# **Behaviors** TECHNICAL REPORT

Introduction

Target Training International, Ltd. was founded in 1984 by Bill J. Bonnstetter and his son, Dave Bonnstetter. TTI is the worldwide leader in the assessment industry. With extensive research, the Bonnstetters continue to enhance, develop and validate assessment-based solutions that drive results.

Bill has been doing research on what makes normal people unique since 1979. His brother, Dr. Ron Bonnstetter, professor emeritus University of Nebraska Lincoln, has recently joined TTI to expand its research endeavors. TTI's research has discovered the importance of identifying the HOW and WHY of people as they relate to performance.

To better understand what people bring to the workplace, take a look at TTI's Dimensions of Superior Performance™.
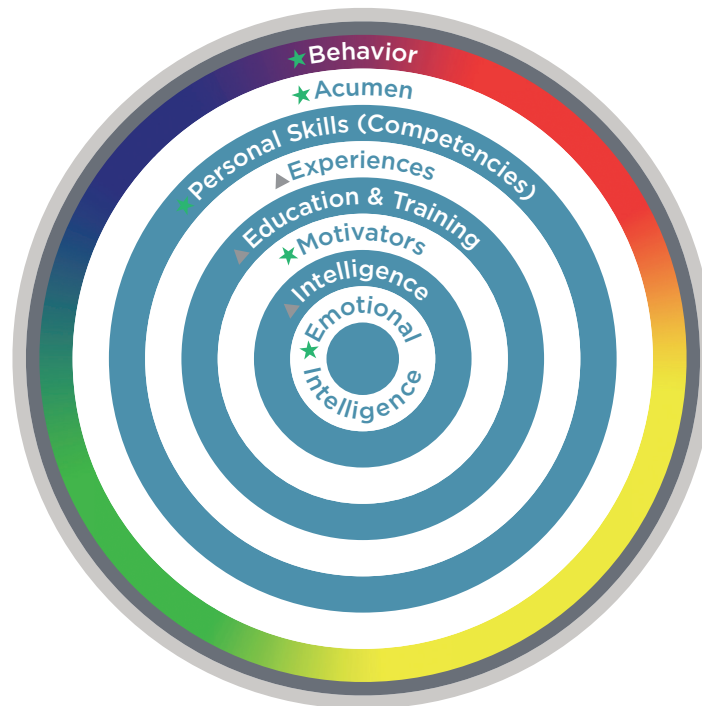
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★ **TTI MEASURES:**
- Behavior
- World View
- Personal Skills (Competencies)
- Motivators
- Emotional Intelligence

▲ **TTI ACKNOWLEDGES:**
- Experiences
- Education & Training
- Intelligence

Executive Summary

The following pages will provide detailed information on TTI's Style Insights® assessment, its validity and how TTI is free of adverse impact. Below is an executive summary of these findings.

Validity

Revised scale reliability

Scale reliabilities were calculated using Cronbach's alpha (α). Cronbach's α is considered the most appropriate statistical test for calculating reliability. The statistic models internal consistency, based on the average inter-item correlation. These evaluations are a more rigorous approach than a traditional split-half statistic. Cronbach's α is a statistic bounded by 0 to 1. In general an α equal to or greater than .6 is considered a minimum acceptable level, although some authorities argue for a stronger standard of at least .7.

The following table compares reliabilities using Cronbach's α. These findings document the Style Insights 2011.i as an instrument with solid scale construction and reliability. This revalidation is based on the new method of responding to the questionnaire by ranking 1, 2, 3, 4 rather than choosing "most" or "least".

Cronbach's Alpha (α) – Scale Reliabilities: N=16,950								
	Adaptive D	Natural D	Adaptive I	Natural I	Adaptive S	Natural S	Adaptive C	Natural C
SI.2011.i	.885	.884	.850	.845	.856	.834	.826	.826

Adverse Impact

Overall, TTI assessments are not pass/fail assessments. While on the surface some of the assessments appear to have ten as the best "score", this is not the case. Each factor of measurement can be a strength on either end of the scale (a zero all the way to a ten). This is because of our job-related process. TTI does not recommend using assessments in hiring unless you have completed our job benchmarking process.

The job benchmarking process is designed to provide clarity as to each position as requirements: key accountabilities, skills, behaviors and motivators. While TTI has over 10,000 job benchmarks available, it is recommended to complete the process within each organization for each position.

