

Reliability/Validity Report

Instrument:

**DiSC Classic (Personal
Profile System®)**

Language:

Latvian

This Report Was Prepared By:

Mark Scullard
Research Manager
mscullard@inscapepublishing.com

The DiSC Classic 2.0 *Personal Profile System*[®] (PPS) is a measure of interpersonal behavior among normal people, which reflects respondents' perceptions of their own feelings and behavior across four dimensions--Dominance (D), Influence (I), Steadiness (S), and Conscientiousness (C). For the purpose of examining the validity and reliability of the PPS in Latvian, data from a sample of 1011 respondents was obtained.

I. Summary

Based on the data analysis, the current version of the Latvian PPS is acceptable for use. All four scales have acceptable reliability. In addition, the scale intercorrelations that support the validity of the DiSC[®] model as well as the validity of each individual scale.

II. Details of Analysis

A. Sample Size and Demographic Composition

The sample size of 1011 exceeded the minimum of 792 required to analyze PPS data. As seen in Appendix 1, the sample was well distributed across the demographic variables.

B. Reliability

In determining whether the translated response form is acceptable for use, we first need to examine the reliability of its scales. Reliability indicates whether a scale is measuring a construct (i.e., a concept such as conscientiousness) *consistently*. Reliabilities are determined using Cronbach's alpha coefficient (which is a function of the average correlation among all possible item pairs and the number of items on a scale). Scale reliabilities must be equal to or greater than .70 in order for a scale to be acceptable for use. As shown in Appendix 2, the reliabilities of all four scales (most minus least) are above the .70 cutoff and range from .77 to .83. In other words, the Latvian PPS is a reliable DiSC instrument.

C. Validity

The next step in determining whether the translated response form is acceptable for use is assessing the validity of its scales. Validity is whether a scale measures *what it is said to measure*.

- 1) The first method we use to assess the validity of the scales is examining the distribution of item responses. Often, certain items on a response form are either rejected or accepted by too many participants. Although it is common that in most data sets at least one or two items will be deemed as "popular" or "unpopular", it is important to recognize when too many items fall under either of these two categories. Items that are accepted or rejected by the majority of the sample can provide meaningful information on individual respondents, but too many of these items suggest that an instrument is measuring its constructs within a range that is too narrow.

Given that there are four items within each of the forced choice boxes, an perfectly even distribution of responses would mean a 25% endorsement rate for each most or least items. On the Latvian PPS, 24% of the most/least items were endorsed by fewer than 10% of the respondents. As well, 24% of the most/least items were endorsed by more than 40% of the respondents. Although this 24% figure is higher than ideal, the D, I, S, and C scales as a whole appear to have acceptable variance that is comparable to the US version of the PPS. In addition, the median scores on each total scale is similar to the corresponding scale within the US version of the PPS.

- 2) The second method we use to assess validity is to examine scale inter-correlations. The DiSC[®] model predicts strong negative correlations between D and S and between I and C. The model also predicts low to moderate correlations between adjacent scales (e.g., D and C). As seen in Appendix 2, this pattern of correlations is reflected in the Latvian data. Among the total scales (most minus least), the correlations between D and S (-.76) and between I and C (-.71) are high and negative. Three of the correlations between adjacent scales are low (ranging from -.15 to .11). The correlation between the D and C scales is in the low-to-moderate range at -.33. In sum, these patterns of correlations support the DiSC model.
- 3) The third method we use to assess scale/model validity involves item-scale correlations. That is, all items should demonstrate a strong relationship with their respective scale and a weak relationship with other scales. Analyses indicate that all items are, in fact, most strongly correlated with their respective scales.

In addition, factor analysis provides information on which items are highly correlated and thus group together to form a scale. A factor analysis was performed in which a two factor solution was specified. (Technical note: two factors were specified to reflect the two dimensions proposed within the DiSC model. Because of the large number of items within the item pool, far more than two factors are typically extracted when traditional extraction criteria are used.) Of the 112 items, only five did not load most highly on their respective factor. Among these items, however, all demonstrated a relative high loading on their expected factor as well. Factor analysis, therefore, supports the measurement of the two dimensions proposed to exist beneath the four DiSC scales.

