



**Breckenridge Institute**  
HARNESSING THE POWER OF CULTURE™

## **BTI™ Psychometric Report**

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## Overview

The Breckenridge Type Indicator™ (BTI™) is a 140-item Likert format instrument based on a Circumplex Model of personality originally developed by Claudio Naranjo which is also called the Enneagram. The process of developing the BTI™ was initiated by Breckenridge Institute® in September 2006. The original question set contained 195 items, and currently the assessment contains 150 items (140 plus 10 research items). The results of the instrument provide scores on the nine Enneagram type scales as well as three Somatic Instinct scales.

The nine Enneagram types are called Tacit Creeds and are distinct ways of “seeing” ourselves, others, and the world around us. The Tacit Creeds and the underlying deficiency-drivers or growth-motivators are at the core of what is generally thought of as “personality type.” The Somatic Instincts are three distinct areas of fundamental biological drives. They determine what is important to us and what activities we tend to direct our attention to during day-to-day activities and over the course of a lifetime.

The remainder of this report will provide a brief discussion of the developmental process and the psychometric characteristics of the 12 scales that compose the BTI™.

## Development of the BTI™

The BTI™ project began in the fall of 2006 with the development of the 195-items and decision to use a six-response Likert-scale format. The developmental process focused upon data collection to refine and reduce the number of items, develop an accurate scoring method, and establish the reliability and validity of the measure. The final BTI™ research version contained 199 items for measuring the nine types and three instinct dimensions and four questions for scale validation. The four validity questions that were added to the end of the measure are presented below.

- If you know your Enneagram type, please select the appropriate choice
- How certain are you of your Enneagram type?
- If you know your dominant sub-type (instinctual variant) please select the appropriate choice
- How certain are you of your sub-type?

Currently the assessment contains 150 items (140 plus 10 research items). The results of the instrument provide scores on the nine Enneagram type scales as well as three Somatic Instinct scales.

## Data Collection Procedure

Data collection for the BTI™ was done through email solicitation and web-based administration. This method provided consistency (all contact was uniform) throughout the collection process. Individuals were provided information about participating in the research of a new measure of personality type. By clicking on an Internet link the individual was taken to a web site to read instructions and complete the measure. All contacted participants were over 18 years of age and there were no known risks to participants.

In January of 2007 the initial data collection was completed (N=388). The sample was composed of 186 females and 202 males from a wide variety of business and college settings. To establish test retest reliability a second sample was collected after a 30-day interval (N = 205). The same solicitation and collection process was used as with the initial sample, and all of the 388 individuals who completed the BTI™ in the initial sample were contacted. The retest sample contained 105 females and 100 males.

The first phase of the data analysis focused upon the development of the 12 scales. An iterative process of statistical evaluation and scale validity resulted in reducing the number of items to the final 140-item format. The scale scoring is based upon individual item weighting and a normative process established by balanced sampling (balanced by type). The psychometric properties of the final nine Enneagram type scales and three Somatic Instinct scales are presented below.

## Psychometric Properties of the BTI™

The psychometric properties of the BTI™ that will be presented are the results of reliability and validity analysis. The reliability that is reported focuses on individual scale internal consistency reliability and stability over time (test-retest reliability). The validity of a multi-scale measure like the BTI™ is indicated by the validity of the individual scales that it contains. The ability of each of the nine type scales to differentiate its intended group (type) from other groups is established, as well as the scale's accuracy in placing individuals who know their type on the correct type scale. The internal consistency scores for the BTI™ are presented below in the form of Chronbach's Alpha Coefficient.

### Scale Reliability (Internal Consistency)

Test reliability refers to the extent to which the BTI™ scores can be expected to reliably perform each time the measure is used. There are two generally recognized measures of reliability. The first is internal consistency which is an estimate of how closely the responses to items in the BTI™ on a given scale relate to each other. It is generally agreed that an alpha coefficient of .70 or higher indicates adequate internal consistency.

The BTI™ instrument contains 12 scales with a total of 140 items. Some items appear on more than one scale, but the weighting of those items is unique for each scale. To get a sense of what is the common range of internal consistency reliability (Chronbach's Alpha Coefficient) we can examine the reported alphas from other common measures such as the MBTI® Form Q and M. The scales on the MBTI® Form Q range from 5 to 9 items on each scale. The average Chronbach's Alpha reliability for these scales is .77. The scales on MBTI® form M range from 21 to 28. The average Chronbach's Alpha reliability for the four scales is .92. These are common ranges of scale alphas from very well constructed measures. Below are the internal consistency Chronbach's Alphas for the BTI™ instrument.

BTI™ Type Scale	Alpha	# items
Type One: Perfect	.88	4
Type Two: Helpful	.98	13
Type Three: Excellent	.98	13
Type Four: Original	.97	13
Type Five: Expert	.96	13
Type Six: Secure	.89	17
Type Seven: Enthusiastic	.87	17
Type Eight: Powerful	.88	12
Type Nine: Malleable	.97	13
Overall Average: (Sample size N=338)	.93	

The range of number of items per scale on the Enneagram type scales of the BTI™ is 4 to 17 items per scale with the average internal consistency reliability Alpha = .93. This indicates a very high level of internal consistency. Below are the reliability alphas for the three Somatic Instinct scales.

<b>BTI™ Somatic Instincts</b>	<b>Alpha</b>	<b># items</b>
Preserving	.94	8
Cultivating	.91	10
Transmitting	.94	9
Overall Average:	.93	
(Sample size N=338)		

The BTI™ Instinct scales have an average internal consistency of Alpha = .93, which indicates a very strong connection statistically within the items on each of the three scales. The results of the internal consistency analysis for the BTI™ show that the measure has been constructed with items that are of similar meaning and utility.

### ***Consistency over Time (Test-Retest Reliability)***

The second measure of reliability to be reviewed is the measure of reliability over time or test-retest reliability. The statistic that is used to express this measure of reliability is the Pearson product moment correlation. To produce this analysis a group of individuals are sampled on the same measure two times over an interval of time (30 days). The results of the BTI™ test retest analysis for all 12 scales are presented in the tables below.

<b>BTI™ Type Scale</b>	<b>Pearson <i>r</i></b>
Type One: Perfect	.87
Type Two: Helpful	.90
Type Three: Excellent	.85
Type Four: Original	.87
Type Five: Expert	.89
Type Six: Secure	.89
Type Seven: Enthusiastic	.93
Type Eight: Powerful	.91
Type Nine: Malleable	.83
Overall Average:	.88
(Sample size N=199)	

<b>BTI™ Somatic Instincts</b>	<b>Pearson <i>r</i></b>
Preserving	.71
Cultivating	.84
Transmitting	.86
Overall Average:	.80
(Sample size N=199)	

The results of test retest analysis indicate that BTI™ is very stable over time. The average correlation for the nine Enneagram type scales is .88, and for the three Somatic Instinct scales it is .80. These results are above average for measures with these scale lengths.

The information presented on BTI™ reliability shows that the measure has both internal consistency and stability over time. This is important information for the assurance that this measure will produce consistent results across administrations and internal stability for reliable results. Of equal importance is the indication of an instrument's validity.

## Validity of the BTI™

Test validity involves determining the extent to which the BTI™ actually measures the characteristics that it claims to measure. The BTI™ was designed to help in the process of individuals discovering their Enneagram type and their Somatic Instinct type. This requires that the instrument be able to accurately sort an individual into the correct type (one out of nine). There are no sorting instruments that can perform this task perfectly, as there are no universally accurate questions that function well for everyone. Validity is the information that reveals a scale or instrument's ability to do what it is intended to do. The accuracy of the BTI™ has been established by scale means analysis and overlap.

