DISCflex™
Technical Report

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Section I: Introduction and background

Indaba Global's DISCflex™ behavioral profiles are one of the best profiling vehicles to assess a person's behavioral tendencies. Looking at patterns – the peaks and valleys of the landscape of person's behavioral tendencies uncovered in a typical DISCflex™ Profile – the most important thing to understand are the relationships among the four factors – Dominance, Influence, Steadiness, and Compliance. Comparison of the relative valuations between the individual factors creates a spread. This spread – which is referred to as the Difference/Delta or Factor Spread – will govern the behavioral choices that people make.

The DISCflex™ Business Behaviors Report is a guide to understanding one's behavioral tendencies in the current moment of a respondent's life. Because of the delicate nature of behavioral/personality assessments, DISCflex™ provides a well-researched profile based on the self-report and perceptions of the respondent (and if appropriate, includes third party perceptions invited by the respondent).

From this input, a generic report can be generated about a respondent's patterns of behavior. It is posited that these behavioral tendencies can change in response to learning experiences and reflective thought. The accuracy of the report is dependent on information received.

The report can be used for professional development including recommendations with regard to eLearning and related activities. The intent of the report is to increase a respondent's capacities to interact with others. The report may provide information helpful in team development. The report is not intended for use in hiring decisions, nor is it appropriate for decision making regarding promotions or any other performance-based inquiries comparing individuals.

Purpose for this Technical Report

Our purpose in publishing this Technical Report is to document the qualities of the DISCflex™ instrument and to provide the public with information concerning that instrument for review and consideration. Indaba Global places prominent importance on helping people become aware of their behaviors and understand how to properly flex them. Through examining these processes, Indaba Global hopes to identify a better understanding of the often subtle nature of behavioral patterns.

About Indaba Global

Indaba Global's goal is to educate students in solid business and life principles needed to produce effective results. Indaba Global strives to teach each individual in the most efficient way for him or her to ensure success. With over 21 years of experience in the corporate, government, and university environments, Indaba Global abides by the express mission to provide affordable professional and personal development skills to as many people as possible. Indaba Global focuses on assessing an individual's behavioral patterns, providing them with eLearning and helping them learn how to develop their Performance Indexing™ and Behavioral Intelligence™ skill sets. Indaba Global provides services in many areas, from junior high students to executive level leaders.

Section II: Foundations

Theoretical foundation

William Marston's theoretical underpinnings in *Emotions of Normal People* (1928) provided the contextual groundwork to develop the four factor dimensions of behavioral styles – Dominance, Influence, Steadiness, and Compliance. DISC theory as it is known today stems from millennia of research, development, theorization, and refinement. It all started with a 4 Quadrants model. Originating in Ancient Greece, this original 4 Quadrants model is one of the oldest known behavioral assessment tools. Hippocrates developed the first 4 Quadrants model: Consciousness, Emotion, Intelligence, and Wisdom back in 400 B.C. Many great philosophers and mathematicians like Plato and Aristotle studied and augmented Hippocrates' lessons. In Greece during the Middle Ages and the Renaissance, scientists continued searching for the basis of human behavior.

Renowned psychologists such as Carl Jung and Sigmund Freud gathered in Munich to discuss their theories. Jung delivered a lecture on psychological types focused on extroverts and introverts. He later expanded his theory to include early models of personality description. Throughout the 20th century, researchers continued to explore variations of the 4 Quadrants model to try to explain human behavior. As an example, Jung's research is the foundation for the Myers Briggs Type Indicators (MBTI).

William Marston, a Harvard-trained psychologist working at Columbia University, dedicated much of his life to the study and enhancement of his 4 Quadrants model. His book outlined his theories and became the foundation for modern DISC assessments. Marston introduced the definitions of DISC. He named the four factors Dominance, Inducement, Submission and Compliance. Though each of the terms has held onto its definition, the acronym has been changed over time to better fit the modern society. DISC, as it is known today, is defined as:

- **D**ominance – relating to control, power, and assertiveness
- **I**nfluence – relating to social situations and communication
- **S**teadiness – relating to patience, persistence, and thoughtfulness
- **C**ompliance – relating to structure and organization

In the past 50 years, dozens of behavioral scientists and assessment companies have been instrumental in reworking the DISC theory and commoditizing Marston's work. Dr. John Geier's (1977) research efforts brought credibility to the theories that Marston espoused in *Emotions of Normal People*. This has been further corroborated with the academic and business worlds as DISC coaches found better strategies and methods for identifying behaviors and learning how to flex them. The foundation laid by Marston and the continued and high quality research afterward make DISC one of the most valuable models in identifying and developing human behavior.

