TTI SUCCESS INSIGHTS®

Not all DISC Assessments are Created Equal

15 Things That Set TTI SI Behaviors Assessments Apart

By Dr. Ron Bonnstetter

TTI Success Insights (TTI SI) provides Behaviors (DISC) assessments that are unique and superior to most, if not all, other DISC assessments in the marketplace.

Our assessments are different and better because they are:

- Based on research
- Generate hundreds of unique reports
- Integrate other social science research

We were the first DISC provider to guide companies from the prospective employee stage to selection, from on-board training to job-related development.

More importantly, TTI SI is the only provider of DISC assessments in the marketplace that generates 384 unique reports, based on both the high and low scores revealed in each individuals' two DISC graphs (natural style graph and adapted style graph).

In other words, we not only study the behaviors that come naturally to respondent — both how they act (Behaviors) and why they act a certain way (Motivators) — but we also analyze and present the less dominant behaviors. Developing these less dominant behaviors presents opportunities for self-improvement and greater understanding. Where other companies only provide a snapshot of an individual, we provide a full picture to gain a greater understanding of self and others.

In addition, TTI SI is constantly running internal studies, including the study of Adverse Impact, and is conducting test-retest analysis to validate and to improve our products. These steps allow our suite of assessments to remain at the forefront of innovation and stand the test of time.

INTRODUCTION

This position white paper will validate why our DISC assessment stands out from others in the marketplace. It will illustrate why we've been selected time and again by over 100,000 companies looking to strengthen their organizational model.

TTI SI DISC PROVIDES:

1. Analysis that separates natural Behaviors from adapted Behaviors
2. External review documenting the highest Cronbach's alpha in the marketplace
3. Published Adverse Impact scores
4. Peer-reviewed studies published in journals and for Research 1 institutional dissertations
5. Test-retest analysis over time to confirm reliability
6. 384 different personalized DISC reports
7. Wheel graphics that quickly show team relationships
8. Predictability studies that confirm the connections between Behaviors and jobs
9. Predictability studies that tie behaviors to higher grades
10. Confirmation studies linking ipsative survey results to real brain activity
11. Confirmation studies that expose the value of avoidance in decision making
12. A huge database used to define norming, including norming data for individual countries
13. Assessments and reports available in 41 languages, which enhance the validity by using a person's first language.
14. Integrated reports that not only provide Behaviors and Motivators information, but also clearly expose the resulting interactions
15. Assessments built upon at least one of five social sciences that each add to our understanding of human interactions and success

Let's take a look at each of these differentiators in detail.

1. Analyzing Natural vs. Adapted Behaviors

We all know each of us adapt our behaviors in different settings and for different reasons. The reasons behind this are endless to not only make us feel more comfortable and self-assured, but also to validate the concerns and feelings of others.

Sometimes these adaptations result in very different behaviors. By studying two graphs — your natural and adapted styles — TTI SI is able to expose the "real you" from your lived-life behaviors.

While the process for accomplishing this is built into the assessment itself, we have internal studies, including brain activity, which confirms this extremely useful separation.

Clearly, our interactions with others, whether socially or in a more professional setting, have a direct impact on our behavior and our overall character.

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2. External Review: Documenting the High Cronbach's Alpha

Since the early 1980s, TTI SI has used external statisticians to validate our assessments. One of the tools used for internal reliability is Cronbach's alpha, which is a statistical measure used to determine internal consistency. Cronbach's alpha is sensitive enough to measure how even one question impacts the overall reliability of the assessment.

Cronbach's alpha is expressed as a number between zero and one (inclusive) and ensures there are no "outlier" assessment questions.

The table below illustrates the different alpha values that can be received and the strength of internal consistency they represent.

CRONBACH'S ALPHA (α)	INTERNAL CONSISTENCY
$\alpha \geq 0.9$	Excellent
$0.8 \leq \alpha < 0.9$	Good
$0.7 \leq \alpha < 0.8$	Adequate
$0.6 \leq \alpha < 0.7$	Acceptable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

Our most recent analysis found the following Cronbach's alpha scores for our DISC assessment.

BEHAVIORAL STYLE	CRONBACH'S ALPHA (α)
D	0.9
I	0.9
S	0.9
C	0.85

This data is exclusive to TTI DISC assessment and cannot be transposed to other DISC assessments.