### Means Analysis for the Nine Enneagram Types

One way to indicate the ability of a scale to separate relevant groups or assign individuals into the correct group is through a simple means analysis. Below is a table representing the means and standard deviations of each of the nine Enneagram type scales across groups who have reported, with confidence, that they know their correct Enneagram type.

		SCALES								
Known Type		Type1	Type2	Type3	Type4	Type5	Type6	Type7	Type8	Type9
1	Mean	<b>62.5</b>	47.2	52.2	47.1	54.0	55.4	46.0	52.1	49.4
	N	31	31	31	31	31	31	31	31	31
	Std. Dev.	5.7	9.2	8.0	9.6	8.6	7.2	8.6	6.4	8.8
2	Mean	50.5	<b>62.6</b>	48.3	48.7	39.4	48.0	53.0	48.2	49.1
	N	19	19	19	19	19	19	19	19	19
	Std. Dev.	8.2	5.9	5.9	8.7	7.4	11.3	7.2	7.7	8.9
3	Mean	44.7	50.1	<b>62.9</b>	49.6	47.6	48.0	54.0	53.8	45.5
	N	25	25	25	25	25	25	25	25	25
	Std. Dev.	10.0	9.4	7.6	6.3	9.1	11.1	6.6	6.5	4.6
4	Mean	47.5	52.7	49.1	<b>65.5</b>	47.5	44.0	46.4	46.2	47.1
	N	23	23	23	23	23	23	23	23	23
	Std. Dev.	8.9	9.4	9.4	7.5	10.1	9.6	8.4	11.0	8.5
5	Mean	49.6	40.5	46.4	49.2	<b>64.1</b>	51.0	42.5	48.1	49.1
	N	17	17	17	17	17	17	17	17	17
	Std. Dev.	10.6	9.1	7.6	8.6	3.5	6.9	7.7	8.4	6.8
6	Mean	48.4	49.2	41.5	44.7	51.5	<b>61.0</b>	45.7	45.6	46.7
	N	18	18	18	18	18	18	18	18	18
	Std. Dev.	8.2	8.0	8.3	7.8	7.2	6.2	10.8	8.2	7.5
7	Mean	44.7	51.5	48.3	53.1	45.1	45.9	<b>63.4</b>	51.3	49.8
	N	27	27	27	27	27	27	27	27	27
	Std. Dev.	7.9	9.2	6.3	7.8	9.2	10.8	5.6	7.0	8.9
8	Mean	51.3	44.4	55.8	45.9	50.3	49.2	51.4	<b>63.9</b>	43.2
	N	21	21	21	21	21	21	21	21	21
	Std. Dev.	8.3	10.8	10.2	10.8	8.6	8.6	9.5	6.4	6.6
9	Mean	48.4	51.0	44.3	46.5	51.5	49.1	46.1	42.7	<b>62.5</b>
	N	35	35	35	35	35	35	35	35	35
	Std. Dev.	8.8	6.8	8.8	6.9	8.1	8.0	7.9	10.8	10.3
<b>Total</b>	N	216	216	216	216	216	216	216	216	216
<b>d %</b>	<b>Overlap</b>	<b>13.4%</b>	<b>13.4%</b>	<b>11.3%</b>	<b>8.6%</b>	<b>11.3%</b>	<b>17.3%</b>	<b>11.3%</b>	<b>10.3%</b>	<b>9.4%</b>

The above table was produced from those individuals who reported that they know their Enneagram type (question presented previously). The means for the scale on the corresponding type group is presented in bold. All of the scales are based upon norms developed from the known type group (sample N = 216) and are standard t-scores with a mean of 50 and standard deviation of 10. Examination of the information in the table reveals that all of the nine type scales separate individuals of their intended type groups extremely well. The Cohen's *d* effect size is used to describe how well a scale separates its intended group from others. The overlap percentages (*d* %; the percentage of overlap based on Cohen's *d*) presented at the bottom of the table represent the amount of scale score overlap of the type group, on their type scale, with the general population (the sample with the specific type group removed). These scales provide a clear delineation of the intended target type from other types on all scales.

What does the means analysis indicate? Because accurate information was collected from a substantial number of individuals (N = 216) who report that they clearly know their Enneagram type, the means results in the above table are a powerful proof that the BTI™ is doing what it is intended to do with respect to the nine Type scales. Very few individuals will score with a false high on any of the nine scales. Multiple high results (above t-score ≥ 62) on an individual's result profile are an accurate indication of a much stronger than average utilization of a Type strategy. Further the low percentage of overlap from the Cohen's *d* analysis reveals the measure's strong Hit Rate (a measure's ability to accurately classify or group an individual). The average overlap across all nine type scales is 11.8% or the average Hit Rate is 88.2% for the BTI™. Very few measures (and no other Enneagram type measure) will provide this level of scale clarity.

### Means Analysis for the Three Somatic Instincts

The table below provides the same mean and Cohen's *d* percentage information for the three Somatic Instinct scales as was presented above for the nine type scales.

		<b>Scales</b>		
<b>Known Instinct</b>		<b>Preserving</b>	<b>Cultivating</b>	<b>Transmitting</b>
<b>Preserving</b>	Mean	<b>54.8</b>	45.1	45.4
	N	34	34	34
	Std. Dev.	8.0	12.3	10.7
<b>Cultivating</b>	Mean	40.0	<b>57.0</b>	46.4
	N	21	21	21
	Std. Dev.	13.9	6.0	14.8
<b>Transmitting</b>	Mean	44.3	47.0	<b>55.9</b>
	N	26	26	26
	Std. Dev.	10.8	13.3	5.6
<b>Total</b>	N	81	81	81
<b><i>d</i> %</b>	<b>Overlap</b>	<b>18.9%</b>	<b>20.5%</b>	<b>22%</b>

The results of means analysis on the three instinct scales show that all three function very well at separating individuals into the reported groups. The average amount of overlap between the instinct scale's intended groups with the other groups is 20.5%. In other words

almost 80% of the scores for the intended groups on the instinct scales are above the non-intended groups. This can be considered an 80% hit rate for these scales. This is consistent with other high quality measures such as the MBTI® form M and others.