Theoretical assumptions

Indaba Global believes there is a significant difference between personality and behavior. Whereas personality is the complex of characteristics that distinguishes an individual (the totality of an individual's behavioral and emotional characteristics), behavior focuses on the continual flux of human action. It can best be said that "an adult human's personality is as much ontogenesis as it is genetics. The adaptations of the human species are nothing without experience" (Smith, 2004).

As a general rule, personality and behavioral assessments have focused more on the interpersonal side of how we interact with others, what our attitudes are, and how to identify our stressors and motivators. The more in depth assessments look at how one's behavioral patterns affect one's propensity for change, the type of decision making methods one uses, and even one's comfort level for delegating authority and assigning responsibilities.

Indaba Global posits the belief that behavior is measurable only as a snapshot, with the evolutionary ability for human beings to flex their behaviors taking greater importance. It is through comprehensive and practical knowledge/feedback provided in eLearning that helps reduce the strain of behavioral flexibility so one can adapt their responses to meet their desired outcomes.

The DISCflex™ instrument measures an individual's behavior at a current moment in time. The theory is postulated that behavior is always in continual flux between the different spheres of our life (work, family, social) and thus some personality assessments do a disservice by stating that an individual's values and personal identity are fixed. Humans are simply too complex to adequately measure their actions based on biological or experiential predispositions.

Section III: The DISCflex™ Instrumentation

Indaba Global's DISCflex™ instrument is a new rendering of well established theory and conceptualizations. A commitment to the fundamental patterns of behavior identified by the DISC constructs continues. Based on the theoretical assumptions discussed above (see page 4), DISCflex™ introduces direct linkage to change activities and eLearning. The instrument uses eighty single word items rank-ordered to build the four DISC scales. The instrument also presents forty statements requiring consideration using a 5-point Likert scale from Strongly Disagree, Disagree, Agree, to Strongly Agree. Each of these metrics is discussed below in Instrument structure on page 9.

Conceptual construction

DISC instruments use four constructs. In DISCflex™ these four primary factors[1] or measurement indicators are used to assess an individual's personality and behavioral tendencies.

The four primary DISC factors are D (dominance), I (influence), S (steadiness), and C (compliance).

Dominance Factor

The Dominance Factor is centered around a person's need to be direct or to be directive. Elevated D behavioral patterns like giving instructions or orders, have no problem delivering commands, and definitely like things done their way. High Dominance Factor individuals love getting things accomplished and they strive for results. Some words that describe Dominance's typical positive behavioral traits are: innovative, competitive, enterprising, strong, determined, visionary. Some words that describe Dominance's typical negative behavioral traits are: challenging, self-centered, arrogant, controlling.

Influence Factor

The Influence Factor is centered around an individual's ability to influence others, such as being persuasive enough to change someone's mind, convince them into helping their team, or prevailing upon them to take on their product or service for the first time. The Influence Factor was originally labeled as "Inducement" by Dr. William Moulton Marston. Influence can be providing an incentive or being encouraging. Inducing or influencing others to do something they might not otherwise be inclined to do is the mark of an Influence Factor individual. Some words that describe Influence's typical positive behavioral traits are: motivating, charismatic, upbeat, friendly, caring. Some words that describe Influence's typical negative behavioral traits are: overly talkative, emotional, changeable, unpredictable, easily distracted, undependable, inconsistent.

Steadiness Factor

The Steadiness Factor is centered around steadfastness, thoughtfulness, and the pace at which an individual typically likes to operate. Some of the traits inherent in the measurement of the Steadiness Factor are: consistency, commitment, dedication, persistence, loyalty, dependability, strategic bent, in depth thinking, as well as planning. The Steadiness Factor's elevation addresses preference in time commitment. It also helps determine the velocity and the stride of business initiatives. Some words that describe Steadiness' typical positive behavioral traits are: consistent, thoughtful, reliable, calm, relaxed.

[1]The DISCflex™ instrument and reports refer to D, I, S, and C as "factors." These "factors" are a consistent set of behavior patterns that tend to cluster together. They are labeled by D, I, S, and C. Further in the DISCflex™ report, twelve "sub-factors" are identified using comparisons between the four "factors" (scales) constructed to measure the constructs. Because one of the statistical procedures utilized in assessment is generally referred to as "FACTOR ANALYSIS;" the term "factor" is used in both of these ways. Context will be helpful in determining meaning. The term scale is used to refer to the scales constructed from the theoretically defined structure of adding item responses assigned to a set of items.