3. Published Adverse Impact Scores

Under the Disparate Impact Rule — also known as Adverse Impact — an employer cannot conduct employment practices (e.g., a pre-employment aptitude test) that disproportionately exclude members of a protected class or category.

Although protected traits can vary, most federal civil rights laws include:

- RACE
- COLOR
- RELIGION
- NATIONAL ORIGIN
- GENDER
- DISABILITY STATUS (SOME CASES)

TTI SI runs an adverse impact study on all of its assessments that are recommended for use in hiring and makes sure you are meeting the letter of the law. **The more recent reports are always available on our website or upon request.**

4. Peer-Reviewed Published Studies

The gold standard for any assessment is its use in published research. TTI SI's tools have been studied and published in journals, which have documented their validity, reliability and predictability. **Please visit our website for the latest peer-reviewed articles.**

5. Test-Retest Analysis Confirms Reliability

Test-retest validity is a reliability measure used to determine if the assessment in question produces significantly different results from the same test taker over time. In essence, "test-retest" refers to testing the same group of subjects over a short period of time to determine consistency of the instrument.

If a DISC assessment is administered to an individual, it's expected that the results should be roughly equal and not change drastically over a short period of time. Use of test-retest validity inherently assumes that what is being measured (an individual's true behavior) is static, or that it will not change over the period of time between the two tests. While Cronbach alpha shows internal consistency, test-retest demonstrates replication over time.

However, working with humans is never static. As a result, psychometrics has established acceptable levels for test-retest reliability. **The table below shows these levels from our most recent test-retest analysis.** The participants were randomly selected working adults and the time span between assessments averaged 38 days.

TTI DISC STYLE INSIGHTS®

LEVEL OF RELIABILITY	NATURAL BEHAVIOR	ADAPTED BEHAVIOR
0.9 and greater: **Excellent reliability**	I (0.91)	Adapted – I (0.91)
Between 0.9 and 0.8: **Very Good reliability**	D (0.87) S (0.86) C (0.88)	D (0.86) S (0.84) C (0.84)
Between 0.8 and 0.7: Acceptable reliability	—	—
Between 0.7 and 0.6: Questionable reliability	—	—
Between 0.6 and 0.5: Poor reliability	—	—
Less than 0.5: Unacceptable reliability	—	—

This data is exclusive to TTI DISC assessment and cannot be transposed to other DISC assessments.

6. 384 Different Personalized Reports

Not many assessment providers can offer the depth and breadth we can. In fact, TTI SI is the only assessment provider that generates 384 unique DISC reports.

This is possible because we not only work with both the high and the low side of the graph, but the intensity of each style is also incorporated into the final report, resulting in the most detailed assessment reports available.

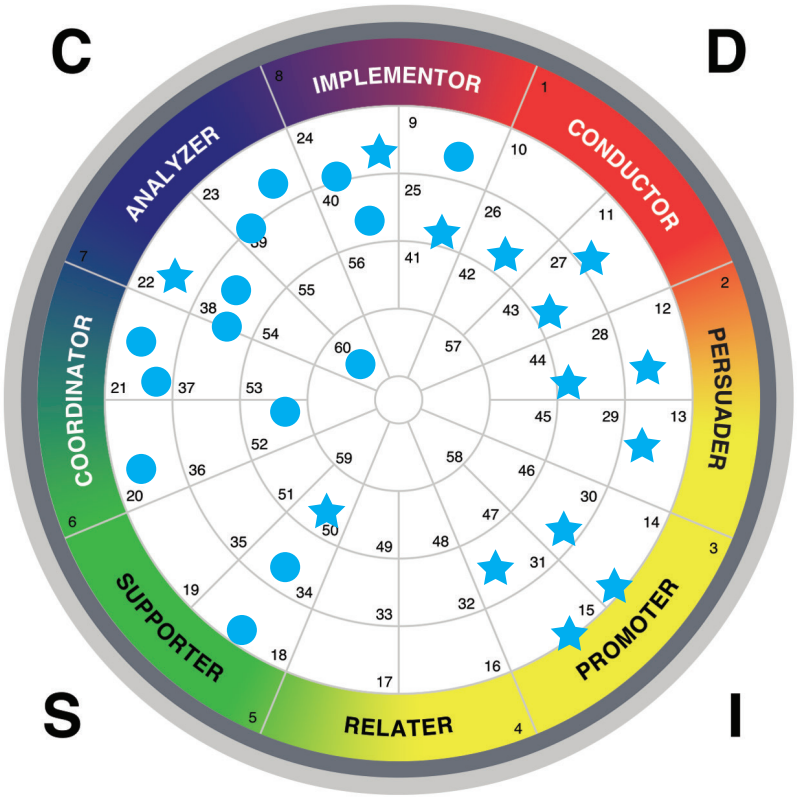
7. Wheel Graphics Better Illustrate Team Relationships

TTI SI Chairman and Founder Bill Bonnstetter was the first to create a wheel display of Behaviors.