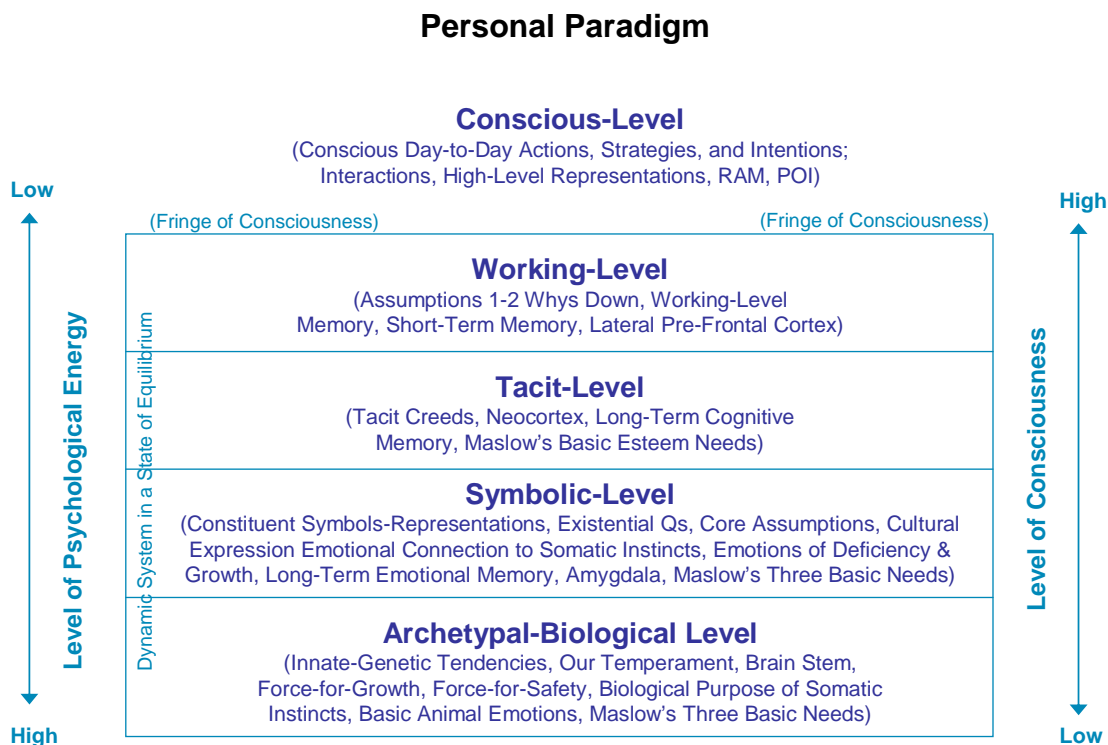
The validity results for the BTI™ indicate that the instrument is measuring what it is purported to measure. Self-reported known types (Enneagram and Somatic Instinct type), provided by individuals who indicate high levels of certainty for their types, make it possible to establish clear levels of validity. Sampling individuals from workshops or individuals who have little opportunity to become firm in their individual type belief causes measurement error and the need for the use of Kappa inter-rater reliabilities to attempt to establish validity. This compounds error on error, as the inter-rater agreement and the initial beliefs of newly experienced individuals are known to be frequently flawed.

## How the BTI™ Measures the Nine Types

This section describes the key concepts needed to interpret the scores for the nine types on the Bar Graph shown in the next section. The goal is to help users to learn how to better understand (and more accurately interpret) scores found in the BTI™ Report.

### *What it Measures*

As shown on the diagram below, the Tacit Creed is at Level-3 (Tacit-Level) of the belief structure of our personal paradigm which corresponds to the esteem needs on Maslow’s Hierarchy. The Tacit Creed is like an overall philosophy of life that defines how people “see” themselves, others, and the world around them.



Because beliefs and assumptions at the Tacit-Level are largely unexamined, unquestioned, and taken-for-granted, they tend to manifest themselves in day-to-day actions and interactions at Level 1 and Level 2 in subtle, but profound ways that *are not* conscious “preferences” and represent a loss of freedom-of-choice and self-determination. More specifically, they create decision-making bias and predictable errors in judgment in strategic and tactical decisions (and choices) in ways defined by the See-Do-Get Process®. These tacit, unconscious beliefs and assumptions are also expressed in the choices that people make when answering the questions on the BTI™ survey which allows the instrument to measure the characteristics of the Tacit Creed with high-precision. In addition, implications of the choices made when answering the question for the BTI™ survey can be clarified to a high-level of confidence by one-on-one verbal assessment during the self-discovery and type verification process.

Given the theoretical foundation upon which the BTI™ is based, the ability to identify the Tacit Creed with precision allows us to determine (and test) many other aspects of the Breckenridge Enneagram™ that are predicted by the theoretical model described in the first chapter of this manual. More specifically, it allows us to identify the key elements listed below.

- Group (Triad)
- Deficiency-Drivers
- Growth-Motivators
- Striving Point
- Becoming Point
- Paradox Point
- Key Question
- Conflict Processing Strategy
- Attitude toward Socio-Cultural Change

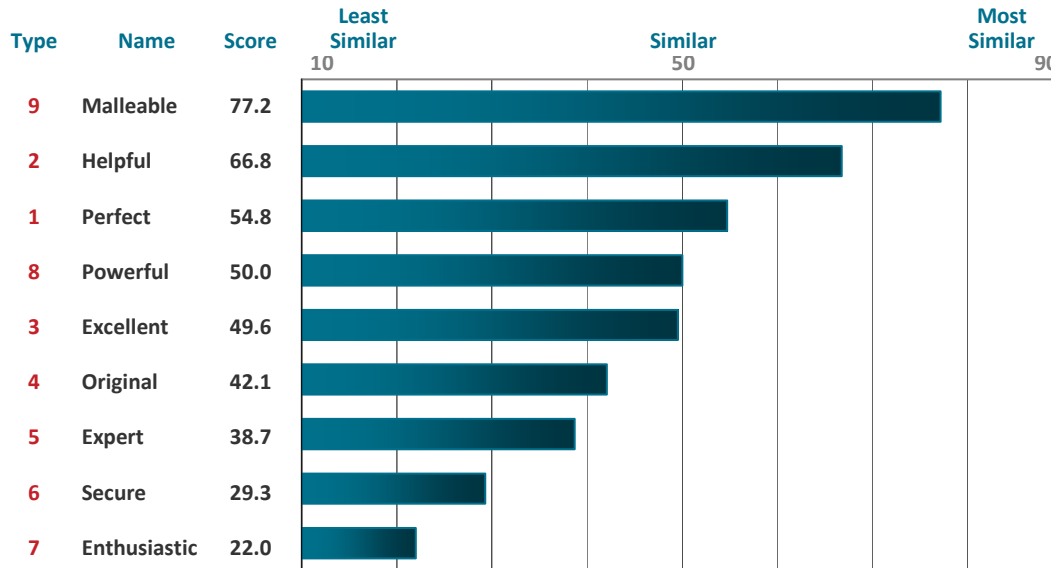
The ability to measure the Tacit Creed with a high-level of confidence allows us to formulate a series of “if then” statements in the sense that if a person identifies their dominant type as type One, then this predicts the combination of key elements that they should self-identify. So using Tacit Creed measurements from the BTI™ in combination with the process of type verification and building a Gold Standard allows us to test the key parameters that are predicted by the Breckenridge Enneagram™ theory.

When administering and interpreting the BTI™, the focus should be on the extent to which the results allow the qualified VAR and the participant to describe and predict ways in which the decision-making bias and predictable errors in judgment predicted by the theory have (and continue) to manifest themselves in the life of the participant. *Linking* underlying patterns-of-interaction and behaviors in the day-to-day life of the participant to BTI™ measurements and predictions made by the Breckenridge Enneagram™ produces a powerful sense of face validity and strong empirical evidence in support of the reliability and validity of the BTI™ instrument.

It’s important to note that the BTI™ does not provide the *direct* measurements needed to support the view that the nine Enneagram types and Tacit Creeds are an innate (hardwired) part of our temperament, e.g. transferred through genetic or other biological mechanisms. Nor is there any direct evidence that Jungian type or Keirsey’s four temperaments are an innate (hardwired) part of our temperament. Direct measures of innateness and temperament would have to occur at Level 5 and might involve identifying genetic sequences that selected for the nine Enneagram types. But whether the nine Enneagram types and Tacit Creeds are *innate* or *learned* (socialized) are just *two different conduits into the same synaptic registers*. In the absence of direct measures for innateness, whether Enneagram type is innate, or whether we learn it by the time we’re two-years-old is almost impossible to distinguish introspectively with any precision. For example, I have talked with children who are Five-years-old who can hardly remember when they were two years old; so what hope do adults have of performing this type of introspective, historical reconstruction with any precision. The reality of both innate and learned characteristics being two different conduits into the same synaptic registers makes any hard-and-fast distinction between nature and nurture for the Enneagram, Jungian type, and Keirsey’s four temperaments operationally and pragmatically meaningless.

