-70 | 98 |
| 68 | 97 |
| 67 | 96 |
| 66 | 94 |
| 65 | 93 |
| 64 | 91 |
| 63 | 89 |
| 62 | 86 |
| 61 | 83 |
| 60 | 79 |
| 59 | 74 |
| 58 | 69 |
| 57 | 62 |
| 56 | 56 |
| 55 | 49 |
| 54 | 42 |
| 53 | 36 |
| 52 | 30 |
| 51 | 24 |
| 50 | 19 |
| 49 | 16 |
| 48 | 12 |
| 47 | 9 |
| 46 | 7 |
| 45 | 5 |
| 44 | 4 |
| 43 | 3 |
| 41-42 | 2 |
| 40 or less | 1 |

Average Score 56
Standard Deviation 6.49
Number of Participants 16,034



Table 4
Team Player Scale

| Scale Score | Corresponding Percentile |
|-------------|--------------------------|
| 67+ | 99 |
| 66 | 98 |
| 65 | 97 |
| 64 | 96 |
| 63 | 94 |
| 62 | 92 |
| 61 | 89 |
| 60 | 86 |
| 59 | 82 |
| 58 | 77 |
| 57 | 71 |
| 56 | 65 |
| 55 | 58 |
| 54 | 50 |
| 53 | 42 |
| 52 | 35 |
| 51 | 28 |
| 50 | 22 |
| 49 | 16 |
| 48 | 13 |
| 47 | 9 |
| 46 | 7 |
| 45 | 5 |
| 44 | 4 |
| 42-43 | 2 |
| 41 or less | 1 |

Average Score 55
Standard Deviation 5.66
Number of Participants 14,147



Table 5
C.R.I.S. Overall Score

| Scale Score | Corresponding Percentile |
|-------------|--------------------------|
| 262+ | 99 |
| 257-261 | 98 |
| 252-256 | 97 |
| 250-251 | 96 |
| 247-249 | 95 |
| 245-246 | 94 |
| 244 | 93 |
| 242-243 | 92 |
| 241 | 91 |
| 240 | 90 |
| 238-239 | 89 |
| 237 | 88 |
| 236 | 86 |
| 235 | 85 |
| 234 | 84 |
| 233 | 83 |
| 232 | 82 |
| 231 | 80 |
| 230 | 79 |
| 229 | 77 |
| 228 | 75 |
| 227 | 73 |
| 226 | 71 |
| 225 | 69 |
| 224 | 67 |
| 223 | 65 |
| 222 | 62 |
| 221 | 60 |
| 220 | 57 |
| 219 | 55 |
| 218 | 52 |

Continued on next page



Table 5 (continued)
C.R.I.S. Overall Score

| Scale Score | Corresponding Percentile |
|-------------|--------------------------|
| 217 | 49 |
| 216 | 47 |
| 215 | 44 |
| 214 | 42 |
| 213 | 40 |
| 212 | 38 |
| 211 | 35 |
| 210 | 33 |
| 209 | 31 |
| 208 | 29 |
| 207 | 26 |
| 206 | 25 |
| 205 | 22 |
| 204 | 20 |
| 203 | 19 |
| 202 | 17 |
| 201 | 16 |
| 200 | 14 |
| 199 | 13 |
| 198 | 12 |
| 197 | 11 |
| 196 | 10 |
| 195 | 9 |
| 194 | 8 |
| 193 | 7 |
| 191-192 | 6 |
| 190 | 5 |
| 187-189 | 4 |
| 185-186 | 3 |
| 180-184 | 2 |
| 179 or less | 1 |

| | |
|------------------------|-------|
| Average Score | 218 |
| Standard Deviation | 17.90 |
| Number of Participants | 8,299 |



Table 6
Deception Scale

| Test Score | Corresponding Percentile |
|------------|--------------------------|
| 5 | 100 |
| 4 | 77 |
| 3 | 52 |
| 2 | 31 |
| 1 | 16 |
| 0 | 4 |

| | |
|------------------------|-------|
| Average Score | 3 |
| Standard Deviation | 1.46 |
| Number of Participants | 3,672 |

Note: The higher the score on the Deception Scale, the likelier it is that the applicant/employee may be trying to “fake” the scale.



