

Extended DISC Personal Analysis
–
Validation Report 2015



1 Extended DISC Personal Analysis - Validation Summary

Research population

The population was collected from the users of the Extended DISC System from around the world. The population represents all the age groups, genders, organization types and levels and races in the same ratio it is designed to be used.

The total population used for the research was 239.171. The size of the main comparison population (2011 validation population) was 89.504.

The language versions of Extended DISC Personal Analysis for the study were (the language codes used in this study):

- Albanian (ALB)
- Arabic (ARA)
- Bulgarian (BUL)
- Catalan (CAT)
- Chinese (Hong Kong) (CHK)
- Chinese Simplified (CHI)
- Chinese (Traditional) (TWN)
- Croatian (CRO)
- Czech (CZE)
- Danish (DAN)
- Dutch (HOL)
- English (Australasia) (AUS)
- English (Canada) (ECA)
- English (Caribbean) (ENC)
- English (India)
- English (Nigeria) (NIG)
- English (South Africa) (RSA)
- English (US) (ENG)
- English (UK) (EUK)
- Estonian (EST)
- Finnish (FIN)
- Flemish (FLE)
- French (Canada) (FCA)
- French (Caribbean) (FRR)
- French (France) (FRA)
- German (Austria)
- German (GER)
- German (Switzerland)
- Greek (GRE)
- Gujarati (GJR)
- Hebrew (HEB)
- Hindi (HIN)
- Hungarian (HUN)
- Indonesian (IND)
- Italian (ITA)
- Japanese (JAP)
- Kannada (KAN)
- Korean (KOR)
- Kurdish (KUR)
- Latvian (LAT)
- Lithuanian (LIT)
- Macedonian (MAC)
- Malay (MAL)
- Maori (MAO)
- Marathi (MAR)
- Norwegian (NOR)
- Polish (POL)
- Portuguese (Brazil) (POB)
- Portuguese (Portugal) (POR)
- Romanian (ROM)
- Russian (Kazakhstan) (KAZ)
- Russian (RUS)
- Slovak (SLK)
- Slovene (SLN)
- Spanish (Caribbean) (SPC)
- Spanish (Spain) (SPA)
- Spanish (Latin America) (SPL)
- Swahili (SWA)
- Swedish (Finland) (SWF)
- Swedish (Sweden) (SWE)
- Thai (THA)
- Tok Pisin (TPI)
- Turkish (TUR)
- Vietnamese (VIE)

Reliability and Validity of Extended DISC Personal Analysis

Internal consistency. Internal consistency is a measure based on the correlations between different items on the same test (or the same subscale on a larger test). It measures whether several items that propose to measure the same general construct produce similar scores. Internal consistency is usually measured with Cronbach's alpha, a statistic calculated from the pairwise correlations between items. Internal consistency ranges between zero and one. A commonly-accepted rule of thumb is that an alpha of 0.6-0.7 indicates acceptable reliability, and 0.8 or higher indicates good reliability. High reliabilities (0.95 or higher) are not necessarily desirable, as this indicates that the items may be entirely redundant.

The global Cronbach's alpha for Extended DISC Personal Analysis version 2013 (2009) was:

| | |
|---|-----------|
| D | .80 (.84) |
| I | .80 (.82) |
| S | .82 (.83) |
| C | .78 (.78) |

The results prove that the instrument continues having a very high validity.

The consistency of the instrument was tested by dividing the research population in two randomly selected sub-groups:

| Construct validity | | | | |
|--------------------|-------------|-------------|-------------|-------------|
| | D | I | S | C |
| Part 1 | 0,82 | 0,81 | 0,85 | 0,78 |
| Part 2 | 0,84 | 0,82 | 0,83 | 0,80 |
| Global | | | | |
| 2013 | 0,84 | 0,82 | 0,83 | 0,78 |
| 2011 | 0,84 | 0,82 | 0,84 | 0,78 |
| 2009 | 0,84 | 0,82 | 0,85 | 0,79 |
| 2008 | 0,84 | 0,82 | 0,84 | 0,79 |
| 2007 | 0,84 | 0,82 | 0,84 | 0,79 |

Population statistics and interesting research findings

The global DISC distribution

| | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 |
|----------|------|------|------|------|------|------|------|------|------|------|------|
| D | 12,3 | 11,8 | 13,2 | 12,1 | 12,8 | 12,3 | 12,0 | 13,1 | 13 | 13 | 14 |
| I | 26,4 | 29,8 | 29,6 | 31,3 | 31,4 | 31,5 | 30,9 | 31,0 | 29 | 29 | 27 |
| S | 30,9 | 29,9 | 28,9 | 30,4 | 30,2 | 30,8 | 31,6 | 30,9 | 29 | 32 | 31 |
| C | 30,4 | 28,5 | 28,2 | 26,2 | 25,6 | 25,4 | 25,4 | 25,0 | 29 | 26 | 28 |

The stability of the instrument (proved by the very high correlation between the different years) supports the claim that the instrument has been able to maintain its reliability.

The different age groups

| 2015 | <1960's | 1960's | 1970's | 1980's | 1990's |
|----------|---------|--------|--------|--------|--------|
| D | 9,9 | 10,9 | 12,2 | 10,2 | 8,0 |
| I | 25,5 | 27,6 | 29,4 | 32,7 | 33,2 |
| S | 35,9 | 32,0 | 30,1 | 29,1 | 30,5 |
| C | 28,5 | 29,5 | 28,9 | 28,6 | 28,1 |

The 2015 research supports the finding (that was first identified in 1994 research), that the global population is changing. The younger the person is (the birth years in the above table), the more likely the person is to have dominant I, and less likely to have dominant S or C.

The gender differences

| Male | 2015 | 2013 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 |
|----------|------|------|------|------|------|------|------|------|
| D | 13 | 14 | 14 | 17 | 14 | 15 | 15 | 13 |
| I | 28 | 28 | 30 | 29 | 29 | 29 | 30 | 29 |
| S | 29 | 28 | 27 | 29 | 29 | 28 | 28 | 32 |
| C | 30 | 30 | 29 | 28 | 28 | 27 | 27 | 26 |

| Female | 2015 | 2013 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 |
|----------|------|------|------|------|------|------|------|------|
| D | 8 | 9 | 9 | 9 | 8 | 10 | 9 | 10 |
| I | 32 | 32 | 34 | 34 | 35 | 35 | 34 | 34 |
| S | 33 | 32 | 31 | 32 | 32 | 33 | 32 | 31 |
| C | 28 | 25 | 25 | 24 | 25 | 23 | 25 | 24 |

Although there is no major gender distribution between the four dominant styles, the minor I and S domination in female population seems to be consistent, with D and C dominating in male population.

Overall conclusion from the global comparison

The results show that the Extended DISC Personal Analysis worked the same way in 2015 as it has done in the previous years. All the distributions are similar to what they've previously been, and all trends have continued to develop the same way as they have done in the past.

The results support the claim that Extended DISC Personal Analysis was in 2015 a valid instrument, and that the environment has not changed in any direction that would require adjustment in the basic construct of the instrument.

More detailed information and analysis of the research finding can be found in the 2015 validation report.

Number formatting

This report uses European number formatting. Thousand separator: “.”. Decimal separator: “,”.

2 Preface

Extended DISC® assessments are based on concepts of human behavior accepted widely all around the world. They are not, however, purely psychological tools. They are also management's tools in efforts to increase the efficiency of an organization. Today, Extended DISC® Analyses are a part of the daily management system in thousands of organizations all around the world. They give the decision maker extremely important information about people involved in the organization – information that would otherwise be very much more expensive and time consuming to acquire.

Extended DISC® Personal Analysis is the origin of the Extended DISC® System. It was developed between 1991 and 1994 and is today the starting phase in many different training and consultancy projects. Learning the Extended DISC® System typically begins with completing the Personal Analysis Questionnaire and participating in the Personal Analysis Certification Training.

Extended DISC System was among the first ones to offer web based solution for completing assessments and managing the whole process. The first web applications were launched to users as early as 1998.

Personal Analysis is the most commonly used Extended DISC® assessment because of its many applications; it is also the foundation for the other assessments. Personal Analysis is a behavioral inventory based on self-evaluation. There are no right or wrong answers in the instrument questionnaire. It does not give a high or low score or by any other means classify people into better or worse. The Extended DISC® Personal Analysis does not measure intelligence, professional skills, or attitudes - it purely concentrates on measuring natural behavioral styles.

Personal Analysis is a useful tool for not only the individual him/herself but also for everyone communicating with the person. Its main purpose is to increase understanding of human behavior; our own and others'.

Compared to other Disc Theory based tools Extended DISC® Personal Analysis goes more deeply into the person's personality, measuring something much more unconscious, stable and natural than Disc tools traditionally have done.

I am very happy to offer you the opportunity to use this tool that we believe is the most comprehensive behavioral assessment tool available. It can help you both in your business and private life.

Jukka Sappinen
Managing Director
Extended DISC International Ltd.
Founder of the Extended DISC® System

3 Introduction

3.1 Purpose of the Validation Report

This report is a publication of the on-going process that aims for providing the users of the Extended DISC System with the most updated and valid assessment questionnaires.

This version focuses on the data population collected in 2013. The study compares the 2013 data to previous data and the theoretical model behind Extended DISC Personal Analysis.

The report is based on the initial validation study by University of Oulu (in Finland) and is updated by Extended DISC International.

The purpose of the report is to make sure Extended DISC Personal Analysis is still a valid tool to be used in the next years.

This report is protected by copyright against any type of copying or reproduction.