### *Bar Graph*

As mentioned above, the chart below shows the scores on the nine type portion of the BTI™ ranked from highest to lowest. While people have all nine types, over time *one* of them tends to dominate the others as their primary way of seeing the world. This becomes the dominant Enneagram type which is probably indicated on the chart below by the highest score. Occasionally, the second highest score will indicate a person’s dominant type.



The numeric values for each scale are shown next to the bar graph as are the names for each of the Tacit Creeds. As a rule of thumb, a *clear* preference for one of the nine types is indicated when the highest score is more than ten points higher than the second highest score (more than one standard deviation). A *moderate* preference for a dominant type is indicated when the highest score is between three to ten points higher than the second highest score. A *slight* preference for a dominant type is indicated when the highest score is less than three points higher than the second highest score. Viewing the scores as being relative to each other (rather than to the 0-100 point scale) can add clarity of interpretation for response styles where people do not use the entire 100-point scale range when answering the questions. It can also help to clarify the fact that a person’s scores may reflect some “social-desirability” of the items, or external group pressure to respond in an expected way, by comparing all scores against each other. Comparing numeric scores *across individuals* is to be done with great caution. Due to different response styles that naturally occur across types, to say that someone has more or less of a type is not appropriate. Between individuals, interpretations must only be done when the professional has knowledge and understanding of the response styles of those being interpreted, and an ability to clearly evaluate the potential situational mitigating influencing issues that may influence responses and results.

The BTI™ uses a six point Likert-scale plus an option for people who cannot clearly decide on a specific response to that question. When people choose the option “Can’t Decide” there is no information added into the data analysis, thus reducing measurement error often associated with most forced choice instruments. The BTI™ scale has the following response format:

- Strongly Agree = 100 points

- Agree = 80 points
- Slightly Agree = 60 points
- Slightly Disagree = 40 points
- Disagree = 20 points
- Strongly Disagree = 0 points
- Can't Decide = The item does not count in the data analysis

The reported results displayed on the bar graph are not from a simple summing or averaging of the responses to the individual items for the nine scales. Rather the scoring routines employed on the BTI™ are based upon complex weightings from statistical analysis. Because the BTI™ is a criterion-based instrument weighting is based upon the patterns of responses individuals of a given type report for the questions found on that particular type scale. Many other instruments use this form of scoring, most notably the Occupational Scales on the *Strong Interest Inventory II*. The BTI™ scoring routines were developed from carefully selected criterion groups (Gold Standard individuals) who have high confidence in their knowledge of their type. The Gold Standard scoring benchmark is the quantitative equivalent of the typing panels used by the narrative tradition of Enneagram teachers where a person establishes their type by listening to panels of people (who have high confidence in their type) discuss their experiences and the strengths, and challenges of being that specific type. So it's not just the responses of a given type on the questions for a given scale that determine the score, but the difference in response pattern of that type compared to the others who are not that type. It is the difference in response, not the response itself. These weighting routines have been programmed into the Breckenridge Institute's SQL Server database engine that runs and automatically scores every BTI™, BRI™, and BWI™ survey and then creates the overall report.

The nine distinct categories shown on the bar graph are the scales for the nine Enneagram types and the numeric value of the scores indicates the relative *strength* of a person's preference for that Enneagram type's pattern of answering the BTI™ survey questions. Unlike the problem of measurement-error found in the mid-point a dichotomous, forced-choice scale, the BTI™ measures each of the nine scales independently of each other, and then plots the result on the bar graph. One element of scoring that is very important to understand is that the scores on the bar graph are constructed by BTI™ scoring routines that separate complementary, conflicting and opposing tacit beliefs, assumptions and associated emotions at play in the human personality. So while the nine types can be described individually, they are more correctly an interdependent set of patterns, structures, and processes, *not* separate points or traits. In other words, our personality is not a homogeneous set of beliefs and assumptions, but rather a portfolio of complementary, competing, and conflicting ways of seeing ourselves, others, and the world around us.

While the dominant Enneagram type is often a governing force in an individual's psychology, *it is a mistake* to focus too much on this score when exploring the overall characteristics of how all nine types manifest themselves in the life of an individual. For those familiar with Jungian Typology, this is analogous to looking *only* at the four-dichotomies or the dominant function, rather than the interdependent interaction of the dominant, auxiliary, tertiary, and inferior function as they unfold over time through what Jung called the Individuation Process.

It's also important to note that the scores on the graph point *beyond* themselves to something that is "real" in the sense that they makes a physical difference in the world. The intra-psychic patterns-of-interaction that compose the nine types are patterns and processes that cohere in the neurophysiologic structure of the human brain. The Heart types lead with the emotional part of the brain, while the Head types leading with the cognitive part of the brain, and the Action types leading with the sensory part of the brain. The fact that Enneagram type is "real" and makes a physical difference in the world is the basis for the reality of people being able to determine "best fit" for their type. The reality of personality type is also why Enneagram type can be identified using both an oral (narrative) and assessment (testing) approach to personality - with the optimal being to combine these two approaches in a *self-discovery* process that includes both direct experience, and the use of assessment results to test (and either confirm or falsify) the information that emerges from direct experience. As mentioned previously, the Gold Standard Sample used with the BTI™ is a quantitative counter-part to the typing-panels used in the narrative tradition of the Enneagram. Combining the two traditions has the highest probability of identifying blind-spots that are due to the imprecise nature of self-reporting tools and the well-documented uncertainties and errors that come from relying on introspection and direct experience alone.

### *Determining the Dominant Type*

A person's dominant Enneagram type will normally be indicated by the highest score and about 11% of the time, the second highest score will indicate a person's dominant Enneagram type. For those who are familiar with Jungian Typology, this is analogous to asking a participant to consider both INTJ and INFJ as their possible type because their "T" score was so close to the "F" score. Psychometric evidence from Means Analysis shows that the average overlap across all nine Enneagram scales is 11.8%, which loosely translates into an average "hit rate" of 88.2% for the nine BTI™ scales. The "hit rate" indicates the instrument's ability to accurately *sort* an individual into the correct Enneagram type (one out of nine). There are no instruments that can perform this task with 100% accuracy, as there are no universally accurate questions that will function well for everyone. Very few measures (and no other Enneagram type measure) provide the level of scale clarity that the BTI™ does. Current psychometric work designed to improve BTI™ validity using binary logistic regression indicates that the hit rate will be greater than 90% with the next BTI™ release that should be completed in 2009.

Profiles containing extremely high scores in the majority of the nine types should be examined carefully. There are three reasons why a person might obtain high scores on many (or all) of the nine scales. *First*, the person may have consciously pursued a path of personal and professional growth with the use of self-help books, coaching, feedback from others accompanied by sustained introspection and self-reflection; or by participating in a guided process of counseling, therapy, experiential reflection, or other forms of psychological

analysis, reflection, and change. In other words, high scores could be a sign of psychological health and a well-balanced, flexible personality. The *second* reason a person might have many (or all) high scores on the nine types is because they answered the questions based on social desirability and/or pressure from socio-cultural norms within a given context, e.g. the culture within and organization, family, or other social groups. This includes the context in which the person originally took the BTI™ assessment (work, home, etc), as well as the degree to which they have been “scripted” by externally imposed norms to “see” themselves, others, and the world through the See-Do-Get Process®. Over time, these actions and interactions go on autopilot, slip below the surface of awareness, become part of their Natural-Self, and can obscure the unique signature-pattern of their dominant Enneagram type. *Third*, a person may lack the self-awareness and reflective capabilities to accurately know what they actually believe and feel about the questions asked as part of the BTI™ assessment. Paradoxically, the same reasons that a person might have many (or all) high scores are also the reason why an individual might obtain low scores.

