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Coping with Forced Choice Stimulus Environments
in Small Collectives

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Abstract

The research is sequel to the previous one where behavior of the organizer in mindamic is researched in the forced-choice environment. The hypothesis was: The organizer produced choices such as knowledge, information, beliefs, and guesswork are equal to the behavior of the leader. The number of the subjects was 62; there were 34 men and 28 women in groups of five. The data came from the videotapes. The reliability of observation was 0.98. The observation categories are 71% separate from each other. A stochastic analysis was done with the joint verbal and non-verbal behavior. The hypothesis falsified. The organizers of the persons produce the motivated configuration, the mindies with tension, the mental shapes with tension, and the evaluative empty processes. So the knowledge reservoirs of the persons become empty rather swiftly in dealing with the forced-choice environment. As an entity the behavior of the persons using their organizers varies from an organized structure of information to the evaluative empty processes. A fact that probably indicates poor abilities to cope with the environmental options in the small collectives. The conformity of the leaders or their power use does not change the situations.

Coping with Forced Choice Stimulus Environments
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The research is sequel to the previous one where a conceptual enlargement was done to the executive system in the mind. The organizer replaced the narrower concept of the transmuter. The organizer is a process generating negation of randomness. Thus what deviates from randomness has some kind of organization as output from the organizer; be it guesswork, beliefs, information, or knowledge bound with processes of reality.

In these research circumstances, persons are in an environment of the forced-choices. It means the persons are offered choice alternatives whose hit probabilities are 0.25, 0.25, 0.20, 0.20, .07, .02. In other words, the hits are $1/4$, $1/4$, $1/5$, $1/5$, $1/(C(6,4))$, and $1/(C(7,4))$. The persons form a small collective (4 members and a leader) contrasted with a small group with continuous interaction, status and role structure and function. The persons were not familiar with each other before. So the term the small collective fits to the purposes of the research. Actions of the organizer of the persons and the leadership behavior in the small collectives are essential. By definition the

organizer produces beliefs of persons.

Sometimes persons confront with situations where the choices are guesswork because the persons have not knowledge, information, beliefs in their behavioral reservoir with choices in environment. Therefore the organizers of the persons do not only deal with knowledge and information to induce order in the mindamic. Thus the organizer produces, knowledge, information, beliefs, and guesswork. In addition the organizer specifies, clarifies, connects, guesses, and explains among other things. So its functions are more many sided than the transmutter have. The classifier, the sorter, the collector, and the transformer are the subprocesses in the transmutter. Selective diffusion, absorption, and assimilation are mediator processes in the organizer.

The behavior of the leader determines the progress of the small collective in the forced-choice environment. So the assumption is: The organizer produced choices such as knowledge, information, beliefs, and guesswork are equal to the behavior of the leader. The assumption bases on the fact; the small collectives are new and the leaders do not have more knowledge with the forced-choice environment. The elements included in the research

were: guesswork, beliefs, information, and knowledge. The body position included because verbal behavior has such a small fraction in total behavior. The body position changed or stayed during verbal responses. The leader used power or conformed to the responses of the members of the small collectives.

Coping with the forced-choice environment meant finding a correct choice. Failures meant wrong choices and withdrawals were interruptions from the process.

Method

Subjects of Observation

The number of the subjects was 62; there were 34 men and 28 women in groups of five. The small collectives succeeded to manage from one process to six processes. The data came from the videotapes. The number of the subjects lessened by 1 from the 5th round on.

Observation

Observation took place through constructing minutes for the processes. Every member of the small collective received a number that was used throughout the process. The minutes comprised of matrices where the choices of the members were numbered in the 2nd column. After that the verbal responses were written

down for the organizer. The 3rd column included in the body position with the alternatives move ex-or stay. The leader had his or her own number next. The power use or conformity was in the next columns and the last 2 columns were correct choices or wrong choices. Interruptions were written down as such. So each row presented the necessary information for behavior of the members, of the leaders, and coping with the environment. Gender marked with customary way from zoology.

In summary, the 1st column was in numbers, the 2nd one, too. The 3rd column was verbal. The 4th and the 5th columns included in crosses in the same way as the last 4 columns. The leader column had one number, only. At the maximum there were 6 matrices for scrutiny.

Results

Reliability and Validity of Observation

The frequencies in the columns of the raw matrix were in z-scores to assess correlations between the 6 measurements at time. The correlations were squared because of obtaining common variances. A formula in Nunnally (1967, p. 195, 6-23) was applicable to the common variance matrix. The procedure gave 0.98 as the coefficient of reliability of observation.