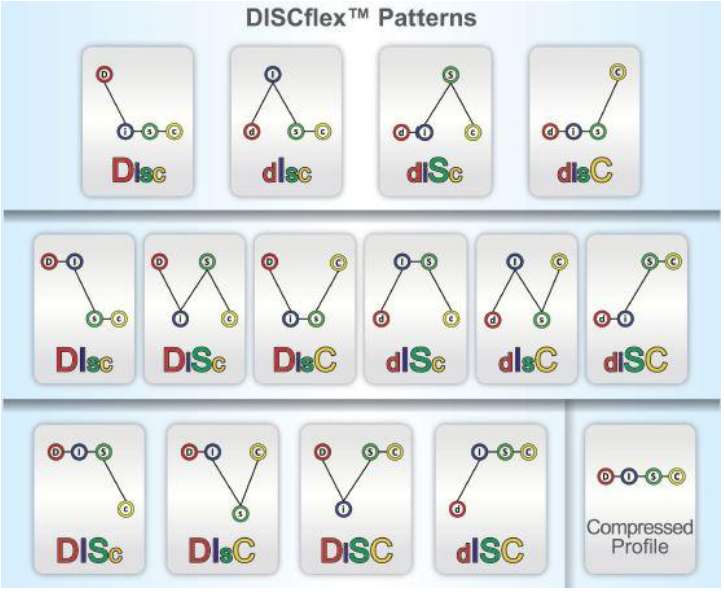
Some words that describe Steadiness' typical negative behavioral traits are: rigid, reluctant to change, paralysis by analysis.

Compliance Factor

The Compliance Factor is centered around a person's need for structure. This factor has dominion over things like policies, procedures, rules, laws, and detail orientation. To a large extent, the Compliance Factor measures the preferences in these areas: degree of agreeableness or argumentativeness regarding expectations and rules, level of natural obedience to cultural norms, conformity to established standards, and observance of protocol. Some words that describe Compliance's typical positive behavioral traits are: methodical, systematic, detail oriented, precise, accurate, organized. Some words that describe Compliance's typical negative behavioral traits are: painstaking, exacting, nitpicking, overly cautious regarding rules, don't take criticism well regarding work product.