## Common Reasons Why People Mistype

This section describes some common reasons why some people may mistype when taking the BTI™ instrument. When thinking about reasons why some people mistype on the BTI™, it is important to remember that the foundation of our personality is an *interdependent configuration* of nine types, their associated deficiency-driven and growth-motivated emotions, and the three Somatic Instincts. Our personality *is not* a homogeneous set of beliefs and assumptions - rather it is a portfolio of interdependent, complementary, competing, and conflicting ways of seeing ourselves, others, and the world. But it is also important to remember that the actions and interactions of all nine Enneagram types are done *in-the-service-of* following the inner mandate of the Tacit Creed. For example, when stressed and under pressure the autopilot pattern-of-interaction between the Tacit, Striving, and Becoming creeds can (and often does) create inner conflict and mixed emotions when an individual is faced with a problem that requires a *single* solution. In other words, people find themselves wondering, “Should I do this, or should I do that? Should I be helpful or powerful?” This inner conflict is *intensified* when external pressures force a person to act, interact, or make a decision *now*. The list below describes some of the more common reasons why some people mistype on the BTI™. Some people mistype because:

- They live closer to one-or-the-other ends of their connecting points (Striving, Becoming, or Paradox); e.g., type Ones who resemble Fours, Sevens, or Fives.
- They live out of the low-side of the Striving point (disintegration) and answer the questions that way, or they live out of the low-side of the Becoming point (integration) and answer the questions that way.
- They resemble other members of a larger grouping of types: a) heart, head, action groups’ brain function, b) key question groups’ focus on identity, the future, or the environment, c) conflict processing strategy of reactive, objective, or reframing, or d) differing attitudes toward socio-cultural change, e.g. aggressive, withdrawn, or compliant.
- They resemble their dominant hybrid-type on either side of the dominant point (wing).
- They are influenced and shaped by the power of their dominant Somatic Instinct and the fact that the underlying deficiency-drivers of a person’s Enneagram type tend to express themselves (and be most pronounced) in the area in which the dominant Somatic Instinct is focused. For example, a Type One with Cultivating as their dominant instinct will experience Anger and Resentment around issues to do with social networks and social status; while a One with Transmitting as their dominant instinct will experience Anger and Resentment around issues to do with relationships and getting their ideas across. In some cases, the influencing and shaping power of the instinct may even mask, or obscure, our experience of the deficiency-drivers in much the same way hunger masks or obscures our higher psychological needs; e.g., it’s hard to think about self-actualization on an empty stomach. Understanding how the

deficiency-drivers are *linked* to the instincts through day-to-day behaviors is a powerful way to tease apart cases of apparent mistyping.

- Some of the surface-traits or characteristics of a person's Tacit Creed are similar to other Enneagram types and these differences can only be "resolved" by a careful evaluation of the underlying deficiency-drivers and the core assumption, for example Nines and Fives; Ones and Sixes; and Threes and Eights.
- They are influenced by the various aspects of their Jungian type code, e.g. dominant function, Interaction Style, Temperament, etc. For example, an ENTJ, INTJ, INFP, ENFP type Four; or an ESTJ, INTJ, ENFP, ISFP type Eight
- They are influenced and shaped by the power of the See-Do-Get Process® where they may have come to an incorrect conclusion about their personality type because of: a) the influence and views of an influential teacher, coach, friend, or relative, or b) having received incorrect scores from an assessment instrument that was either not psychometrically validated, or had questionable levels of reliability and validity.
- They are under either episodic or long-term stress and they answer the question from this frame of reference – this way of "seeing" themselves, others, and the world.
- They have a well-developed Socialized-Self and answer the questions from that part of their personality. For example, if a person has been pressing hard in their professional life, beginning (or ending) a relationship, experiencing significant external pressures in the personal or professional life, they may have elevated scores for types that embody the beliefs, assumptions, values, strategies, surface-traits needed to face these challenges.
- They lack the self-awareness needed to answer the questions in a way that reflects their true self. This is often more typical for type Nines, Threes, and Sixes.
- They purposely try to answer the questions so that they obtain a specific score, e.g. "I answered all of the Type One questions 'Strongly Agree' but I scored as a type Seven." Remember that the scores shown on the bar graph are not computed by simply summing or averaging the scores on individual items for the nine scales. In fact, many items are actually *negatively* weighted to either exclude or include people from a particular type category based on statistically derived scoring patterns.
- They do not answer the questions truthfully and honestly for a variety of reasons.

A final set of reasons that some people mistype is because the way they answer the BTI™ survey questions does not sort them into the Enneagram type category that they believe is their dominant type. There are a number of reasons that this can happen. First, they may have a conservative response style where they do not use the entire scale provided (this can be type dependent). The list of sorting probabilities shown below explains why this can be problematic.

- Strongly Agree (100 points) sorts into a type well with little false sorting
- Agree (80 points) sorts into a type well with some false scoring
- Slightly Agree (60 points) sorts poorly
- Slightly Disagree (40 points) sorts poorly
- Disagree (20 points) sorts well by rejection
- Strongly Disagree (0 points) sorts perfectly by rejection
- Can't Decide = The item does not count in the data analysis

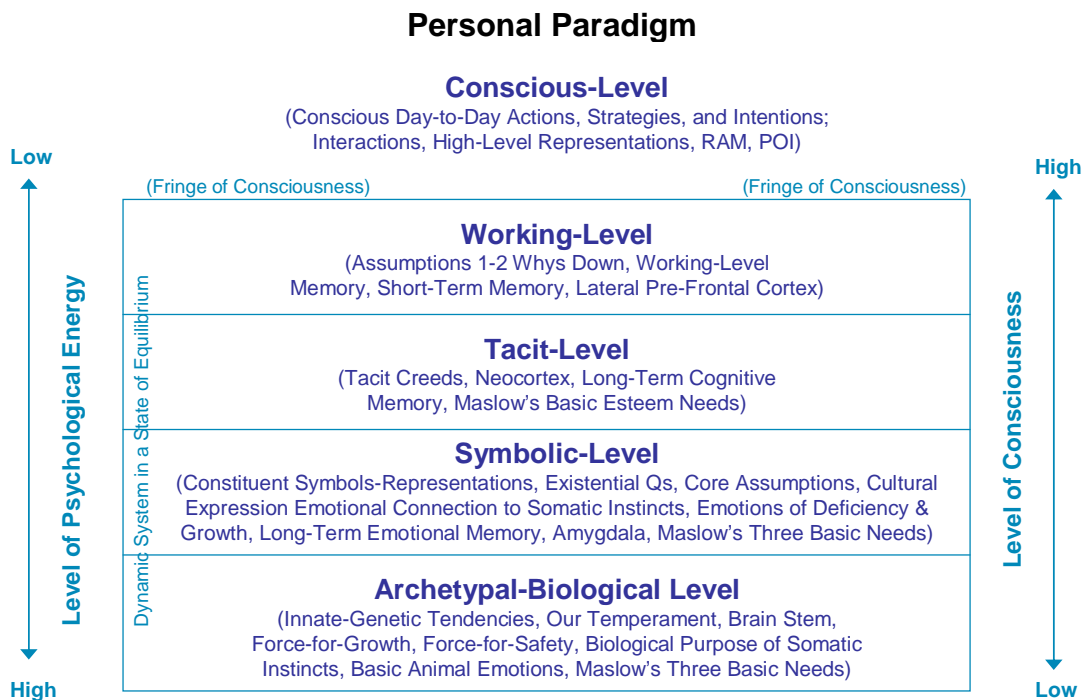
A second reason is because a person may only have a slight preference in terms of their dominant Enneagram type. As mentioned above, a *clear* preference for a dominant type is indicated when the highest score is more than 10 points higher than the second highest score (more than one standard deviation). A *moderate* preference for a dominant type is indicated when the highest score is between three to ten points higher than the second highest score. A *slight* preference for a dominant type is indicated when the highest score is less than three points higher than the second highest score. A third reason that some people may mistype on the BTI™ is because of the social desirability of some of the questions, e.g. who doesn't want to be patient or helpful etc. For these and other reasons, it is important to carefully consider a wide-range of possible personal, professional, psychological and contextual influences on a person's scores when they claim to have been mistyped by the BTI™ instrument.

