

An evaluation of the semantic differential from pre-test and post-test surveys conducted during an international anti-corruption conference funded by the HERCULE II programme of OLAF

“Together we are stronger? Harmonising the fight against fraud and corruption in Europe”

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1. Introduction

Statistical evaluation of seminars and conferences usually happens in the form of *satisfaction measurement*. Satisfaction measurement means asking the participants to indicate their satisfaction with the topics offered, the actual carrying out of the conference, the persons involved and the organisation of the event. Satisfied participants are an indicator of high quality of an event.

The satisfaction measurement is mainly based on Likert Scales ranging from 1 (very satisfied) to 5 (very dissatisfied). A mean up to 2 or 2.5 or a median of 2 indicates satisfied participants.

The questionnaire normally contains a wide range of questions to assess which single items constitute the measurement of the event's quality. The analysis usually focuses on items of central significance, but it is alternatively possible simply to aggregate all items. As a matter of fact, the correlation between single items is usually quite large as satisfied participants are generally satisfied, whereas dissatisfied participants rate nearly every aspect negatively.

The drawback of the satisfaction measurement is that it does not only measure the quality of the event, but is influenced by the participant's personality as well. This does not significantly conflict with the explanatory power of the general outcome as long as the type of event is independent from and not correlated with the participants' personalities.

Of higher significance is whether a specific event's quality can validly be measured in terms of participants' satisfaction. A conference that aims at further educating the participants cannot be thoroughly evaluated by satisfaction. The conference is meant to incite learning. Successful learning does indeed stimulate satisfaction.

Keeping this in mind, we decided on a form of conference evaluation that would smoothly deal with the problem as well as supply us with direct insight into the conference's impact on participants. We did not contend ourselves with researching whether change took place, but aimed at evaluating the content of changed perceptions.

The *semantic differential* allowed us to rate each item with regards to how much it is described by, or connected to, one of two opposite poles. It is therefore more adequate to research complex questions like corruption rather than use one-dimensional methods. Moreover, it enabled us not only to trace general changes in the perception of corruption, but to offer insight into the content. To our knowledge, corruption had not been researched by use of the semantic differential before. Our investigation therefore promised *new* results as to how corruption is perceived and regarded emotionally and rationally.

2. Method

2.1 The survey

To evaluate the participants' satisfaction with the conference we used, as stated above, the traditional evaluation form based on the OLAF evaluation format. As this evaluation form is very comprehensive, it is very appropriate when conducting a *summative* evaluation.

To measure more specifically the impact the conference has had on the participants with regards to the perception of corruption and further political or socio-political convictions we applied a method of *questionnaire research* at two specific points in time. The newly designed questionnaire encompassed a semantic differential and a measurement of internal values based on the 'Inglehard Index'. The poles in the semantic differential either derived from, or were related to the 'big five' personality inventory, the 'five-factor model' by Costa & Mc Crae or the 'culture dimensions' by Hofstede. These items were extended by items generated by group discussions with experts on corruption. The participants had to indicate what pole "fitted" better to or related more to corruption. The first measurement was conducted just after completion of the opening speech, the second during the final workshop sessions on the last day.

Thus, we aimed to trace the effects of learning during the conference. A variety of items taken from the field of personality psychology seemed adequate as corrupt behaviour involves personal decisions that would naturally be linked to certain personality traits. Taking into consideration items from Hofstede's framework for assessing cultural differences is the logical result of the scientist's idea of corruption as a *cultural phenomenon*.

Hofstede's cultural dimensions surpass simple broad cultural orientations derived from factor analysis. They point to basic moral dimensions as recently shown by social psychological research. Individualism and collectivism indicate basic moral orientations. Corrupt behaviour relates to a fundamental moral orientation. 'Misuse of public office for private gain' is inconsistent with common welfare. The result is public criticism of such behaviour.

The questionnaire further collected demographical data and information on the professional category.

Questionnaire (poles to be ticked by the participants):

	1	2	3	4	5	6	7	
egoistic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	altruistic
intelligent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	stupid
individualist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	collectivist
efficient	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	inefficient
feminine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	masculine
rich	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	poor
rational	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	emotional
organised	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	disorganised

powerful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	powerless
trust	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	mistrust
introvert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	extrovert
conscientious	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	without scruples
many-sided	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	one-sided
below	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	above
unsocial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	social
stable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	instable
close to the people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	not close to the people
co-operative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	uncooperative
understandable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	not understandable
security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	risk
pluralistic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	particularistic
on the top	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on the bottom
self-determined	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	not self-determined

We ask that you also tick the following in order to find out if the value orientation has an influence on how corruption is perceived.