Because the TTI assessments are not pass/fail, the "80 percent" rule has to be applied differently. In order to illustrate TTI's compliance with this standard, we look at the mean of the measured factors for the general population as well as male/female, veteran status, disability status and ethnicity. The Adverse Impact section of this report will demonstrate that the TTI assessments do not have more than a 20 percent difference in how protected groups score versus the general population.

History

The DISC language is based on observable behavior. **The objective of this section is to show that long, long ago people were watching people and noting observable behavioral differences.** Throughout history, scientists and researchers have observed basic behavioral similarities, and now these have been validated by companies such as Target Training International, Ltd. Instruments have been developed to assist people in maximizing their personal potential and the potential of their human resources. The lineage of the DISC language, although not then called DISC, takes us all the way back to Empedocles in 444 B.C.

Researchers

EMPEDOCLES 444 B.C. Empedocles was the founder of the school of medicine in Sicily. He stated that everything was made up of four "roots" or elements. These were: earth, air, fire and water. These four elements, he stated, can be combined in an infinite number of ways, just as painters can create a great many pigments with only four different colors.

HIPPOCRATES 400 B.C. Hippocrates was an observer of people. He noticed the effect of the climate and the terrain on the individual. Defining four types of climates, he categorized behavior and appearance for each climate, even suggesting which people would conquer others in battle, based on the environmental conditions in which they were raised. Hippocrates believed the climate and terrain affected behavior and appearance.

1. CLIMATE & TERRAIN: Mountainous country. Rugged. Elevated and well watered. Changes of season are very great.
   PEOPLE: Savage and ferocious in nature. Many shapes. Warlike disposition.

2. CLIMATE & TERRAIN: Low-lying places. Meadows. Uses warm waters. More hot winds than cold, ill-ventilated. Seasons are fine.
   PEOPLE: Not of large stature. Not well proportioned. Broad and fleshy. Black-haired. Not courageous. Less phlegmatic and more bilious. Emotional. Not given to much labor. Short fused.

3. CLIMATE & TERRAIN: High country. Level. Well watered. Windy.
   PEOPLE: Of large stature. Like one another. Gentle and unmanly.

4. CLIMATE & TERRAIN: Thin, bare soils, ill-watered. Great changes of seasons. Not fenced. Blasted by the winter and scorched by the sun.

PEOPLE: Hard. Well-braced. Blonde. Haughty and self-willed.
According to Hippocrates, a seldom-changing climate brings forth indolence whereas a climate with great changes causes the mind to labor, causing for courage. Frequent excitement of the mind induces "wildness, extinguishing sociableness and mildness of disposition." Current research validates Hippocrates' thinking, in the sense that environment can cause change in behavior.

- **SANGUINE**　　- **MELANCHOLIC**

- **CHOLERIC**　　- **PHLEGMATIC**

Hippocrates pursued his thinking further. After identifying four types of climate and terrain and their effect on behavior, he identified four temperaments (sanguine, melancholic, choleric, phlegmatic) and associated them with four bodily fluids (blood, black bile, bile, mucous). He then made this statement, "I think the inhabitants of Europe to be more courageous than those of Asia." In the history of conflict throughout the world, does history prove him to be correct?

GALEN 130 A.D. - 200 A.D. Galen, of Rome, spoke of four body fluids and their effect on behavior and temperament. They were: blood, yellow bile, black bile and phlegm. He also stated that our bodies act upon and are acted upon by warm, cold, dry and moist.

Carl G. JUNG 1921. In 1921, Jung published *Psychological Types* in Germany. He identified and described four "types". These four types are primarily oriented by the four psychological functions: thinking, feeling, sensation and intuition. These four are further divided into two divisions that Jung called "libido" or "energy." These two divisions are "extroverted" and "introverted." Jung believed the extroverted and introverted types were categories over and above the other four functions.

WILLIAM MOULTON MARSTON 1893-1947. The major developer of the DISC language is Dr. William Moulton Marston. Born in Cliftondale, Massachusetts, in 1893, Dr. Marston was educated at Harvard University. He received three degrees from that institution, an A.B. in 1915, and LL.B in 1918 and a Ph.D. in 1921.

