



## SOCIAL STYLE<sup>®</sup> & Versatility

# TRACOM<sup>®</sup> GROUP

THE SOCIAL INTELLIGENCE COMPANY<sup>®</sup>

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# Introduction

In 2020 TRACOM released SOCIAL STYLE® v3 Profile (SS v3), the latest version of our assessment. This report explains how the assessment was developed, along with reliability and validity evidence. We also include information from the previous assessment (SSP-E), which has a lengthy history of research. We include this historical research because evidence for the relationship between Versatility and job performance is still applicable to SS v3: the underlying model (not to mention many of the items on the two assessments) are the same.

This report is a companion to other materials, notably the SOCIAL STYLE & Versatility Facilitator Handbook. This report will help you understand the important role that research plays in the SOCIAL STYLE Model™ and how TRACOM ensures that the profile is accurate and dependable.

The first section describes the history of the SOCIAL STYLE Profile and Model, followed by the development and research on SS v3. We then describe the relationship between Versatility and job performance along with other psychometric research.

## GLOSSARY

Throughout the report, there are some frequently used terms that are necessary to understand.

- Reliability – determines whether the assessment is consistent and dependable.
- Validity – determines whether the assessment measures accurately: does it truly measure the concepts (Style and Versatility) that it proposes to measure?
- Correlation – a correlation coefficient determines the extent to which two variables are related to each other. Values range from 0.0 (no relationship) to 1.0 (perfect relationship). For example, height and weight are proportional to one another and should be highly correlated. In fact, the correlation between height and weight among adults is 0.44, a strong relationship (Meyer et al., 2001).
- Item – an item is a behavioral statement on the survey, sometimes called a “survey question.” An example of an item is “Says what’s on their mind.”
- Scale – a scale is a collection of survey items that measures a single construct. For example, Assertiveness is a scale. It is measured by a group of items that are all related to the Assertiveness construct.
- Profile – a profile is the actual report that is given to participants. It includes two sections: SOCIAL STYLE and Versatility.
- SSP - SOCIAL STYLE Profile
- SSP-E - SOCIAL STYLE Profile - Enhanced
- SS v3 - SOCIAL STYLE v3 Profile
- Norms – Normative scores are necessary for interpreting scores on scales. Norms provide context to scores by comparing them to a meaningful group such as the person’s country of origin. Based on this, norms make it possible to determine a person’s Style and Versatility positions.

# History and Development

Since the 1960s, the SOCIAL STYLE Model has been used for a variety of purposes, primarily in team effectiveness, sales effectiveness, and leadership development. This section reviews the history of the Model and the development of the assessment through the early 2000s.

## THE SOCIAL STYLE PROFILE

In 1964, psychologist Dr. David Merrill began researching ways to predict success in selling and management careers. He understood that people tend to behave in consistent ways that others can observe, and sought to find a method for measuring these behavioral observations through the use of descriptive adjectives. Using a technique that was unique for that time, Dr. Merrill measured behavior using a multi-rater approach, believing that people can agree about the behavior of a person they know. He utilized an empirical approach, meaning that the research was not designed to support any specific theory of behavior, and could be tested by other researchers.

TRACOM's original Adjective Checklist, the SOCIAL STYLE Profile (SSP), was developed from a pool of more than 2,300 words. Work on this larger checklist had been done in the early 1960s by Dr. James W. Taylor at the Martin Corporation (later Martin Marietta) in Denver, Colorado. Dr. Merrill obtained rights to use the checklist, and enlisted the participation of a major life insurance company that provided a pool of 600 people to study. These individuals had their co-workers complete an adjective checklist on them. The checklist was completed by answering "yes," "no" or "don't know" to whether or not the adjectives described the person being observed.

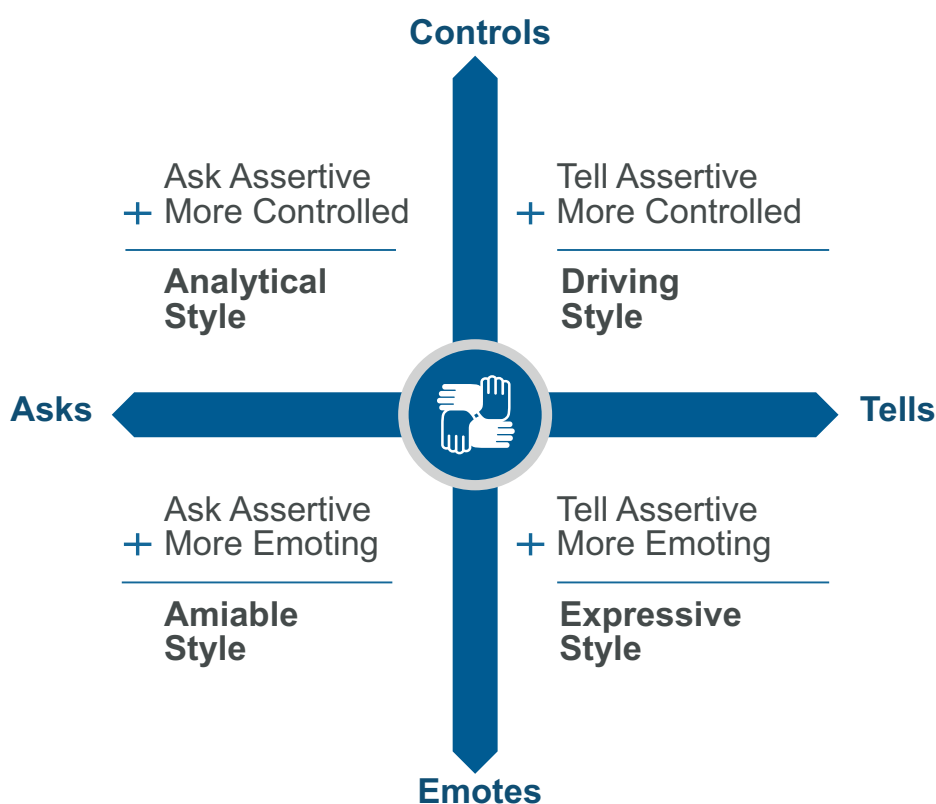
Statistical analysis found that if a respondent felt a certain adjective described the individual's behavior, that same respondent would answer "yes" or "no" to certain other adjectives. In other words, some adjectives clustered together. A statistical procedure called factor analysis was conducted on this data. Hundreds of adjectives were compared to each other to see which words clustered together. Adjectives that clustered together were considered to measure a dimension of human behavior. A total of 150 adjectives measuring three scales were finalized. The three scales were labeled Assertiveness, Responsiveness, and Versatility.

**Assertiveness:** The way in which a person tries to influence others. In other words, it is the degree to which individuals tend to "ask" or "tell" in interactions with others.