You can use the information in Tables 1 to 6 as a guide when evaluating job candidates; however, we strongly recommend that you collect and validate your own assessment data. The applicant/employee pool in your organization may differ from the study sample presented in this manual. Factors such as geographic location, business category and job responsibilities may have a significant effect on assessment scores.

One way to develop your own norms and benchmarks is to administer the C.R.I.S. to your current employees. This will allow you to compare the scores of your top performers with those of your less-productive employees. The information then can serve as a guide during your applicant evaluation process.

In addition, if you can establish and document that, in general, high scorers on specific Scales are also your better-performing employees, this can serve as an initial step in establishing the validity of the C.R.I.S. within your organization.

If you do administer the C.R.I.S. to your employees for establishing company-specific norms, make sure your employees understand that the results of your study will be used for norm development only and that their employment status will in no way be affected by their scores.

The EEOC and the Uniform Guidelines on Employee Selection Procedures recommend that job analyses be performed in conjunction with validation studies to determine the job-relatedness of each assessment and other selection tools used throughout the hiring process. It is the employer's responsibility to periodically monitor its employment screening process to ensure that it is fair and valid.



Interviewing with the C.R.I.S.

In addition to providing an objective measure of ten personality characteristics, the C.R.I.S. scales also can serve as a useful tool during the interviewing process. Responses to the questions can be addressed during the interview, and the applicant may have the opportunity to explain his/her answer. This approach may reveal some interesting insights into the applicant's unique style or tendencies.

Appropriate Responses

As has been described previously in this manual, the essential functions of the job(s) for which the applicant is being evaluated should be identified through job analysis. The interview process can then be structured to emphasize those personality characteristics or skill sets that are essential for effective job performance.

Before you interview the job applicant, carefully review his/her answers to the C.R.I.S. scale items. Select several questions that were answered appropriately relative to the requirements of the job. Follow up during the interview with reinforcing/positive questions to “break the ice” and establish rapport with the applicant.

Below is an example of a follow-up question to an appropriate response.

“You strongly agreed with the statement that said, ‘Building friendly relationships with customers is easy to do.’ (Question #45). I am the same way. Can you give me some work-related examples where you have behaved in a flexible manner?”

Asking follow-up questions to positive responses helps ease some of the tension inherent in the interviewing process. Positive feedback encourages the applicant to open up and share more potentially critical information.

Inappropriate Responses

Questions answered inappropriately relative to the requirements of the job should also be analyzed. Inappropriate responses should be followed up with questions to clarify the reasons for the response. Clarification is important in helping to understand the applicant's thoughts and potential behaviors as they pertain to the “negative” answer.

Below is an example of a follow-up question to an inappropriate response.

“You agreed with the statement, ‘I am irritated by people who are too demanding.’ (Question #17). Can you elaborate on this? What specifically do you mean? Can you give me some examples?”

Follow-up questions to inappropriate responses can be used to better understand the opinions or thoughts of the applicant that may be contrary to the ideal employee. This information is extremely valuable in determining an individual's fit into the organization.



Discussing the Results of the C.R.I.S.

Your company should develop a procedure so the applicant can be told what the next step in the hiring process is, regardless of his/her score on the C.R.I.S. or any other assessment tool. Emphasize that the C.R.I.S. is only one of the criteria used to determine whether the applicant is a good match for the position. Remind the applicant that there are many people applying for the same position and that each applicant will be considered based on how all of his/her qualifications and experience match the position's requirements.

Some interviewers may be tempted to look for a quick or easy reason to tell the applicant why he/she was not selected. "Blaming" an assessment may seem like a plausible reason, but it is no comfort to the rejected applicant and should not occur. The fact is, the reason to hire or not to hire should never be based solely on any single assessment score. It is the interviewer's responsibility to review all of the information gathered from the various tools used during the hiring process – such as the job application, the interview, reference checks and other assessments – to form the decision on the applicant's appropriateness for the position.

The issue is, and should always be, whether there is an appropriate job fit between position and applicant. Using the C.R.I.S. is only one part of the information you need to make a decision. The other important part is knowing what else is required and desired in the employee filling the position, and effectively using all the sources available to you to make the best decision. This will ensure an effective selection process that offers a more comprehensive view of the applicant and results in hiring the best employee for your organization.

The employer assumes full responsibility for the proper use of the C.R.I.S. as mentioned in this manual. This includes establishing its job-relatedness to the position in question. If you have any questions about the proper use of employment assessments, contact HR•Assessments or an employment testing specialist.