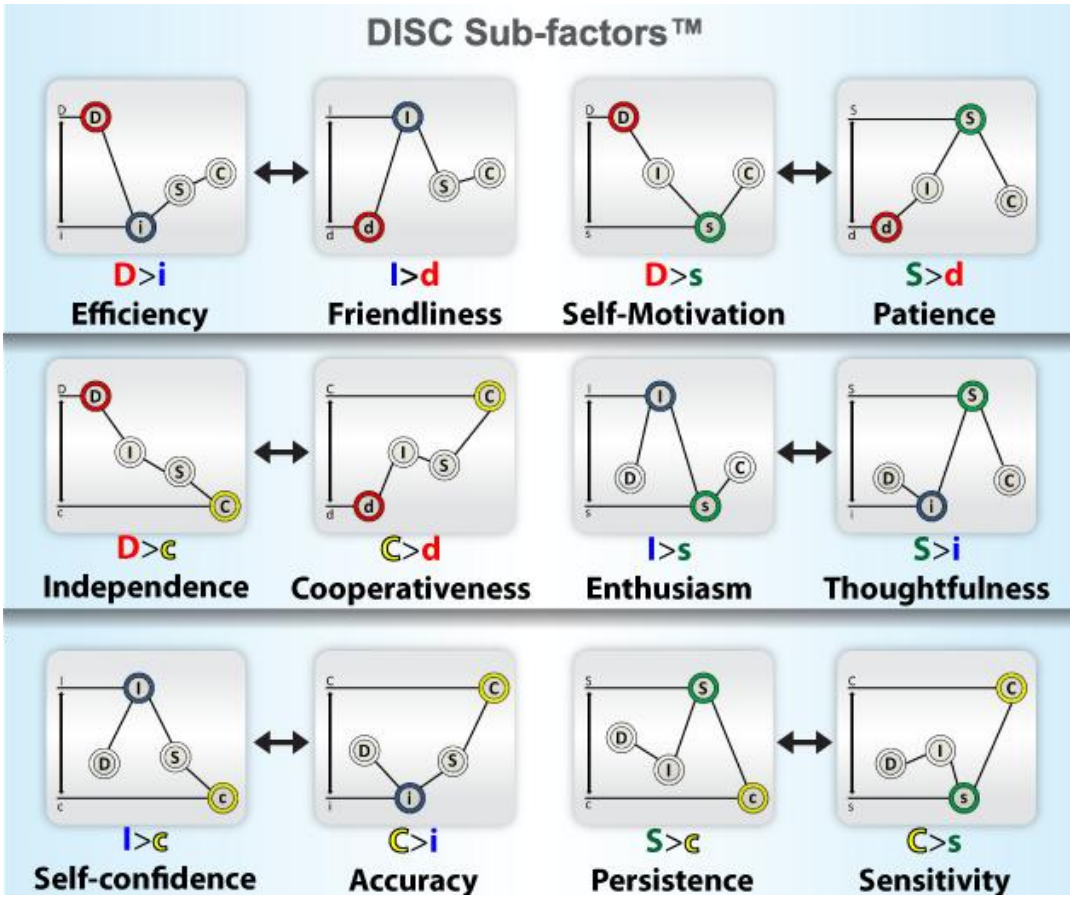
Factor reporting

An important component of DISCflex™ is a customized analysis report for each individual respondent. This report format is what is truly insightful. Based on a respondent's self-reports of behavior the relative dominance of these four factors is calculated. The relative dominance of these scales is summarized on scales from 0 to 100 and graphed for visual interpretation. Indaba Global research has grouped the various pattern possibilities into fifteen basic DISC patterns. These basic DISC patterns depict the peaks and valleys associated with the four primary DISC Factors. This report includes reflective activities for the individual respondent and provides guidance to selected eLearning options.



Sub-factor reporting

The DISCflex™ instrument identifies associated sub-factors that are important for an in depth assessment of behavior. DISC Sub-factors™ are used when describing the relationship between two identified factors of the DISCflex™ profile. When comparing the two factors, their pairing is referred to as a DISC Sub-factor™. There are twelve possible combinations or pairings which connect the four factors on the DISCflex™ profile. The sub-factor pairings that preside over an individual's behavioral tendencies can easily provide a deeper understanding of behavior preferences. Understanding of other people's factors and sub-factors opens dialogue and, most essentially, can assist in building a foundation of respect and tolerance for how others communicate and operate.



It is vital to understand that sub-factors are experience and perception based – people will strive to be as efficient, independent, or cooperative as they currently know how. Being efficient might mean something different from one person to the next. Understanding this as one examines one's own behavior and that of others is crucial to forming good relationships and building appreciation for other people's talents and what they bring to the table. An individual's behavior is the public expression of the patterns of DISC Factors.

Let's look at an example of how this might play out. If an individual has a highly elevated Dominance with a much lower Compliance score, they will have a behavioral tendency to be regulated by the sub-factor called Independence. But remember, individuals express being independent in different ways. It could mean that the person will forge a path on their own and never ask for assistance. It could be that they choose to be independent only of certain people – of their parents for example. Or it could mean that they equate independence solely with financial or decision making independence. What one needs to remember is that people will only exhibit that behavior which they equate with the DISC Sub-factors™ – AS THEY KNOW IT TO BE. Once one realizes the importance perception and experience have on the sub-factors, one can start to understand why there are so many different personalities in the world. The Independence Sub-factor literally holds a plethora of different personalities, as do all the other sub-factors.

Instrument structure

Forced rank scales

Forced rank and forced dichotomous choice items receive both support and criticism. In both of these forms the resulting scales provide a clear ordinal measure of the item constructs. Scales built using these approaches provide an established method for determining a ranking of the constructs. The major concern is that these rankings are only relative and there is no measure of relative strength. These forms of scales are referred to as ipsative (See page 17 for a discussion of this form of scaling).

The forced dichotomous choice technique was most notably researched by Highland and Berkshire (1951) with relation to the MOST and LEAST dichotomous option of forced-choice. Most of the criticism geared toward dichotomous forced-choice item format argues that the variances that are left out of consideration – due to the exclusion of the middle two characteristics – are ignored.

Indaba Global responded to this problem by creating software that records the individual's ranking (1-4) of EACH characteristic, rather than simply choosing MOST or LEAST. DISCflex™ presents eighty forced rank items in twenty sets of four. One item in each set is from each of the DISC constructs. These data are then the sole foundation for calculating the four scales, referred to as factors in DISCflex™ materials.

Respondents are asked to rank all four of these items from 1-"Most like me" to 4-"Least like me." The value of the responses is reversed to produce an item value from 0 for "Least like me" to 3 for "Most like me." These item values are then added up to produce the scale's raw score. The raw score is then converted to a standardized metric using a tradition Z calculation. Then the Z is converted to a scale with 50 as the mean and a standard deviation of 16.7. This results in a usable range of ordinal scale scores between 0 and 100.[2] This use of a standardized metric also allows for comparisons among the scales for an individual without bias from differences in scale ranges and distributions. It is one important part of construct validity.

Valuation scales

Valuation scales make use of some metric that records an evaluation of a single item, rather than relative rank of several items. A valuation scale may be the popular Likert scales that range from "strongly disagree" to "strongly agree." Alternative valuation scales include awarding points 1 to 10 or percents 1% to 100%. There are also hybrids which limit the allocating of values such that the sum of all items may not exceed a specified value. The important advantage of valuation scales is that they allow the respondent to express some level of relative importance.