3.1.1 Research coverage and use

Extended DISC Personal Analysis is designed to be used for individual and organizational development. The most common target group is, as a result of that, adult population currently employed or seeking for employment in both public and private sector.

The instrument is applicable in all levels of an organization and in all areas of the world.

The sample populations used in this study are collected from the target group of the instrument representing well all age groups, sexes, different races, all types of organizations and all organizational levels that we would recommend would be the respondents of the questionnaire.

The study is limited to a number of language areas that are listed later in this document. There is no reason to believe the instrument would not work in other languages.

3.1.2 Data Collection

To achieve the best representation of the target group of Extended DISC Personal Analysis, the validation sample was randomly selected among the real-life inventory results collected by the online system of Extended DISC International.

The comparison material used for this study was collected using the same method between 2002 and 2008. In addition, material collected for the original validation studies of Extended DISC Personal Analysis was used for comparison. The original material was collected on paper questionnaire, similar method to the rest of the comparison population from 1998 – 2002.

The size of the population for the 2013 study was 144.703. The size of the population is big enough to represent well the whole current user group of Extended DISC Personal Analysis.

The comparison populations used for this study:

- 1 - Original validation study (n = 555, 1994-98)
- 2 - Population USA-Online 2002 (n=1007)
- 3 - Population FIN-Paper 2000 (n=440)
- 4 - Population THA-Paper 2002 (n=743)
- 5 – Population POL (Paper/Online) (n=657) - Polish
- 6 – Population DAN (Paper/Online) (n=643) - Danish
- 7 – Population KOR (Online 2002-04) (n=2159) – Korean
- 8 – Population ENG (Online 2003-04) (n=14.283) – English (US)
- 9 – 2005 Global study (several languages) (n=26.319)
- 10 – 2006 Global study (several languages) (n=44.235)
- 11 – 2007 Global study (several languages) (n=57.955)
- 12 – 2008 Global study (several languages) (n=63.684)
- 13 – 2009 Global study (several languages) (n=77.811)
- 14 – 2011 Global study (several languages) (n=144.703)

All the comparison populations consist of randomly selected persons representing well the normal target group of Extended DISC Personal Analysis.

3.2 History of Extended DISC Personal Analysis

The Extended DISC[®]-system is based on a psychological theory developed in the 1920's. Carl G. Jung created the foundations for the theory in his book *The Psychological Types (Die Psychologische Typen)*. His ideas were based on defining two behavioral axes; sensation-intuition and thinking - feeling, and the four main behavioral traits that they composed. The work of Jung was further developed by William Moulton-Marston who defined a four dimensional behavioral map.

As a result, the four-quadrant thinking of human behavior was developed. It is still popular and is used in many management, sales and leadership training techniques. A few variations of the theory also exist that use, for example, eight or sixteen categories of behavioral styles. The over-simplification of behavior and its classifications have proven to be a weakness of these systems.

The original DISC reference framework was developed at the end of the 1940's and the beginning of the 1950's to eliminate these problems. It uses regression analysis to separate the combined four basic behavioral styles from each other and makes them into independent and even interdependent behavioral styles. This also makes it possible to have a framework of millions of human reaction modes that can be transformed by using different techniques, into a smaller, more usable quantity.

Milestones of development of Extended DISC Personal Analysis:

- | | |
|-------------|--|
| 1921 | Carl G. Jung: Die Psychologische Typen |
| 1928 | William Moulton-Marston: Emotions of Normal People |
| 1951 | DISC System (several individuals in the USA) |
| 1991 - 1994 | Development of the questionnaire design - Early validations |
| 1991 - 1996 | The report design - Writing the text contents |
| 1994 | Launch of the Extended DISC System (Jukka Sappinen, Finland) |
| 1994 | First validation study of a published product |
| 1995 | First software application |

| | |
|-------------|---|
| 1995 - 2001 | Questionnaire translations |
| 1997- | Annual questionnaire validation studies begin |
| 1998 | Web application – ExtDISC Online Master |
| 1999 | Web application - eDISC Online |
| 2004 | Web application – Extended DISC Online System |

Questionnaire Design and Validation :

1991-1994

1. Selection of a target group
2. Draft Questionnaire testing
3. Comparison of the results to other instruments
4. Repeating steps 1 and 2 required many times

1994-1996

5. Feedback validation
6. Test-retest validation

1997-

7. Annual language development validation

5 Overall Results

5.1 Global Population

The global population consisted of 239.171 persons representing 64 native languages and 46 countries.

The comparison populations used in this study are:

- Extended DISC Global validation 2013 population (n= 144.703)
- Extended DISC Global validation 2011 population (n= 89.504)
- Extended DISC Global validation 2009 population (n= 77.811)
- Extended DISC Global validation 2008 population (n= 63.684)
- Extended DISC Global validation 2007 population (n= 57.955)
- Extended DISC Global validation 2006 population (n= 44.235)
- Extended DISC Global validation 2005 population (n= 26.786)
- Extended DISC Global validation 2004 population (n= 21.947)
- Extended DISC Global validation 2003 population (n= 20.865)
- Extended DISC Global validation 2002 population (n= 19.866)

The following language versions of Extended DISC Personal Analysis were included in the validation study (the language codes used in this study).

- | | |
|--------------------------------|-------------------------------|
| - Albanian (ALB) | - German (GER) |
| - Arabic (ARA) | - German (Switzerland) |
| - Bulgarian (BUL) | - Greek (GRE) |
| - Catalan (CAT) | - Gujarati (GJR) |
| - Chinese (Hong Kong) (CHK) | - Hebrew (HEB) |
| - Chinese Simplified (CHI) | - Hindi (HIN) |
| - Chinese (Traditional) (TWN) | - Hungarian (HUN) |
| - Croatian (CRO) | - Indonesian (IND) |
| - Czech (CZE) | - Italian (ITA) |
| - Danish (DAN) | - Japanese (JAP) |
| - Dutch (HOL) | - Kannada (KAN) |
| - English (Australasia) (AUS) | - Korean (KOR) |
| - English (Canada) (ECA) | - Kurdish (KUR) |
| - English (Caribbean) (ENC) | - Latvian (LAT) |
| - English (India) | - Lithuanian (LIT) |
| - English (Nigeria) (NIG) | - Macedonian (MAC) |
| - English (South Africa) (RSA) | - Malay (MAL) |
| - English (US) (ENG) | - Maori (MAO) |
| - English (UK) (EUK) | - Marathi (MAR) |
| - Estonian (EST) | - Norwegian (NOR) |
| - Finnish (FIN) | - Polish (POL) |
| - Flemish (FLE) | - Portuguese (Brazil) (POB) |
| - French (Canada) (FCA) | - Portuguese (Portugal) (POR) |
| - French (Caribbean) (FRR) | - Romanian (ROM) |
| - French (France) (FRA) | - Russian (Kazakhstan) (KAZ) |
| - German (Austria) | - Russian (RUS) |

- Slovak (SLK)
- Slovene (SLN)
- Spanish (Caribbean) (SPC)
- Spanish (Spain) (SPA)
- Spanish (Latin America) (SPL)
- Swahili (SWA)
- Swedish (Finland) (SWF)
- Swedish (Sweden) (SWE)
- Thai (THA)
- Tok Pisin (TPI)
- Turkish (TUR)
- Vietnamese (VIE)

The material was collected from the same countries as the language indicates. For Spanish (Latin America), the population represents well all the Latin American countries. Spanish (Caribbean) is collected mostly from Dominican Republic. English (Australasia) represents equally Australia and New Zealand. Russian material is collected mostly from Russia, Ukraine and Belorussia. English (Caribbean) data is collected from mostly from the Caribbean island countries.

5.1.1 Global Distribution – DISC

The following table compares the global DISC distribution between 2002 and 2015.

Table. Global DISC Distribution – Annual Comparison

| | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 |
|----------|------|------|------|------|------|------|------|------|------|------|------|
| D | 12,3 | 11,8 | 13,2 | 12,1 | 12,8 | 12,3 | 12,0 | 13,1 | 13 | 13 | 14 |
| I | 26,4 | 29,8 | 29,6 | 31,3 | 31,4 | 31,5 | 30,9 | 31,0 | 29 | 29 | 27 |
| S | 30,9 | 29,9 | 28,9 | 30,4 | 30,2 | 30,8 | 31,6 | 30,9 | 29 | 32 | 31 |
| C | 30,4 | 28,5 | 28,2 | 26,2 | 25,6 | 25,4 | 25,4 | 25,0 | 29 | 26 | 28 |

The correlation between years 2013 and 2015 is .999 and F-test value is .983

The following tables compare the global DISC distribution on the Extended DISC Diamond ¹ between years 2013 and 2015.

Table. Extended DISC Diamond – Global Distribution 2013

| |
|----------|
| D |
| 0,9982 |
| I |
| 0,9989 |
| S |
| 0,9994 |
| C |
| 0,9996 |

Conclusions: There are no signs of anything changing in the instrument or the environment where it has been used. This supports the claim that the instrument was working with the same high validity as it did in the previous year.

5.1.2 Global Distribution – DISC by Age Group

The results (DISC distribution) were compared against the age of the respondents.