Most of Dr. Marston's adult life was spent as a teaching and consulting psychologist. Some of his assignments included lecturing at The American University, Tufts, Columbia and New York University. A prolific writer, Dr. Marston was a contributor to the *American Journal of Psychology*, the *Encyclopedia Britannica*, and the *Encyclopedia of Psychology* all while authoring and/or co-authoring five books.

Marston's most well-known contribution was his success in lie detection. His work was done at Harvard University, and in 1938 his book, The Lie Detector, was published. Lie detectors, including Dr. Marston's, have been used by law enforcement and crime detection officials in various countries for many years. **Here are some facts that you will find interesting:**

- Marston is acknowledged by most as the inventor of the lie detector.

- He invented (1915) the systolic blood pressure test for deception (first published in 1917).

- He interviewed 4200 criminals in Texas penitentiaries and found only three of them who believed themselves to be dishonest.

- A committee of prominent psychologists gave Marston's deception test a 97 percent reliability rating.

- Marston stated that when the lie detector has convinced a criminal (consciously or subconsciously) that he can no longer lie, it becomes easy to break down that criminal's habits of lying and build up, instead, mental habits of telling the truth.

- Marston stated the ultimate use of the lie detector was not for crime detection but for crime elimination by changing criminals into honest individuals.

- Marston worked on the Carl Jung Reaction Time Test and proved it was not reliable for determining deception. This proves that Marston was well aware of Carl Jung's work that is the foundation of the Myers-Briggs test. So the question remains, why Marston never mentioned Carl Jung's work in his book *Emotions of Normal People*?

- Marston said, "Only the truth can bring about a real emotional adjustment."

- The lie detector test offers a new tool to consulting psychologists in making personality adjustments.

- Marston wrote articles on how to apply the lie detector test to marital, social and personality adjustments.

Marston was ahead of the times and his book *Emotions of Normal People* must have been written for professional psychologists, as his other writings are easy to read and understand. Perhaps he had so much knowledge that his profession was not ready for his ideas.

Every day TTI Value Added Associates are touching the lives of people in a way that was only a dream for Marston in 1915.

Marston continued his career as a consulting psychologist; but using the pen name of Charles Moulton, he spent most of his time during the last five years of his life as the originator, writer and producer of Wonder Woman. First published in book form, this endeavor turned out to be a most successful and enduring comic strip. After having been stricken with polio in 1944, Dr. Marston was partially paralyzed until his death at age 53 in 1947.

In 1928 he published *Emotions of Normal People* in which he described the theory we use today. **He viewed people as behaving along two axes with their actions tending to be active or passive depending upon the individual's perception of the environment as either antagonistic or favorable.**

Dr. Marston believed that people tend to learn a self-concept, which is basically in accord with one of the four factors. It is possible, therefore, using Marston's theory, to apply the powers of scientific observation to behavior and to be objective and descriptive rather than subjective and judgmental.

Marston did not invent the DISC behavioral measurement system, nor did he foresee the potential applications of his work. In the last 100 years since Marston published his research findings and observations, behavioral research has modified his ideas considerably. To the modern scientist, much of Marston's work may seem stilted and antiquated. Yet, the importance of his contribution in dividing human behavior into four distinct categories and using measurements of the strength of these responses as a means to predict human behavior remains undiminished.

By placing these axes at right angles, four quadrants were formed with each circumscribing a behavioral pattern.

1. **Dominance (D) –** Produces activity in an antagonistic environment.

2. **Influence (I)** – Produces activity in a favorable environment.

3. **Steadiness (S)** – Produces passivity in a favorable environment.

4. **Compliance (C)** – Produces passivity in an antagonistic environment.

Despite the contributions made to the field of behavioral research since Marston, the modern categories of DISC (Dominance, Influence, Steadiness and Compliance) owe much to his research. Thus it is helpful in understanding the working of the DISC system to keep Marston's categories and their original meaning in mind. The premise of the modern day DISC system is that all people demonstrate some behavior in each dimension. **The four dimensions used as the basis for the Style Insights instrument (and its various forms and applications) fall into the following categories:**

DOMINANCE – CHALLENGE
How you approach and respond to problems and challenges and exercise power.

INFLUENCE – CONTACTS
How you interact with and attempt to influence others to your point of view.

STEADINESS – CONSISTENCY
How you respond to change, variation and pace of your environment.