Calculation for validity of observation took place in the rows of the raw matrix. The coefficient of alienation was a convenient way of assessing validity. The coefficient indicates how separate the observation categories are. In the full alienation the coefficients are 1.00. Deviation from the full alienation shows the degree of overlaps between the categories. So the row frequencies were in z-scores and correlations were assessed. The correlations were squared and the coefficients of alienation were calculated. Thereafter, the (a_{ij}) of the matrices was assessed and the empirical value was divided by the full value that resulted in 71% from the full value. Thus the categories are reasonably separate to warrant conclusions.

Stochastic Analysis

The start frequencies of the analysis with probabilities are in Table 1.

Insert Table 1 about here

There were a few empty cells but statistically they had no decisive meaning. Next phase of the analysis took place in the rows of the data matrix. The rows were normalized. The

Table 1

Start Frequencies of Stochastic Analysis

	Time					
	1	2	3	4	5	6
Guesswork	5	10	15	14	17	1
Beliefs	8	6	12	8	31	8
Information	4	9	8	6	19	0
Knowledge	45	37	23	22	38	6
Body position						
moves	42	41	40	37	63	12
stays	20	22	20	13	43	6
Leader						
uses power	3	5	11	7	6	2
conforms	60	55	48	43	103	18
Coping	59	60	52	40	97	18
No coping	0	1	8	10	13	1
Withdrawals	0	0	1	13	10	3

normalized matrix was postmultiplied by its transpose and squared. The operation resulted in the common variance matrix. The greatest common variances between the organizer and the body position gave a basis to connect the variables. Addition of the organizer processes and the body position made it necessary to reconceptualize the joint behavior of the verbal and non-verbal behavior. The greatest common variances are in Table 2.

Insert Table 2 about here

Earlier some mindamic processes were defined but I thought they to be vain because the processes did not function in a regular way. Now they come in use. The empty process does not need any peculiar definition. A mental shape is as a vague mental process. The mental shape is vague in nature and it is not well organized. A mindy (maindi) was a formally organized process of the mind without experiential contents. A configuration was an organized mindy with experiential contents. The processes are kinetic in nature.

The first joint process is an evaluative empty process of the mind (guesswork+information+body

Table 2
 Greatest Common Variances in Organizer ,and
 Between Organizer and Body Position

	Organizer				Body Position	
	gw	be	inf	kno	mo	sta
Organizer						
guesswork			.87		.90	
beliefs			.90			.91
information						.95
knowledge					.93	

Note. The abbreviations in the column heads mean: gw=guesswork, be=beliefs, inf=information, kno=knowledge; mo=moves, sta=stays.

position moves). The evaluative aspect comes from the fact; the persons move their bodies during evaluation. Guesses as such do not include even information by definition. The second joint process is a mental shape with tension (belief+information+body position stays). Persons believe their selection to be true but they are not certain. So they contract their muscles and stay in tension. The third process is a mindy with tension (information+body position stays) because the position stays and the responses do not have experiential contents. They are formal. The fourth joint process is a motivated configuration (knowledge+body position moves) because persons have organized information and they are willing to respond. The body position moves because of inner stress according to the definition of motivation. Besides the previous joint processes the failures and the withdrawals have a common variance 0.79. So they belong to the same category.

Thus the organizer produces: the evaluative empty process, the mental shape with tension, the mindy with tension, and the motivated configuration.

Analysis of Process

The original matrix in Table 1 reduced to 8 rows. The new matrix of the frequencies converted

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into probabilities in the columns where $t_{.j}$ was 1.00. Progress at time presumes coping with the previous process. That is why the multiplication rule for conditional probabilities was applied to the path probabilities, in pairs. Addition over the rows of the outcome matrices gave the next state probabilities. The obtained probabilities turned into the conditional ones in the rows. The result was a matrix of the processes and of the behaviors in Table 3.

Insert Table 3 about here

Discussion

The hypothesis is false. The organizer produced choices: knowledge, information, beliefs, and guesswork are not equal to the behavior of the leader; his or her acceptance or rejection of the choices of the members in the small collectives.

Falsification means a keener scrutiny of the results. It is profitable to assume, the greatest probabilities in the rows in Table 3 are the ones that realize and others are potentialities.