## How the BTI™ Measures the Somatic Instincts

This section describes the key concepts needed to interpret the scores for the three Somatic Instincts on the Somatic Instinct bar graph shown in the next section. The goal is to help you learn how to better understand (and more accurately interpret) scores found in the BTI™ reports.

### What it Measures

As shown on the diagram below, the Somatic Instincts are at Level-4 (Symbolic) and Level-5 (Archetypal-Biological) of the belief structure of our personal paradigm. This corresponds to the first three levels of Maslow's Hierarchy. Level-5 is the biological-psychological interface, where the food you ate for lunch becomes those great ideas that you get back at the office in the afternoon.



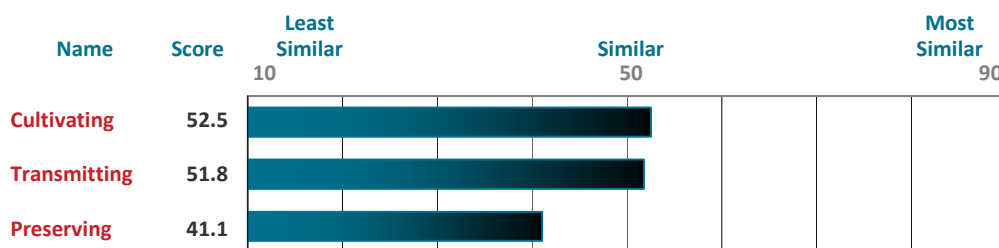
The Somatic Instincts are a subtle, but profound, remnant of our biological heritage that still powerfully affects the focus of our day-to-day life and our overall lifestyle. The Somatic Instincts are the part of the human organism that *links* our psychological-cognitive selves to key aspects of biological survival within a given environment. In other words, our physiological and psychological needs and the resources available to us in our context are *interdependent* and interact together at the same time to form what Maslow called the Hierarchy of Needs. We experience this psychological-cognitive-biological interaction through our emotional connection to, cultural expression of, the Somatic Instincts at the Symbolic-Level, and the biological purpose at the Archetypal-Biological-Level shown on the diagram above.

Much like the Tacit Creeds, the Somatic Instincts are largely taken-for-granted, unconscious preferences and predispositions that tend to manifest themselves in day-to-day actions and interactions at Level 1 and Level 2 in subtle, but profound ways that represent a loss of freedom-of-choice and self-determination. More specifically, they create decision-making bias and predictable errors in judgment in their respective areas of focus (preserving, cultivating, and transmitting) in ways defined by the See-Do-Get Process®. These unconscious preferences and predispositions are also expressed in the choices that people make when answering the questions on the BTI™ survey. This allows the BTI™ to measure the characteristics of the Somatic Instincts with high-precision. In addition, the implications of the choices made when answering the BTI™ questions can be clarified to a high-level of confidence by one-on-one verbal assessment during the self-discovery and type verification process.

When administering and interpreting the Somatic Instincts portion of the BTI™, the focus should be on the extent to which the results allow the qualified VAR and the participant to describe and predict ways in which the unconscious preferences and predispositions predicted by the theory have (and continue) to manifest themselves in the life of the participant. *Linking* underlying patterns-of-interaction and behaviors in the day-to-day life of the participant to BTI™ measurements and predictions made by the Somatic Instinct theory produces a powerful sense of face validity and strong empirical evidence in support of the reliability and validity of the BTI™.

### Bar Graph

As mentioned above, the chart below shows the scores on the Somatic Instinct portion of the BTI™ ranked from highest to lowest. While the three clusters of instincts have very different characteristics, over time *one* of them tends to dominate the others as a person’s primary way of seeing the world. This becomes their dominant Somatic Instinct which is probably indicated on the chart below as the highest score. Occasionally, the second highest score will indicate the dominant instinct.



As a rule of thumb, a *clear* preference for one of the three instincts is indicated when the highest score is more than ten points higher than the second highest score (more than one standard deviation). A *moderate* preference for a dominant instinct is indicated when the highest score is between three to ten points higher than the second highest score. A *slight* preference for a dominant instinct is indicated when the highest score is less than three points higher than the second highest score.

The BTI™ uses a six point Likert-scale plus an option for people who cannot clearly decide on a specific response to that question. When people choose the option “Can’t Decide” there is no information added into the data analysis, thus reducing measurement error often associated with most forced choice instruments. The BTI™ scale has the following response format:

- Strongly Agree = 100 points
- Agree = 80 points
- Slightly Agree = 60 points
- Slightly Disagree = 40 points
- Disagree = 20 points
- Strongly Disagree = 0 points
- Can’t Decide = The item does not count in the data analysis

The reported results displayed on the bar graph are not from a simple summing or averaging of the responses to the individual items for the three scales. Rather the scoring routines employed on the BTI™ are based upon complex weightings from statistical analysis. Because the BTI™ is a criterion-based instrument weighting is based upon the patterns of responses individuals of a given type report for the questions found on that particular type scale. Many other instruments use this form of scoring, most notably the Occupational Scales on the *Strong Interest Inventory II*. The BTI™ scoring routines were developed from carefully selected criterion groups (Gold Standard individuals) who have high confidence in their knowledge of their type. The Gold Standard scoring benchmark is the quantitative equivalent of the typing panels used by the narrative tradition of Enneagram teachers where a person’s type is established by listening to panels of people (who have confirmed their type with high confidence) discuss their experiences, strengths, and challenges of being that specific type. So it’s not just the responses of a given type on the questions for a given scale that determine the score, but the difference in response pattern of that type compared to the others who are not that type. It is the difference in response, not the response itself. These weighting routines have been programmed into the SQL Server database engine that runs and automatically scores every BTI™, BRI™, and BWI™ survey and then creates the overall report.

The three distinct categories shown on the bar graph are the scales for the three Somatic Instincts and the numeric value of the scores indicates the relative *strength* of a person’s preference for that instinct type’s pattern of answering the BTI™ survey questions. Unlike the problem of measurement-error found in the mid-point a dichotomous, forced-choice scale, the BTI™ measures each of the three scales independently of each other, and then plots the result on the bar graph. The scores are constructed by the BTI™ scoring routines that separate complementary, conflicting and opposing tacit beliefs, assumptions and associated emotions at play in the human personality. So while the three instincts can be described individually just like the first three levels of Maslow’s Hierarchy, they are more correctly an

interdependent set of patterns, structures, and processes, *not* separate points or traits. The scores visually represents the psychological experience that personality is not a homogeneous set of beliefs and assumptions, but rather a portfolio of complementary, competing, and conflicting ways of seeing ourselves, others, and the world around us.