All the previous studies (since the Student Research in 1994) have supported the claim that the global population is changing its most preferred natural response style ² from left to right, and especially to the lower right corner of the Extended DISC Diamond.

| D | <1950's | <1960's | 1960's | 1970's | 1980's | 1990's |
|-------------|---------|---------|--------|--------|--------|--------|
| 2015 | | 10 | 11 | 12 | 10 | 8 |
| 2013 | 10 | 11 | 13 | 14 | 11 | 8 |
| 2011 | 10 | 12 | 13 | 14 | 10 | 10 |
| 2010 | 11 | 10 | 8 | 11 | 7 | 5 |
| 2009 | 10 | 12 | 14 | 13 | 11 | 7 |
| 2008 | 13 | 12 | 13 | 15 | 12 | |
| 2007 | 16 | 12 | 14 | 14 | 9 | |
| 2006 | 12 | 13 | 13 | 12 | 10 | |
| 2005 | 11 | 14 | 14 | 12 | | |

| I | <1950's | <1960's | 1960's | 1970's | 1980's | 1990's |
|-------------|---------|---------|--------|--------|--------|--------|
| 2015 | | 26 | 29 | 29 | 32 | 33 |
| 2013 | 27 | 26 | 29 | 30 | 34 | 38 |
| 2011 | 31 | 28 | 30 | 31 | 37 | 36 |
| 2010 | 27 | 28 | 32 | 32 | 36 | 40 |
| 2009 | 28 | 29 | 30 | 32 | 33 | 38 |
| 2008 | 28 | 29 | 30 | 33 | 35 | |
| 2007 | 26 | 30 | 32 | 33 | 37 | |

| | | | | | |
|-------------|----|----|----|----|----|
| 2006 | 26 | 28 | 30 | 34 | 38 |
| 2005 | 24 | 28 | 31 | 36 | |

| S | <1950's | <1960's | 1960's | 1970's | 1980's | 1990's |
|-------------|-------------------|-------------------|---------------|---------------|---------------|---------------|
| 2015 | | 36 | 32 | 30 | 29 | 30 |
| 2013 | 35 | 34 | 31 | 28 | 28 | 30 |
| 2011 | 35 | 34 | 30 | 27 | 27 | 32 |
| 2010 | 35 | 35 | 32 | 29 | 29 | 29 |
| 2009 | 34 | 34 | 31 | 29 | 30 | 33 |
| 2008 | 32 | 33 | 31 | 29 | 30 | |
| 2007 | 33 | 31 | 28 | 29 | 29 | |
| 2006 | 34 | 33 | 31 | 30 | 29 | |
| 2005 | 36 | 34 | 30 | 28 | | |

| C | <1950's | <1960's | 1960's | 1970's | 1980's | 1990's |
|-------------|-------------------|-------------------|---------------|---------------|---------------|---------------|
| 2015 | | 28 | 28 | 29 | 30 | 29 |
| 2013 | 28 | 29 | 27 | 28 | 27 | 25 |
| 2011 | 25 | 27 | 27 | 27 | 26 | 21 |
| 2010 | 28 | 27 | 28 | 28 | 28 | 26 |
| 2009 | 28 | 26 | 25 | 26 | 26 | 22 |
| 2008 | 26 | 26 | 25 | 25 | 23 | |
| 2007 | 26 | 27 | 27 | 25 | 24 | |
| 2006 | 28 | 27 | 28 | 24 | 23 | |
| 2005 | 30 | 24 | 25 | 24 | | |

The size of dominant D population (in 2007 study) born before 1950's was too small to produce statistically reliable data. Similarly the size of the population born in 1990's (in 2009 study) is too small to draw final conclusions. Before 2015 study, the people born before 1950 were separated in own column.

Table. Extended DISC Diamond – Global Distribution by Age Group 2013

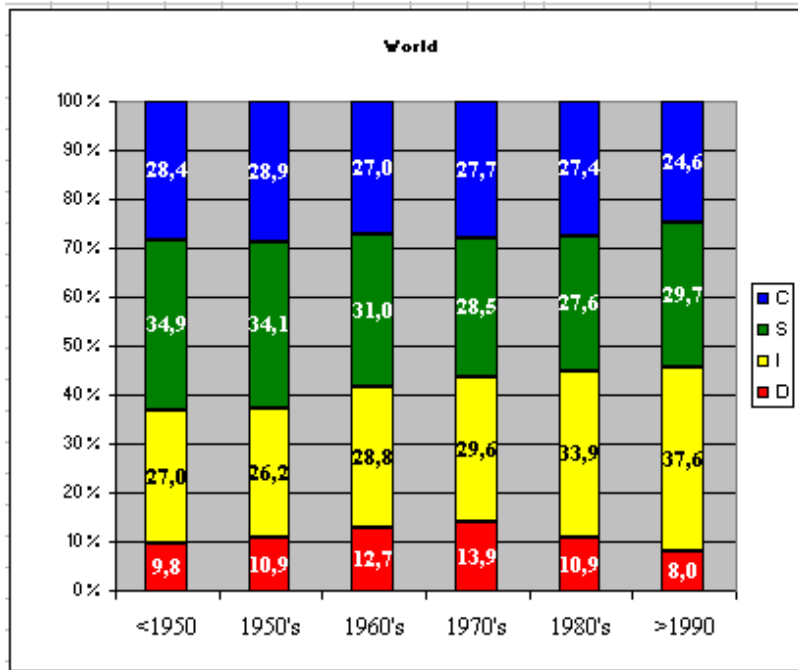
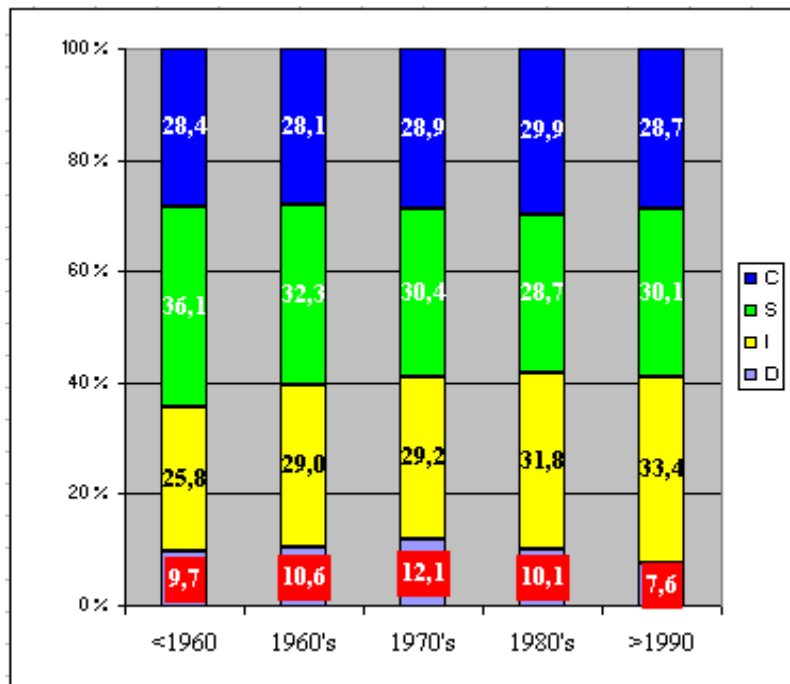


Table. Extended DISC Diamond – Global Distribution by Age Group 2015



Conclusions: The findings continue supporting the claim that the instrument is measuring the same phenomenon as it has done in the past. It also supports the finding that the global population is changing toward a higher preference on I. An interesting finding can also be found in the youngest population with and increase in S.

5.1.3 Global Distribution – DISC vs. Gender

The results (DISC distribution) were compared against the gender of the respondents. All the previous studies have shown a difference between female and male population.

Table. DISC Distribution vs. Gender

| Male | 2015 | 2013 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 |
|----------|------|------|------|------|------|------|------|------|
| D | 13 | 14 | 14 | 17 | 14 | 15 | 15 | 13 |
| I | 28 | 28 | 30 | 29 | 29 | 29 | 30 | 29 |
| S | 29 | 28 | 27 | 29 | 29 | 28 | 28 | 32 |
| C | 30 | 30 | 29 | 28 | 28 | 27 | 27 | 26 |

| Female | 2015 | 2013 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 |
|----------|------|------|------|------|------|------|------|------|
| D | 8 | 9 | 9 | 9 | 8 | 10 | 9 | 10 |
| I | 32 | 32 | 34 | 34 | 35 | 35 | 34 | 34 |
| S | 33 | 32 | 31 | 32 | 32 | 33 | 32 | 31 |
| C | 28 | 25 | 25 | 24 | 25 | 23 | 25 | 24 |

Table. DISC Distribution vs. Gender - 2013

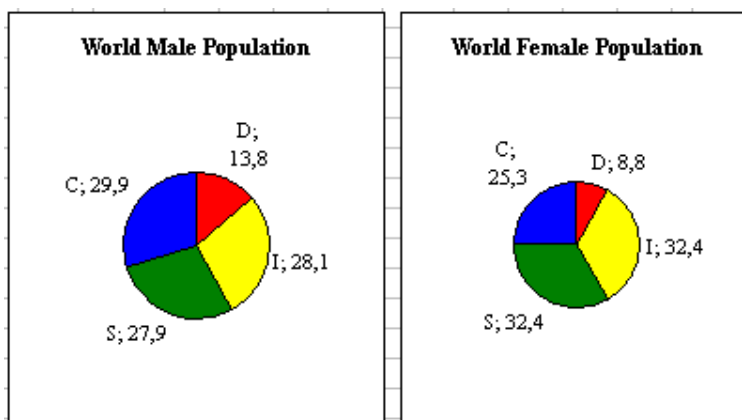
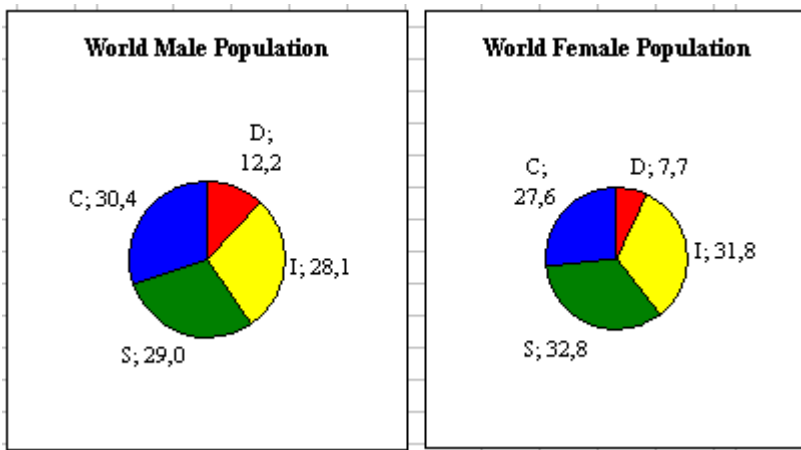


Table. DISC Distribution vs. Gender - 2015



Conclusions: The finding supports the outcome of previous studies: D (clearly) and C (slightly) are more common in the male population, whereas I and S are more common in the female population.