COMPLIANCE – CONSTRAINTS
How you respond to rules and procedures set by others and to authority.

The DISC measurement system analyzes all of these factors and reveals one's strengths and weaknesses, one's actual behavior, and tendencies toward certain behavior. Behavioral research suggests that the most effective people are those who understand themselves and others. The more one understands his or her personal strengths and weaknesses coupled with the ability to identify and understand the strengths and weaknesses of others, the better one will be able to develop strategies to meet the demands of the environment. The result will be success on the job, at home or in society at large.

WALTER CLARKE 1950s. Walter Clarke was the first person to build a psychological device based on the Marston theory. His instrument is called the "Activity Vector Analysis." Some of Clarke's original associates subsequently left his company, further refining the format as they created their own "adjective check-list forms."

The following individuals and companies have contributed to the DISC model:

1960s

- J.P. Cleaver

- Leo McManus

1970s

- Bill J. Bonnstetter

- John Geier

1980s

- Michael O'Conner

- Judy Suiter

- Target Training International, Ltd.

1990s

- Dr. David Warburton

Why Study Behaviors?

GAINING COMMITMENT AND COOPERATION. People tend to trust and work well with those people who seem like themselves. **The most effective way to gain the commitment and cooperation of others is to "get into their world" and "blend" with their behavioral style.** Observe a person's body language, "how" they act and interact with others. Notice clues in their work or living area. By applying the DISC language, you will immediately be able to adapt to their style.

BUILDING EFFECTIVE TEAMS. People tend to be too hard on each other, continually judging behavior; therefore, team development tends to be slowed or halted due to people problems. An awareness of behavioral differences has an immediate impact on communication, conflict resolution and motivation for the team. Investment always precedes return. Investment in training the team on the DISC language gets an immediate return in team development. **According to specialists in team development, most teams never make it to high performance without training in a behavioral model and commitment to using it from the top management down.**

RESOLVING AND PREVENTING CONFLICT. Understanding style similarities and differences will be the first step in resolving and preventing conflict. By meeting the person's behavioral needs, you will be able to diffuse many problems before they even happen. People prefer to be managed a certain way. Some like structure and some don't. Some like to work with people and some prefer to work alone. "Shot in the dark" management does not work in the 21st century. **The DISC language, combined with TTI Success Insights® Reports, will teach you more about a person in 10 minutes than you can learn in a year without DISC.**

GAINING ENDORSEMENT. Other words for endorsement are "credibility" or "influence". Every interaction you have with a person either increases or decreases your endorsement. Have you ever met a person who won't stop talking and relates his whole life story to you? When you see that person coming, do you dread the interaction? If so, it is because their behavior has caused them to lose endorsement with you and therefore, that person does not get the benefit of your time. Conversely, a person who you can't wait to see daily has gained your endorsement and therefore, is deserving of your time. **The DISC language allows you to "stack the deck" in your favor.** By knowing a person's behavioral style, you can immediately adapt to their style and gain endorsement.

THE IMPORTANCE OF ENDORSEMENT. Through emails, texting, Internet surfing, reading and other media, our brains are being bombarded with increasing quantities of information. Overwhelmed by this scale, scope, and complexity of information, the masses depend on others for advice and support. As a result, more and more personal decisions are being made based on the perception and credibility of individuals, organizations, and countries. **In other words, most individuals rely on the words and actions of other people, organizations, and countries for help in making their decisions.** To stand above all others, leaders must have endorsement. To gain endorsement, you must understand the DISC language.

WHAT IS ENDORSEMENT? Endorsement is "the approval, backing, or support of a person or thing by means of the pledging of one's own assets." Assets individuals can pledge can include their contacts, money, reputation, time and energy.

- If an individual has endorsement, they will always be provided the resources necessary to maintain or improve their own lifestyle.

- If an organization has endorsement, it will always be provided the resources necessary to maintain or improve its own growth.

- If a nation has endorsement, it will always be provided the resources necessary to maintain or improve its standard of living.

Gaining endorsement takes time. It starts with understanding the DISC language. **DISC is a prerequisite for learning who you are and, more importantly, how others see you.** Being seen as credible starts with using the DISC language. It is essential for your success.