**Responsiveness:** The way in which a person outwardly displays feelings and emotions. It is a measure of the degree to which a person tends to "control" or "emote" when interacting with others.

Versatility: The degree to which a person adjusts their behavior to meet others' Style needs. People who are consistently versatile are seen as having good interpersonal effectiveness.

The scales that were discovered during this early research were used to develop the SOCIAL STYLE Model. By combining the two dimensions of Assertiveness and Responsiveness, four patterns of behavior, or Styles, could be identified:



Versatility is an independent scale, reported separately from SOCIAL STYLE. It consists of three elements: Presentation, Competence, and Feedback.

The SSP was used until 2003, when it was discontinued and replaced by the SOCIAL STYLE Profile - Enhanced (SSP-E).

### DEVELOPMENT OF THE SOCIAL STYLE PROFILE – ENHANCED

The SSP-E was developed from 2001 through 2003. Three factors led to the decision to revise and expand the original profile instrument.

First, the original questionnaire was a list of adjectives that people used to describe themselves and others. These adjectives resulted from empirical research conducted in the early 1960s. The growing multiculturalism of American society, along with natural language evolution, made some of the original adjectives less commonly used. In addition, the popular meanings of some of the adjectives had changed over the years.

Second, research in emotional intelligence had led to a desire for updated research and expansion of the concept of Versatility. Psychologists have developed and expanded the theoretical framework of emotional intelligence for many decades (Gardner, 1983; McClelland, 1973; Sternberg, 1996). However, the use of the term “emotional intelligence” has only become popular since the mid-1990s (Salovey & Mayer, 1990; Goleman, 1995). TRACOM’s concept of Versatility, originally developed in the 1960s, precedes and parallels many of the concepts of emotional intelligence.

Of the three constructs measured by the Model, Versatility is the most unfixed and changeable. Whereas Assertiveness and Responsiveness tend to be more consistent aspects of Style, Versatility can change across time and circumstances, and therefore is the most amenable to training and development, and the one that is most important for working effectively with others. Because Versatility is such an important and trainable concept, there was a desire to expand upon this dimension by measuring its more specific components.

Finally, the third reason for updating the measurement system was to allow the instrument to be more easily translated into other languages. When translating single adjectives, the original meaning of the words can be lost, affecting the validity of the profile. This is less of an issue when utilizing behavioral statements. In addition, during the translation process the statements are easily edited to ensure their meaning remains stable across cultures.

The SSP-E was used until the early 2020s, when it was revised and replaced by the SS v3.

## SCIENTIFIC STANDARDS

The profile measures behavioral style, and behavior, like all psychological phenomena, is different from things that can be easily and accurately measured in the physical world, such as weight and height. So how do we know that we are accurately measuring behavior? To make this claim, the assessment has to adhere to criteria in the “Standards for Educational and Psychological Testing” (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999), which provides benchmarks for developing psychological measurement instruments. This evidence comes in two primary forms: reliability and validity.

**Reliability** determines whether an instrument measures in a way that is consistent and dependable.

**Validity** determines whether an instrument measures accurately. In other words, does it measure what it proposes to measure?

Psychological assessments must be both reliable and valid. Reliability is a prerequisite for validity, but is not sufficient by itself. An assessment can be reliable and still not be valid. Crocker and Algina (1986, page 217) demonstrate the difference between reliability and validity with an analogy:

*Consider a car’s fuel gauge which systematically registers one-quarter higher than the actual level of fuel in the gas tank. If repeated readings are taken, the gauge will yield consistent (reliable) measurements, but the inference about the amount of fuel in the tank is faulty.*

This analogy underscores that determining the reliability of an assessment is an important first step, but not the only step, in determining the validity of that assessment.

No psychological assessment is perfectly reliable or perfectly valid, since it is subject to various sources of error. Reliability and validity are a matter of degree, and it is more appropriate to ask how reliable and valid an assessment is, rather than “if it is reliable and valid.” Evidence for reliability and validity is accumulated over time.



# Development of SOCIAL STYLE v3 Profile

In 2018, TRACOM began to develop the SS v3. Its predecessor, the SSP-E, had been in use since 2003 and, like all psychological measures, it had reached a point where it was ready to be revised. Over time, language evolves and the meaning of items can change from their original intent. Also, some items may become unnecessary because they no longer contribute to reliability or validity. For instance, items that measure Responsiveness can have too much redundancy, meaning items are too similar with one another and don't contribute unique information to the measure. In this case, some Responsiveness items can be dropped without affecting reliability or validity. TRACOM had been analyzing the items regularly over the years and had identified certain items that were showing a decrease in reliability and/or validity. Thus, these items were ready to either be revised or discarded.

In addition to these issues, the workplace has evolved. While dispersed teams working in different locations was not uncommon in the mid-2000s, virtual teams are now more ubiquitous and are distinguished by team members rarely interacting in person. This makes it challenging to assess certain aspects of one another's behavior. TRACOM needed an assessment that could account for the unique needs of virtual teams.

With these issues at the forefront, TRACOM's goals for the revision were threefold:

1. Make the survey more relevant for virtual teams.
2. Decrease the number of items.
3. Maintain reliability and validity of the assessment.

We were able to achieve these goals with SS v3. First, we reviewed all items for wording concerns and especially for the ability of virtual teams to respond accurately to each item. Items that didn't meet these criteria were flagged, and we conducted item analyses to determine which of these items should be revised or dropped altogether. This was an iterative process to determine which items could be discarded, helping to shorten survey length, while still maintaining good reliability and validity (goals 2 and 3, respectively).

Concurrent with this process, we wrote new items and added them to assessment for testing. This allowed us to collect data on new items and test their reliability and validity. In addition, TRACOM also decided to drop the Image measure from Versatility. The next section describes the rationale for this decision.

The SS v3 consists of 42 items. This was achieved by dropping Image and increasing the efficiency of how each scale was measured by including only the most reliable and valid items. This allowed us to maintain reliability and validity while decreasing survey length. Style is measured by 17 items (9 Assertiveness, 8 Responsiveness) and Versatility is measured by 25 items (4 Presentation, 12 Competence, and 9 Feedback).

The statistics for SS v3 are based on data from over 30,000 respondents, plus their raters, who came from over 50 countries representing most world regions.

## RELEVANCE OF PREVIOUS RESEARCH

While SS v3 is an update of SSP-E, the underlying SOCIAL STYLE and Versatility model remains unchanged. Also, many of the items are carried over from SSP-E. This is important because of the implications for previous research, in particular the relationship between Versatility and job performance. The chapter in this Technical Report, “Effectiveness Studies,” describes this research, which is still equally applicable with SS v3. The only difference in how Versatility is measured with the revised assessment is the exclusion of Image, which only accounted for 8% of the total Versatility measure on SSP-E. The fundamental findings of TRACOM’s ongoing research, that Versatility predicts higher job performance and effectiveness, are as valid now as always.