Overall conclusion from the global comparison

The results clearly prove that the Extended DISC Personal Analysis worked with the same high validity in 2015 as it has done in the previous years. All the distributions are similar to what they have previously been, and all trends have continued to develop the same way as they have done in the past.

The results support the claim that Extended DISC Personal Analysis was in 2015 as a good of an instrument as it has previously been, and that the environment has not changed in any direction that would require adjustment in the basic construct of the instrument.

5.2 Language Distribution

5.2.1 DISC Distribution by Language

To check the consistency of the results by each questionnaire language, each language was analyzed separately and, if available, compared to previous studies. All of the studies consist of more than 500 persons.

| ARA | 2015 |
|----------|---------|
| D | 7,4 |
| I | 24,4 |
| S | 29,7 |
| C | 38,6 |
| Correlat | #DIV/0! |
| F-Test | #DIV/0! |

| CAT | 2015 | 2013 | 2006-08 |
|-----|------|------|---------|
| D | 11,5 | 10,3 | 10,3 |
| I | 26,6 | 28,3 | 25,7 |

| | | | |
|----------|--------|--------|--------|
| S | 34,1 | 32,6 | 33,6 |
| C | 27,9 | 28,8 | 30,3 |
| Correlat | 0,9880 | F-Test | 0,9488 |

| CHI | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2004 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| D | 10,8 | 12,4 | 10,4 | 11,6 | 11,1 | 8,1 | 9,6 | 8,8 |
| I | 17,3 | 16,8 | 19,6 | 20,4 | 17,8 | 23,6 | 30,7 | 31,1 |
| S | 44,3 | 44,9 | 45,4 | 45,1 | 46,2 | 50,6 | 45,9 | 44,7 |
| C | 27,6 | 25,8 | 24,5 | 23 | 24,8 | 17,7 | 13,8 | 15,4 |
| Correlat | 0,9950 | F-Test | 0,9823 | | | | | |

| AUS | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2005 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| D | 7,7 | 7,6 | 7,2 | 13,8 | 12,6 | 13,4 | 12,0 | 15,8 |
| I | 32,2 | 32,6 | 34,1 | 31,4 | 33,6 | 35,6 | 30,9 | 32,1 |
| S | 33,6 | 32,7 | 32,3 | 29,7 | 30,7 | 27,9 | 31,6 | 28,2 |
| C | 26,5 | 27,1 | 26,3 | 25,1 | 23,1 | 23,0 | 25,4 | 23,9 |
| Correlat | 0,9984 | F-Test | 0,9953 | | | | | |

| DAN | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| D | 8,5 | 10,0 | 9,5 | 9,5 | 10,0 | 7,9 | 8,6 | 7,1 | 5,7 |
| I | 23,4 | 23,7 | 25,6 | 27,5 | 28,8 | 32,1 | 31,1 | 29,0 | 33,4 |
| S | 47,1 | 45,0 | 44,0 | 43,8 | 42,5 | 42,6 | 42,6 | 46,4 | 45,2 |
| C | 21,0 | 21,3 | 20,9 | 19,2 | 18,8 | 17,4 | 17,7 | 17,6 | 15,7 |
| Correlat | 1,0000 | F-Test | 0,8757 | | | | | | |

| ENC | 2015 | 2013 | 2009 | 2008 | 2007 | 2006 | 2005 | 2001 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| D | 10,6 | 12,2 | 13,4 | 17,4 | 6,0 | 6,8 | 14,8 | 11,1 |
| I | 19,1 | 19,9 | 19,4 | 12,8 | 15,1 | 23,0 | 15,7 | 13,3 |
| S | 31,4 | 30,0 | 30,9 | 26,8 | 33,7 | 27,6 | 30,5 | 29,2 |
| C | 28,9 | 37,8 | 36,2 | 43,0 | 45,2 | 42,6 | 39,0 | 46,4 |
| Correlat | 0,9203 | F-Test | 0,7952 | | | | | |

| ECA | 2015 | 2013 | 2009 | 2008 | 2007 | 2006 | 2003-05 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| D | 8,3 | 7,8 | 12,4 | 12,9 | 9,6 | 11,1 | 12,8 |
| I | 33,0 | 36,6 | 36,1 | 32,6 | 36,4 | 29,9 | 39,5 |
| S | 33,8 | 32,3 | 26,3 | 27,9 | 29,3 | 31,4 | 25,5 |
| C | 24,8 | 23,3 | 25,2 | 26,6 | 24,8 | 27,5 | 22,2 |
| Correlat | 0,9831 | F-Test | 0,9071 | | | | |

| EIN | 2015 | 2013 | |
|------------|-------------|-------------|--|
| D | 14,0 | 12,6 | |
| I | 27,9 | 27,8 | |
| S | 28,5 | 31,1 | |

| | | | |
|----------|------|------|--|
| C | 29,5 | 28,5 | |
|----------|------|------|--|

| ENG | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| D | 11,0 | 12,3 | 13,4 | 11,8 | 14,1 | 14,0 | 13,9 | 14,0 | 13,6 |
| I | 31,6 | 31,6 | 33,1 | 32,6 | 32,5 | 31,7 | 32,5 | 32,1 | 28,4 |
| S | 28,2 | 28,0 | 26,6 | 27,4 | 26,8 | 27,0 | 26,6 | 27,6 | 29,1 |
| C | 29,1 | 28,1 | 26,9 | 28,2 | 26,6 | 27,3 | 27,0 | 26,3 | 29,0 |
| Correlat | 0,9983 | F-Test | 0,8880 | | | | | | |

| EUK | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2005 | 2002-04 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| D | 15,3 | 16,7 | 17,9 | 21,5 | 17,4 | 16,9 | 17,0 | 20,2 | 20,2 |
| I | 29,8 | 30,3 | 30,5 | 31,5 | 30,9 | 32,7 | 28,6 | 28,6 | 32,0 |
| S | 29,2 | 28,6 | 28,0 | 27,1 | 26,8 | 27,1 | 28,0 | 28,6 | 28,1 |
| C | 25,8 | 24,4 | 23,6 | 20,0 | 24,9 | 23,3 | 26,3 | 22,2 | 19,8 |
| Correlat | 0,9867 | F-Test | 0,8701 | | | | | | |

| FCA | 2015 | | |
|------------|-------------|--------|---------|
| D | 6,0 | | |
| I | 39,0 | | |
| S | 37,0 | | |
| C | 18,0 | | |
| Correlat | #DIV/0! | F-Test | #DIV/0! |

| FIN | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| D | 7,5 | 7,1 | 9,1 | 7,6 | 8,8 | 10,0 | 10,1 | 9,2 | 10,0 |
| I | 33,0 | 32,2 | 35,9 | 35,4 | 35,6 | 38,2 | 33,2 | 31,3 | 33,2 |
| S | 43,9 | 43,9 | 38,9 | 41,2 | 40,0 | 37,6 | 39,4 | 43,2 | 41,4 |
| C | 15,7 | 16,8 | 16,2 | 15,9 | 15,6 | 14,2 | 17,4 | 16,2 | 15,4 |
| Correlat | 0,9988 | F-Test | 0,9864 | | | | | | |

| FRA | 2015 | 2005-09 |
|------------|-------------|----------------|
| D | 9,4 | 12,3 |
| I | 36,7 | 36,9 |
| S | 33,4 | 30,6 |
| C | 20,5 | 20,2 |

| GER | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2005 | 2002-04 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| D | 6,8 | 6,6 | 6,7 | 8,8 | 7,4 | 6,4 | 9,3 | 8,3 | 8,7 |
| I | 48,4 | 49,2 | 46,0 | 47,0 | 47,4 | 51,3 | 42,8 | 50,6 | 56,0 |
| S | 16,7 | 16,2 | 17,8 | 17,6 | 18,0 | 18,4 | 22,3 | 20,1 | 16,4 |
| C | 28,1 | 27,9 | 29,4 | 26,6 | 27,3 | 23,9 | 25,6 | 20,9 | 18,8 |
| Correlat | 0,9999 | F-Test | 0,9659 | | | | | | |

| GRE | 2015 | | |
|------------|-------------|--------|---------|
| D | 13,0 | | |
| I | 26,5 | | |
| S | 26,6 | | |
| C | 33,9 | | |
| Correlat | #DIV/0! | F-Test | #DIV/0! |