Another way to interpret the scores on the bar graph is in terms of the strength of preference of the dominant instinct as being relative to the other two scores. The list below is a rule of thumb can be used to interpret the scores relative to the other two scores.

- A *clear* preference for a dominant instinct is indicated when the highest score is more than 10 points higher than the second highest score (more than one standard deviation).
- A *moderate* preference for a dominant instinct is indicated when the highest score is between three to ten points higher than the second highest score.
- A *slight* preference for a dominant instinct is indicated when the highest score is less than three points higher than the second highest score.

Viewing the scores as being relative to each other (rather than to the 0-100 point scale) can add clarity of interpretation for response styles where people do not use the entire 100-point scale range when answering the questions. It can also help to clarify the fact that a person's scores may reflect some "social-desirability" of the items, or external group pressure to respond in an expected way, by comparing all scores against each other. Comparing numeric scores *across individuals* is to be done with great caution. Due to different response styles that naturally occur across types, to say that someone has more or less of a type is not appropriate. Between individuals, interpretations must only be done when the professional has knowledge and understanding of the response styles of those being interpreted, and an ability to clearly evaluate the potential situational mitigating influencing issues that may influence responses and results.

It's also important to note that the scores on the bar chart point *beyond* themselves to something that is "real" in the sense that it makes a physical difference in the world. The intra-psychic patterns-of-interaction that compose the three Somatic Instincts are patterns and processes that cohere in the neurophysiologic structure and biological processes of the human organism. The reality of type is also why Somatic Instinct type can be identified using both an oral (narrative) and assessment (testing) approach to personality - with the optimal being to combine these two approaches in a *self-discovery* process that includes both direct experience, and the use of assessment results to test (and either confirm or falsify) the information that emerges from direct experience. To reiterate, the Gold Standard Sample used with the BTI™ is a quantitative counter-part to the typing-panels used in the narrative tradition of the Enneagram. Combining the two traditions has the highest probability of identifying blind-spots that are due to the imprecise nature of self-reporting tools and the well-documented uncertainties and errors that come from relying on introspection and direct experience alone.

## Common Reason Why People Mistype

This section describes some common reasons why some people may mistype on the Somatic Instincts when taking the BTI™. It is important to remember that the foundation of our personality is an *interdependent configuration* of nine types, their associated deficiency-driven and growth-motivated emotions, and the three Somatic Instincts. Our Enneagram type and dominant Somatic Instinct represent an overall philosophy of life that *is not* a homogeneous set of beliefs and assumptions - rather it is a portfolio of interdependent, complementary, competing, and conflicting ways of seeing ourselves, others, and the world. Our overall personality is influenced and shaped by the power of our dominant Somatic Instinct and the fact that the underlying deficiency-drivers of the Enneagram tend to express themselves (and be most pronounced) in the area in which the dominant Somatic Instinct is focused. For example, a type One with Cultivating as their dominant instinct will experience Anger and Resentment around issues to do with social networks and social status; whereas a type One with Transmitting as their dominant instinct will experience Anger and Resentment around issues to do with relationships and getting their ideas across. In some cases, the influencing and shaping power of the instinct may even mask, or obscure, our experience of the deficiency-drivers in much the same way hunger masks or obscures our higher psychological needs, e.g. it's hard to think about self-actualization on an empty stomach. Understanding how the deficiency-drivers are *linked* to the instincts through day-to-day behaviors is a powerful way to tease apart apparent cases of apparent mistyping. The list below is some of the more common reasons why some people mistype in terms of their dominant Somatic Instinct on the BTI™.

- People mistype because the somatic instincts are not an overpowering force in the personality, but rather they can be controlled, shaped, masked, suppressed and even modified by goals, desires, habits, patterns-of-interaction and the external-pulls of rules and norms of family culture and the larger cultural context. In reality, the somatic instincts are “weak” in the sense that they have a subtle, quiet, long-term, persistent power like many other forces in nature and demand gratification, but are frustrated and undermined by the competing forces of personality and culture, so life is not guided by the collective-human-wisdom of the somatic instincts.
- People mistype because the somatic instincts exist beneath the surface of conscious awareness as largely *unconscious* biological, cultural, and emotional desires and needs. Even a careful study of conscious desires, values, and needs leaves-out many of the most important factors of why people do what they do, because our conscious desires are most often means-to-other ends, not ends-in-themselves. In addition, the unconscious needs of the somatic instincts can be frustrated or undermined by the forces of personality or culture which can create multiple causes-motivations of which people remain largely unaware. Asking the questions “why” and “to what end” at least five times, is one way to probe beneath the surface of conscious intentions to the underlying tacit, symbolic, and archetypal levels of desires, needs, goals, and choices that are ends-in-themselves. When trying to clearly establish a person’s Somatic Instinct, the key is to probe below surface traits to the deeper level of needs and desires which are often directly-related to the basic needs of the three somatic instincts – the first three levels of Maslow’s Hierarchy.

- They are influenced and shaped by the power of the See-Do-Get Process® where they may have come to an incorrect conclusion about their dominant Somatic Instinct because of: a) the influence and views of an influential teacher, coach, friend, or relative, or b) having received incorrect scores from an assessment instrument that was either not psychometrically validated, or had questionable levels of reliability and validity.
- They lack the self-awareness needed to answer the questions in a way that reflects their true self.
- They do not answer the questions truthfully and honestly for a variety of reasons.

For these and other reasons, it is important to carefully consider a wide-range of possible personal, professional, psychological and contextual influences on a person's scores when they claim they have been mistypes by the BTI™.

## Insights into the Weighting of the BTI™ Gold Is the Heavy Stuff

*This section is a transcript of a presentation given by Mark Majors about the scoring and psychometric properties of the BTI™.*

“I have recognized over my 17 years of working in psychometrics that I talk funny. The language of test and measures is abstract and foreign to most professionals who use measurement products. I’m conscious of the glazed-over look that is reflected back to me when I give a talk about a psychometric procedure or technique. Therefore, I have learned to write out what I will say and provide it in handout form to be distributed after my oral confusion. The talks that I give are usually not that technical, but they will use uncommon language, or language used in uncommon ways. A discussion of the development process and subsequent scoring of the BTI™ is no exception to this fact. I will begin by giving some clarity to some of the terms found in the *BTI™ Reference Manual*, and then provide some detail to the scoring methods and processes that are used by the instrument. Lastly, I will present the current process that will ensure the continued development of the BTI’s validity and utility.

### ***Gold Standard: What? And Why?***

The term Gold Standard is introduced in the Interpretation of Scores section of the *BTI™ Reference Manual*. In practical terms this refers to a measuring standard that is pure or refined; without corruption or impurity. When applying this concept to personality assessment it refers to the measurement of an attribute or characteristic that is founded upon one or more clearly defined, accurate criteria. This form of measurement development or scoring is referred to as criteria-based.

What makes criteria-based instruments different from other (more common) forms of measurement? Perhaps the best way of highlighting the difference in measurement styles is an example:

Most measures of psychological characteristics are construct measures that provide information on how much you possess of one or more meaningful elements of personality or behavior (the construct). When we want to know the level of a ubiquitous (universally occurring) trait or characteristic we need to know how much of “it” a person has. When a measure has been developed correctly, then we may say that Sara has more of “it,” the construct, than Charles. Common forms of this type of instrument are found in the measurement of intelligence, emotional expression or elevation (depression/anxiety), aggressiveness and others. The construct measure provides scores that are typically produced by adding up responses to questions that are known to measure the construct under investigation. Therefore, it tells you how much you have based upon this particular instrument, and you can compare results across individuals if certain normative rules are followed. This does not sort individuals into categories or groups very well, because it is not designed to do that. Criteria-based measurement provides information that tells how closely you fit a criterion, or group, of individuals who possess those criteria (Gold Standard). In the

BTI™ there are nine criteria groups and each scale provides information on how closely you match a given criterion group. Your highest match is typically your criterion group.