DISCflex™ uses a Likert scale to collect responses to ten statements assigned to each of the four DISC scales. These responses utilize a 5-point Likert scale from 1-"Strongly disagree" to 5-"Strongly agree." This approach to identifying behavior patterns is an important addition to traditional DISC instruments. Responses on such valuation items can be combined into scales. These scales do not have the constrictions and limits of ipsative measurement such as forced ranking scales, although they do have other measurement challenges. The ranges and distributions of these various metrics are substantially different.

When the DISC valuation scales are compared with the DISC forced rank scales, one observes some patterns of agreement. This provides support for concluding that extended descriptions and single word items are in agreement about consistent behavior patterns.

[2] In practice and based on normal distribution models almost all scores fall in this range. The highly infrequent ± 3 standard deviation raw scores (estimated at 1.4 in 1,000) are assigned values of 1 and 99.

However, since a complete evaluation of valuation scales as applied in DISC conceptualization is not yet completed, only the established forced-ranking items are utilized in determining DISC scores and feedback.

Section IV: Technical information

Validation study

The following findings summarize a validation assessment of DISCflex™ conducted in the spring of 2012.[3] The assessment makes use of the population of respondents completing DISCflex™ during the four months prior to the launch of the DISCflex™ assessment.

The primary focus of Indaba Global and its DISCflex™ coaches is on business, government, and academia. Indaba Global provides services to all of these populations to build the foundations of Behavioral Intelligence™ from the classroom to the boardroom. Because Indaba Global's business focuses on individuals with at least some college experience, the validation study sample did not include individuals with less than "some college." The data used in this assessment comes from 411 respondents completing the DISCflex instrument during 2011 and early 2012. These data contain responses from 220 females (53%) and 191 males (47%). They self-identify age, ethnicity, and educational levels as summarized in the following tables.

Table 1: Age categories

Age	Frequency	Percent	Cumulative Percent
18-25	106	25.8	25.8
26-35	78	18.9	44.8
36-49	123	29.9	74.7
50-65	88	21.4	96.1
65+	16	3.9	100.0
Total	411	100.0	

Table 2: Ethnicity / Race

	Frequency	Percent
Asian	7	1.7
Black	51	12.4
Hispanic	32	7.8
White	321	78.1
Total	411	100.0

[3] Psychometric assessment and analysis of the DISCflex™ instrument was conducted by Peter T. Klassen, Ph.D., an independent consultant, principal at www.DocumentingExcellence.com, and professor emeritus College of DuPage.

Table 3: Educational Attainment

	Frequency	Percent
High School / GED	0	
Some College	112	27.3
College Degree	222	54.0
Graduate School	19	4.6
Graduate Degree	58	14.1
Total	411	100.0

Based on these distributions, we conclude that these data are a representative sampling of the populations being served with Indaba Global's DISCflex™. The study sample is representative of that of the United States in terms of gender and race distributions. Because of the population served by Indaba Global, the study sample is better educated than the general populace.

Reliability

The issue of scale and instrument reliability is the initial question asked when exploring how 'good' an instrument is, or if it is actually useful. The word 'reliability' always means 'consistency' when applied to instruments and tests. When applied to scales identifying psychological traits and patterns it focuses on the consistency or coherence of the items used to build scales. The design and development of a scale starts with theoretical concepts and progresses to items that are tested for their coherence. Thus, validity is anchored in theory, and implemented by experts as previously mentioned. There are multiple established procedures for assessment of reliability of an instrument or scale.

There are several procedures that are commonly used for the routine statistical treatment of item or instrument reliability. Test-retest reliability is the consistency of scores obtained by the same persons when re-tested with the identical instrument. Alternate-form reliability provides the subject with two similar forms of the instrument. Both test-retest and alternate-form reliability documentation should express both the reliability coefficient and the length of time passed between the first and second testing events. Both of these procedures focus on the consistency of measurement of a single ability or skill-knowledge. Such consistency and the "learning the test" advantage is a major concern with ability and knowledge measurements. DISCflex™ is not subject to an advantage from repeated administration because it asks for self-reports. The instrument's scales are as stable as the individual's perception of situational demands and self-concept is constant.

Split-half reliability involves a single administration of the instrument, and uses the technique of 'splitting' the instrument in half, e.g., odd and even question items, and determining a correlation between the two sets of scores. This technique reduces some of the concerns of test-retest and alternate-form reliability by eliminating the passage of time between testing events. Kuder-Richardson reliability is also based on a single form and single administration of the instrument, and measures the consistency of responses to all items on the test. The Kuder-Richardson formula is the mean of all split-half coefficients based on different splitting of the test. The Spearman-Brown reliability formula is another statistical treatment that provides a reliability coefficient, and is frequently used with the split-half procedures. Spearman-Brown differs by including a method for doubling the number of items on an instrument as a part of its formula. By doubling the number of items on the instrument, reliability usually increases. Some critics of the Spearman-Brown formula say that it may artificially raise the reliability coefficient of an instrument. Each of the reliability coefficients discussed so far are ones that can be calculated by hand, or using a simple calculator.