## IMAGE

As noted previously, Image was especially difficult to assess for virtual teams; people who do not see one another regularly and who interact mostly through email or even video-based technology, will be challenged to evaluate one another’s Image. Thus, for virtual teams, the Image measure had questionable relevance.

Further, some of TRACOM’s clients were voicing concern over the Image measure. Standards around workplace dress codes differ across companies and industries. While dressing appropriately for different situations is always important, some survey respondents were questioning the value of answering questions about their co-workers’ dress. Clients supported Image as important for effectiveness; the concern was with the assessment and specific items that measured Image. Since respondents don’t have any pre-existing knowledge about Style or Versatility when they’re completing the assessment before a learning course, they were questioning the purpose of the Image items. As these concerns were becoming more common, plus the challenges it presented for virtual teams, TRACOM decided to no longer measure Image. However, because Image is an important aspect of effectiveness, it is still included as a teaching module in SOCIAL STYLE programs. Thus, the Versatility model still includes Image, but it no longer contributes to the Versatility measure.

## PSYCHOMETRIC PROPERTIES

The SS v3 behavioral statements are rated on a five-point scale ranging from (1) “Strongly Disagree” to (5) “Strongly Agree.” Descriptive statistics for each scale (and the three Versatility subscales) include the mean (average score) and standard deviation (amount of dispersion from the mean). 68% of the scores lie within one standard deviation of the mean, 95% lie within two standard deviations of the mean, and 99.7% lie within three standard deviations from the mean. For example, Assertiveness has a mean of 3.31 and a standard deviation of 0.38, meaning that 68% of the scores fall between 2.93 ( $3.31 - 0.38$ ) and 3.69 ( $3.31 + 0.38$ ).

Table 1. Descriptive Statistics for SS v3 Scales and Subscales (N = 33,002)

Scale	Mean	Standard Deviation
Assertiveness	3.31	0.38
Responsiveness	2.69	0.28
Versatility	4.17	0.28
Presentation	4.18	0.37
Competence	4.22	0.30
Feedback	4.11	0.30

## RELIABILITY

As discussed earlier, there are several forms of reliability evidence. Below we present evidence for internal consistency and item subscale correlations.

### Internal Consistency

The most common type of reliability evidence is internal consistency, which measures the relationship among survey items that are written to measure the same thing. If all items on a scale, such as Assertiveness, are measuring the same thing, respondents should respond similarly to these items and they should correlate with one another to a certain degree – they should be internally consistent. This relationship is measured by a coefficient called Cronbach’s alpha (Cronbach, 1951). Alpha values range from 0.0 (no relationship among scale items) to 1.0 (perfect internal consistency), and a widely-accepted guideline for evaluating internal consistency is (Cicchetti, 1994):

- Satisfactory: Alpha 0.70 - 0.80
- Good: Alpha 0.80 - 0.90
- Excellent: Alpha > 0.90

It is important to note that we do not want an alpha value that is too high. This would indicate that the items within a scale are redundant with one another and are not measuring unique aspects of the concept.

Table 2 shows the Cronbach's alpha coefficients for each of the scales and subscales. Alpha values ranged from 0.70 to 0.94, indicating mostly good or excellent internal consistency, with the exception of Responsiveness which has satisfactory internal consistency. As a point of comparison, the average alpha value of personality assessments is 0.77 (Charter, 2003).

Table 2. Internal Consistency of each Scale and Subscale

Scale	Number of Items	Cronbach's Alpha
Assertiveness	9	0.84
Responsiveness	8	0.70
Versatility	25	0.94
Presentation	4	0.89
Competence	12	0.89
Feedback	9	0.86

### Item Scale Correlations

In a reliable scale, all items correlate moderately or strongly with the total scale score. This indicates that each item is consistent with the psychological concept its overall scale is measuring. Item-scale correlations ranged from 0.43 to 0.80, which is very good.

## VALIDITY

Validity determines whether an assessment measures what it is supposed to measure. The core type of validation comes through factorial validity.

### Factorial Validity

Factorial validity is the degree to which the structure underlying a set of items actually appears in a data set. Essentially, this analysis confirms that the items are measuring what they're supposed to measure. It is determined using factor analysis, which reduces the data to its primary dimensions and shows which items fit under each dimension.

Results of the factor analysis aligned with expectations. Principal factor analysis was conducted on the three scales. For Assertiveness, two factors emerged and accounted for 48% of the total variance in the data set. Responsiveness also found two factors accounting for 60% of the variance. Both Assertiveness and Responsiveness scales consist of items that were written to tap two dimensions of each construct, so these solutions are exactly what was expected.

Versatility resulted in eight factors (69% of variance). Presentation was measured by a single dimension, Competence by four dimensions, and Feedback by three dimensions. Those scales are shown in Table 3.

Table 3. Versatility Subscales

Scale	Subscales
Presentation	<ul style="list-style-type: none"> <li>• Effectiveness of Group Communication</li> </ul>
Competence	<ul style="list-style-type: none"> <li>• Conscientiousness/ Perseverance</li> <li>• Flexibility</li> <li>• Innovation</li> <li>• Optimism</li> </ul>
Feedback	<ul style="list-style-type: none"> <li>• Active Listening</li> <li>• Adaptive Communication</li> <li>• Empathy/ Interpersonal Relations</li> </ul>

### Scale and Subscale Intercorrelations

Additional validity evidence comes with scale and subscale correlations. If an assessment is measuring accurately, then its scales should be related to each other to a degree that makes theoretical sense. For example, we would expect Assertiveness, Responsiveness, and Versatility to have low correlations with one another because, theoretically, they are independent attributes. Additionally, we would expect Presentation, Competence, and Feedback to have moderate or high correlations with one another because they are subsets of Versatility and should be somewhat related.

As shown in Table 4, analyses confirmed these hypotheses. Assertiveness, Responsiveness, and Versatility have low correlations, meaning they are independent of one another, while the subscales of Versatility are moderately to highly correlated. Of course, Versatility is highly correlated with its own subscales. For a point of reference with this type of analysis,  $r = 0.7$  to  $0.9$  is a strong correlation,  $r = 0.4$  to  $0.6$  is a moderate correlation, and  $r = 0.01$  to  $0.3$  is a weak correlation (Dancey & Reidy, 2004).

Table 4. Intercorrelations of Scales and Subscales (N = 33,002)

Scale/ Subscale	1	2	3	4	5	6
1. Assertiveness	1.00	.07	.19	.34	.11	.17
2. Responsiveness		1.00	-.06	-.12	-.17	.15
3. Versatility			1.00	.87	.93	.89
4. Presentation				1.00	.72	.74
5. Competence					1.00	.67
6. Feedback						1.00

### Face Validity

Face validity assesses whether an instrument subjectively appears to measure what it purports to measure. In other words, face validity is the extent to which the instrument “looks valid” to respondents. While face validity is not technical, it does suggest that respondents accept the survey and profile.