	1 very important	2	3	4	5	6	7 unimportant
A. peace and order	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. more influence on the part of the citizen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. struggle against increasing prices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. freedom of speech	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you had to make a choice among the four goals, which one would be the most important, the second most important, the third most important and the fourth most important.

Use the numbers 1-4 to rank the four goals

	Ranking
A. peace and order	
B. more influence on the part of citizens	
C. struggle against increasing prices	
D. freedom of speech	

3. Results

3.1 The semantic differential

Defining aspects

The pre-test revealed that, if only those aspects that show a deviation of ± 1 from the mean of 4 in the scale from 1 to 7 between opposing poles are regarded, the poles that describe corruption best are:

- 'egoistic'
- 'individualistic'
- 'organised'
- 'powerful'
- 'unsocial'
- 'risk'

These items reflect the perception of corruption as misuse of public office. Private gain ('egoistic') overrules common welfare ('unsocial').

Extending the list of items with clear cut tendencies to the range of items that have a standard deviation from the mean of ± 0.5 , the following items also emerge:

- 'masculine'
- 'mistrust'
- 'rational'
- 'many sided'
- 'not close to the people'
- 'unstable'
- 'particularistic'
- 'self-determined'

This list shows collective, societal dimensions. 'Masculinity' can indicate that corruption is either perceived as belonging to masculine cultures or as a typically male behaviour. The items that deviate most from the mean are mistrust and particularism. Modern social theories regard 'trust' as a societal resource to enhance the well-functioning of the group. Particularism points to segregate groups and is therefore in line with the results from the first list.

The semantic differential was the analysed statistics, using a test to reveal any differences between the perception of corruption before and at the end of the conference. Subsequently we split the participants' data into two groups: one group of members of historically (20TH century, post '45) capitalist states and one group with participants from former socialist or still socialist states, e.g. member states of the USSR. For lack of specific information all German participants were sorted to the capitalist states group.

We then used an ANOVA to analyse effects of time of assessment and citizenship of capitalist and (former) socialist states as well as interaction effects, i.e. did the conference have a different effect on the convictions of people from capitalistic or socialistic cultures.

3.2 t-test

The t-test (Levene's test for equality of variances) revealed an effect of time of assessment for the means of the following variables:

'egoistic' – 'altruistic' $t(351)=2,230$, $p=0.005$;
'intelligent' – 'stupid' $t(347)=7,956$, $p=0.005$;
'individualist' – 'collectivist' $t(350)=2,034$, $p=0.003$;
'rich' – 'poor' $t(349)=-1,109$, $p=0.000$; 'security' – 'risk' $t(346)=-1,142$, $p=0.000$; and
'on the top' – 'on the bottom' $t(345)=-0,833$, $p=0.000$. (See below.)

At the end of the conference corruption was perceived as:

- more 'egoistic' as opposed to 'altruistic' than at the beginning;

- more 'individualistic' as opposed to 'collectivistic' than at the beginning;
- more related to 'poor' as opposed to 'rich' than at the beginning;
- more related to 'risk' as opposed to 'security' than at the beginning;
- more related to 'on the top' as opposed to 'on the bottom' than at the beginning;
- more 'intelligent' as opposed to 'stupid' than at the beginning.

These effects prove the conference's impact on the participants. In comparison to the results of the pre-test/post-test effect it becomes apparent that the items that changed are not identical with the defining aspects noted above. 'Egoistic', 'individualistic' and 'risk' are the constituting aspects of corruption. Corruption is an egoistic behaviour that helps to achieve individual objectives and does hold some risk. The other 3 aspects indicate that the conference made participants more aware of high level and low level corruption as well and broadened their focus.