| HOL | 2015 | 2013 | 2002-08 |
|------------|-------------|-------------|----------------|
| D | 11,4 | 11,6 | 11,2 |
| I | 32,0 | 27,9 | 28,9 |
| S | 35,9 | 39,0 | 38,2 |
| C | 20,7 | 21,5 | 21,7 |
| Correlat | 0,9652 | F-Test | 0,9586 |

| ITA | 2015 | | |
|------------|-------------|--------|---------|
| D | 3,5 | | |
| I | 46,9 | | |
| S | 33,3 | | |
| C | 16,2 | | |
| Correlat | #DIV/0! | F-Test | #DIV/0! |

| JAP | 2015 | | |
|------------|-------------|--------|---------|
| D | 7,6 | | |
| I | 26,9 | | |
| S | 40,8 | | |
| C | 24,8 | | |
| Correlat | #DIV/0! | F-Test | #DIV/0! |

| KOR | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| D | 12,5 | 11,5 | 2,4 | 6,2 | 3,3 | 4,9 | 4,7 | 6,4 | 7,4 |
| I | 33,0 | 31,6 | 53,0 | 32,6 | 41,6 | 30,5 | 25,4 | 29,0 | 26,0 |
| S | 36,0 | 40,2 | 33,3 | 44,2 | 39,2 | 43,9 | 46,5 | 45,2 | 47,7 |
| C | 18,5 | 16,8 | 11,3 | 16,9 | 15,9 | 20,8 | 23,4 | 19,3 | 18,9 |
| Correlat | 0,9860 | F-Test | 0,8036 | | | | | | |

| NIG | 2015 |
|------------|-------------|
| D | 10,5 |
| I | 24,3 |
| S | 33,9 |
| C | 31,3 |

| NOR | 2015 | 2009 | 2003-08 |
|------------|-------------|-------------|----------------|
|------------|-------------|-------------|----------------|

| | | | |
|----------|------|------|------|
| D | 2,3 | 2,1 | 2,8 |
| I | 31,6 | 35,9 | 29,2 |
| S | 47,8 | 44,8 | 51,5 |
| C | 18,3 | 17,1 | 16,5 |

| POB | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2002-05 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| D | 12,4 | 14,1 | 11,9 | 14,0 | 15,6 | 14,9 | 12,9 | 18,8 |
| I | 15,2 | 14,9 | 15,0 | 13,8 | 15,2 | 16,2 | 19,9 | 18,5 |
| S | 18,5 | 17,5 | 16,9 | 18,6 | 17,0 | 15,4 | 19,0 | 17,1 |
| C | 53,9 | 53,5 | 56,2 | 53,6 | 52,0 | 53,5 | 48,1 | 45,6 |
| Correlat | 0,9983 | F-Test | 0,9754 | | | | | |

| POL | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| D | 15,3 | 17,5 | 16,4 | 18,5 | 19,3 | 16,3 | 18,6 | 21,0 | 25,0 |
| I | 19,0 | 20,9 | 22,4 | 24,5 | 22,9 | 24,1 | 23,5 | 22,0 | 23,1 |
| S | 40,8 | 39,0 | 38,4 | 36,3 | 37,2 | 38,2 | 37,7 | 33,3 | 31,8 |
| C | 24,9 | 22,6 | 22,8 | 20,7 | 20,6 | 21,3 | 20,1 | 23,7 | 20,1 |
| Correlat | 0,9868 | F-Test | 0,7968 | | | | | | |

| RUS | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2002-06 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| D | 23,0 | 21,4 | 26,8 | 25,2 | 23,1 | 22,4 | 21,4 |
| I | 16,9 | 16,4 | 17,2 | 18,1 | 19,0 | 16,0 | 19,7 |
| S | 33,9 | 36,1 | 31,9 | 32,2 | 34,7 | 36,6 | 31,9 |
| C | 26,2 | 26,1 | 24,1 | 24,5 | 23,1 | 24,9 | 27,0 |
| Correlat | 0,9931 | F-Test | 0,7860 | | | | |

| SPA | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2002-05 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| D | 6,6 | 7,4 | 7,6 | 7,1 | 7,0 | 8,1 | 6,8 | 11,5 |
| I | 30,3 | 29,6 | 34,1 | 38,0 | 35,9 | 40,0 | 35,0 | 30,5 |
| S | 33,2 | 31,2 | 28,0 | 27,0 | 35,2 | 24,0 | 27,7 | 25,1 |
| C | 30,0 | 31,8 | 30,3 | 27,9 | 31,9 | 27,9 | 30,5 | 32,9 |
| Correlat | 0,9916 | F-Test | 0,9370 | | | | | |

| SPC | 2015 | 2006-09 |
|------------|-------------|----------------|
| D | 6,7 | 6,4 |
| I | 24,3 | 21,4 |
| S | 33,9 | 36,1 |
| C | 35,1 | 36,1 |

| SPL | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| D | 7,2 | 12,0 | 11,9 | 11,7 | 11,6 | 12,2 | 12,2 | 14,4 | 14,2 |
| I | 31,6 | 29,5 | 29,8 | 31,9 | 32,3 | 34,4 | 34,4 | 28,7 | 29,2 |
| S | 20,4 | 17,4 | 15,6 | 15,7 | 17,4 | 16,1 | 16,9 | 15,5 | 14,7 |

EXTENDED DISC – INFORMATION YOU NEED



| | | | | | | | | | |
|----------|--------|--------|--------|------|------|------|------|------|------|
| C | 40,9 | 41,1 | 42,7 | 40,7 | 38,8 | 37,3 | 36,5 | 41,4 | 41,9 |
| Correlat | 0,9742 | F-Test | 0,8573 | | | | | | |

| SWE | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2002-05 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| D | 6,9 | 7,0 | 5,8 | 3,5 | 1,6 | 4,5 | 3,7 | 5,4 |
| I | 45,6 | 45,4 | 45,3 | 44,4 | 51,5 | 57,8 | 63,3 | 62,1 |
| S | 29,9 | 28,3 | 31,0 | 35,5 | 35,7 | 26,2 | 21,0 | 22,0 |
| C | 17,6 | 19,3 | 17,9 | 16,6 | 11,3 | 11,5 | 12,0 | 10,6 |
| Correlat | 0,9970 | F-Test | 0,9628 | | | | | |

| SWF | 2015 | | |
|------------|-------------|--------|---------|
| D | 3,9 | | |
| I | 52,1 | | |
| S | 27,6 | | |
| C | 16,4 | | |
| Correlat | #DIV/0! | F-Test | #DIV/0! |

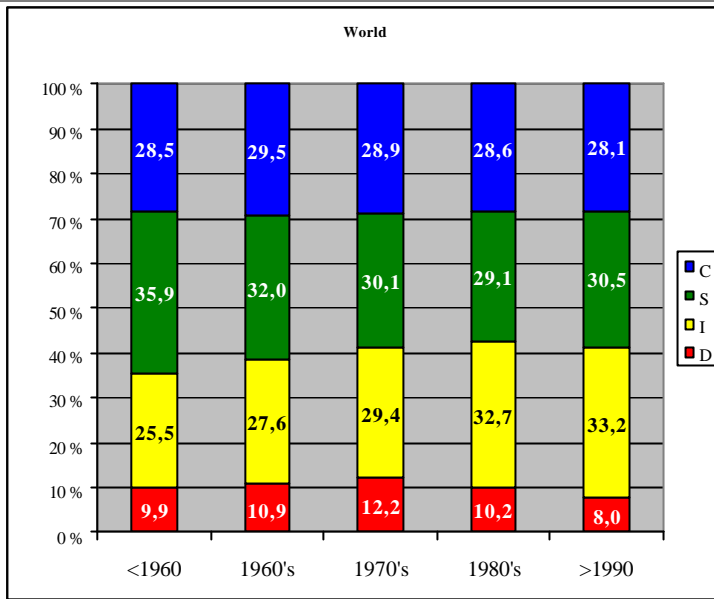
| THA | 2015 | 2013 | 2011 | 2009 | 2008 | 2007 | 2006 | 2005 | 2002-04 |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------|
| D | 14,4 | 15,3 | 14,2 | 13,1 | 15,9 | 8,5 | 14,7 | 13,3 | 14,4 |
| I | 23,4 | 25,8 | 23,4 | 21,5 | 22,9 | 21,5 | 20,7 | 20,7 | 28,5 |
| S | 37,8 | 37,0 | 38,4 | 42,0 | 40,4 | 40,0 | 40,7 | 42,9 | 40,6 |
| C | 24,5 | 21,9 | 23,9 | 23,4 | 20,8 | 30,0 | 23,9 | 23,1 | 16,5 |
| Correlat | 0,9752 | F-Test | 0,9260 | | | | | | |

| TWN | 2015 | 2013 | 2011 | 2009 | 2008 | 2006-07 | 2003 |
|------------|-------------|-------------|-------------|-------------|-------------|----------------|-------------|
| D | 8,0 | 9,6 | 7,1 | 7,5 | 9,9 | 6,5 | 4,1 |
| I | 19,4 | 18,0 | 21,8 | 19,1 | 21,7 | 26,7 | 23,7 |
| S | 44,8 | 43,2 | 45,3 | 43,7 | 42,1 | 40,8 | 45,9 |
| C | 27,8 | 29,3 | 25,8 | 29,6 | 26,2 | 26,0 | 26,3 |
| Correlat | 0,9950 | F-Test | 0,9209 | | | | |

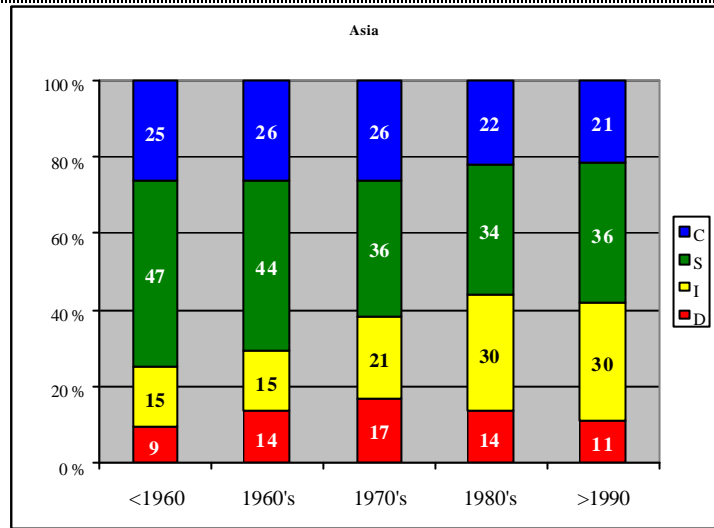
| VIE | 2015 |
|------------|-------------|
| D | 13,9 |
| I | 23,8 |
| S | 38,5 |
| C | 23,8 |

Note! The 2002-04 GER population was biased as people from sales environment were excessively represented.