In the wheel pictured, we find the distribution of a high-performing sales force (stars) compared to behavioral styles of low performers (depicted by dots).

This feature allows the user to immediately see the comparison and offers explanations for performance differences.

A similarly designed wheel is often used in organizations to chart differences between team members' natural and adapted styles, which can be used to understand miscommunications and inefficiencies, and address them.



8. Studies Confirm the Connections Between Behaviors & Jobs

TTI SI has been a leader in using advanced multivariate techniques — the use of more than one statistical variable at a time — to study predictability that improves our assessments.

Recently, we have conducted studies on serial entrepreneurs using our soft skill competencies assessment, which includes DISC and Motivator assessments.

Using these three assessments, we were able to identify serial entrepreneurs with over a 90 percent success rate. This demonstrated the ability of our assessments to differentiate specific types of people from others.

9. Studies Tying Behaviors to Higher Grades

In a study conducted in 2007 of freshmen engineering students, their first semester grades were found to correlate with their primary individual Behavior styles.

- The best grades went to Primary C (Compliance) students.
- The second best grades went to Primary S (Steadiness) students.
- Primary D (Dominance) students had the second lowest grades.
- The lowest grade point averages were found among the high I (Influence) students.

This explanation lies in an understanding of how cultural fit is so crucial to success. An analysis of the professors within the college of engineering identified them to be dominated by high C and high S behavioral styles.

Just as job performance is directly tied to one's match between the job requirements and the skills they bring to the task, students who best matched their professor's behavioral styles, and therefore the professor's expectations, received the best grades. The farther removed the students were from the desired culture their professor provided, the worse their grade point average.

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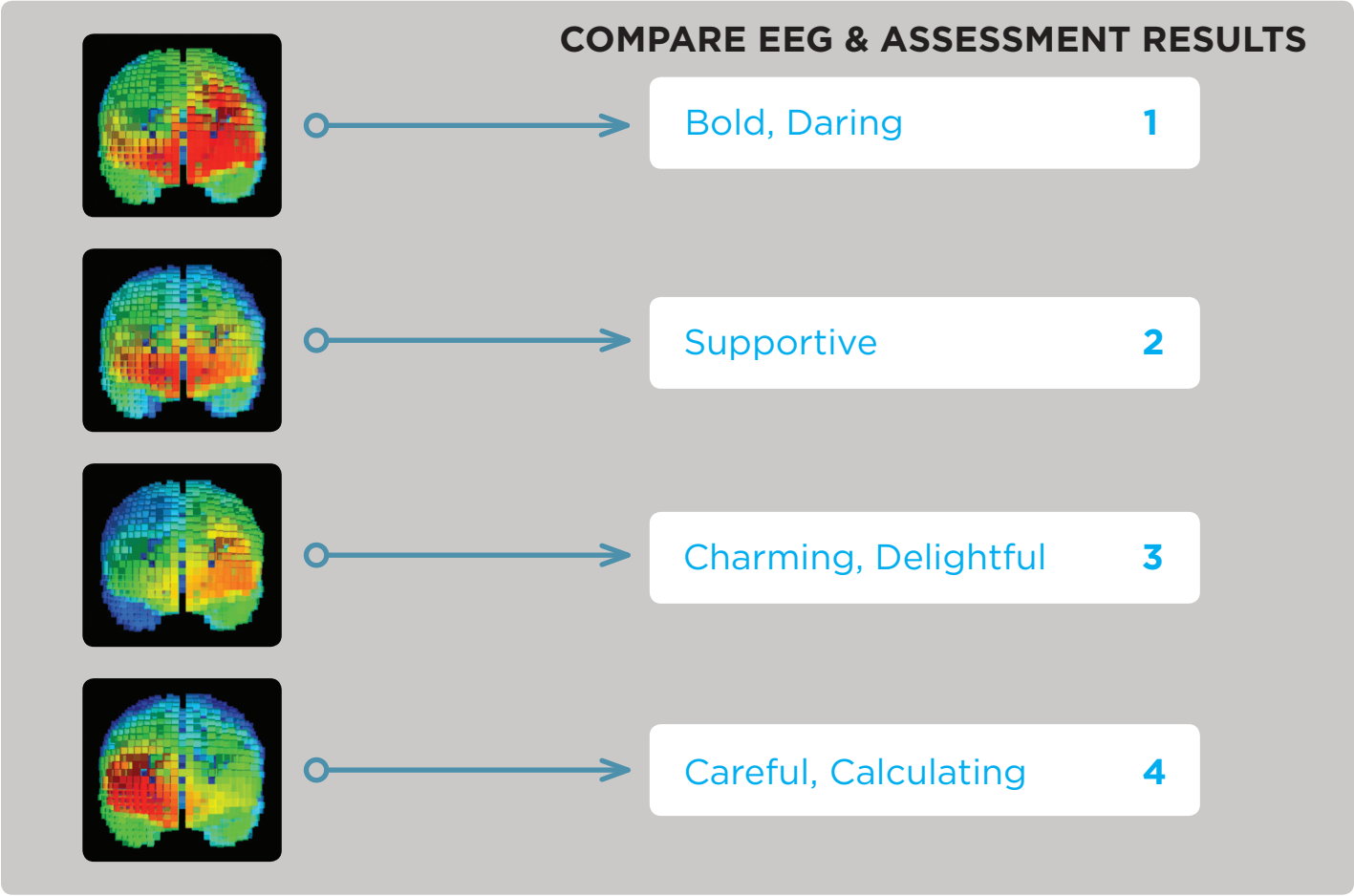
10. Studies Linking Ipsative Survey to Real Brain Activity