PRE-TEST						POST-TEST					
egoistic		1.9				altruistic					
intelligent			3.6			stupid					
individual-ist		2.7				collectivist					
efficient			4.2			inefficient					
feminine				4.7		masculine					
rich			3.6			poor					
rational			3.1			emotional					
organised			2.8			disorganised					
co-operative			4.4			uncooperative					
understand-able			4.4			not understand-able					
security				5.2		risk					
pluralistic				4.8		particularistic					
on the top			3.7			on the bottom					
self-determined			3.2			not self-determined					
egoistic						altruistic		1.6**	←		
intelligent						stupid				3.4**	←
individual-ist						collectivist					
efficient						inefficient				3.8	
feminine						masculine					5.8
rich						poor					3.8**
rational						emotional					3.1
organised						disorganised					2.6
co-operative						Un-cooperative					4.9
understand-able						not understand-able					4.7
security						Risk					5.5**
pluralistic						Particularistic					5.0
on the top						on the bottom					3.8**
self-determined						not self-determined					3.0

* Significant at 0.05 level
 ** Significant at 0.01 level

3.3 ANOVA

The subsequently conducted ANOVA indicated an effect of nationality on three variables and one interaction effect. The effect of nationality (as defined above based on former socialist countries and capitalistic cultures) was apparent with the variables.

‘unsocial’ – ‘social’ $F(2;0,001) = 7,163$;

‘co-operative’ – ‘uncooperative’ $F(2; 0,000) = 9,574$;

The implied meaning is evident in the content-based analysis. The former socialist states regard corruption as more unsocial and less co-operative than capitalist states do. The more collectivist orientation in former communist states regards corruption as a threat to collectivist goods.

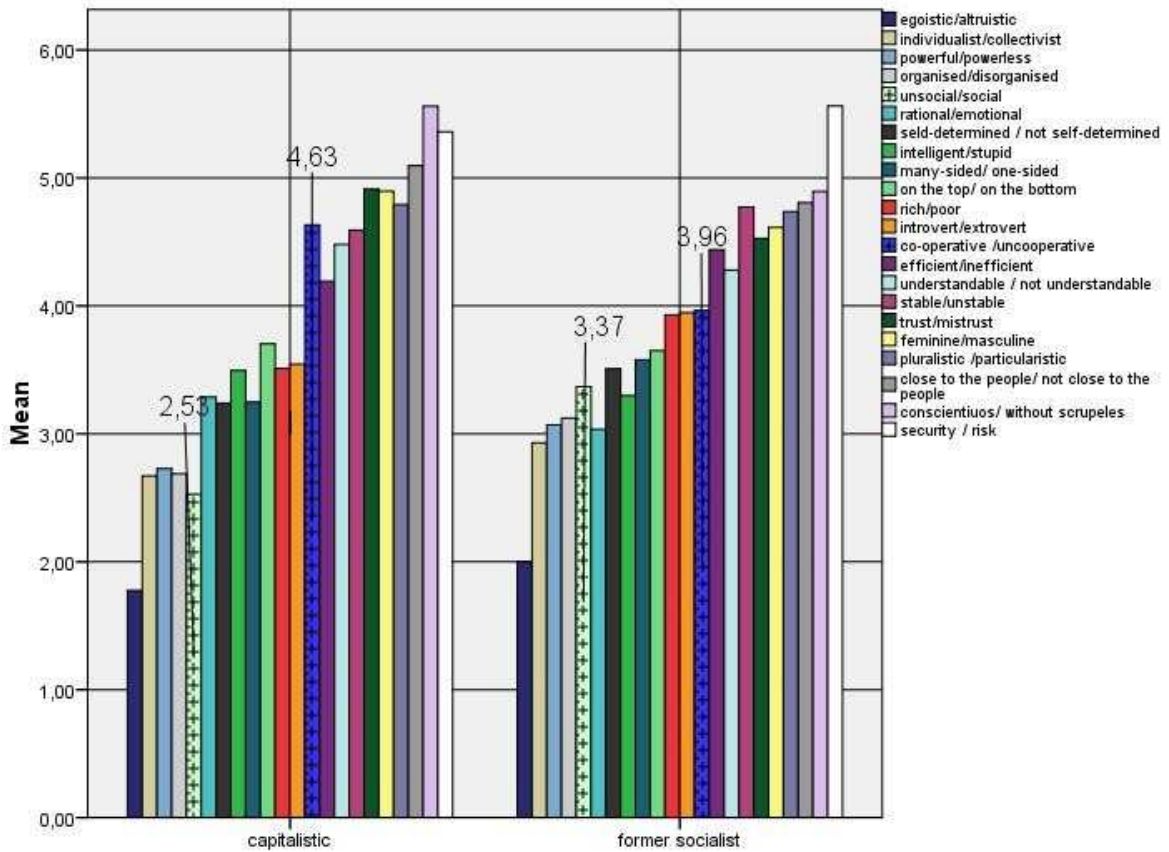
The ANOVA also showed a significant effect of measuring time onto the variable.