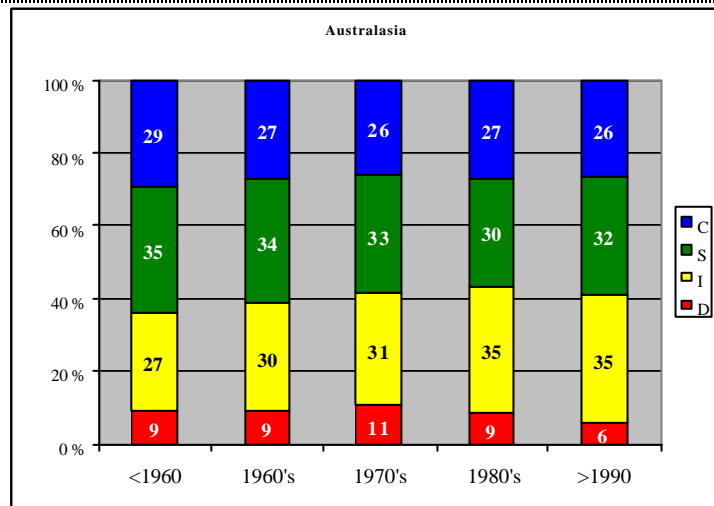
World



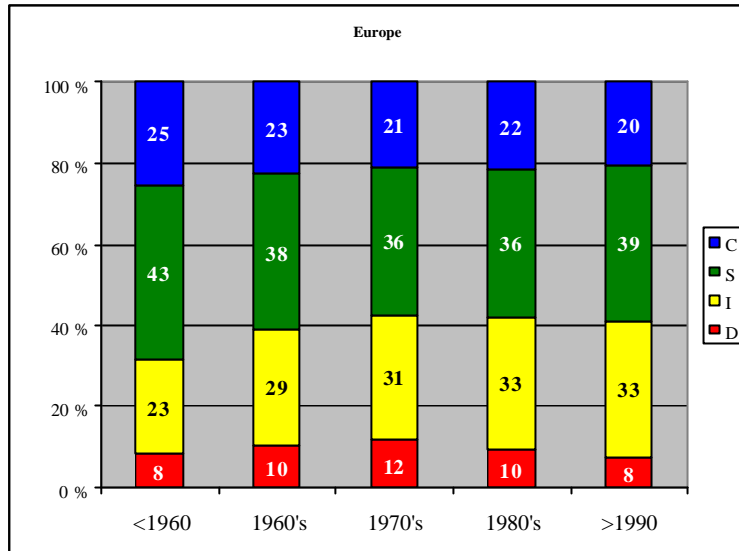
Asia



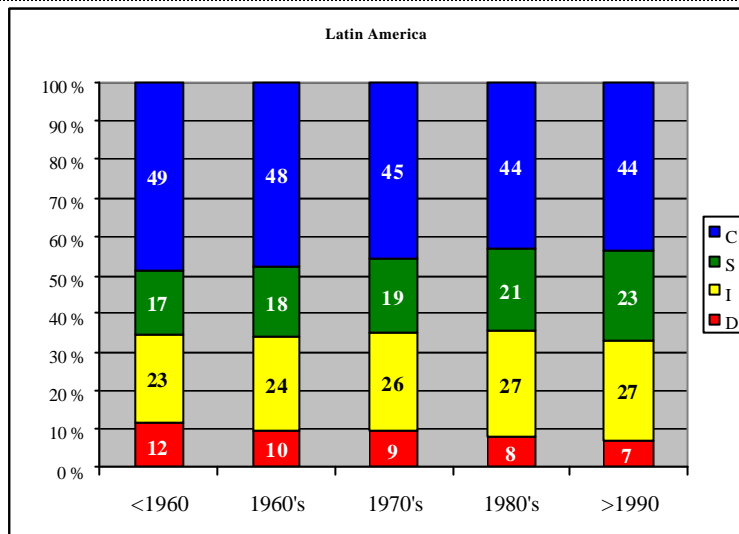
Australasia



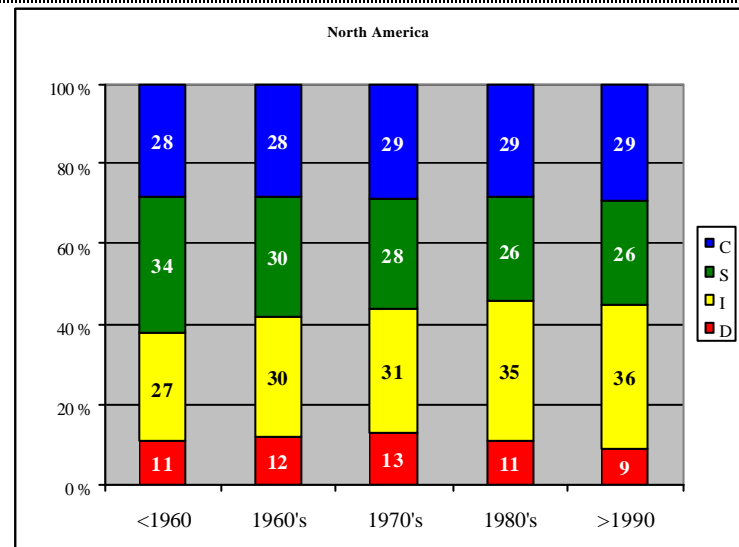
Europe



Latin America



North America



5.2.4 DISC Distribution by Language vs. Gender

To check the consistency of the results for both genders for each language, the following analyses were made.

| | | Male | | | | Female | | | | Correl. |
|-----|------|------|----|----|----|--------|----|----|----|---------|
| | | D | I | S | C | D | I | S | C | |
| AUS | 2013 | 9 | 29 | 33 | 29 | 6 | 37 | 32 | 25 | 0,9203 |
| | 2015 | 9 | 29 | 34 | 28 | 6 | 36 | 33 | 24 | |
| CAT | 2013 | 10 | 25 | 32 | 33 | 11 | 33 | 34 | 21 | 0,9678 |
| | 2015 | 11 | 26 | 33 | 30 | 11 | 27 | 37 | 25 | |
| CHI | 2013 | 13 | 15 | 44 | 28 | 11 | 20 | 47 | 22 | 0,9041 |
| | 2015 | 11 | 15 | 44 | 30 | 10 | 21 | 45 | 24 | |
| DAN | 2013 | 12 | 23 | 43 | 23 | 7 | 25 | 49 | 19 | 0,8709 |
| | 2015 | 10 | 24 | 44 | 22 | 6 | 23 | 51 | 19 | |
| ECA | 2013 | 7 | 37 | 32 | 24 | 8 | 37 | 32 | 23 | 0,9669 |
| | 2015 | 11 | 33 | 31 | 25 | 6 | 33 | 36 | 25 | |
| EIN | 2013 | 13 | 27 | 30 | 30 | 10 | 31 | 34 | 25 | 0,9889 |
| | 2015 | 15 | 27 | 28 | 31 | 12 | 33 | 30 | 25 | |
| ENC | 2013 | 16 | 18 | 29 | 37 | 10 | 21 | 31 | 38 | 0,9690 |
| | 2015 | 12 | 19 | 31 | 38 | 10 | 19 | 32 | 39 | |
| ENG | 2013 | 14 | 30 | 26 | 29 | 9 | 34 | 30 | 27 | 0,9460 |
| | 2015 | 13 | 30 | 26 | 30 | 8 | 33 | 31 | 28 | |
| EUK | 2013 | 19 | 28 | 28 | 25 | 11 | 34 | 31 | 24 | 0,9682 |
| | 2015 | 18 | 28 | 28 | 26 | 10 | 33 | 31 | 26 | |
| FCA | 2015 | 8 | 40 | 34 | 19 | 4 | 38 | 40 | 17 | |
| FIN | 2013 | 9 | 28 | 43 | 20 | 6 | 36 | 44 | 14 | 0,8737 |
| | 2015 | 10 | 29 | 43 | 18 | 5 | 37 | 45 | 13 | |
| FRA | 2013 | 13 | 37 | 30 | 20 | 9 | 41 | 29 | 20 | 0,9753 |
| | 2015 | 11 | 37 | 31 | 21 | 6 | 35 | 39 | 20 | |
| GER | 2013 | 8 | 48 | 15 | 28 | 3 | 52 | 18 | 27 | 0,8908 |
| | 2015 | 8 | 48 | 16 | 28 | 4 | 49 | 19 | 27 | |
| HOL | 2015 | 13 | 30 | 34 | 23 | 8 | 36 | 41 | 15 | |
| ITA | 2015 | 4 | 45 | 34 | 17 | 2 | 50 | 33 | 15 | |
| JAP | 2015 | 8 | 27 | 41 | 24 | 7 | 26 | 40 | 27 | |
| KOR | 2013 | 12 | 30 | 39 | 18 | 10 | 34 | 42 | 14 | 0,9394 |
| | 2015 | 15 | 27 | 36 | 21 | 10 | 40 | 35 | 15 | |
| NIG | 2013 | | | | | | | | | |
| | 2015 | 12 | 23 | 34 | 31 | 8 | 27 | 33 | 32 | |
| NOR | 2013 | | | | | | | | | |