Validity

STYLE INSIGHTS® DISC Instrument Validation

Since 1984, TTI has always used outside, independent statisticians to validate all their questionnaires. Revalidation takes place every few years and the following study was completed in 2011. The intent is to provide a verifiable pattern of evidence that establishes the Style Insights instrument as a sound, reliable, valid, and usable instrument for a variety of purposes in personal and organizational development and for organizational and corporate use in a number of venues.

The research and statistics have been written and conducted to the specifications published in Standards for Educational and Psychological Testing (1999) cooperatively by the American Educational Research Association, American Psychological Association and the National Council on Measurement in Education. The guidelines provide the standards against which many US-based and international assessments are designed and validated. It is the purpose to respect those specifications and to encourage the reader to explore the standards in more detail. The reader is also encouraged to ask active questions about other assessments in the marketplace and to discover the extent to which those assessments followed similar guidelines to the Style Insights instrument and reports.

Measurement of One's "Style" — A brief history

The Style Insights instrument is generically loaded into a category of assessments sometimes called "personality tests." TTI prefers the use of the term "style" instead of "personality" for a variety of reasons. First, the term "personality" is a very complex and global term indicating a wide bandwidth of behavior and applications of the entire individual. Second, the term "style" as originally suggested by Fritz Perls, relates more to the specifics of how someone does something, and is therefore more applicable to the purposes and goals of the Style Insights instrument and reports.

Historically, there are a variety of ways by which one's "personality" and "style" have been measured. Early work by Kraepelin (1892) with the free association test involved the subject being given a list of stimulus words to which the subject was asked to provide the first word that came to mind. The free association methodology has been used for a variety of assessment purposes and it remains in use today.

Some criticism of the method remains with issues of scoring, inter-rater reliability, and malingering by the subject.

In answer to the critical issues of scoring and inter-rater reliability came the self- report inventory. A very early form of this assessment technique was developed by Woodworth during World War I (DuBois, 1970; Goldberg, 1971; Symonds, 1931). The original purpose was that of a screening test for identifying those unfit for military service. The war ended before the model was deployed; however, civilian forms were developed for both adults and children. The Woodworth Personal Data Sheet served as a prototype and early model for many inventories to follow. Some designs explored specific areas such as vocational adjustment, school adjustment, home, etc. Other assessments explored interpersonal responses in social settings, and later came assessments focused on interests and attitudes. It is in the self-report genre that the Style Insights® instrument and reports are based.

The "performance" or situational test is another commonly used assessment method. With this model, the subject is asked to perform a task and is measured based on their performance. The specific purpose for some of these tests is concealed from the subject. An early application of this model was developed by Hartshorne and May, et al., (1928, 1929, 1930) and standardized on schoolchildren. Situational tests for adults were developed during World War II by the Assessment Program of the Office of Strategic Services. These tests were high in complexity for the time, and needed some detailed staging and skilled administration. Even so, issues of inter-rater reliability and interpretation of responses were rather subjective.

Another methodology is that of the projective test design. In this method, the subject is presented with an ambiguous or open-ended task or description to provide of a stimulus card or process. Again, the purposes of these tests are somewhat disguised from the subject to reduce the potential of the subject creating a preferred response, or malingering. As with free association and some situational tests, there is room for inter-rater reliability errors and variability in scoring due to the subjective nature of the instrumentation.

The Style Insights instrument and reports use the self-report methodology that eliminates inter-rater reliability issues because of the objective scoring method of the instrument. Using the self-report method, the instrument captures one's own self-perception and records responses. While inter-rater reliability is eliminated, an inherent issue with all self-report instruments is the accuracy of one's responses and the focus of their self-perception. Therefore, the respondent is always encouraged to be honest in their response and clear in their situational focus when they respond.

This methodology has been widely used and adopted in many academic and commercial applications.

Connection of DISC to Target Training International's published instruments

In 1983-84 TTI acquired a DISC-based instrument under a license agreement. Since that time TTI has invested substantial amounts of attention, energy, and resources into the continued statistical validation of the instrument and the reports. Changes have been made to the newer versions of the instrument to keep pace with current terms and descriptors in use, and to up-date those terms and descriptors that were useful decades ago, but are less valid in the 21st century. TTI is rare among DISC providers in that their statistical validation work features current scores from the 21st century that are based in the language/cultural groups using an instrument. This allows for increased reliability and validity of the report printouts by comparing one's scores against a large, well-defined, contemporary, culturally relevant database.