III. Next Steps

A. Item Selection

The following are the best 28 tetrads for each respective scale in the boxed (most/least) response format. Please notice that there are some items that have been placed as N's in the response form. When possible, item tetrads have been left the same as they were presented in the research response form. Items that have been replaced when in a tetrad are shaded in grey as well as items that are scored as an "N". Finally, all item labels reflect the item position and tetrad within the research response form.

Old Item #	New Item #	Scoring	
		Most	Least
i1	i1	im1	il1
d1	d1	dm1	dl1
c1	c1	cm1	cl1
s1	s1	sm1	sl1
c2	c31	cm31	cl31
d2	d31	dm31	dl31
i2	i31	im31	il31
s2	s31	sm31	sl31
i3	i3	im3	il3
c3	c3	cm3	cl3
d3	d3	dm3	N
s3	s29	sm29	sl29
i4	i4	im4	il4
c4	c4	cm4	cl4
s4	s4	sm4	N
d4	d4	dm4	dl4
d5	d5	dm5	dl5
c5	c5	cm5	N
i5	i5	im5	il5
s5	s5	sm5	sl5
s6	s30	sm30	sl30
i6	i6	N	il6
c6	c6	cm6	cl6
d6	d6	dm6	dl6
i7	i7	im7	il7
c7	c7	cm7	cl7
d7	d7	dm7	dl7
s7	s7	sm7	sl7
d8	d8	dm8	dl8
i8	i8	im8	il8
s8	s8	sm8	sl8
c8	c8	cm8	cl8

Item Selection (continued)

Old Item #	New Item #	Scoring	
		Most	Least
i9	i30	im30	il30
c9	c29	cm29	N
s9	s9	sm9	sl9
d9	d9	dm9	dl9
c10	c10	cm10	cl10
s10	s10	sm10	sl10
i10	i10	im10	il10
d10	d10	dm10	dl10
d11	d11	dm11	dl11
i11	i11	im11	il11
s11	s11	sm11	sl11
c11	c11	cm11	N
c12	c12	cm12	cl12
s12	s12	sm12	sl12
d12	d12	dm12	dl12
i12	i12	im12	il12
i13	i13	im13	il13
s13	s13	sm13	sl13
c13	c13	cm13	cl13
d13	d13	dm13	dl13
d14	d14	dm14	N
s14	s14	sm14	sl14
i14	i14	im14	il14
c14	c14	cm14	cl14
c15	c15	cm15	cl15
s15	s15	sm15	sl15
d15	d15	dm15	dl15
i15	i15	im15	il15
d16	d16	dm16	dl16
i16	i16	im16	N
s16	s16	sm16	sl16
c16	c30*	cm30	cl30

Item Selection (continued)

Old Item #	New Item #	Scoring	
		Most	Least
i17	i17	im17	il17
c17	c17	cm17	cl17
d17	d17	dm17	dl17
s17	s2	sm2	sl2
c18	c18	cm18	cl18
d18	d18	dm18	dl18
s18	s18	sm18	sl18
i18	i18	im18	il18
i19	i19	im19	il19
s19	s19	sm19	N
d19	d30	dm30	dl30
c19	c19	cm19	cl19
s20	s20	sm20	sl20
d20	d20	dm20	dl20
c20	c20	cm20	cl20
i20	i20	im20	il20
d21	d21	dm21	dl21
i21	i21	im21	il21
s21	s21	sm21	sl21
s21	s21	sm21	cl21
i22	i22	im22	il22
s22	s22	sm22	sl22
c22	c22	cm22	cl22
d22	d22	dm22	dl22
c23	c23	cm23	cl23
s23	s23	sm23	sl23
i23	i23	im23	il23
d23	d23	dm23	dl23
d24	d24	dm24	dl24
i24	i24	im24	il24
s24	s24	sm24	sl24
c24	c24	cm24	N

Item Selection (continued)

Old Item #	New Item #	Scoring	
		Most	Least
i25	i25	im25	il25
c25	c25	cm25	cl25
d25	d25	dm25	dl25
s25	s25	sm25	sl25
i26	i26	im26	il26
c26	c26	cm26	cl26
d26	d29	dm29	dl29
s26	s26	sm26	sl26
i27	i27	im27	il27
s27	s27	sm27	sl27
d27	d27	dm27	dl27
c27	c27	cm27	cl27
d28	d28	dm28	dl28
c28	c28	cm28	cl28
s28	s28	sm28	sl28
i28	i28	im28	il28

These 28 boxes will be written into the EPIC platform. We will ask you to review the contents of the Latvian PPS when they are in EPIC.