| | | | | | | | | | | |
|----------------------------------|------|----|----|----|----|----|----|----|----|--------|
| | 2015 | 3 | 28 | 49 | 21 | 2 | 37 | 47 | 15 | |
| POB | 2013 | 15 | 14 | 15 | 56 | 12 | 17 | 21 | 50 | |
| | 2015 | 13 | 14 | 17 | 57 | 12 | 17 | 22 | 49 | 0,8468 |
| POL | 2013 | 23 | 19 | 35 | 23 | 12 | 22 | 43 | 22 | |
| | 2015 | 19 | 18 | 36 | 26 | 12 | 20 | 45 | 24 | 0,9337 |
| RUS | 2013 | 26 | 11 | 33 | 30 | 14 | 24 | 41 | 21 | |
| | 2015 | 28 | 12 | 30 | 29 | 17 | 24 | 37 | 23 | 0,9988 |
| SPA | 2013 | 8 | 28 | 29 | 35 | 7 | 32 | 34 | 27 | |
| | 2015 | 8 | 29 | 32 | 31 | 5 | 32 | 35 | 28 | 0,9315 |
| SPC | 2013 | 10 | 23 | 40 | 28 | 3 | 33 | 33 | 30 | |
| | 2015 | 8 | 22 | 34 | 36 | 5 | 26 | 34 | 34 | 0,9800 |
| SPL | 2013 | 14 | 28 | 16 | 42 | 8 | 32 | 20 | 39 | |
| | 2015 | 9 | 31 | 19 | 41 | 5 | 33 | 22 | 41 | 0,8969 |
| SWE | 2013 | 8 | 43 | 28 | 21 | 6 | 48 | 28 | 21 | |
| | 2015 | 8 | 42 | 30 | 19 | 6 | 49 | 29 | 16 | 0,8822 |
| SWF | | | | | | | | | | |
| | 2015 | 5 | 46 | 28 | 21 | 3 | 59 | 27 | 11 | |
| THA | 2013 | 17 | 25 | 38 | 20 | 13 | 27 | 35 | 25 | |
| | 2015 | 16 | 22 | 38 | 25 | 13 | 25 | 38 | 24 | 0,9623 |
| TWN | | 11 | 15 | 41 | 33 | 8 | 23 | 46 | 24 | |
| | 2015 | 8 | 17 | 45 | 30 | 7 | 24 | 44 | 24 | 0,9594 |
| VIE | | | | | | | | | | |
| | 2015 | 16 | 20 | 38 | 26 | 11 | 29 | 39 | 21 | |
| AVERAGE (not weighted) | 2013 | 13 | 26 | 32 | 29 | 9 | 32 | 34 | 25 | |
| | 2015 | 11 | 28 | 33 | 27 | 8 | 32 | 36 | 24 | 0,9376 |

The results show a very high correlation in all of the languages for DISC distribution between the genders between the two populations.

Overall conclusion should be that Extended DISC Personal Analysis succeeds well in identifying the differences in the two genders in the different language groups.

13 Inventory Bias

The study shows that there are no differences in validity between different nationalities or races. Cultural, social and anthropological history together with the nature of the economic structure create different preferences for behavior in different cultures. The cultural distribution maps (Extended DISC Diamond) can be used as norms when using the instrument in multi-cultural environment.

For the purpose of studying inventory bias, two randomly selected sub-populations were created, and results of those were compared against each other. The study also shows there are no differences in validity between male and female populations.

| Construct validity | | | | |
|---------------------------|-------------|-------------|-------------|-------------|
| | D | I | S | C |
| Part 1 | 0,82 | 0,81 | 0,85 | 0,78 |
| Part 2 | 0,84 | 0,82 | 0,83 | 0,80 |
| Global | | | | |
| 2013 | 0,84 | 0,82 | 0,84 | 0,78 |
| 2011 | 0,84 | 0,82 | 0,84 | 0,78 |
| 2009 | 0,84 | 0,82 | 0,85 | 0,79 |
| 2008 | 0,84 | 0,82 | 0,84 | 0,79 |
| 2007 | 0,84 | 0,82 | 0,84 | 0,79 |

Extended DISC Personal Analysis is designed to be used for adult population. The respondents need to respond to a questionnaire in their native language. The DISC Theory was originally described to illustrate the behavior of “normal” people (William Moulton-Marston: Emotions of normal People, 1927). There is no study to support the use of the instrument among mentally underdeveloped individuals.

Inventories are not expected to yield equivalent mean scores across population groups. To do so would inappropriately assume that all groups have had the same educational and cultural experiences. Rather, inventories should yield the same scores and predict the same likelihood of success for individual test-takers of the same ability, regardless of group membership. All the studies show that Extended DISC Personal Analysis works equally well for all (studied) races, all age groups and both genders.

16 Frequently Asked Questions

16.1 *Extended DISC Theory related questions*

“What is the theory behind the assumption that Least answers produce the unconscious self and Most answers the conscious self?”

The interpretation of the Profiles is based on the original DISC Theories and the Extended DISC Theory. To understand fully the role of the different questions in forming the profiles would require understanding of the calculation rules for the Profiles.

Although it is important to minimize the response time, the responses given are still mostly based on conscious thinking and analysis. It is clearly easier with the Most responses for a person to adjust the responses in a direction he/she wants to adjust them as it is with the Least responses. Having this assumption makes the Profile I, which is mostly based on the Most responses, not a valid measure of one's unconscious self but a measure of one's conscious self - or to be more precise, one's conscious adjustment of the unconscious self.

However, since interpretation of Profile II is not based on the responses given but the responses not given, and since the calculation logic of the profile is turned around, and since the Least responses are more difficult to consciously rationalize, it has been found in empirical studies that the interpretation of the Profile II is closest to the unconscious self (some call it natural or pressure behavior).

“Why is Extended DISC Personal Analysis measuring more unconscious behavior than other DISC based tools?”

Unconscious behavior describes the most natural style for a person to behave. It requires least energy, is least stressful and allows to person to behave most effectively in a longer period of time.

Measuring unconscious behavior is more difficult than conscious behavior. It may also require a person more time to work with the results. The techniques used to achieve this relate to the number of choices in each question, the choice of words and their inter-relationship in each choice and the calculation logic behind the questionnaire.

“How can you be sure that the behaviors that are analyzed from the questionnaires are accurately determined? Since the research findings are from European and American subjects, how can they represent Asians?”

The process for using the Extended DISC Personal Analysis is divided in steps. Step 1 is the theoretical framework behind the system. This requires deep understanding of the theory and logics how the system works. Being aware of the theory is important for the end user also to be able to understand what the tool can do and what it can not do. Understanding the

technical logic behind the tool is not necessary. Step 2 is the process of collecting the information and creating the Profiles and the report. This is purely statistical and mathematical and is totally culture-free. Step 3 is the application of the information in some environment. This part requires the understanding of the tool theory and especially the understanding of the context where the information is to be applied. This part is totally culture bound and requires understanding of the culture.

In simple words, you need to understand where the tool is based on but not how it produces the results. Again, you need to understand the environment where the results are to be applied. If someone gets a D profile, it means that the person prefers a D response/behavior. But what does it mean in Thailand? This is something the tool doesn't know; it only knows that compared to other Thai people this person is more D. It is then up to those who understand the culture to know what does D exactly mean in Thailand.

The key is that in the questionnaire we can find those stimuli (words) that cause the desired type of person to respond in a desired way. The purpose of the questionnaire is find out how this person is compared to other people within the same culture. Translating the questionnaire is therefore the key issue; it can not always be a direct translation of another language. The validation study is a process where we check if the tool can identify within this culture the different behavioral traits.

“Extended DISC Personal Analysis should not be used in recruitment since it is not measuring a person's whole personality?”

First of all, I need to align with your statement that Extended DISC Personal Analysis does not measure an individual's whole personality; that is not even its intention. When measuring the whole personality we need to incorporate several instruments (you can find most of them within the Extended DISC System) together with interviews and background information, at minimum.

Extended DISC Personal Analysis measures an important part of our personality; our natural way of responding to external stimuli, i.e., how we show our feelings and emotions to outer world. In every day language that is usually described as our natural behavioral style. The reason Extended DISC Personal Analysis is useful in recruitments is manifold. It helps the interviewer to get into deeper level much faster than without it. It works as a shortcut to understanding the individual. In the recruitment decision itself it helps us in identifying what are the potential areas where the person will feel more and less comfortable with. And in after-recruitment phase it gives us supporting information on how we could best manage the person to keep both his motivation and performance levels at maximum.