Validity & Reliability

Reliability based on response processes and internal structure

The issue of instrument reliability is the initial question asked when exploring how "good" an instrument is, or if it is actually useful. The word "reliability" always means "consistency" when applied to instruments and tests. There are several procedures that are commonly used for this routine statistical treatment. Test-retest reliability is the consistency of scores obtained by the same person when re-tested with the identical instrument. Alternate-form reliability provides the subject with two similar forms of the instrument. Both test-retest and alternate-form reliability documentation should express both the reliability coefficient and the length of time passed between the first and second testing events. Both of these procedures focus on the consistency of measurement. Such consistency and the "learning the test" advantage is a major concern with ability and knowledge measurements. The Style Insights is not subject to an advantage from repeated administration because it asks for self-reports. The instrument's scales are as stable as the individual's perception of situational demands and self-concept is constant.

Split-half reliability involves a single administration of the instrument and uses the technique of "splitting" the instrument in half, e.g., odd and even question items, and determining a correlation between the two sets of scores. This technique reduces some of the concerns of test-retest and alternate-form reliability by eliminating the passage of time between testing events. Kuder-Richardson reliability is also based on a single form and single administration of the instrument and measures the consistency of responses to all items on the test. The Kuder-Richardson formula is actually the mean of all split-half coefficients based on different splittings of the test.

The Spearman-Brown reliability formula is another statistical treatment that provides a reliability coefficient and is frequently used with the split-half procedures.

Spearman-Brown differs by including a method for doubling the number of items onan instrument as a part of its formula. By doubling the number of items on the instrument, reliability usually increases. Some critics of the Spearman-Brown formula say that it may artificially raise the reliability coefficient of a test. Each of the reliability coefficients discussed so far are ones that can be calculated by hand or using a simple calculator.

The alpha coefficient is the expression of an instrument's reliability and ranges from0 through +1.00. An instrument with a perfect reliability would have an alpha coefficient of +1.00, and no instrument has yielded that score to date. Additionally, there is no standard, agreed-upon "levels" of what makes a good or bad correlation for testing purposes. However, there is general agreement on a minimum standard for alpha equal to .6 or greater, with some experts advocating use of a .7 or higher standard. Obviously, the higher the alpha coefficient the stronger is the coherence of items. Cronbach's alpha (α) (Cronbach, 1951) is considered by many to be the most robust reliability alpha to date (Anastazi, 1976; Reynolds, 1994). "Coefficient α is the maximum likelihood estimate of the reliability coefficient if the parallel model is assumed to be true" (SPSS, p.873). For dichotomous data, "Cronbach's alpha is equivalent to the Kuder-Richardson formula 20 (KR20) coefficient" (SPSS, p.873). Cronbach's alpha is used to determine all of the reliability coefficients used to assess the Style Insights instrument. The reader is encouraged to compare the reliability coefficients presented in this manual to the reliabilities of other instruments, and also to ask how other vendors compute their alpha numbers.

Validity based on context and relationships to other variables

Validity helps answer the question, "Does the instrument measure what it is supposed to measure?" It also asks a deeper quality-related question: "How well does the instrument make these measures?" These questions are obviously more difficult to answer and may leave room for subjectivity. With regard to any questions of validity, the critical issue is the relationship between performance on the instrument and other observable facts about the behavior being studied. When someone says, "The test wasn't fair," the comment is usually directed to the test's validity, not reliability. A more accurate way to state the same expression is, "The test wasn't valid." There are three primary forms of validity: Content, criterion-related, and construct validity.

Content validity examines the instrument's content to determine if it covers the behavioral topic being measured. Simple examination of items in a biology or chemistry test should indicate questions related to the topic or subject being studied.
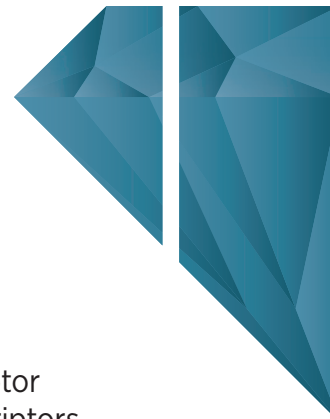
When used in the development of the DISC themes, it is important that all four descriptor categories are represented in rather equal proportion for selection of D, I, S, or C descriptors. Additionally, it is important to explore social desirability as an element of content validity. If there is an imbalance between words that are socially desirable versus descriptors that are less desirable, then content validity is affected. The Style Insights instrument is screened for content validity and since its initial printing some descriptors have been replaced to boost both the content validity and the reliability of the instrument.