B. Graphs I, II, and III

The following graphs have been normed to represent the Latvian population data.

Graph I (Most)

D	i	S	C
28	27	28	28
13	12	15	13
12	11	14	12
10	10	13	11
	9	12	
9		11	10
8	8		
		10	9
7	7		
		9	
6			8
	6		
5		8	
			7
	5		
4		7	
			6
		6	
3	4		
			5
		5	
2	3		4
		4	
1	2		
		3	3
	1		
		2	2
0	0	0	0

Graph II (Least)

D	i	S	C
0	0	0	0
3	1		1
	2	1	2
4			
5	3		
		2	3
6			
	4		
7		3	4
	5		
8			
		4	5
9			
	6		
		5	6
10			
	7		
11			
	8	6	7
12			
	9	7	8
13			
14	10	8	9
15	11		10
16	12	9	11
17	14	10	12
26	27	26	24

Graph III (Total)

D	i	S	C
28	27	28	28
10	11	14	12
6	8	12	9
5	7	11	8
4	5	9	7
3	4		6
2		8	
1	3	7	5
0	2	6	4
-1			
-2	1	5	3
-3		4	
	0		2
-4		3	
-5	-1	2	1
-6			
-7	-2	1	0
-8	-3	0	
			-1
-9	-4	-1	-2
-10	-5	-2	
-11	-6		-3
			-4
-12	-7	-4	-5
-13	-8	-5	-6
-14	-9	-6	-7
-15	-11	-7	-9
-26	-27	-26	-24

Appendix 1 Demographics

Gender	N	%
Male	447	44%
Female	564	56%

Age	N	%
17 and younger	3	<1%
18 - 25 years	208	21%
26 - 35 years	500	50%
36 - 45 years	225	22%
45 - 55 years	65	6%
56 and older	10	1%

Nationality	N	%
Latvian	947	94%
Russian	38	4%
Other	26	3%

Education	N	%
Primary Education	402	40%
University	539	53%
Beyond University	70	7%

Position	N	%
Administrative	41	4%
Manager, Director, President	124	12%
Mid-level Management	349	35%
Specialist	268	27%
Student	42	4%
Other	187	19%

Industry	N	%
Manufacturing	51	5%
Assurance/Finance	103	10%
Civil Service	24	2%
Trade/Marketing	520	51%
Transport/Communication	86	9%
Service	117	12%
Education	20	2%
Other	90	9%

Appendix 2

Scale reliabilities and inter-correlations for the four PPS scales.

Reliabilities are shown in bold along the diagonal, and the scale inter-correlations are shown within the body of the table.

Total scales

	D	I	S	C
D	.83			
I	-.07	.79		
S	-.76	-.15	.78	
C	-.33	-.71	.11	.77

“Most” Scales

	D	I	S	C
D	.77			
I	-.04	.71		
S	-.67	-.20	.72	
C	-.30	-.60	-.10	.69

“Least” Scales

	D	I	S	C
D	.76			
I	-.22	.71		
S	-.67	-.17	.65	
C	-.36	-.61	.19	.69

Appendix 2 (continued)

All Scales (Most, Least, and Total)

	D most	i most	S most	C most	D least	i least	S least	C least	D total	i total	S total	C total
D most	.77											
i most	-.04	.71										
S most	-.67	-.20	.72									
C most	-.30	-.60	-.10	.69								
D least	-.70	-.01	.59	.13	.76							
i least	-.03	-.63	.04	.53	-.22	.71						
S least	.63	.10	-.64	-.12	-.67	-.17	.65					
C least	.34	.56	-.22	-.64	-.36	-.61	.19	.69				
D total	.92	-.01	-.68	-.22	-.93	.10	.70	.38	.83			
i total	.00	.90	-.13	-.63	.12	-.91	.15	.65	-.07	.79		
S total	-.72	-.18	.94	-.01	.68	.10	-.87	-.23	-.76	-.15	.78	
C total	-.35	-.65	.06	.91	.26	.63	-.17	-.89	-.33	-.71	.11	.77

Reliabilities are shown in bold along the diagonal, and the scale inter-correlations are shown within the body of the table.