Validity

A test's level of effectiveness is directly related to its validity (the degree to which the test measures what it is supposed to measure) and its reliability (how consistent the test is at measuring what it is supposed to measure). The C.R.I.S. scales have undergone significant research across various job categories utilizing several validation strategies. The results of all the research conclude that the scales that make up the C.R.I.S. are valid predictors of critical aspects of job performance. The three validation methods used to establish the validity of the C.R.I.S. are summarized below.

Criterion-Related Validation

The concurrent, criterion-related validation method requires that the test be administered to current employees. Performance data is then gathered on those employees. If the test were a valid predictor of job performance, one would expect a statistically significant correlation between test scores and the performance data collected. In other words, those employees who score high on the test are the same employees who demonstrate high levels of performance. Those employees who do poorly on the test would likely be those who demonstrate poor performance.

The correlations obtained throughout all of the criterion-related validity studies that are presented in the C.R.I.S. Validation Chart indicate that the tests that make up the C.R.I.S. are valid predictors of job performance.

Construct Validation

In addition to the concurrent validation strategy described above, construct validation studies have been performed for many of the C.R.I.S. scales. This validation strategy attempts to demonstrate the degree to which the instrument in question actually measures the psychological construct it is intended to measure. This approach generally involves administering the test in question along with another well-researched and established instrument that measures the same construct. If the two instruments measure the same construct, one would expect to find a significant correlation between the two. From the construct validation studies, presented in the C.R.I.S. Validation Chart, we can conclude that the C.R.I.S. scales measure the construct they were designed to measure and therefore are construct valid.

Reliability

In addition to the validity studies described above, reliability analyses have been performed for each C.R.I.S. scale. Reliability refers to the degree to which the scale items are consistent in measuring the skill or construct the scale is intended to measure. The results of these analyses are presented in the C.R.I.S. Validation Chart. These results do, in fact, show that the C.R.I.S. scale items are consistent in measuring what they are intended to measure.

The C.R.I.S. scales were specifically developed to help today's organizations make the right hiring decisions. Extensive research utilizing various statistical methods all conclude that the C.R.I.S. scales are valid and reliable tools for predicting a wide range of job-related skills and behaviors.



Table 7: Validation Chart

| Scale | Description | Sample Description | Validation Method | Criteria Format | Criteria Measured | Validity | Sample Size | Scale Reliability |
|--------------------|---|---|-------------------|---|-------------------------|----------|-------------|-------------------|
| Flexibility | Flexibility measures the degree to which the individual is likely to be able to adapt to change and is more open minded than stubborn. This characteristic is important for fast paced jobs where priorities often shift. It is also important for organizations that are in transition or are expecting changes that will affect work duties and responsibilities. | Individuals employed in a wide range of occupations including customer service reps., telesales reps., staff professionals, clerical staff, supervisors and managers. | Criterion-Related | Supervisory Ratings | People Orientation | 0.34* | 88 | 0.76 |
| | | | | | Work Ethic | 0.23* | 88 | |
| | | | | | Self-Assurance | 0.27* | 86 | |
| | | | | | Overall Job Performance | 0.35* | 86 | |
| | | College Students | Construct | NEO Personality Instrument - Compliance Subscale (O4) | Compliance Construct | 0.37* | 122 | |
| | | Bank Account Executives | Criterion-Related | Supervisory Ratings | Work Ethic | 0.27* | 93 | |
| | | | | | Self-Assurance | 0.19 | 93 | |
| | | | | | Learning Ability | 0.20 | 93 | |
| | | | | | Overall Job Performance | 0.25* | 93 | |
| | | Hospitality (Service and Professional jobs) | Criterion-Related | Supervisory Ratings | Work Ethic | 0.18* | 130 | |
| | | | | | Service | 0.12 | 130 | |
| | | | | | Self-Assurance | 0.15 | 130 | |
| | | | | | Overall Job Performance | 0.18* | 130 | |
| | | Hourly Hospitality Employees | Criterion-Related | Supervisory Ratings | Work Ethic | 0.21* | 195 | |
| | | | | | Service | 0.17* | 186 | |
| | | | | | Learning Ability | 0.15* | 197 | |
| | | | | | Overall Job Performance | 0.17* | 186 | |