The SS v3 assessment demonstrates good face validity. Since it shares the same format as its predecessor, but has been updated to reflect more modern language and usage, the items are clear, measure with precision, and meaningfully link back to their intended constructs.

## NORMS

Norms are important for interpreting scores. Norms provide context to individuals' scores by comparing them to a meaningful group, such as people from their same country. For example, norms make it possible to say that a person is either more Ask or Tell Assertive. Norms are developed by dividing the raw scale scores into quartiles (25% of the sample falls within each score range). These quartiles are used to plot profiles.

On Assertiveness, the four quartiles are labeled A, B, C, and D. Those in the "A" quartile are seen as more Tell Assertive than 75% of the norm group, while those in the "D" quartile are seen as less Tell Assertive than 75% of the norm group.

Responsiveness is divided into quartiles labeled 1, 2, 3, and 4, where those in the "1" quartile are seen as more emotionally controlled than 75% of people and those in the "4" category are less emotionally controlled than 75% of people.

Versatility is divided into quartiles labeled W, X, Y, and Z, where those in the "W" quartile have lower Versatility than 75% of people and those in the "Z" quartile have higher Versatility than 75% of people. The three sources of Versatility—Presentation, Competence and Feedback—are also normed in this way. Respondents' scores on Responsiveness and Assertiveness are combined to form the SOCIAL STYLE Profile. Versatility and its components are reported separately.

TRACOM develops unique norms for dozens of countries and world regions, and regularly updates these norms.

# Historical Research

The reliability and validity studies described above were conducted on the latest SS v3 assessment. Previous research, described below, highlights other important aspects of the model.

## SELF AND OTHER PERCEPTION

Research has shown that on multi-rater instruments, “self” ratings tend to be different from “other” ratings (Conway & Huffcutt, 1997). Some people tend to rate themselves more favorably on socially desirable traits, such as leadership abilities and interpersonal skills. This has also been found with the SOCIAL STYLE assessment.

In a study of more than 6,000 participants (plus their co-workers’ ratings), it was found that self-perception of Style matched others’ perceptions only 47% of the time. So, approximately half the time, people have a different view of their SOCIAL STYLE than their co-workers have of them.

What about Versatility, which includes socially desirable traits such as optimism and empathy? The results found that self-perception matches co-workers’ perceptions only 35% of the time. This means that approximately 2/3 of people have a different view of their Versatility than their co-workers.

When broken down by levels of Versatility, low versus high, the study results are even more intriguing. When co-workers rated individuals as having the highest level of Versatility, a score of “Z,” only 46% of those individuals agreed with this assessment (54% rated themselves as having lower Versatility). It is possible that people with high Versatility are humble about their abilities, and also may be indicating that they still have room for improvement.

When the opposite phenomenon was examined – people whose co-workers rated as having lower Versatility (“W” score) – barely a quarter (28%) agreed with this assessment. More than 40% of these people rated themselves at least two quadrants higher (“Y” and “Z”).



## INTERRATER RELIABILITY

Since the assessment is multi-rater (profiles are based on co-worker ratings with a separate self-profile), another form of reliability evidence comes from the consistency in ratings among raters, called interrater reliability. In other words, would your colleagues all view you as relatively similar in your behavior? This question is answered through analysis of interrater reliability.

Interrater reliability was calculated using the Intraclass Correlation Coefficient (ICC; Shrout & Fleiss, 1979). Like internal consistency, values range from 0.0 to 1.0 with higher values indicating greater consistency among raters.

Two forms of ICC were calculated, an average ICC for a single rater and an average ICC for all raters who evaluated each participant, described below:

- Average ICC for a single rater. This indicates the consistency for any given individual rater who is observing someone's behavior across all dimensions of the assessment. In other words, does a given individual evaluate another person consistently?
- Average ICC across raters. This indicates the consistency for all of the raters who evaluate any single individual. In other words, is there consistency among the group of individuals evaluating a person across all scales?

These forms of ICC were calculated for a random sample of more than 9,000 participants. The average ICC for a single rater was .96, while the average ICC across raters was .99. These values indicate excellent consistency both for individual raters and for groups of individuals who evaluate a person's behavior. Table 5 displays detailed statistics for this study.

Table 5. Interrater Reliability (N = 9,256)

	<b>ICC for a Single Rater</b>	<b>ICC Average Over Raters</b>
Mean	.96	.99
Standard Deviation	.03	.01
Median	.97	.99
Lowest Value	.67	.86
Highest Value	.99	1.0

## INTERRATER AGREEMENT

Interrater agreement is similar to interrater reliability but has an important distinction. Whereas interrater reliability indicates the consistency that raters have with one another across the entire assessment, interrater agreement is used to establish the absolute agreement among raters. In other words, it answers the question “to what degree do raters rate a person exactly the same?” This is calculated separately for Assertiveness, Responsiveness, and Versatility.

High levels of interrater agreement are more difficult to achieve than interrater reliability. This is because although raters may rate consistently with one another, they won’t necessarily be in perfect agreement. Obtaining high interrater agreement requires that raters assign virtually identical scores to an individual. Interrater agreement is a very stringent test, and is not often reported for psychological measures. However, because raters’ scores are aggregated to form a composite score for participants, it is necessary to show that raters agree with one another to an acceptable degree.

Agreement was evaluated using the within-group agreement statistic ( $r_{wg}$ ; James, Demaree & Wolf, 1984). A random sample of 500 rater groups was chosen for this analysis (each group rated a single individual and  $r$  was calculated for each group). The analysis discovered high levels of agreement. The average  $r_{wg}$  values were:

- Assertiveness (.96)
- Responsiveness (.97)
- Versatility (.99)

Table 6 displays detailed results from this study.

Table 6. Interrater Agreement (N = 500 rater groups)

	<b>Assertiveness</b> ( $r_{wg}$ )	<b>Responsiveness</b> ( $r_{wg}$ )	<b>Versatility</b> ( $r_{wg}$ )
Mean	.96	.97	.99
Standard Deviation	.04	.02	.01
Median	.97	.98	.99
Lowest Value	.63	.63	.77
Highest Value	.99	.99	.99

## RETEST RELIABILITY

An important aspect of assessments is their stability across time, called retest reliability. Retest reliability indicates the likelihood that a person's profile results will remain the same or similar when profiled more than once over time. Multiple factors can affect a person's responses to the same assessment when taken more than once, for example the person's mood during each administration. This type of unreliability is due to the individual.

Reliability can also be affected by environmental factors, and the most important of these is having different rater groups at different administrations. This can affect results, though TRACOM's research on inter-rater reliability and agreement indicates that raters tend to evaluate individuals similarly.