The 1st column in Table 3 indicates that the organizers of the persons produce the motivated configurations to which the leaders conform and the

Table 3

Probabilities of State Changes in Small
Collectives, Full Copes, and Deviations From
Full Copes

	1	2	3	4	5	6
Organizer						
an evaluative						
empty process	.15	.17	.19	.20	.16	.13
a mental shape						
with tension	.14	.15	.17	.13	.21	.20
a mindy						
with tension	.15	.19	.18	.14	.21	.13
a motivated						
configuration	.21	.18	.15	.17	.13	.15
Leader						
uses power	.081	.13	.30	.22	.088	.18
conforms	.18	.16	.15	.15	.17	.19
Coping	.18	.18	.16	.14	.16	.19
Failures and						
withdrawals	.00	.015	.14	.42	.20	.22
Full coping						
with stimuli	.25	.25	.20	.20	.07	.02
Deviations from						
full coping	.07	.07	.04	.06	-.09	-.17

coping with the alternatives in the environment are achieved, mainly. Next the organizer produce information with tension. The leaders continue to conform and the coping preserves it's previous level. In the 3rd process the organizers generate the evaluative empty processes. The power use of the leaders also increases but the coping with the choice alternatives decreases somewhat. The organizers continue to induce the evaluative empty processes and the power use decreases a little bit. However, the failures and the withdrawals exceed the coping behavior clearly at this time. In the next phase, the organizers construct the mental shapes with tension and the mindies with tension. The leaders move from the use of power to conformity but again the failures and the withdrawals exceed the coping behavior in the forced-choice environment. Finally, the organizers create the mental shapes with tension and the conformity of the leaders rises somewhat. So also the failures and the withdrawals increase.

In the last row of Table 3 the values indicate that the full coping is not achieved. Furthermore, the deviations begin to amplify towards the end of the process.

In summary the organizers of the persons produce the motivated configuration, the mindies with

tension, the mental shapes with tension, and the evaluative empty processes. So the knowledge reservoirs of the persons become empty rather swiftly in dealing with the forced-choice environment. As an entity the behavior of the persons and their organizers differ from an organized structure of information to the evaluative empty processes. The fact probably indicates poor capabilities to cope with the environmental options in the small collectives. The conformity of the leaders or their power use does not change the situations much as a wholeness.

In theory it is possible to scrutinize, how the mind processes are born. The former results make it possible. The conceptual enlargement replaced the transmuter with the organizer but the transmuter includes in the organizer. The transmuters have 4 subprocesses: the classifier, the sorter, the associator, and the transformer. The classifier differentiates environmental information into categories. The sorter arranges the categories. The associator cumulates and joins environmental information. The transformations occur before overt behavior. The classifier, sorter and associator feed the transformer. The mediating processes between the subprocesses are selective diffusion because the mind

utilizes processes it needs. In addition, absorption, and assimilation are the mediators.

In a forced-choice environment the mind makes the organizer active through selective diffusion as bursts. The choice alternatives absorb in the classifier, the sorter, and the collector temporarily. It is likely the subprocesses function in parallel something like in vision Zeki (1992, p. 43). The outcomes of the parallel functions assimilate in the transformer that tries to match behavior with the correct choices. I earlier referred to other functions the organizer has and the mind process that comes in use is dependent on the regulation of the organizer.

Evidently the organizer specifies one of the outputs of the transmuter to generate the motivated configuration. It may be, delay between the overt behavior and the output of the organizer is born in the very interval. As to the mindy with tension it appears probable the transmuter deals with form, only. The organizer produces explanations such as 'feels familiar' but the experiential contents lack. The transmuter and the organizer process subjective information in the place of the mental shape with tension. The beliefs are a part of the total behavior.

The evaluative empty process means the thing, the organizers are in active rest and without other alternatives the organizer accepts the guesswork.

Is there a similar kind of thinking than here? In a way, there is Dillon (1983, p. 124). However, there are certain differences of approaches. The Dillon approach bases on communication theory and the actors are classified only. No interaction between the processes is explicated. The previous thing means the actors are not convertible into the mind processes as such.

Application of the present approach to the results of the research indicates as an entity. It is rather indifferent whether the leader uses power ex-or conforms to the outputs of the organizers of the members. The coping with the forced-choices is not full or they amplify more during the system modification. The only case where the inner event of the transmuter and the specification of the organizer occurs is the first states of the system. Otherwise, the output processes include in vagueness, emptiness, and formalism. In summary the organizers of the persons do not generate knowledge based on an organized system of information except in one case. On the contrary, the organizers produce formal, vague mind

processes; even empty processes based on the active rest state of the organizers. Some-way the present research leaves an impression: persons' cognitive processes are not so adaptable with reality as one might expect, for example (Holmes, 2002, p. 3). The high probabilities of mismatches refer to other direction when complexities of events demand capabilities to choose deviation counteracting measures with environment. Instead deviation amplifies. One of the reasons of the deprived cognitive processes can be that persons have learned things but they have not adopted them. Thus the mind or the process system utilizes adopted processes which are results of very hard working. The learned cognitive processes remain in the ground as useless.

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