- ‘conscientious’ – ‘without scruples’ $F(2;0,05) = 4,908$.

The effect, however, evidently was not strong enough to appear in the t-test measuring pre-test/post-test change.

The variable also was the only one to show an interaction effect of time of assessment and nationality. $F(1;0,05) = 4,125$. Unfortunately, we must propose that we disregard this specific variable. The pole ‘conscientiousness’ derived from the five-factor model and should have been countered with unreliability, lack of ambition, or failure to stay within the lines. Due to this misconception it is of little value in the evaluation.

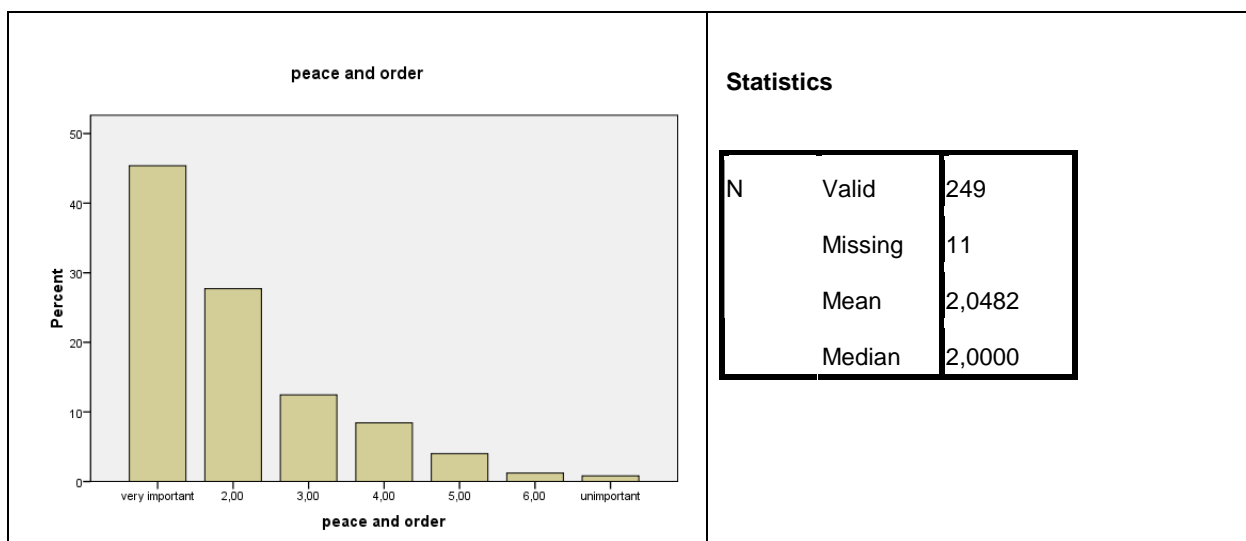
As the variable ‘conscientiousness’ – ‘without scruples’ was the only variable to show an interaction effect, the effect of nationality does only appear in the variables ‘unsocial’ – ‘social’ and ‘co-operative’ – ‘uncooperative’, if the data pool only contains data from the first round of assessment.