In a 2013 internal study, TTI SI's Applied Cognitive Behavioral Lab was able to use EEG gamma wave brain scans to re-create a behavioral survey previously taken by participants, thus documenting the mental processes used to answer these self-reporting assessments.

The below images show increased gamma brain waves — the deepest of neural activity — in the prefrontal cortex, the part of the brain most associated in planning complex cognitive behavior, personality expression, decision making, and moderating social behavior. The brain's response to the words pictured at right is represented using a range of color between blue (representing least intense thought) and red (representing most intense thought). Well-researched and documented asymmetry in the frontal lobes depicts acceptance of a concept occurring on the left side and avoidance of a concept occurring on the right side. As an example, a strong avoidance can be seen to the concept of being "careful, calculating."

Below is an example of how the images were used to match responses.



These comparisons of brain imagery and the assessment provided further validation about the accuracy of individual answers. In essence, the brain waves served as a high tech "lie detector," illustrating individuals were being truthful in their responses. **TTI SI is the only assessment company using real-time brain imaging to validate and improve assessments.** We have a patent pending on this process (referred to as VIDE). This research is changing the way assessments are built and improved.

11. Studies Exposing the Value of Avoidance in Decision-Making

Our work with brain imaging has identified how important avoidance, or what you do not want, is in decision-making. While this concept has been a component of TTI SI's DISC assessments since its early development, the EEG lab allows us to examine and confirm many of these early observations and behavioral assumptions.

In avoidance of brain imaging studies, our lab has been able to re-create the DISC graph in the report using only brain activity.

In the process, we have identified "words that don't work" and how these terms can become triggers for failed interactions between virtually any parties. Below is a chart showing behavioral styles and sample words that may trigger acceptance or rejection by that style.

This research is ongoing and results should be published in 2015.

WORDS THAT DON'T WORK

High C	High D
- *Clever* - *Educated Guess* - *Experimental*	- *Frequent Interruptions* - *Follow Directions* - *In My Opinion*
High S	**High I**
- *Substantial Change* - *Innovative* - *Play to Win*	- *The Same for Everyone* - *Sophisticated* - *Requires Study*

12. Our Growing Norming Database

TTI SI has an ever-growing database that currently includes 1.93 million analyzed DISC reports.

As a result, we are able to provide norming data by country and help clients identify the uniqueness of various cultures and the implications for your interactions.

In April 2014, TTI SI published the findings of our research, showing the behavioral uniqueness of 10 countries. During the two months that followed, we added 12 more countries. Currently, TTI SI has unique data and unique norms for 22 countries, and that number is on the rise.

If a DISC provider is using data from the United States on a worldwide basis, they are guilty of referencing what is commonly called a "WEIRD population." WEIRD refers to a population that is skewed: Western, Educated, Industrialized, Rich, and Democratic.