* Correlation coefficient approaches significance

Continued on next page



Table 7 (continued): Validation Chart

| Scale | Description | Sample Description | Validation Method | Criteria Format | Criteria Measured | Validity | Sample Size | Scale Reliability |
|----------------------------|--|---|-------------------|--|----------------------------|----------|-------------|-------------------|
| Helping Disposition | Service measures the degree to which an individual is friendly and is likely to go out of his/her way to assist or help customers and/or co-workers. This characteristic is important for all customer service jobs. | Individuals employed in a wide range of occupations including customer service reps., telesales reps., staff professionals, clerical staff, supervisors and managers. | Criterion-Related | Supervisory Ratings | People Orientation | .25* | 86 | 0.76 |
| | | | | | Work Ethic | 0.02 | 86 | |
| | | | | | Self-Assurance | 0.09 | 84 | |
| | | Call Center Customer Service Representatives | Criterion-Related | Supervisory Ratings | Service Orientation | 0.45* | 132 | |
| | | | | | People Orientation | 0.41* | 132 | |
| | | | | | Team Player | 0.33* | 132 | |
| | | | | | Overall Job Performance | 0.46* | 132 | |
| | | | | | Overall Job Performance | 0.12 | 84 | |
| | | Individuals employed in a retail environment. Jobs included cashiers, stock personnel and store supervisors. | Criterion-Related | Supervisory Ratings | Reliability | 0.10 | 98 | |
| | | | | | Attendance and Punctuality | 0.23* | 98 | |
| | | | | | Service | 0.20* | 98 | |
| | | | | | Trustworthiness | 0.19 | 98 | |
| | | | | | Overall Job Performance | 0.22* | 98 | |
| | | Employees in a law firm (e.g., lawyers, paralegals, clerical and customer service) | Criterion-Related | Supervisory Ratings | Service Ability | 0.36* | 77 | |
| | | | | | Team Player | 0.34* | 77 | |
| | | College Students | Construct | NEO Personality Instrument - Agreeableness Scale | Agreeableness Construct | 0.67* | 85 | |

* Correlation coefficient approaches significance

Continued on next page



Table 7 (continued): Validation Chart

| Scale | Description | Sample Description | Validation Method | Criteria Format | Criteria Measured | Validity | Sample Size | Scale Reliability |
|--------------------------|---|---|-------------------|--|--------------------------------|----------|-------------|-------------------|
| Stress Management | Stress Management measures the degree to which the individual is likely to demonstrate patience and stress tolerance during times of conflict with customers, coworkers and other stressful work-related situations. This characteristic is appropriate for jobs requiring interactions with customers, multi-tasking and jobs in fast paced organizations, to name a few examples. | Customer Service Reps. | Criterion-Related | Supervisory Ratings | Service Ability | 0.23* | 174 | 0.85 |
| | | | | | Stress Management | 0.26* | 174 | |
| | | | | | Overall Job Performance | 0.21* | 174 | |
| | | Hospitality (Service and Professional jobs) | Criterion-Related | Supervisory Ratings | Work Ethic | 0.29* | 130 | |
| | | | | | Service | 0.16 | 130 | |
| | | | | | Self-Assurance | 0.21* | 130 | |
| | | | | | Overall Job Performance | 0.26* | 130 | |
| | | Pharmaceutical Sales Reps. | Criterion-Related | Supervisory Ratings | Ability to achieve sales goals | 0.52* | 25 | |
| | | | | | Overall Job Performance | 0.52* | 25 | |
| | | Telesales/Outbound (Professional Products and Services) | Criterion-Related | Supervisory Ratings | Ability to achieve sales goals | 0.28* | 43 | |
| | | | | | Overall Job Performance | 0.44* | 43 | |
| | | College Students | Construct | NEO Personality Instrument - Neuroticism Scale | Neuroticism Construct | -0.64* | 90 | |
| | | | | | Overall Performance | 0.35 | 51 | |