Unreliability due to the individual and due to the environment is outside of our control and can affect any given individual at any time. The study presented here focuses on the third source of retest reliability, the reliability of the assessment itself. For this type of study, it is important to understand that the unit of analysis is not any given individual, but rather a large group of individuals. Statistical research almost always applies to groups and not individuals. An assessment might demonstrate high reliability but some individuals will still profile differently at different times. An analogy for this is the use of polls during elections. Based on a sample of only several thousand people, pollsters can predict the outcome of elections for entire nations within a certain level of confidence. But of course, these polls don't, or shouldn't, affect how any given individual votes.

TRACOM analyzed data from 814 individuals who were profiled across time on our multi-rater profile. These individuals came from a variety of organizations, multiple occupations, and more than 25 industries. Seven percent of the group was from outside of North America, while the rest were from the U.S. or Canada. The time between administrations ranged from less than one month to over four years, with an average of 15.6 months.

Reliability was calculated based on individuals' multi-rater scores from co-workers, not on their own self evaluations. We based our analysis on others' ratings because the perception of others is integral to TRACOM's profiles and philosophy. This research design is unusual; in fact, in a literature review we found just one peer-reviewed study that examined personality retest reliability based on other- ratings (Connelly & Ones, 2010). Related to this, research has shown that others' perceptions of an individual are not only more accurate than self-perception, but are also better predictors of job performance. In a meta-analysis (an analysis of multiple research studies), researchers found that when personality profiles were based on others' perceptions, the relationship between personality and job performance was much greater than when personality profiles were based on self-perception (Oh, Wang, & Mount, 2011). In fact, using just one "other" rater made a significant difference, and the effect was magnified with multiple raters. The authors

of this study concluded that the validity of personality for predicting job performance is much greater than previously believed, but this can only be shown when personality is evaluated by others who know the person.

In the current study, we utilized a sample of convenience that included all individuals who had re-profiled in our database; therefore, we had no way to control whether the raters at time two were the same people who rated at time one. It is almost certain that many or most of the raters were different between the two administrations. As mentioned previously, the inability to empirically control for differences in rater groups can increase the amount of statistical “error” in ratings across time periods.

Retest reliability is analyzed using a coefficient statistic. In general, correlations above .70 are considered reliable. Table 7 shows the correlations between the two time periods. There was good consistency across time for Assertiveness and Responsiveness. The correlation for Versatility and each of its components is lower, which is to be expected since Versatility is less stable and can change across time and circumstances. In fact, this is one of the central principles of TRACOM’s teachings and programs.

Table 7. Retest Correlations

<b>Scale</b>	<b>Correlation between Times 1 and 2</b>
Assertiveness	.73
Responsiveness	.76
Versatility	.55
Image	.59
Presentation	.53
Competence	.55
Feedback	.59

Because the time lapse between administrations varied widely among individuals, we ran partial correlations to statistically control for this effect. A partial correlation “partials out” the effects of a third variable that could be responsible for the initial correlation, ensuring that the correlation between the two variables of interest is accurate and is not due to an uncontrolled variable. In this case, the third variable is the amount of time between the two surveys. Controlling for time lapse did not change the correlations for any of the scales. This means that people who re-profiled years after their first profile were just as likely to maintain consistent scores as people who re-profiled only a few weeks after their first profiles.

## RETEST RELIABILITY OF SIMILAR INSTRUMENTS

To provide a baseline for these results, we reviewed retest reliability studies conducted on other personality and behavioral style measures.

### **Myers-Briggs Type Indicator®<sup>1</sup>**

The Myers-Briggs Type Indicator (MBTI®) is an assessment of psychological type based on Carl Jung's theory of personality and is sold by CPP, Inc. Its typology is composed of four pairs of opposite preferences, called dichotomies:

- Extraversion (E) or Introversion (I)
- Sensing (S) or Intuition (N)
- Thinking (T) or Feeling (F)
- Judging (J) or Perceiving (P)

In a report released by CPP (Schaubhut, Herk, & Thompson, 2009), retest reliabilities on these four scales for the Form M assessment were calculated for time intervals ranging from less than three weeks to greater than a year. The reliabilities ranged from .67 to .73 (all time intervals combined).

### **DiSC® Model<sup>2</sup>**

The DiSC model was developed in the 1920s by William Moulton Marston, and the DiSC profile is sold by Inscape Publishing. The profile measures four dimensions of behavior: Dominance (D), Influence (i), Steadiness (S), and Conscientiousness (C). In a technical report (Inscape Publishing, 2008) one year retest reliabilities ranged from .71 to .80 on the four scales.

### **Big Five Personality Model**

The Big Five personality model is one of the most well-researched personality models in use today. It consists of five personality dimensions: Emotional Stability, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. A meta-analysis of multiple studies that examined retest reliability on the Big Five model found reliability coefficients that ranged from .69 to .76 across the five personality dimensions (Viswesvaran & Ones, 2000).

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<sup>1</sup> MBTI, Myers-Briggs and Myers-Briggs Type Indicator are trademarks or registered trademarks of the MBTI Trust in the United States and other countries.

<sup>2</sup> DiSC is a trademark of Inscape Publishing.

A separate meta-analysis looked at personality trait retest reliability for people of different age groups (Roberts & DelVecchio, 2000). This study found that the consistency of personality traits increased from .31 in childhood to .54 during the college years, to .64 at age 30, and then reached a plateau around .74 between ages 50 and 70. Our research was not able to examine differences across age groups, but our findings are consistent with the highest range of reliability for personality that the meta-analysis found throughout the life span.

Finally, Connelly and Ones (2010) studied other-ratings of Big Five personality traits. In a meta-analysis they found that other-ratings of personality are measured at least as reliably as self-ratings. These authors concluded that for other-ratings to be accurate, however, raters must have adequate opportunity to observe the target person. This accuracy is enhanced when raters have access to internal aspects of the person's personality (thoughts, emotions, values, etc.) as a result of interpersonal closeness.

## RETEST RELIABILITY SUMMARY

This research shows that the assessment has good retest reliability, specifically for the ratings of "others." While any given individual's profile results can change across time due to a variety of reasons, the measure itself has reliability that is comparable or better than other personality and behavioral style measures. Critically, this retest reliability information is based on the ratings. Versatility showed lower retest reliability than the other scales. This corroborates the philosophy and design of this scale; Versatility is changeable across time and circumstances, whereas Assertiveness and Responsiveness are more stable.

# Versatility

## VERSATILITY AND EMOTIONAL INTELLIGENCE

Versatility is similar in some ways to emotional intelligence (EQ). Researchers at Colorado State University (Kraiger & Crane, 2009) tested this relationship by comparing Versatility to two different measures of EQ – the Trait Emotional Intelligence Questionnaire (TEIQue) and the Schutte Self Report Emotional Intelligence Test (SREIT).