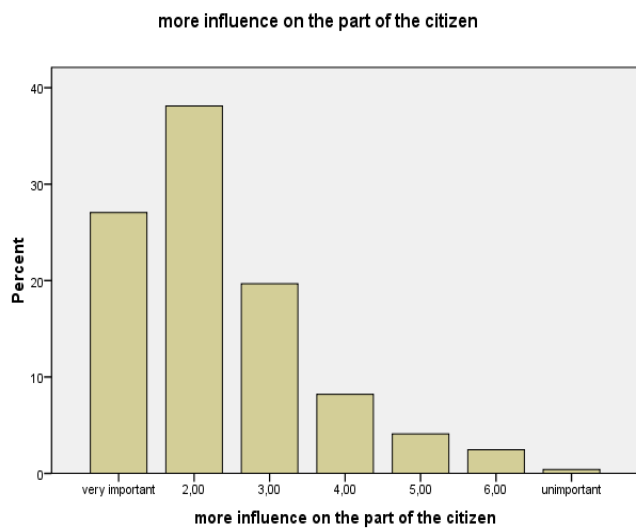


Complete data pool

3.4 The Inglehard Index

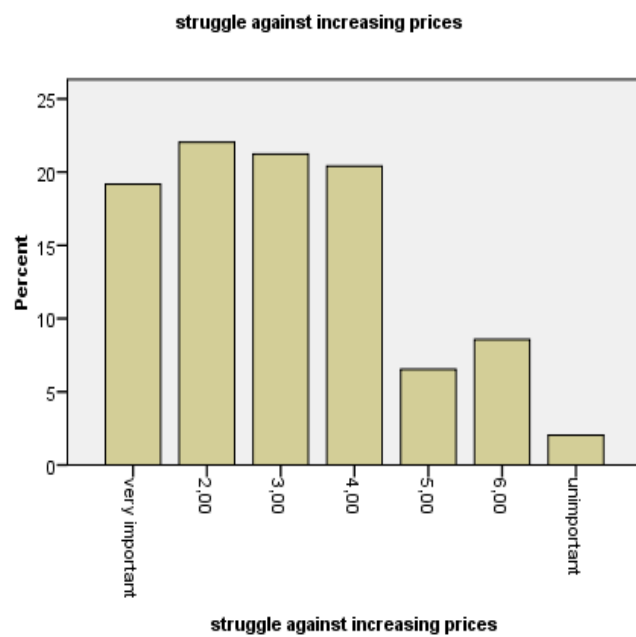
The following graphs show the pre-test distribution for the Inglehard Index.





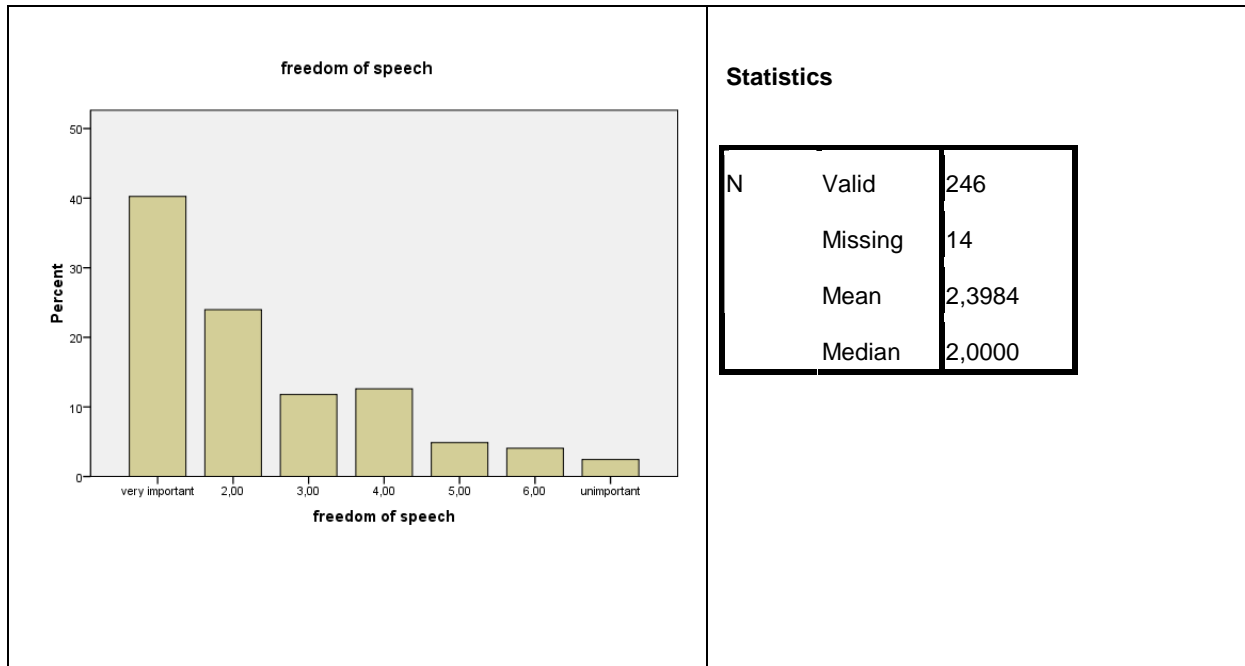
Statistics

N	Valid	244
	Missing	16
	Mean	2,3320
	Median	2,0000



Statistics

N	Valid	245
	Missing	15
	Mean	3,0694
	Median	3,0000



These distributions point to a *very mixed group of participants* or a *large group of participants with rather mixed and unconventional views* that are not easily classified. The priority seems to be maintaining peace and order – a classical materialistic item. The second and third-rated items are both post-materialistic: freedom of speech and more influence on the part of the citizen. The very same result is evident when rating the priorities, which was the aim of the second Inglehard instrument in our questionnaire.

