

# THE SCIENCE BEHIND THE CARE ADVANTAGE ASSESSMENTS – INTERPRETATION & VALIDATION

## The Cognitive Assessment

The Cognitive test measures problem solving and learning speed by assessing verbal, numerical and spatial reasoning then combining these to create one overall cognitive ability score. This core cognitive ability is measured with a 30-item assessment that is computer timed for 7 minutes.

The reliability of a test of scale can be defined in two ways, one of which (internal consistency) refers to the extent to which all the items assess the same concept or variable. Cronbach's alpha was used to assess the internal consistency of the Cognitive Ability Test. **This figure was .88, which reflects a high degree of reliability** and indicates that the items of the test are consistent in assessing the single central concept, general mental ability.

## The Personality Assessment

The Personality Assessment measures each of the "Big 5" traits separately using a normative Personality questionnaire that compares the respondent's scores with a 'population sample' – thereby giving a representative picture of how that person compares with others. Although this normative method gives the respondent the freedom to answer how they choose, the system also identifies the degree of frankness in their responses and adds a scale to measure this called Social Desirability. Furthermore, in assessing the five main traits, our system is also able to calculate the respondent's preferred

style of working with others – this is called the Team scale.

The results of the participant's profile are then compared against a pre-chosen generic benchmark. These generic benchmarks were created based on job analysis, interviews with managers and the Care Advantage Personality profiles of employees currently employed in the job. Using their job performance ratings from their hiring managers, an overall profile is created identifying the personality characteristics of high/average and poor performers in the same role.

Benchmarking can help an organisation to better understand the requirements that make for job success. Moreover, it is arguably the most common method of establishing the validity of an assessment process. Despite not being generally understood as such, benchmarking clearly identifies those characteristics associated with success on a particular job and thus is criterion related. Since benchmarking compares the results obtained from a test or a test battery with the current levels of performance of job incumbents, benchmarking is a form of concurrent validity.

Given the differences among various geographical locations, applicant pools, organisational cultures, managerial styles etc. we recommend all our clients to develop their own internal job fit benchmarks and offer our support and guidance along the way.

## The Attitude Assessment

The Attitude Assessment is a proven tool for use in the hiring process and can increase the probability that those individuals selected will become effective, contributing members of the workforce. The Attitude Assessment is designed to provide employers and recruiters with a brief, inexpensive screening tool that explores an applicant's potential for counter productive work behaviours and attitudes.

Each applicant's scores on the content scales are standardised to indicate the degree to which a score should be regarded as a matter that poses low concern, poses some concern, or poses a serious concern in the following areas:

### **Hostility**

Individuals who are not able to suppress their angry feelings in the workplace, and express them either verbally or physically, pose a real risk to organisations. The popular tendency is to focus on acts of extreme hostility reported on the evening news, but the problem of workplace aggression is far more pervasive.

### **Conscientiousness**

Employers regularly complain about employee poor work habits. Tardiness and absenteeism are rampant problems in today's workforce. The Conscientiousness scale taps attitudes and behaviours about dependability, reliability, personal standards for one's work performance, and related issues that are clearly critical to the success of most organisations.

### **Integrity**

Honesty in the workplace is another problem that poses risks for employers. Employee theft of inventory, euphemistically termed "shrinkage," is estimated to total 1.7 percent of total inventory. Besides shrinkage, however, there are other issues of honesty in the workplace to consider, such as shirking responsibility for one's actions by lying, exaggerating one's qualifications for a job, falsifying records, and the like. The advantages of identifying and screening out applicants who are likely to engage in such dishonest behaviours should be obvious to employers.

## **Good Impression Scales**

It is readily apparent that responses to personality tests can easily be faked. That is, the "correct" answer to many, if not most, personality test items is transparent. It does not take rocket science to determine that it is not in an applicant's best interests to admit to being angry, avoiding responsibility, or being late for appointments, especially when the test is being used as part of a job screening process. Interestingly, however, it is the "obvious" items that are invariably found to be the more valid ones, as compared to more "subtle" items that attempt to ask the same kinds of questions in a more roundabout fashion. Thus, those of us who develop personality tests tend to ask fairly direct questions, and then include a scale that attempts to identify those individuals who are extreme in their efforts to make a "good impression".