The three measures were administered to 96 individuals. The TEIQue and SOCIAL STYLE Profile are multi-rater instruments; therefore, each participant also asked a group of co-workers to rate them using these two measures. This resulted in a sample size of 346 “other” raters. The SREIT is a self-report measure and therefore was completed by the 96 participants. A correlational analysis was performed on the scales of the instruments. The study found that:

- Versatility self-report scores were highly and significantly correlated with TEIQue self-report scores ( $r = .83$ ) and SREIT self-report scores ( $r = .78$ ).
- Versatility other report scores were highly and significantly correlated with TEIQue other report scores ( $r = .78$ ).

Table 8 displays these results.

Not surprisingly, correlations between “self” and “other” ratings tended to be much lower than correlations between “other” and “other” ratings on the multi-rater measures. For example, the correlation between “self” and “other” ratings on Versatility was .43. The relationship between “self” and “other” scores on the TEIQue was .46.

Table 8. Correlations Between Versatility and EQ Measures

	<b>SREIT (Self)</b>	<b>TEIQue (Self)</b>	<b>TEIQue (Other)</b>
Versatility (Self)	.78	.83	-
Versatility (Others)	-	-	.78

All correlations significant ( $p < .01$ , 2-tail)

N = 96 for Self Measures

N = 346 for Other Measures

## SOCIAL STYLE COMPARED TO MYERS-BRIGGS AND DISC

One of the most important questions to consider is how effective a training program is, especially when comparing to other programs. Peer-reviewed research (Kraiger & Kirkpatrick, 2010) has compared the effectiveness of Inscape's DiSC model, TRACOM Group's SOCIAL STYLE Model, and CPP's Myers-Briggs Type Indicator (MBTI). A description of this research can be downloaded at [tracom.com/resources](http://tracom.com/resources).

A total of 213 people participated in one of the three programs. The results showed three key findings:

- 1) Participants in all three programs had positive reactions to the training.
- 2) Participants in the SOCIAL STYLE training scored significantly higher on a measure of key knowledge covered in training.
- 3) Participants in SOCIAL STYLE training scored significantly higher on two measures of skill at analyzing and responding to the interpersonal behaviors of others.

Thus, in terms of the effectiveness of the three programs for changing the knowledge and behavioral skills of participants, SOCIAL STYLE had a clear advantage. Specifically, SOCIAL STYLE training was found to be the most effective for improving skills related to analyzing and responding to the behaviors of others, which are the stated goals of the program.

**Reaction measure.** Nearly all participants across the three programs were satisfied with the training and thought training was useful and easy to apply. This is not surprising—most people enjoy these types of classes since it gives them an opportunity to learn about themselves and how they interact with others.

**Learning measure.** SOCIAL STYLE participants scored significantly higher (80% on average) than DiSC participants (67%) or MBTI participants (60%). One possible explanation is that there are differences among measurement instruments in the extent to which supporting material is easy to grasp intuitively and encode to memory. If so, there is a clear advantage to SOCIAL STYLE training. MBTI participants typically remembered their own profile accurately, but struggled to remember other key concepts.

**Behavior measure.** Regardless of what participants remember, it is important that they be able to analyze and respond to the interpersonal behaviors of others. The researchers showed the same video to participants in each program and measured their skill at labeling the interpersonal style or personality profile of characters, and also their written answers as to how they would apply what they learned in training to work with other characters in the video given knowledge of their styles or personalities.



Again, there was a clear advantage on both measures to SOCIAL STYLE training. Participants in this program could identify more characters correctly (on average 2.8 of 5) than could participants in either the DiSC (1.9) or MBTI (.74) programs. Participants in the SOCIAL STYLE program also responded more accurately than participants in the other two programs when asked their strategies for working with other characters in the video, knowing the characters' styles or personalities.

## VERSATILITY AND PERFORMANCE

Research has examined the relationship between Versatility and job performance. Descriptions of these studies can be downloaded at [tracom.com/resources](http://tracom.com/resources).

### **Versatility and Leadership Effectiveness**

TRACOM partnered with an international publishing company to examine the relationship between Versatility and leaders' job performance. We answered three questions:

1. Is Versatility related to managerial effectiveness?
2. Is there a meaningful difference in performance between managers with lower Versatility and managers with higher Versatility?
3. To what extent can Versatility and SOCIAL STYLE predict managerial performance?

Compared with managers lower in Versatility, we believed that managers higher in Versatility would perform at a higher level of effectiveness across a range of behaviors, from technical skill to coaching ability. We also believed that Versatility would predict job performance whereas SOCIAL STYLE would not. In the past we've found that SOCIAL STYLE is independent of job performance, and that individuals can succeed in their chosen fields regardless of their particular Style.

We found evidence for all three of these hypotheses. Main findings are described below.

### ***Relationship between Versatility and Managerial Effectiveness***

Versatility is a strong indicator of workplace effectiveness. As Versatility increases, so do evaluations of job performance. Versatility was highly correlated with various important components of managers' jobs. For example, ability to coach others (.44), ability to work well within a team (.47), ability to establish effective relationships with direct reports (.51), and effectiveness as a team leader (.47), just to name a few.

To put these numbers into context, it is helpful to examine correlations among common variables: taking aspirin daily and reduced risk of death by heart attack (.02), antihistamine use and reduced runny nose and sneezing (.11), SAT scores and subsequent college GPA (.20), effect of alcohol on aggressive behavior (.23), and relationship between weight and height among U.S. adults (.44) (Meyer et al., 2001).

Thus, the correlations of Versatility with managerial performance are strong and meaningful, indicating that the higher a manager's Versatility, the higher their performance.

### ***Difference in Effectiveness between Managers with Lower and Higher Versatility***

Correlation analysis indicated that Versatility is positively and significantly related to workplace effectiveness. We wanted to examine specifically the differences in performance between managers with lower Versatility and managers with higher Versatility. We hypothesized that managers would differ across job performance measures depending on their Versatility category.

We tested this hypothesis using analysis of variance (ANOVA). We found significant differences in job performance ratings between managers with lower and higher Versatility. Managers with higher Versatility had significantly higher job performance ratings on 46 of the 47 performance measures.

These findings indicate that managers' levels of Versatility are related to their effectiveness across many key indicators of job performance.

### ***Versatility as a Predictor of Job Performance***

Our third question was whether Versatility can predict job performance. We also wanted to test for the predictive effects of Assertiveness and Responsiveness, the two dimensions of SOCIAL STYLE. Our hypothesis was that SOCIAL STYLE is independent of effectiveness, and that a person of any Style can be an equally effective leader, whereas Versatility can predict performance.