A more complex measure of reliability among items is an alpha coefficient. An alpha coefficient is an expression of an instrument's reliability and ranges from 0 through +1.00. An instrument with a perfect reliability would have an alpha coefficient of +1.00, and no instrument has yielded that score to date. Additionally, there is no standard or agreed-upon level of what makes a good or bad coefficient for testing purposes. However, there is general agreement on a minimum standard for alpha equal to .6 or greater, with some experts advocating use of a .7 or higher standard. Obviously, the higher the alpha coefficient the stronger is the coherence of items. However, alphas using different algorithms should not be compared. Further, small variations in alpha coefficients should not be considered as meaningful.

Cronbach's alpha (α) (Cronbach, 1951) is considered by many to be the most robust reliability alpha to date (Anastazi, 1976); (Reynolds, 1994). "Coefficient α is the maximum likelihood estimate of the reliability coefficient if the parallel model is assumed to be true" (SPSS, 1988, p. 873). Cronbach's alpha is used to determine all of the reliability coefficients used to assess the DISCflex™ instrument. It can be thought of as the average of all possible split-half coefficients.

While the DISCflex™ instrument includes both 80 forced rank items and 40 Likert response items, the four DISC scales are calculated from only the forced rank items. Therefore, the following assessment reports only on those items used to construct the four scales. The following tables lists Cronbach's alpha α for each of these four scales.

Table 4: Cronbach's Alpha reliability for DISCflex™ 2012

Dominance	Influence	Steadiness	Compliance
.800	.826	.758	.853

Each of these α demonstrates levels of reliability well above both the minimum and more rigorous standards of .6 and .7.

Relationship among scales

The DISCflex™ instrument reports on four labeled scales: **D**ominance, **I**nfluencing, **S**teadiness, and **C**ompliance (see page 6 for further definitions). An important assessment of these scales lies in considering their relationships with each other. Table 5: Spearman Rank Order Correlations lists the correlations among the scales.

Table 5: Spearman Rank Order Correlations

	Forced rank D	Forced rank I	Forced rank S
Forced rank D	1.		
Forced rank I	-0.116	1	
Forced rank S	-0.587	-0.188	1
Forced rank C	-0.295	-0.687	-0.078

Several important conclusions may be drawn from these relationships. First, there are no significant positive correlations. The D:I; I:S; and S:C correlations are not substantial. Further, it is noteworthy that S:C (-.078) indicate no significant covariance. Thus, they are successfully structured as independent. The D:S correlation (-.587) is negative and substantial. This confirms a theoretical prediction that high D tends to covary with a respondent's low S, and vice versa. In a similar confirmation the I:C correlation (-.687) is also negative and substantial. This confirms a theoretical prediction that high I tend to covary with a respondents low C and vice versa.

Confirmatory validity

Three separate threads of assessment confirm the validity of the D, I, S, and C constructs of the DISCflex™ instrument.

First, the forced-rank scales and the correlations among these scales show relationships in line with theoretical predictions for those relationships. This affirms the structure and conceptualization used to build the instrument.

Second, the valuation scales confirm that this independent method of measuring the behavioral patterns mirrors the forced-rank measures.

A third approach to confirming, and in some cases editing an item, involves Factor Analysis (FA). Factor Analysis uses covariances among a set of items to identify patterns of common variance. In other words, find items that tend to move up and down together or cluster together. This approach does not impose any assumptions of communality or assumptions of prior specified patterns of relationships. The eighty forced rank and forty Likert scale items were submitted to a Factor Analysis Varimax procedure. Reporting and analysis of the assumption and results are too complex for this report. However, in acceptably general terms, the four constructs (D,I,S,C) were confirmed with forced rank and Likert scale items assigned during instrument construction loading on shared but separate factors. In other words, the items that were designed as associated with a construct, tended to aggregate together with shared variance patterns.

These three specific assessments confirm linkage of DISCflex™ with the long established legacy of DISC instruments as a valid approach to identifying patterns of meaningful personality/behavior traits.

Face validity

Alongside the construct validity of the DISCflex™, self-reported accuracy statements form another basis of validity. Face validity is the process of asking participants about their perceptions of accuracy of the DISC scales. This questioning is regularly conducted by DISCflex™ coaches as a normal part of debriefing. It serves two purposes: First, the question ties the feedback with the respondent's perceptions of self in a conscious way. Second, it provides important feedback to Indaba Global concerning the validity of the DISCflex™ instrument.