The other aspect of criteria-based measurement that is different than the construct form, is that the different responses are typically assigned different weights. In most tests the response are in a Likert-scale format. This response method is usually an ordinal or interval level measure of the individual's response. It would seem on the surface that the BTI™ is that form of response scale; with 0,20,40,60,80 or 100 assigned to the six-point Likert-scale. What makes the difference is that weights (conversion factors) are assigned to each of the six possible responses based upon the criteria group's responses. For example: If all of the individuals who are known to be Type One (Gold Standard Type Ones; Perfect) respond to a question either Agree (80 pts) or Strongly Agree (100pts), but never respond with Disagree (20 pts) or Strongly Disagree (0 pts); then this information can be added to the scoring under certain conditions. Those conditions are based on how frequently the other eight types respond in similar ways. A question that sorts individuals of one type into their proper type group, will reject the other eight types. If it does not reject other types, then those individuals risk being falsely sorted into that type. Therefore the weight (conversion factor) assigned to an individual response on any question is based upon that response's track record for sorting the type being measured from the other eight Enneagram types. An example of weighting may look like the following:

<b>Response</b>	<b>points</b>	<b>weight</b>	
Strongly Agree	100	= 3	sorts into group well/little false sorting
Agree	80	= 1.5	sorts into group well/some false sorting
Slightly Agree	60	= 0	sorts poorly
Slightly Disagree	40	= 0	sorts poorly
Disagree	20	= -4	sorts perfectly by rejection
Strongly Disagree	0	= -4	sorts perfectly by rejection

I like to think of this detailed method of weighting and scoring as squeezing every ounce of information out of the question. The value of a question is based upon how well each of the six different responses sort the intended Enneagram type and reject others.

In the current form of scoring for the BTI™, this criteria-based method of establishing weights is used for all of the scales (nine Enneagram types and three Somatic Instincts). It improves the accuracy of the measure by over 15% (compared to the standard construct scoring).

### ***The New Scoring***

The key to accurate scoring of any measure that assigns individuals into typological groups is the Gold Standard group used to develop the instrument. As the scoring for the BTI™ developed, it became clear that it was doing a great job of assigning individuals to their Enneagram type. As data was collected the evaluation of the typing accuracy turned to finding ways to split hairs. The question of how to sort an individual who has two healthy actively functioning typological ways of expressing life into the correct type requires more information. The results that show two-type scores a few points apart with the believed true type being below the other type *is not mistyping* as much as it is the need for increased elegance to make the final selection. Both types should be high because the individual has

responded similarly to those who are the Gold Standard for those types. The new form of scoring under development sorts the close fits better, because it uses more information contained with the questions on the BTI™.

### **Changes for the New Scoring**

The current form of scoring for the BTI™ has 12 scales (nine Enneagram types and three Somatic Instincts). The new scoring has the same number of scales but 30 weighting routines. There are three different weighting routines for each of the nine Enneagram types; one for each of the Somatic Instincts. This three-by-nine matrix provides 27 sets of weights. To split the hair, the magnification needed to be improved. This requires 27 Gold Standard groups, where each of the Enneagram type groups is subdivided into three sub-groups based upon the three Somatic Instincts.

#### **More information with less items = a better BTI™ instrument.**

The second major change in the new scoring is in the method of establishing the weighting for the questions. The method currently used was developed in the early 1900's. Many test developers have struggled to use new forms of statistical analysis to improve the weighting of measures. The new forms of the MBTI® instrument Form M and form Q use Item Response Theory (IRT) to establish weighting. IRT works well but the statistical processes used in the software packages are limited by theoretical constraints that in turn limit the format of the test that can use that method. Many have attempted to use Binary Logistic Regression to establish weighting, but with no success. Until now! In the past several years, I have been working through the failures of this method and have developed an understanding of what went wrong in the past.

Binary Logistic Regression establishes how well a collection of items (questions) sort individuals (predicts type) into two groups. All researchers who have evaluated this form of weighting have been puzzled by its failure to work correctly. It gives excellent information on how well the items work to do the task, but gives bad weights. I cannot give away the farm (details of the statistic method), because I use this form of weighting in other instruments and it is now a trade secret. I can say that the amount of information supplied in the new form of scoring for the nine BTI™ type scales is over 2,500 units per/individual. All of this information serves to sort the people taking the BTI™ into the correct Enneagram type with unmatched precision.

Keep in mind that this is still the same criterion-based scoring that the current BTI™ uses. The weighting method has improved because of statistical breakthroughs. The Gold Standard is still the foundation of the accuracy; we are simply using a very big magnifying lens to split the hairs.”

## Conclusion

The results of the psychometric analysis performed on the BTI™ reveal a psychological instrument that is both reliable and valid. No measure is perfect and there are no perfect items, but this measure of Enneagram type is performing extremely well and can be considered a valuable tool in helping individuals to gain important information about their personality with a minimum of error and confusion.

## Dr. Mark S. Majors' Bio

Dr. Mark S. Majors is a counseling psychologist with extensive psychometric experience that includes data analysis on the 1994 Strong Interest Inventory and the MBTI® Form M. He was coauthor for the new MBTI® Form Q Manual, as well as the developer of the IRT scoring. Mark has been a Research Scientist at Consulting Psychologist Press (CPP) and Director of Research at the Center for the Application of Personality Type (CAPT). He is widely published in the areas of psychometrics, personality type, and counseling psychology and is the developer of the Majors Personality Type Inventory™ (MajorsPTI™), Occupational Environment Measure™ (MajorsOEM™), and codeveloper of the Interstrength® X-Styles Assessment. In addition to being a counselor and test developer, he is president of a small private college. The college specializes in training pastoral counselors with an emphasis on the use of personality assessment for conflict resolution through the acceptance of differences and personal growth. Mark received his BS and MS degrees in psychology from Iowa State University, and his PhD in counseling psychology from the University of Nebraska-Lincoln.

## Mark Bodnarczuk's Bio

Mark Bodnarczuk is the Executive Director of the Breckenridge Institute®, a research and consulting firm that focuses on organizational culture based in Boulder, Colorado. He was on the staff in the Director's Office at Fermi National Accelerator Laboratory (Fermilab) from 1980 through 1992, and the National Renewable Energy Laboratory from 1992 until 1996 when he founded the Breckenridge Institute®. While at the University of Chicago, his research focused on the sociology and culture of large high-energy physics collaborations at Fermilab. He is an author, researcher, consultant, teacher, and facilitator with more than twenty years of experience working with companies in the area of high-tech, basic and applied research, pharmaceuticals, health care, retail as well as government and non-profit organizations. Mark has published widely in the areas of organizational culture and leadership development, and has published numerous articles on the leadership and management of science and the cultural dimensions of laboratory life. He is also the author of *Diving In: Discovering Who You Are in the Second Half of Life* which is a teaching novel about the Enneagram. Mark was trained in the Enneagram by Don Riso and Russ Hudson, and received his training in the MBTI® assessment tool from Margaret Hartzler. He is a professional-level member of the International Society of Performance Improvement (ISPI) and the Institute of Management Consultants (IMC). Mark has a BA from Mid-America Nazarene University, an MA from Wheaton College, and an AM from the University of Chicago.