Each country has its own unique behavioral culture, and if you are not aware of these differences and the norms of the population from each country, you could be using an assessment that has basic flaws.

POPULATION BREAKDOWN FOR SAMPLE COUNTRIES: United States, Russia & China

COUNTRY	D	I	S	C
USA	17%	38%	32%	13%
Russia	23%	33%	24%	20%
China	11%	35%	32%	22%

Additionally, those doing business globally will benefit greatly from studying and understanding the behavioral norm of the countries in which they conduct their business. Each country's behavioral profile reveals much about how business people in their country prefer to communicate, interact and forge business relationships.

13. Assessments Available in 41 Languages

TTI SI has gone to great expense and time to produce more than 40 DISC language options. Why would we do this when most of the world can at least understand English?

TWO REASONS:

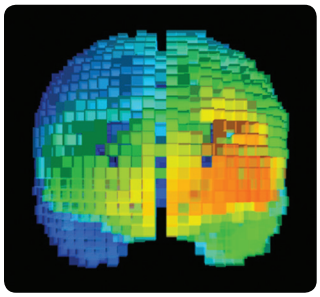
First, we live in a global society. Just because your client currently only works with customers throughout the United States does not mean their business won't expand to additional countries or non-English native speakers in the U.S.

As companies expand, so does the need for multiple languages.

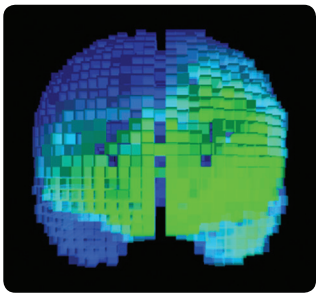
Second, and perhaps more importantly, our brain research has found that the brain responds much better and faster to our native language.

To get the best report results possible, you have an obligation to provide native-tongue assessments.

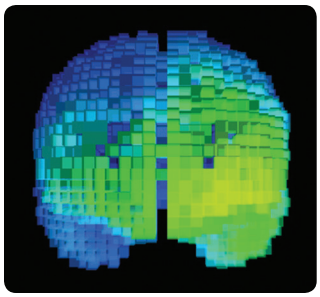
LANGUAGE STUDY RESULTS



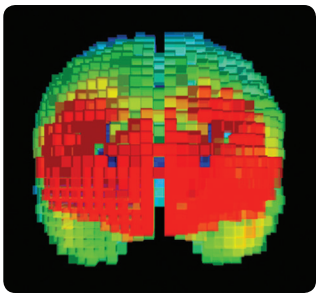
Spanish
1st Language



English
2nd Language



French
3rd Language



German
4th Language

14. Combo Reports Providing Behavior & Motivator Insights; Expose Resulting Interactions

Integrating multiple sciences in your hiring process is key to your success. Our Behaviors assessment, coupled with our other social sciences into one assessment and report, make this simple to accomplish, thus improving your hiring.

But our Behaviors assessment goes beyond by:

- Educating people on how Behaviors and Motivator style influence one another in different life and work situations
- Illustrating how one's unique Behavior style will interact with other styles on a team or in the office.

Only DISC assessments with this integration provide this sort of applied knowledge.

15. Five Social Sciences that Lead to Better Understanding of Self & Others

We still have people who think DISC is one-stop shopping; that "behavior" represents the sole tool for everything from coaching to job placement.

WRONG.

Integrating multiple sciences into the assessment process helps reveal more information about an individual.

"If all you have is a hammer, everything looks like a nail"

– Bernard Baruch

Prior to our research, it was widely believed using one general assessment could determine the best fit for a job. **Our validated research has found that when attempting to identify the uniqueness of a group, using DISC alone results in only 60 percent accuracy. Adding Motivators into the equation improves predictability to 84 percent. And, adding a third science, Competencies, results in predictability of 92 percent!** Why would anyone use Behaviors alone?

CONCLUSION

The business world is becoming far more data-driven.

Understanding how to incorporate the strongest, most powerful data-rich assessments into your hiring, training, development and retention strategies can put you in the drivers' seat with greater knowledge, insights and power.

Don't settle for run-of-the-mill, un-researched DISC assessments that don't provide a true and accurate picture of an individual. Your people are your biggest and most vital investment.

We invite you to learn more about our multiple sciences and how we help organizations increase job fit, improve selection and training, and produce superior performance.

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