This approach to considering face validity of DISCflex™ was also used with 59 students at the University of South Florida. The instrument was used with a cohort of students in a class setting. In this setting, answers were anonymously collected. It is known that the goal of any successful college student is to gain the knowledge and the skills to make a graceful transfer into the role of a successful business professional. The professional formula is a combination of performance and behavior – a blend of the hard skills and soft skills required to succeed in the business world. Where some might excel at the more academic challenges, they might also stumble with social aspects of the business world. On the other hand, one might have struggled to at first comprehend the ideas of supply and demand, but easily developed trust and rapport with peers, professors, or co-workers. The goal of this survey was to find the accuracy of the DISCflex™ Business Behaviors Report at providing an accurate assessment of an individual's self-perception and providing valuable information to lead the individual through the behavioral change process.

Table 6: Responses to face validity

How accurate was the DISCflex Business Behaviors Report?	N	%
• Exactly Like Me (95-100% accurate)	57	97%
• Mostly Like Me (85-95% accurate)	2	3%
• Somewhat Like Me (70-85% accurate)	0	
• Not Really Like Me (Under 70% accurate)	0	
Do you believe the information in the DISCflex Business Behaviors Report is useful for improving your business skills?		
• Yes	50	85%
• Maybe	6	10%
• No	0	
• Not Sure	3	5%
Would you recommend the DISCflex Business Behaviors Report to your family members, friends, and colleagues?		
• Yes	57	97%
• Maybe	2	3%
• No	0	
• Not Sure	0	

These results demonstrate a strong confirmation of the relationship between DISCflex™ feedback and the self perception of the individual reading it.

Section V: Instrument constraints

Setting and environment

All DISC instruments focus on specific behaviors and patterns, and that behavior takes place in a public setting. Thus, the psychological characteristics being measured are expressed through interactions. Unlike measurement of purely internal beliefs and values, behavior is encouraged and discouraged through these interactions. When considering these effects, three issues arise that impact the measurement of such an expressed characteristic. One issue focuses on the situational demands and individual perceptions of the setting in which the measurement is taking place. A second issue focuses on the social desirability perceived by the respondents with reference to each of the descriptions of behaviors used as indicators of the four DISC scales. A third issue is introduced when descriptions are translated and/or the instrument is used in a different language/cultural environment. Each of these issues is discussed below.

Situational demands

Situational demands arise from the setting and conditions as perceived by an individual. Since the instrument is based on self-reports of behaviors, an individual may enhance or censor such self-reports based on conscious or sub-conscious perceptions of the setting in which the instrument is being used. If these perceptions are that the setting is low-risk and trusting, the individual may be more candid than in high-risk settings. Conversely, if these perceptions are that the setting is high-risk or judgmental, then the individual may be less candid in order to present a positive self-image. This is an issue shared by all self-report (ipsative) instruments.

Social desirability

Not all descriptions or characteristics of a scale can be used as scalable items in an instrument. There are some descriptions that are socially loaded as either attractive or undesirable. That is, some descriptions of a scale may be socially desirable. Persons displaying a higher level of a scale characteristic may act more frequently in that socially desirable manner. But, everyone would like to see themselves in the positive light. So, if that description is included among the choices and many respondents choose it, it does not differentiate between someone high, moderate, or low in the scale behavior. In a similar way there may be descriptions of behaviors that many people would rank as low ("least-like-me") even when it is a good description of a scale behavior. In both cases the descriptions do not work to differentiate among respondents, and they are therefore not included in an instrument. These values of desirable and undesirable behaviors are socially established and shared among most members of a culture. Culture further impacts selection of descriptions as discussed next.

Cultural impacts

Cultures differ in how specific behaviors are defined and judged. Anyone visiting another culture may notice such differences immediately. Loud simultaneous talking may be the norm of a good friendship in one culture, and signs of a fight about to erupt in another. A description of a behavior utilizing similar words in two different languages may have very different connotations. For example, *solidarity* and *compassion* may carry different connotations with reference to the role of equality, and sympathy in different cultures. It is important to consider these differences when using an instrument in different cultures. If usage of the instrument is sufficient and clients conclude that it is important, specific assessments of reliability for any specific sub-population can be undertaken.

Measurement limits

The process of self-report using forced, limited scale choices is referred to as ipsative (sometimes seen as ipsitive) measurement. All efforts at this type of measurement are limited. Three issues are of specific

interest related to this instrument. These issues consider the nature of the score measurement, a bias of self-reporting, and the effects of the situational demands and perceptions on scores.