* Correlation coefficient approaches significance

Continued on next page



Table 7 (continued): Validation Chart

| Scale | Description | Sample Description | Validation Method | Criteria Format | Criteria Measured | Validity | Sample Size | Scale Reliability |
|--------------------|--|--|-------------------|---|-------------------------|----------|-------------|-------------------|
| Team Player | Team Player measures the degree to which the individual is likely to cooperate in all aspects of his/her work relationships, including working in harmony with others to achieve a common goal. This characteristic is important for jobs requiring interaction and cooperation among coworkers. | College Students | Construct | NEO Personality Instrument - Compliance Subscale (A4) | Compliance Construct | 0.37* | 93 | 0.70 |
| | | Customer Service Representatives | Criterion-Related | Supervisory Ratings | Service Orientation | 0.33* | 58 | |
| | | | | | Team Player | 0.19 | 58 | |
| | | | | | Overall Job Performance | 0.25* | 58 | |
| | | Employees in a law firm (e.g., lawyers, paralegals, clerical and customer service) | Criterion-Related | Supervisory Ratings | Service Ability | 0.41* | 77 | |
| | | | | | Team Player | 0.44* | 77 | |
| | | Male Collegiate Athletes | Criterion-Related | Coach's Ratings | Winning Attitude | 0.29* | 225 | |
| | | | | | Commitment | 0.29* | 225 | |
| | | | | | Availability | 0.28* | 225 | |
| | | | | | Dependability | 0.29* | 225 | |
| | | | | | Team Player | 0.32* | 225 | |
| | | Female Collegiate Athletes | Criterion-Related | Coach's Ratings | Winning Attitude | 0.18* | 122 | |
| | | | | | Commitment | 0.31* | 122 | |
| | | | | | Availability | 0.25* | 122 | |
| | | | | | Dependability | 0.17 | 122 | |
| | | | | | Team Player | 0.27* | 122 | |

* Correlation coefficient approaches significance

Once you have established the requirements of the job, incorporating the C.R.I.S. into your selection process will help you find the best person-job match. Understanding an applicant's personality and how it relates to the job in question is critical to finding the right fit and enhancing the effectiveness of your selection process.



Adverse Impact

To determine whether the C.R.I.S. could have an adverse effect on members of a protected class (e.g., minorities), the average score for each of the five scales for White, African American and Hispanic applicants was statistically compared using t-tests.

The results of these comparisons indicated that there were no significant differences between whites and minorities. These findings are consistent. These findings are consistent with the review of the personality assessing literature that concludes “there is no evidence that well-constructed personality inventories systematically discriminate against any ethnic or national group” (H. Hogan, J. Hogan & B.W. Roberts, 1996).¹

Even though these results suggest that the use of the C.R.I.S. would not likely have an adverse effect on the hiring rates of minorities versus nonminorities, we always recommend that you periodically monitor your selection process to ensure that it continues to be fair and valid.

Based on all of the validity, reliability and adverse impact research presented in this manual, it appears that, in addition to providing a sound, reliable and job-related basis for making employment decisions, the C.R.I.S. also can enhance equal employment opportunities by increasing the objectivity, standardization and job-relatedness of the selection process.

Table 8: Adverse Impact Data

| | Race | N | Mean | Std. Deviation |
|-------------|------|------|-------|----------------|
| Flexibility | 1 | 2865 | 55.82 | 5.60 |
| | 2 | 1242 | 57.58 | 5.96 |
| | 3 | 489 | 56.84 | 6.32 |
| Helping | 1 | 2865 | 53.09 | 4.90 |
| | 2 | 1242 | 53.65 | 6.16 |
| | 3 | 489 | 52.93 | 5.80 |
| Stress | 1 | 2865 | 55.37 | 5.96 |
| | 2 | 1242 | 57.50 | 6.42 |
| | 3 | 489 | 56.09 | 6.37 |
| Team Player | 1 | 2865 | 54.40 | 5.10 |
| | 2 | 1242 | 55.45 | 5.88 |
| | 3 | 489 | 54.66 | 5.76 |

Note: N equals the number of participants in the analysis.

Race: 1=White 2=Black 3=Hispanic

While HR•Assessments were designed to help predict various aspects of human behavior, score results are presented in terms of probabilities. False Positives and False Negatives are expected. EDI and the test developer are not liable for test taker, applicant or employee behaviors.

To order the Customer Relations and Interpersonal Skills or any other HR•Assessments® product, or if you have any questions, call toll-free **800-264-0074**.

¹ Hogan, H., Hogan, J. & Roberts, B. W. (1996). Personality Measurement and Employment Decisions. *American Psychologist*, Vol. 51, No. 5, 469-477.