Multiple regression analysis was used to test how well each of the three measures predicted overall job performance. Both Assertiveness and Responsiveness were found to be insignificant contributors to variance in job performance. However, Versatility accounted for 15% of the variance in overall job performance. This means that overall job performance is independent of a person's Style, but is meaningfully affected by Versatility.

**Versatility and Equity, Diversity, and Inclusiveness (EDI)**

In a study of 143 managers at a large multinational defense contractor, we found that managers with high Versatility were rated significantly more effective at promoting equity, diversity, and inclusiveness (EDI) than managers with lower Versatility. Importantly, these evaluations came from the managers' direct reports, those in the best position to determine EDI behaviors.

Managers with high Versatility were more likely to engage in pro-EDI behaviors, such as actively trying to understand others' experiences and perspectives, recognizing employees' contributions, fostering a welcoming environment for the team, and valuing different opinions. Highly versatile managers were rated up to 17% more effective on these behaviors than low versatile managers.

We also found that SOCIAL STYLE has virtually no relationship to EDI practices. In fact, we discovered that Versatility accounted for 21% of the variance in EDI practices, whereas SOCIAL STYLE did not account for any of the variance.

***Study Overview***

Each manager's direct reports completed the SOCIAL STYLE assessment and a 38-item EDI survey. This survey was developed for this study, tailored to the organization's EDI practices. It included items that measured individual manager behaviors, the impact that EDI practices have on the department and organization, and awareness of EDI initiatives. Each item was rated on a 5-point scale ranging from "strongly disagree" to "strongly agree."

Similar to the research on Versatility and managerial performance, we answered three questions:

1. Is Versatility related to EDI practices?
2. Is there a meaningful difference in EDI practices between managers with lower Versatility and managers with higher Versatility?
3. To what extent can Versatility and SOCIAL STYLE predict EDI practices?

***Relationship between Versatility and EDI Practices***

Versatility was significantly correlated with 35 of the 38 EDI items, meaning that managers with high Versatility received higher ratings on these measures. Interestingly, the highest correlations were found with very specific behaviors that are directly under the control of managers, such as "My manager tries to understand others' experiences from their perspective" ( $r = .55$ ) and "My manager treats me with respect" ( $r = .54$ ). Although still significant, lower correlations were found between Versatility and aspects of EDI that are less directly influenced by a manager's behaviors,

such as “The diversity and inclusion mission is directly linked to our division’s strategic imperatives or business results” ( $r = .23$ ) and “This organization is recognized outside of the company for its community outreach efforts” ( $r = .18$ ). This indicates that employees see a strong relationship between their manager’s Versatility and EDI behaviors, and these behaviors have a cascading effect on beliefs about EDI that are less directly under the influence of any individual manager.

### ***Differences in EDI Practices between Managers with Lower and Higher Versatility***

The correlations showed that Versatility is related to EDI practices. The next step was to examine how meaningful the differences in EDI practices were between managers with lower and higher Versatility. Our hypothesis was that managers would differ significantly depending on their Versatility category, and this hypothesis was supported. We found that high Versatility managers measurably outperformed low Versatility managers on EDI practices.

To test these differences, we conducted ANOVA. We calculated an average score across the 38 EDI items, and examined differences between low and high Versatility managers on this score. The ANOVA found significant differences between managers with “W” Versatility and managers in the upper half of Versatility, those scoring “Y” or “Z”. We also found that the difference in EDI scores between “X” and “Z” Versatility was significant (all mean differences were significant at the .05 level).

This indicates that there is a noticeable difference in the EDI practices between lower Versatility and higher Versatility managers.

### ***Versatility as a Predictor of EDI Practices***

Our third hypothesis was that Versatility could, to a certain extent, predict EDI practices. We used the average EDI score with multiple regression to test how well Versatility predicted EDI practices. We found that Versatility accounted for 21% of the variance in EDI practices. This is comparable to the influence that measures such as intelligence, education, or personality have on job performance.

Assertiveness and Responsiveness were included in the regression analysis but did not meaningfully predict EDI practices. We should note that the regression analysis only included the three variables of Versatility, Assertiveness, and Responsiveness, because these were the only three variables we measured in this study. If we had accounted for other relevant variables such as age, years of tenure with the organization, or other demographic variables, this could have affected the results somewhat, though it is likely that Versatility would still have been a significant predictor.

### Versatility and Police Sergeant Performance

In a study with police sergeants in the Douglas County Colorado Sheriff's Office, it was found that two important components of performance – Leadership and Employee Development – were significantly related to Versatility (Nicholson- Kluth, 2004).

Performance measures were collected for 32 sergeants who volunteered for the study. Versatility was significantly correlated with the Leadership ( $r = .46, p < .01$ ) and Employee Development ( $r = .41, p < .05$ ) components of the measure. Higher scores on Versatility were related to higher performance scores.

Leadership was defined as "promotes and influences cooperation to achieve success and effect change," and included behaviors such as:

- Builds a team with complementary strengths and abilities.
- Positively changes opinions and actions of others in a desired direction.
- Understands people, political dynamics and the organizational culture in order to promote change.
- Sets a positive example and environment for peers and staff members.
- Leads past status quo to achieve new levels of excellence or change; challenges "way it has always been done."

Employee development was defined as "plans, coaches and supports growth and development of employees' skills and abilities," and included behaviors such as:

- Creates an effective learning environment by providing tools, knowledge and opportunities for staff development.
- Provides timely, honest and relevant feedback.
- Recognizes and rewards hard work and achievements.
- Inspires actions and opinions of others by providing a supportive environment for risk taking.

Also noteworthy is that although a small sample of sergeants was studied, these supervisors were evenly distributed across the four SOCIAL STYLES. This supports other research showing that leaders come from all Styles, with Versatility as the distinguisher in effectiveness.

## Identifying Style Through Text/Email

The proliferation of virtual teams has led people to wonder if Style can be determined through email/text. Virtual teams are at a higher risk of misunderstanding and conflict, with one study finding that people correctly interpret text messages less than 50% of the time (Kruger, Epley, & Parker, 2005).

Because misunderstandings can result from Style- related differences, and these misunderstandings can be exacerbated by text, the ability to identify a person's Style through email can benefit individuals and teams. Correctly diagnosing Style through email can help individuals understand how to interact and communicate more effectively.

Research by Firari (2007) examined the ability to correctly identify Style through email. Thirty-four managers from ten companies participated in the study, representing eight unique industries. Each participant completed the multi-rater profile and submitted ten business emails that they had written.

The study utilized a sophisticated neural networking algorithm to determine the Style of each manager. The neural network accounted for hypothesized Style-related email characteristics, such as email length, type of greeting, use of specific words (e.g., "think," "feel"), and type of salutation, if any. In addition, the program accounted for the relationship between the manager and the recipient of the email (e.g., subordinate, supervisor, peer, client).