	Mean, Median
Peace and order	1,89 (2.0)
Freedom of speech	2,21 (2.0)
More influence on part of the citizen	2,65 (3.0)
Struggle against increasing prices	3,21 (4.0)

We used the Inglehard Index to help analyse possible particularities within the semantic differential. The semantic differential revealed effects of political ideologies. We therefore analysed whether this difference also appeared for the Inglehard Index:

Report

			more influence on the part of the citizen	struggle against increasing prices	freedom of speech
East-West		peace and order			
capitalistic countries	Mean	2,0694	2,3214	2,8511	2,2394
	Std. Deviation	1,27730	1,27097	1,39354	1,54795
	Median	2,0000	2,0000	3,0000	2,0000
former communist countries	Mean	1,9178	2,3472	3,3836	2,5417
	Std. Deviation	1,23326	1,25776	1,83053	1,58281
	Median	1,0000	2,0000	3,0000	2,0000
Total	Mean	2,0184	2,3302	3,0327	2,3411
	Std. Deviation	1,26184	1,26357	1,57261	1,56262
	Median	2,0000	2,0000	3,0000	2,0000

This distribution notably reveals no difference between the capitalist and the (former) communist group. The ranking is identical. The fact that the fourth priority of struggle against increasing prices has a higher mean in the former communist states than in the capitalist states could mean that Eastern Europe is suffering more severely from inflation. It might further indicate a differing perception of how much a state should control the free market economy. There are strong post-materialistic tendencies in both groups. Peace and order is the priority. Corruption and order are contradictory.

Apart from the distribution itself, the Inglehard Index will be used as an explanatory devise. Instead of correlating each semantic differential with each factor in the Inglehard Index, we only focus on the items that help structure the construct of "corruption", namely:

- 'egoistic'
- 'individualistic'
- 'organised'
- 'powerful'
- 'without scruples'
- 'unsocial'
- 'risk'

Many analyses aggregated the four Inglehard factors, thereby classifying the participants as materialistic, post-materialistic or hybrids. This leads to a reduction of information. Therefore, we used the single factors as independent variables, investigating their effect by multiple regression approach.

The analysis provided the following results:

- People that regard corruption as 'egoistic' demand more influence on the part of the citizen.

- People that regard corruption as ‘individualistic’ do not demand a struggle against increasing prices.
- People that regard corruption as ‘organised’ demand a struggle against increasing prices.
- People that regard corruption as ‘powerful’ demand a struggle against increasing prices and more influence on part of the citizen.
- People that regard corruption as ‘without scruples’, do not demand a struggle against increasing prices.
- People that regard corruption as ‘unsocial’ do so, whatever their internalised values might be.

These findings are somewhat disappointing as they do not provide a clear cut solution as to the factors that influence the perception of corruption, the training effects or influence of politological ideologies. Corruption appears as not conformed behaviour, which is not influenced by secondary values. Corruption is also seen as a threat to collective goods in every society.

4. Summary

The complex evaluation revealed results that can be summarised as follows:

- I. The conference did alter the participants’ perception of corruption to some extent.
- II. The differences in the perception of corruption between (historically) capitalist and (former) socialist states are not substantial.
 - a. The differences that do exist between the states cannot be drastically changed within two conference days.
 - b. However, when change does occur in the two groups, this change does not alter the overall and specific perceptions of corruption.

Even though the results do not seem to give rise to change of traditional paradigms, they are noteworthy if analysed with regards to their implications. *Former socialist and capitalist states agree that corruption is the misuse of public office for private gain.*

Differences between former socialist and capitalist states are not contra-intuitive; they differ when it comes to the items ‘social/unsocial’ and ‘co-operative/uncooperative’. These results mirror the collectivist orientation in socialist states. Collectivism is more oriented towards social and co-operative aspects. Corruption is a threat to collective goods.

Subsequently we find this dissociation in further results - the ratings on the Inglehard Index do not influence the answers in the semantic differential. This is positive as the Inglehard Index does not differentiate between the historically different nations. The participants share the objective 'peace and order' as a priority, followed by post-materialistic items. This creates the impression of a liberal community with a strong orientation towards law and order.