Criterion-related validity refers to the ability of an instrument to predict a participant's behavior in certain future situations. One's scores on an instrument are compared with any variety of external "criterions." In the use of the Style Insights instrument and reports, there are a variety of studies available from TTI Performance Systems that have clearly linked specific scores and patterns of scores to job success in specific, well-defined areas. Criterion-related validity has two forms: concurrent validity and predictive validity. Concurrent validity examines one's scores and compares them to external criterion at the same time as taking the instrument. Predictive validity explores one's instrument scores against criterion after a specified time interval. Both methods provide robust support for the Style Insights instrument and reports.

Construct validity examines the ability of an instrument to measure a theoretical construct or trait. Construct validity is built from a pattern of evidence and multiple measures across a variety of sources. Some constructs explored in behavioral trait analysis include developmental changes of participants responding to the instrument at different ages and stages of their lives or under different response focus points. Correlation with other tests is a form of construct validation.

One very important technique within construct validity activity is a factor analysis. This is a technique that "refines" an instrument by comparing and analyzing the inter-relationships of data. In this process the interrelationships are examined and "distilled" from all initial combinations, to a smaller number of factors or common traits. Through factor analytic work using other instruments, it has been discovered that instruments from some other vendors have specific descriptors that actually factor-load into different categories than the ones in which they are scored on the instrument (Golden, Sawicki, & Franzen, 1990). The Style Insights instrument has been refined through the factor analysis process and has made subtle scoring changes that increase both the overall validity and reliability of the instrument and reports.

Revised scale reliability

Scale reliabilities were calculated using Cronbach's alpha (α). Cronbach's α is considered the most appropriate statistical test for calculating reliability. The statistic models internal consistency, based on the average inter-item correlation. These evaluations are a more rigorous approach than a traditional split-half statistic. Cronbach's α is a statistic bounded by 0 to 1. In general an α equal to or greater than .6 is considered a minimum acceptable level, although some authorities argue for a stronger standard of at least .7.

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Adverse Impact:
BEHAVIORS/DISC Findings as of February 2012

Random Sample N=17,801

Measurement	Mean	Standard Deviation
Dominance	45.56	16.39
Influence	60.92	15.37
Steadiness	54.74	17.03
Compliance	46.81	15.08

Males N= 10,667

Measurement	Mean	Standard Deviation	Difference from Random Sample
Dominance	48.05	16.60	2.49
Influence	60.08	15.40	-0.84
Steadiness	51.98	17.31	-2.75
Compliance	46.79	15.02	0.61

Females N=7,134

Measurement	Mean	Standard Deviation	Difference from Random Sample	Difference from Non-Protected Group*
Dominance	41.84	15.34	-3.72	-6.20
Influence	62.16	15.25	1.24	2.08
Steadiness	58.86	15.70	4.12	6.87
Compliance	45.28	15.14	-0.90	-1.51

*The difference from the non-protected group compares the protected subgroup to the non-protected subgroup within the same EEOC category. All data has been rounded to the nearest hundredth.

Behavioral/DISC Findings as of February 2012

Caucasians N=11,988

Measurement	Mean	Standard Deviation	Difference from Random Sample
Dominance	46.51	17.01	0.94
Influence	62.13	15.90	1.21
Steadiness	54.06	17.49	-0.68
Compliance	44.77	15.55	-1.41

African Americans N=1,849

Measurement	Mean	Standard Deviation	Difference from Random Sample	Difference from Non-Protected Group*
Dominance	43.38	13.46	-2.18	-3.13
Influence	57.74	11.92	-3.18	-4.39
Steadiness	56.57	15.28	1.84	2.52
Compliance	49.29	11.95	3.10	4.51

American Indian or Alaskan Native N=175

Measurement	Mean	Standard Deviation	Difference from Random Sample	Difference from Protected Group
Dominance	42.86	15.19	-2.70	-3.65
Influence	58.35	13.87	-2.57	-3.78
Steadiness	57.98	16.96	3.25	3.93
Compliance	48.30	13.96	2.12	3.53

*The difference from the non-protected group compares the protected subgroup to the non-protected subgroup within the same EEOC category. All data has been rounded to the nearest hundredth.