The Good Impression scale on the Attitude Assessment, like other such scales, is a measure of this type of distortion in the test-taking approach, indicating undue defensiveness. It is composed of items that inquire about behaviour that is "too good to be true;" for example, "I have never told a lie, even to spare the feelings of a friend." If a respondent answers too many of these items in the direction of making a good impression, then one must question whether this individual's profile on the Attitude Assessment accurately reflects his or her potential for good on-the-job performance. At the very least, an Attitude Assessment test profile with a very high Good Impression scale score needs to be reviewed with considerable caution.

At the same time, it is important to understand that high Good Impression scores are themselves indicative of a particular set of personality characteristics. These include being highly socially sensitive, finding it difficult to accept any blame, and being very eager to win social acceptance. While these characteristics may be useful for some direct support roles they likely would preclude success in most supervisory or management jobs. Scores on measures of faking, such as the present Good Impression scale, should therefore not be singly used to eliminate candidates but add to a more complete picture of the applicant and their suitability for a particular role.

## Concurrent Validity

Concurrent validity refers to the extent to which a measure is related to other measures of the same characteristic obtained concurrently. An extensive study, based on a variety of measures including some specifically developed for this purpose, was undertaken to establish the concurrent validity of the Attitude Assessment.

This study involved a subset of the respondents on whom the initial data were collected. After completing the preliminary items of the Attitude Assessment, these respondents were asked to complete a series of additional measures. For those concepts for which other established measures existed in the research literature, the following validation measures were used:

**The Buss-Perry Aggression Questionnaire** (Buss & Perry, 1992), an established measure of hostility, was selected for the Hostility scale. The Buss-Perry yields scores on four separate components of hostility (Physical Aggression, Verbal Aggression, Anger, and Hostility) as well as a total score.

Two established scales were employed to assess the concurrent validity of the Substance Abuse scale: the Alcohol Use Disorder Identification Test (AUDIT; Babor, de Fuente, & Grant, 1992) as a measure of alcohol problems, and the Drug Abuse Screening Test (DAST; Skinner, 1982) as a measure of other substance abuse.

Because of the lack of availability of appropriate validation measures for the concepts of Integrity, Computer Misuse, and Sexual Harassment, a brief behavioral

questionnaire was developed for each, modelled after the procedures used by Lobet (2001).

For the Conscientiousness scale, a concurrent validation measure was constructed as follows. First, individual items were selected from the validation data as a whole with the greatest face or content validity for Conscientiousness. Internal consistency analysis was then performed on the items to select those that related most centrally to the concept defined by the items as a whole. Based on this analysis, 12 items were selected, two from each of the following scales: Buss-Perry Physical Aggression, Buss-Perry Other, the AUDIT, the DAST, the integrity validity index, and the sexual harassment validity index. These 12 items constituted the final concurrent validity scale for conscientiousness.

**The concurrent validation is shown as a number where any number above .1 shows a correlation between the two tests, however the larger the number (closer to 1), the stronger that correlation is. The results are summarised as follows.**

**Hostility:** The correlation between the Attitude Assessment Hostility scale and the total score on the Buss-Perry Aggression Questionnaire was .69 for all 90 respondents. For males separately, it was .71, and for females, .67. Correlations with the four component scales ranged from .29 to .76 for males, and from .48 to .59 for females.

**Conscientiousness:** The correlation between the Attitude Assessment Conscientiousness scale and the conscientiousness validity index was .61 for all 90 respondents in the validation group. For males separately, the correlation was .66, and for females, .44.

**Integrity:** The Integrity Validity Index (IVI) was a brief behavioural questionnaire that inquired directly and quantitatively about the respondent's actual behaviour regarding theft in present and past places of employment. Scores could range from 0 to 16. The correlation between the Attitude Assessment Integrity scale and the IVI was .41 for all respondents. For males separately, it was .46, and for females, .30.

**Conclusions – nearly all of these correlations are highly significant.** In summation, this data set provides strong support for the concurrent validity of the Attitude Assessment. It is emphasised that all these data sets were obtained anonymously. The respondents were specifically instructed not to put their names on the any of the test materials, which were promptly sent to the authors without being inspected by anybody at the place of employment. It was made clear to the respondents that reporting negative things about themselves was important to the study but would have no consequences whatever for them.