Frequency counts and Score

First, the process of summing up the frequency of responses produces a score that is a comparative measure, not a quantitative measure. The ranking of one item may not/does not equal the ranking of another item. A scale is a sum of descriptions ranked by the respondent. These raw scores cannot be compared directly across several scales. That is, selecting 10 x items and 5 y items does not mean that the sum of x's is more than the sum of y's. Remember, it is important to note that the scales are not quantities of the characteristics. DISCflex™ uses standardized metrics to compare scales for an individual, and warns that it is inappropriate to compare scales among respondents. While the scale scores should not be compared, it is appropriate for individuals to share their specific and relative ranking of the scale. This means that it is **inappropriate for a respondent to say,** "I'm a higher D than you." But, it may be helpful to share, "I ranked S as my highest behavior pattern; and you said you ranked C as your highest. Let's talk about how this influences our interactions."

Ipsative measures

The process of forced ranking as a source for behavioral scaling has a long tradition in psychological measurement. Challenges arise when the final choice or value in a fixed range of values is forced by the values of the prior choices. Thus, the label ipsative is based on *ipso facto:* "therefore, it follows." Such measurement is accepted as a method to gain insight based on self-perception; however, it does have its limitations. Ipsative measurement has statistical limits that restrict use of specific procedures. The DISCflex™ instrument respects these limits by restricting development and use of the scales in recognition of the ordinal nature of the scales.

Bias of self reporting

All self-report instruments are subject to a bias from self-report perceptions, which may be either sub-conscious or conscious. An example of this sub-conscious bias may occur when we do not see ourselves as others do. Our self-perceptions, while founded in feedback from others, may not be congruent with the way others would describe us. Awareness of and addressing this incongruence may be an outcome worth the effort in team-building and human resource development.

In response to providing an option to receive feedback, DISCflex™ provides an option for respondents to invite third parties (family, coworkers, friends) to provide feedback. This feedback allows the respondent to compare their self-perceptions with the way others see the respondent. This ranking by others does not affect the respondent's scores, but rather provides an opportunity for additional growth.

Test-retest learning

Since DISCflex™ is not a measurement instrument for evaluation or skill development, there is no learning effect from a respondent completing it a second or multiple times. Although the individual may "learn" the terms and concepts used in building the DISC scales, the low-threat, high-trust setting should provide encouragement for candor, not manipulation. Given the Indaba Global assumption that change in behavior patterns is a goal for participation in DISCflex™ processes, repeating the DISCflex™ instrument may be a part of an individual's growth and development.

Section VI: Conclusions

In summary:

- DISCflex™ continues to build on a long tradition of multiple DISC instruments that have established the value and validity of this model for considering behavior patterns.
- The validity of the construction of DISCflex™ was monitored, tested, and confirmed by experts with years of experience in use of the DISC model.
- The items, scales, and structure of DISCflex™ are confirmed as reliable.
- The scales of DISCflex™ are confirmed as being related in agreement with the concepts of the model.
- DISCflex™ when used as recommended for individual growth and for the purpose of recommended eLearning and other associated activities can serve as a valid and reliable measure.
- DISCflex™ is NOT intended for comparison among individuals and is not intended for the purpose of evaluation or job promotion.

Section VII: Instrument protocols and utilization

The DISCflex™ instrument's focus is "within a person" and measures the individual's self-perception of their specific behavioral tendencies. It also provides an option for each individual to receive feedback from three spheres of their life (work, family, social). This third party perception helps the individual recognize how they interact with different people and alerts them to discrepancies in their perceived versus actual behavior exertion.

The DISCflex™ Business Behaviors Report provides an individual with specific strengths, warnings, and coaching advice to further their understanding of how their behavioral patterns affect each area of their skill sets. With this information, individuals are able to more accurately assess their strengths and weaknesses and are better able to formulate an action plan to develop their behavioral skill sets. The report helps guide an individual through this process.

The subsequent eLearning provides an individual with the concepts and knowledge of why others are viewing them a certain way and how to dial up or dial down specific behaviors appropriately, *e.g*., when to use each factor during the stages of listening. Dialing your behaviors to craft the appropriate response to different situations one faces is the ultimate goal of the DISCflex™ eLearning.

The eLearning consists of various parts that form both a general understanding of the DISC model of behavior and provide targeted sessions based on an individual's specific behavior pattern. Once an individual completes the DISCflex™ assessment, they have immediate access to over 20+ hours of eLearning, audio, white papers, activities, quizzes, and tests. This provides increased flexibility of learning through **My Way, My Place, My Pace™.** The eLearning format allows an individual to learn how they want, where they want, and when they want:

- Learn **How** they want. The eLearning is taught in three different formats: audio, video, and white papers. Individuals can choose to learn in the format that is best for them. They can even choose a combination of all three learning mediums.
- Learn **Where** they want. With the eLearning, an individual can access the sessions at home, at the office, while exercising, or any place that suits your schedule and lifestyle.
- Learn **When** they want. The individual decides the time. There are no classes or meetings to attend. This means they can learn around their schedule at their own pace.

The eLearning helps further the learning process and helps the individual utilize the information in the report to its fullest extent.

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