Using the neural network strategy to determine Style resulted in the correct prediction of managers' Styles 56% of the time. While this may not seem like a high success rate, it is actually quite impressive considering that the technique did not involve any human judgment; determining each manager's Style was done entirely by a computer program. In the field of neural networks, this degree of accurate prediction is considered highly successful.

This study shows that by paying attention to critical cues in email messages, a person can reasonably determine others' Styles.

## Impact of SOCIAL STYLE

The importance of SOCIAL STYLE was underscored in a survey of 510 individuals who had recently completed learning programs. They were asked about their experiences and the impact that training has had in their workplaces. When asked about the impact that SOCIAL STYLE differences have on various aspects of work, there was a high level of agreement – 87% stated they had seen conflict that was caused by Style differences. In addition, below are the percent of respondents indicating that Style differences in their workplaces had caused:

- Communication breakdowns (88%)
- Difficult relationships (76%)
- Low morale (62%)
- Negative performance (58%)

When asked “would applying SOCIAL STYLE help improve results in the following situations?”, we found the following levels of agreement:

- Conflict (74%)
- Communication breakdowns (78%)
- Difficult relationships (75%)
- Low morale (68%)
- Negative performance (71%)

In addition to these findings, we asked about the value of using a multi-rater feedback profile. A majority (80%) felt that having a profile with “self” and “other” scores made them “more aware of challenges and opportunities that would not have otherwise been considered.”

## SALES IMPACT

A survey of salespeople (N = 107) who had recently completed SOCIAL STYLE training found that:

- 94% said they are more conscious about how their behavior impacts their customers.

In terms of direct impact on performance, respondents reported the following:

- 60% increased the speed of their sales process.
- 79% improved their ability to gain ongoing sales.
- 68% converted prospects to customers more quickly.
- 58% closed sales they otherwise might not have.

## LEADERSHIP IMPACT

In a similar study of managers (N = 79) who had completed SOCIAL STYLE training, we found that:

- 87% of managers said that learning about SOCIAL STYLE will help them be more effective when working with others.
- 86% of managers indicated that as a result of training, they were better able to determine the behavioral style of others.
- 81% of managers said that the multi-rater profile made them more aware of challenges and opportunities they would not have otherwise considered.
- 94% of managers had seen communication breakdowns in the workplace that were due to Style differences.
- 75% of managers said that when difficulty in relationships has occurred, applying SOCIAL STYLE would improve the result.

Together, these studies indicate that participants see a high degree of value and real-world impact from their SOCIAL STYLE training.



# Demographic Comparisons

Norms are important for pointing out meaningful differences that exist across cultures and geographic regions. However, when various demographic characteristics are compared within a culture, there are generally few, if any, meaningful differences.

We tested whether significant differences on scale scores exist across demographic categories. This was done using the United States sample because this is the only country where most demographic information is collected. Statistically, large samples increase the likelihood of finding significant differences, even when these differences are meaningless on a practical level (Cohen, 1990). Therefore, these analyses are more appropriately evaluated based on effect size.

Two types of effect sizes were calculated including partial eta-squared ( $\eta^2_p$ ) and Cohen's d. Partial eta-squared provides an estimate of the proportion of variance in the dependent variable (scale scores) that is related to the independent variable (demographic distinctions). Cohen's (1988) guidelines were used to interpret the effect sizes for Cohen's d: shared variance between 1% and 9% was considered a small effect; between 10% and 24%, a medium effect; and 25% or greater, a large effect. A percentage less than 1% was considered no effect.

When different ethnic groups within the United States were compared, no meaningful differences were found. In practical terms, this means that knowing a person's ethnicity will tell you nothing about their score on any of the profile scales. Table 9 displays these results.

Table 9. Mean Comparisons by Ethnicity based on United States Sample (N = 21,350)

Ethnicity	Assertiveness			Responsiveness			Versatility		
	M	SD	N	M	SD	N	M	SD	N
Native American	41.86	6.53	116	61.42	4.71	116	208.46	14.02	116
Asian	40.85	5.64	794	59.78	4.61	794	209.38	14.38	794
African American	40.62	5.34	1,470	60.86	4.39	1,470	210.53	14.06	1,470
Hispanic	40.91	5.35	1,079	61.38	4.76	1,079	210.39	14.01	1,079
Hawaiian	40.15	5.36	103	61.84	4.36	103	212.55	14.42	103
White	41.69	5.54	17,444	61.25	4.84	17,444	210.39	14.34	17,444
Other	41.44	5.61	371	61.19	4.42	344	210.64	13.71	344
$F_{(6,21343)}$		10.97*			13.95*			1.44	
$\eta^2_p$		0.00			0.00			0.00	

Note - In order to minimize capitalization on chance, a p-value less than .01 was used to determine statistical significance (denoted by \*).

Similar results were found for sex. Differences on Assertiveness and Versatility were trivial, while a larger difference was found on Responsiveness. As a group, women scored as more Emote Responsive than men. Table 10 displays these results.

Table 10. Mean Comparisons by Sex based on North America Sample (N = 22,751)

Gender	Assertiveness			Responsiveness			Versatility		
	M	SD	N	M	SD	N	M	SD	N
Male	41.79	5.45	11,174	60.11	4.67	11,174	209.13	14.43	11,174
Female	41.14	5.77	11,577	62.23	4.73	11,577	211.40	13.97	11,577
t <sub>(22749)</sub>	8.72*			34.05*			12.05*		
Cohen's d	0.12			0.45			0.16		

Note - In order to minimize capitalization on chance, a p-value less than .01 was used to determine statistical significance (denoted by \*).

We also analyzed differences across regions of the U.S. Again, no meaningful differences were found. Table 11 displays these results.

Table 11. Mean Comparisons by Region based on United States Sample (N = 21,838)

Region	Assertiveness			Responsiveness			Versatility		
	M	SD	N	M	SD	N	M	SD	N
Northeastern	41.49	5.50	4,779	61.23	4.52	4,779	210.88	13.84	4,779
Southeastern	41.39	5.76	5,107	61.55	4.66	5,107	210.52	13.55	5,107
North Central	41.54	5.49	3,560	61.19	4.92	3,560	209.86	14.41	3,560
South Central	41.30	5.73	5,219	60.83	4.89	5,219	209.61	14.98	5,219
Western	41.58	5.58	3,173	61.02	5.09	3,173	210.74	14.95	3,173
F <sub>(6,21343)</sub>	1.81			15.41*			6.89*		
Eta <sub>p</sub> <sup>2</sup>	0.00			0.00			0.00		

Note - In order to minimize capitalization on chance, a p-value less than .01 was used to determine statistical significance (denoted by \*).

In sum, these analyses mean that there are no meaningful differences across major demographic categories in the U.S. It is highly unlikely for individuals' profile results to be impacted by their demographic characteristics.

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