

The reliability and validity of a measurement instrument of culture defined as symbol exchange

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In a paper presented at the annual meeting in Paris in 2004 it was focused on perspectives on the term “culture” and how it is applied in psychology (Klempe, Hroar (2004): “Reflections on “humiliation” in a cultural perspective”

<http://www.humiliationstudies.org/documents/KlempeReflections.pdf>). In short one may say that there are at least four different main categories traced in psychological research:

- Culture as elite canon/artefacts
- Culture as sets of values, beliefs and behaviours
- Culture as reflection of socio-economic relations
- Culture as communication/exchange of symbols.

One may find the first category as a prevailing trait of cultural psychology if we relate it to the way it is defined by Michael Cole (Cole, M. (1998): *Cultural Psychology*, The Belknap Press of Harvard University Press, Cambridge Massachusetts). Nevertheless, very few systematic investigations has been done in this tradition, and culture cannot be said to have been operationalized . When it comes to culture as sets of values, beliefs and behaviours, the term has been operationalized and a lot of research has been done with this definition as a point of departure (Hofstede, G. (1980): *Culture's consequences: International differences in work-related values*, CA: Sage, Newberry Park). This is probably the most common way of defining culture in psychology and it is assumed to dominate the quantitative cross-cultural psychological research. It seems to predict very well broad and general aspects of cultural differences, like collective versus individual cultures. Culture as reflection of socio-economic relations is also quite wide spread when it comes to risk research (Douglas, M. & Wildavsky, A. (1983): *Risk and Culture*, University of California Press, Berkeley). This term, on the other hand is very much concluded not to predict very much. Research carried out previously by Rundmo, Klempe et al. have accordingly shown meagre support to the applicability of Mary Douglas theory in empirical research. The same authors have conclude that this may be caused by the theory itself.

The fourth category, on the other hand, is not very much operationalized, but it is a well known definition of culture, especially in anthropology. The best reference is probably the anthropologist Clifford Geertz (Geertz, Clifford (1973/2000): *The Interpretation of Cultures. Selected Essays*. Basic Books, New York), who in his authoritative essay about thick description says that “Culture is most effectively treated [...] purely as a symbolic system” (Geertz 1973/2000 p. 17). One may trace this perspective back to several authors, among whom Ernst Cassirer probably must be said to be the founder (Cassirer, E. (1979): *Symbol, myth, and culture : essays and lectures of Ernst Cassirer, 1935-1945*, edited by Donald Phillip Verene, Yale University Press, New Haven). His perspective was systematically introduced to anthropology by Claude Lévi-Strauss (Lévi-Strauss, C. (1968): *Structural Anthropology*, Allan Lane, London). One may even say that the early writings of Mary Douglas were much closer to this definition of culture compared to her later definition in Douglas & Wildavsky 1983.

After having worked out a measure instrument building on culture as symbolic exchange a pilot study was done in Norway and Ghana. The questionnaire was

Table 1: Dimensionalities of general culture defined as symbol exchange

	Dimensions				
	1	2	3	4	5
Dimension 1: Visual culture					
I find that pictures give us the best stories (V7_1_30)	,79	,15	,04	,05	,12
I think a picture can say more than thousand words (V7_1_32)	,79	,02	,05	,27	-,04
I often draw pictures/patterns to understand (V7_1_31)	,70	,11	,10	-,02	,24
Dimension 2: written culture					
The written word always applies (V7_1_1)	,09	,76	,00	-,03	,03
I remember best what I have read (V7_1_3)	,18	,65	,05	,27	,11
Writers/authors are important storytellers (V7_1_2)	,02	,64	,17	,12	,21
Dimension 3: Introvert culture					
My inner voice is a good lead (V7_1_18)	-,01	-,05	,81	,10	,02
It is common to follow ones inner voice (V7_1_17)	,03	,10	,62	,24	,19
If one does not follow ones inner voice, society will fall apart (V7_1_19)	,26	,30	,62	-,19	,00
Dimension 4: Extrovert culture					
I think there should be a connection between life and learning (V7_1_40)	,11	,05	,22	,79	-,01
I think public persons should set good examples (V7_1_39)	,12	,20	-,03	,75	,16
Dimension 5: Oral culture					
I enjoy listening to stories (V7_1_10)	,05	,09	,09	,09	,84
I remember best what I've been told (V7_1_11)	,24	,20	,08	,06	,72

Table 1 shows the result of simple component analysis. By examining the dimensional structure of culture, 5 dimensions emerged. The first one was entitled “visual culture” and intends to measure to what extent a culture’s pattern of communication is concentrated on visual symbols. The second dimension was entitled “written culture” covering cultures characterized by a written form of communication. The third dimension was entitled “introvert culture”, which depicts cultures that may say to follow a contextualized pattern of communication. The fourth dimension was entitled “extrovert culture” measuring a culture characterized by a direct form of communication. The fifth dimension was entitled “Oral culture”, in which oral communication is preferred instead of written.

Some indicators were removed from the analysis because they failed to load. The sixth hypothesised dimension was “auditive culture”, however the indicators did not load as expected. Some of them loaded weakly on other dimensions and hence was removed from analysis.

Confirmatory factor analysis will be carried out for further examinations.

These analysis are based on Ghanaian (n=299) and Norwegian (n=247) data, which were sampled during spring 2006. A major part of the respondents in each country qualified for a representative sample, whereas a minor part was students. The age of the respondents varied between 18 and 86 years (M = 31.39, SD = 12.16).

Table 2. Discriminant validity of the measurement instruments of culture as symbols

Country	Mean		Sd	F-value
	Norway N=247	Ghana N=299		
Types of culture				
Visual	2,9549	2,0576	,74460	138,70***
Written	2,7377	1,9320	,65662	143,62***
Introvert	2,7186	2,5104	,70988	7,40**
Extrovert	1,8279	1,3603	,73218	58,40***

Oral	2,5041	1,7390	,73841	120,58***
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Wilk's $\lambda = 0.524$, $p < .001$, $\text{ETA}^2 = 0.48$; **, $p < .01$, *** $p < .001$

The result of a MANOVA-analysis is shown in table 2. It was found a general difference between the two countries in culture: Wilk's $\lambda = 0.524$, $p < .001$. The next phase is to examine which dimension that show significant difference.

As can be seen the results are very significant. And the discriminant validity of the measurement instrument is very (extremely) good.

Preliminary conclusions

- The project is based upon the idea that culture could be measured empirically
- The reliability of the indices were found to be satisfactory
- The items "behaved" as expected and the dimensional structure was conceptually meaningful
- In addition to general culture traffic safety culture was also part of the same instrument
- As expected, the exploratory factor analysis differentiated between general and traffic safety culture, however the same dimensional structure could applied for both types of culture
- The items fell into five identical indices (shown in table 2)
- The discriminant validity of the measurement instrument was judged to be satisfactory
- The instrument showed that there were cultural differences in a Ghanaian and Norwegian public
- The results may indicate that culture as symbol exchange may be a fruitful approach for studying culture and cultural differences
- The project is in a start up phase and data are collected in several other countries. Additional and more advanced analysis would be carried out during next year.