Extended DISC Personal Analysis should never be the sole criterion in decision making when recruiting a person. But, in our opinion, the recruitment process would be clearly less efficient without it. In designing assessment tools, the key is not the collection of the information; there are statistically proven methods available for that. The key is really how to identify if the result is valid or not. The Extended DISC System has, as far as we know, the most strict control system for identifying invalid results. We also are the only company in the business actually doing annual validity check-up for all the languages of regions where we operate.

There is, however, always the area where the results are questionable and it remains up to the

consultant within the interview to exercise caution when applying the results. There are instructions for consultants available on how to identify these results with less validity than what should be expected.

“What theory is the Extended DISC System based on?”

Extended DISC System is not based on one theory alone, but the original Jungian theory on human behavior forms the bases to the DISC theory and all instruments based on it. In addition, when developing the system several other models and theories, like the Katzenbach & Smith concept of high-performing team, the wave-curve model (Sappinen) on cultural adaptation and the Hofstede model of cultural dimensions, have been utilized.

16.2 Extended DISC Personal Analysis Questionnaire related questions

“What is the grade reading level our questionnaire is designed for?”

Its probably very much culture and society related. Assuming a person has had a normal proper schooling, he/she should be able to cope with the questionnaire at the age of 14-15 (it's been done successfully at the age of 9).

However, the more important aspect is the formation of one's personality and self-identity, which definitely pushes the age up to around 18. Therefore, we don't recommend the questionnaire for people younger than 18.

“Questionnaire respondents sometime find the word pairing contradictory. One of the words may describe them most, but then the second word describes them least. Hence, they are unsure how to select. How should we best instruct the respondents how to go about answering the questionnaire?”

The purpose of the questionnaire is not to make it easy for the people to respond to it. The only advice we can give is that it is supposed to be difficult and you just have to select the row that describes you best and the row that describes you least. Anything else would make us part of the answering process, which should not be the case. The key is that they compare the rows, not the words. If the questions were easy (like most Disc based tools have), it would be easy to adjust your answers to the direction you want and you couldn't anymore measure the subconscious behavior.

“When answering the questions, why do we have to imagine ourselves at work? Actually, we don't show our true selves at work because we need to conform to the work environment. In order to get the correct analysis, shouldn't we imagine ourselves outside work?”

We are asked to imagine ourselves at work because it is important that we concentrate on something when answering. The worst option is that we start thinking of ourselves at work in question 1, at home in Q2, with friends in Q3 etc. This will definitely ruin our possibility of establishing a systematic answering pattern. The other issue is that we do not control our behavior fully in the work environment (as we do in our home environment). This contrast forces us to think and analyze ourselves more and makes it, therefore, easier for us to establish the answering pattern.

“Regarding the questionnaire, how can only 24 items generate so much contents for the Personal Analysis report?”

The 24 questions don't create the content of the report; they only create the Profiles. The content of the report is then based on the Profiles. Since we have learned that people's behavior is predictable, once we identify the type we can predict the person's behavior in different situations.

“How can you be so sure that these 24 items will generate the accurate information needed for the analysis?”

The 24 questions (actually 48 questions) don't always create accurate result (Profile). The key is to have a system that identifies when the results are accurate and when not. The method is purely statistical; we have actually one question (including two sub questions) that is then repeated 24 times. The key is to identify if the person has managed to establish a certain answering pattern, which is the same in both the sub questions and which he/she has been able to follow throughout the questionnaire. The result you can see in the shapes, size and position of the two Profiles.

“How accurate are Personal Analysis results if a person completes the questionnaire again after a few months?”

If the person's life environment has remained much the same without any major crises, the forecast is that the results will not change much.

However, if the environment has changed or if the person has undergone major personal stress, there is a good chance that the Profile has changed.

We need to remember that the idea is not the Profile has to stay the same in time; people need to have skill to adjust to the environment and, within time, this adjustment is certainly reflected in the Profile as a shift to some direction.

Another issue is to make a difference between change in the Profile and a temporary adjustment. A rule of thumb could be that if the basic shape of the Profile changes from one of the 6 main profile types to another, the Profile has changed.

“Why do two people get the same (or almost the same report) although they have answered differently in the questionnaire?”

In the questionnaire, there are 12 possible combinations in each question. Since there are 24 questions (with 12 possible combinations in each) the total number of possible ways to answer the questionnaire is 79 496 847 203 390 800 000 000 000! Managing that many different combinations would be both totally impossible and meaningless. Hence, the number of combinations has been reduced into combinations that internal resemblance is greater than external (they resemble themselves more combinations outside the group). More on that little later.

Note! There is no interpretational information in the individual answers. The answer can only be used for the next step in the process. Answers of two or more individuals can not be compared to one another.

Calculating the Profiles and the Diamond

The process for calculating the Profiles is a combination of straight-forward mathematical equations that reduce the number of combinations to 11 753 582 400. Managing that many different Profiles would still be impossible and the differences in the Profiles would not represent significant differences in the individuals' actual behavior. To help the Extended DISC user to use the Profiles a classification system with different levels of deepness has been created:

| Level | Differentiating feature | Number of combinations |
|-------|--|------------------------|
| 1 | Dominant character (example: I) | 4 |
| 2 | Letter combinations (example: ISC) | 40 |
| 3 | Upper Percentages (example: 0-50-30-20) | 800 |
| 4 | Lower Percentages (example: 100-0-0-0) | n/a |

The different levels are used for different purposes. In general training to the system, Level 1 is often deep enough. In applied training (like sales training) Level 2 is often appropriate. In that case every 40th person on average get the same result (Profile combination).

The Diamond is similarly divided in levels:

| Level | Differentiating feature | Number of combinations |
|-------|---|------------------------|
| 1 | Dominant character (example: I) | 4 |
| 2 | Characters above the Middle Line (different layers in the Diamond) | 4 |
| 3 | Letter combinations (example: ISC) | 40 |
| 4 | Advanced Letter Combinations | 160 |

Generating the report

To generate the different pages of the report, different combinations are used. Text Page uses the Level 4 in the Diamond to classify the results. For each combination there is a separate text bank from which the actual report is generated. The text bank enables 228 383 696 totally different Text Pages to be generated. (Note! Our competition at best can create about 200 different texts). It is possible for two people belonging to the same Diamond Level 4 class to have partly the same text but unlikely to have exactly the same text, unless they belong to a very rare class where the text bank for that class is smaller. Motivators Page is also based on the Diamond Level 4 classification. The Graphical Page and the Additional Pages are based on the Profiles Level 3 classification. The Flexibility Zones is based on the Diamond Level 4

Profiles II and I

Since Profile II measures more closely the individual's natural self (unconscious behavior) and Profile I the response to the impulses from the environment, it is natural that the report is generated based on Profile II. Differences in Profile I do not reflect differences in the individuals' natural behavior but in the relationship to their current environments. The Advanced Mode options allows for printing some information about Profile I (Present Situation).

“How does one answer in the questionnaire influence the bars in graphical and Additional Page?”

One answer does not directly influence anything but the Profiles. The Profiles are the first and primary result of the calculation formula behind the questionnaire. All the rest of the report is based on the shape, size and position of the two Profiles.

The shape of the Profile defines the place in the Diamond and the Percentages. Those are used for selecting the text and calculating the bars on different pages.

The important feature behind the reliability of the Extended DISC Personal Analysis is that it is not possible to influence the results by changing one single answer, the respondent needs to change the complete answering pattern to have any major influence on the results on different pages of the report.

16.3 Extended DISC Profile and Diamond related questions

“Do you have any experience why a person would get a Mirror Profile twice?”

Basically, if someone does it twice, I have not heard of any extra reason it might be caused for. Things that I could think of (as possible causes) are..

- person has a totally wrong perception of oneself
- person is trying to (consciously or unconsciously) cheat the system
- person has a strong belief and understanding of what is required from him (by the current environment), and feels it being totally opposite to what he is (in this case, Profile II would be valid)
- person is currently undergoing a stage in his life that makes it not possible to have a stable self image
- person has somehow misunderstood the instructions

“What’s the main advantage of the Diamond?”

The Diamond is an excellent platform to view the results of several (even thousands) of individuals at one glance. It also provides us with an easy way to compare individuals (like within a team) and to identify where our strengths as a team lie. It also works as a quick overview for the team itself to know who is where. It is easy to teach, giving us the possibility to use it in presentations that don't allow time to go through the theory in more detail. It also operates as a connecting link between different tools; it is a platform that can be used on individual, team, department, organizational and even national level. It can be used to

describe the unconscious and conscious behavior of an individual. Just to name some of the advantages...

“Is it possible to say anything about a person's energy level in an Extended DISC Profile?”

A person's energy level is more dependent on his/her physical condition, motivation and attitude than behavioral style.

Naturally, D and I, being more extroverted styles, show their energy level more visibly to other people. They are said to be more energetic.

There might be a correlation between the size of Profiles and the person's energy level. If both Profiles are tight (or tightish), it is often a sign of frustration - which typically decreases a person's energy level.

3

¹ Extended DISC Diamond is based on the Extended DISC Theory. An explanation of the construct of the Diamond can be found in Extended DISC System Manual.

² Extended DISC Personal Analysis measures the natural response preference to an external stimuli.

³ Profile Point is an indication of the position of the particular DISC trait in the Profile template. More information about Profile Points in the Extended DISC System Manual.

⁴ Invalid Profile is a result of the respondent not being able to establish an answering pattern and following it up throughout the answering. More information about Invalid Profiles in Extended DISC Personal Analysis Manual.