



**REPORT NUMBER: DISC-CA-PI-220103-001**  
**ORIGINAL ISSUE DATE: 3 January 2022**

**EVALUATION CENTER**  
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**RENDERED TO**

**Personality Insights, Inc.**  
**Griffin, GA**

**PRODUCT EVALUATED: DISC Assessment**  
**EVALUATION PROPERTY: DATA RELIABILITY**

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## 2. Introduction

This document is provided as a tool for end-users of DISC Assessments to allow comparisons between the DISC Assessment and other four-dimensional models in the marketplace.

All DISC instruments, and most similar instruments, are *ipsative* in design. That is, they are self-report inventories that measure *qualities* (traits) as individuals perceive those traits within themselves, and they ask the respondent to choose one trait at the exclusion of the others. This is done via either/or, most/least, or rank-order responses to the instrument. The result is *not* an absolute set of scores that would easily fit in a normative field, but rather a *relative* set of scores that applies to an individual's self-perception. The success of all self-report instruments depends on the insight, candor, honesty, and insight of the respondent. We will provide the essential types of statistical analysis herein, and we caution the reader to be aware of over-analyzing ipsative data. Some companies produce many pages of tables applying normative statistical rules to ipsative data, and we caution the reader to be aware of this. DISC instruments do not measure *quantities* like levels of cholesterol or blood pressure, but rather *qualities* that an individual reports about themselves.

### APA Guidelines

Evaluation was conducted in accordance with the Standards for Educational and Psychological Testing; developed jointly by the American Educational Research Assn. (AERA), American Psychological Association (APA), and the National Council on Measurement in Education (NCME).

### Evaluation Date

The data evaluation began December 27, 2021, and was completed on January 3, 2022.

## 3. Test Data Preparation

### 3.1 SAMPLE SELECTION

Sample data was submitted to ASI directly from the client and were not independently selected for testing. Samples are requested to:

- Be a sufficient number to represent the general population.
- Be randomly selected.

The sample panels were received at the ASI Evaluation Center by email on December 27, 2021.

**SAMPLE SIZE: N = 12,084**

### 3.2 DATA CLEANING

Upon receipt of the samples at ASI, the data was downloaded and cleaned as follows:

1. **Missing Values** – There were no missing values.
2. **Duplicates** – Duplicate entries were removed.
3. **Categorization** – Data was categorized and labeled by attribute type for the appropriate comparison.

## 4. Testing and Evaluation Methods

### TEST STANDARDS

Analysis of the data was conducted using standard statistical methods. The statistical method employed was:

- Cronbach's Alpha

#### Cronbach's alpha

This technique is regarded as one of the most robust measures of reliability and presents the highest 'bar' from which to compare. The readers should note that Cronbach's alpha is the method selected by HRD Press authors and researchers for this instrument, because of its high standards. The reader is encouraged to compare reliability coefficients presented herein to other vendors, and also to ask those vendors who reliability formulas they used to compute their reliability coefficients.

Cronbach's alpha is a measure used to assess the reliability, or internal consistency, of a set of scale or test items. In other words, the reliability of any given measurement refers to the extent to which it is a consistent measure of a concept, and Cronbach's alpha is one way of measuring the strength of that consistency.

Cronbach's alpha is computed by correlating the score for each scale item with the total score for each observation (usually individual survey respondents or test takers), and then comparing that to the variance for all individual item scores:

$$\alpha = \left( \frac{k}{k-1} \right) \left( 1 - \frac{\sum_{i=1}^k \sigma_{y_i}^2}{\sigma_x^2} \right)$$

...where:  $k$  refers to the number of scale items

$\sigma_{y_i}^2$  refers to the variance associated with item  $i$

$\sigma_x^2$  refers to the variance associated with the observed total scores

Cronbach's alpha is thus a function of the number of items in a test, the average covariance between pairs of items, and the variance of the total score.

The resulting alpha coefficient of reliability ranges from 0 to 1 in providing this overall assessment of a measure's reliability. If all of the scale items are entirely independent from one another (i.e., are not correlated or share no covariance), then  $\alpha = 0$ ; and, if all of the items have high covariances, then alpha will approach 1 as the number of items in the scale approaches infinity. In other words, the higher the alpha coefficient, the more the items have shared covariance and probably measure the same underlying concept.

Although the standards for what makes a "good" alpha coefficient are entirely arbitrary and depend on your theoretical knowledge of the scale in question, many methodologists recommend a minimum alpha coefficient between 0.70.

Alpha coefficients that are less than 0.7 are usually unacceptable.

Researchers generally use the following guidelines to assess the data and help them interpret test-retest reliability coefficients:

- Coefficient below 0.70 are considered suspect, **Questionable**
- Coefficients above 0.70 to 0.80 are considered **Acceptable**
- Coefficients above 0.80 to 0.90 are considered **Very Good**
- Coefficients above 0.90 to 1.00 are considered **Excellent**

## 5. Testing and Evaluation Results

**Cronbach's Alpha Reliability: Table 1**

Source	Style	Alpha	N
Predictive Insights	Dominance	<b>0.91</b>	12,084
Predictive Insights	Influence	<b>0.86</b>	12,084
Predictive Insights	Steadiness	<b>0.87</b>	12,084
Predictive Insights	Conscientious	<b>0.85</b>	12,084

**Descriptive Statistics: Table 2**

Style	Mean	SE	STD	Median	N
Dominance	<b>48</b>	4.7	22.7	<b>49</b>	12,084
Influence	<b>50</b>	4.8	22.7	<b>51</b>	12,084
Steadiness	<b>54</b>	4.8	22.9	<b>53</b>	12,084
Conscientious	<b>56</b>	4.8	23.7	<b>58</b>	12,084

## 6. Conclusions

The data submitted for evaluation passed all acceptable standards and is therefore awarded ASI Certification.

**Certified**  
**January 3, 2022**



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## 7. Document Review

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