Behavioral/DISC Findings as of February 2012

Asian N=1,079

Measurement	Mean	Standard Deviation	Difference from Random Sample	Difference from Non-Protected Group*
Dominance	41.76	14.07	-3.80	-4.75
Influence	55.94	14.15	-4.98	-6.19
Steadiness	57.72	15.13	2.99	3.67
Compliance	52.19	13.28	6.01	7.41

Hispanic or Latino N=1,078

Measurement	Mean	Standard Deviation	Difference from Random Sample	Difference from Non-Protected Group*
Dominance	44.08	15.05	-1.48	-2.42
Influence	60.15	14.36	-0.76	-1.97
Steadiness	55.23	16.34	0.49	1.18
Compliance	47.74	13.96	1.56	2.96

Two or More Races N=608

Measurement	Mean	Standard Deviation	Difference from Random Sample	Difference from Protected Group
Dominance	45.53	15.87	-0.03	-0.98
Influence	61.66	14.38	0.74	-0.47
Steadiness	53.23	16.70	-1.51	-0.83
Compliance	46.47	14.27	0.28	1.69

*The difference from the non-protected group compares the protected subgroup to the non-protected subgroup within the same EEOC category. All data has been rounded to the nearest hundredth.

Behavioral/DISC Findings as of February 2012

Non-Disabled N=16,575

Measurement	Mean	Standard Deviation	Difference from Random Sample
Dominance	45.62	16.36	0.06
Influence	61.06	15.36	0.14
Steadiness	54.68	17.05	-0.06
Compliance	46.03	15.06	-0.15

Disabled N=228

Measurement	Mean	Standard Deviation	Difference from Random Sample	Difference from Non-Protected Group*
Dominance	44.25	16.98	-1.31	-1.37
Influence	58.58	13.78	-2.33	-2.48
Steadiness	56.40	17.30	1.67	1.72
Compliance	48.52	14.10	2.34	2.49

*The difference from the non-protected group compares the protected subgroup to the non-protected subgroup within the same EEOC category. All data has been rounded to the nearest hundredth.

Behavioral/DISC Findings as of February 2012

Non-Veteran N=15,517

Measurement	Mean	Standard Deviation	Difference from Random Sample
Dominance	45.37	16.35	-0.19
Influence	61.20	15.38	0.28
Steadiness	54.92	17.04	0.18
Compliance	45.96	15.11	-0.22

Disabled Veteran N=122

Measurement	Mean	Standard Deviation	Difference from Random Sample	Difference from Non-Protected Group*
Dominance	49.70	16.87	4.14	4.33
Influence	59.82	14.20	-1.10	-1.38
Steadiness	50.67	17.64	-4.07	-4.24
Compliance	46.62	13.10	0.44	0.66

Other Veteran N=895

Measurement	Mean	Standard Deviation	Difference from Random Sample	Difference from Non-Protected Group*
Dominance	48.80	16.77	3.24	3.43
Influence	59.08	15.24	-1.84	-2.12
Steadiness	51.65	17.30	-3.09	-3.27
Compliance	47.22	14.73	1.04	1.26

Vietnam Veteran N=216

Measurement	Mean	Standard Deviation	Difference from Random Sample	Difference from Non-Protected Group*
Dominance	48.79	15.76	3.23	3.42
Influence	58.55	14.36	-2.37	-2.65
Steadiness	51.18	15.30	-3.56	-3.74
Compliance	48.17	14.24	1.99	2.21

*The difference from the non-protected group compares the protected subgroup to the non-protected subgroup within the same EEOC category. All data has been rounded to the nearest hundredth.

About Target Training International, Ltd.

Target Training International, Ltd. is the world's leading developer of research-based, validated assessment and coaching tools that enable organizations to effectively meet their human resources needs. Many Fortune 500 companies are using TTI's products. Its related companies TTI Performance Systems, Ltd. and Success Insights International have put assessments and reports to work in more than 90 countries and in 40 languages. TTI is also a leader in cutting edge research on human behavior, communication and workplace attitudes and performance. TTI develops thought leadership in the realms of entrepreneurism, education and human interaction. For more information go to www.ttiassessments.com.