RELATIONSHIP BETWEEN DIMENSIONS OF CREATIVITY, DEPENDENCY AND INDEPENDENCY FROM THE FIELD, NEED AND ABILITY TO ACHIEVE COGNITIVE CLOSURE

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Abstract: The issue of cognitive structures in the system of psychological philosophies is wide-spectral and inspected from various aspects of inter-individual differences. The focal question of theme is a process; which people use to acquire assurance in the complex of unsorted information which they meet with everyday. In terms of our work we focused on latter, unexplored relationships of need and ability to acquire this assurance in regard with dependence-independence on field and level of creativity. Our research haven't acknowledged any statistically important relationships between figural dimension of creativity, the need of acquiring assurance and the ability of reaching it, except of statistically important positive relationship between the independence on field and the ability to acquire enclosure.

Keywords: Need of enclosure, the ability to achieve closure, creativity, independence on field.

1 Introduction

Cognitive sciences represent a set of several scientific fields that deal with the process of learning, coding, handling and subsequently using the information received from various aspects. Cognitive psychology presents a subdivision of cognitive psychology that deals with inter-individual differences in cognitive processes (in perception, feeling, memory, attention, cognition and speech) of individuals. It is based on the conviction of several authors that the level and quality of individual cognitive processes are not homogeneous. This is demonstrated by research based on an examination of the abstract intelligence, similarly to the tests aimed at estimation of a latent level of individual cognitive abilities and processes. A specific area of cognitive processes is represented by processes of coding and storing the received information connected with decision making. Over the last twenty years, the concepts of the need and ability to achieve a cognitive structure are highly dominant in this specific area. The concepts of the need for cognitive structure and the ability to achieve it are based on the issues of cognitive structuring. Cognitive structuring assumes that every person is daily exposed to many stimuli affecting individual which must be regularly selected and filtered into a meaningful whole. The meaningful whole is represented by the cognitive structures. These are classified categories of received information which may be schemes, scenarios, prototypes as well as common words and sentences. Modern studies clearly show that some people can create cognitive structures easier and can also separate adequate information from inadequate or inconsistent and are better while constructing the cognitive structures. These people can make decisions faster. Our study aims to expand the connection between the need and the ability to achieve a cognitive structure with the cognitive styles of dependence and independence from the field. The issue of cognitive structures in the system of psychological philosophies is wide-spectral and in abroad, but also in Slovakia, is very well embedded and inspected from various aspects of inter-individual differences. One of the first who markedly developed and committed to the issue of cognitive structures were Frenkel-Brunswik (1949), Bunder (1962) and Neuberg and Newson (1993). They described how huge amount of unsorted impulses, which people filter with two basic strategies, have impact on them every day. One of these strategies is creating the cognitive barriers - when impulses are completely filtered and don´t enter the process of coding and saving the information to long-term memory. The second strategy is the process of cognitive structuring, when relevant information is selectively filtered from irrelevant and afterwards saved to long-term memory in the form of meaningful structure. Then it is connected with already existing cognitive structures.

The work of Neuberg and Newson (1993), which was linked to the work of Thompson et al. (1989), who created the PNS (Personal need for structure) scale, had a great success and started series of following works of authors like Bar-Tal et al. (1994, 1997, 1999), Sarmány-Schuller (2000, 2001, 2002), Sollárová and Sollár (2003) etc., who widened the knowledge of concept of cognitive structures with new constructs: the need for cognitive structure and the ability of acquiring it. Bar-Tal et al. (1994) states that need for cognitive structure and the ability of reaching it represent the basic components of the whole process of acquiring the assurance by creating meaningful cognitive structure. The need of cognitive structure represents desire of every individual to evade uncertainty by creating the cognitive structure. The ability to achieve cognitive structure is unfolded by the extent of how individual believes that one can use the process of processing information, which is consistent with his level of need for the cognitive structure. People with high need of cognitive structure are capable:
1. evading the information, which can´t be categorized or grasped to their already existing cognition (created cognitive structures), and/or
2. organizing their cognition to fulfilling their already existing cognitive structure.
Three years before publishing the work of Neuberg and Newson, Bar-Tal and his colleagues and also Slovak authors, was publishing work of Kruglanski (1990), who used term concepts of the need and the ability to achieve closure instead of concepts of the need and the ability to achieve cognitive structure. He defined the need for closure (NFC) as a desire to get any answer to assigned topic within the process of deciding, which reduces confusion and chaos from assigned topic. All of this in consequence eases absolute decision in the process of deciding. A year after Neuberg´s and Newson´s work Kruglanski with Webster (1994) made single-dimensional scale NFC (42 items) with 5 facets:
1. preference of order (life orderliness);
2. preference of prediction (the ability to predict what happens next);
3. decisiveness (to be decisive, to be able to decide stably in various situations);
4. discomfort from ambiguity (of perceived impacts);
5. rigidity (unwillingness to change already achieved attitudes).
According to them the whole theoretic construct of NFC is formed from 2 components: tendency to achieve closure (meaningful whole) as fast as possible and tendency to remain (even rigidly) at achieved closure.

Neuberg with his colleagues (1997), among whom was also a co-author of PNS scale Thompson, accepted the concept of the need for closure and proposed bi-dimensional NFC structure instead of former single-dimensional NFC structure. In first dimension they linked items from facets: preference of order, preference of prediction, discomfort from ambiguity and rigidity; the second dimension was made from items of decisiveness facet. The first dimension was supposed to represent the tendency to achieve closure as quickly as possible; the second to represent the tendency to remain at already achieved closure. This whole new interpretation of two dimensions achieved in factor analysis was critically assaulted and discussed in the next series of works (more in Kruglanski, De Grada, Mannetti, Atash and Webster, 1997; Neuberg, West, Judice and Thompson, 1997) until the year 2006, when Roets, Van Hiel and Cornelis proposed an alternative interpretation. According to it the second dimension is not different from the first in representing the tendency to remain at already achieved closure, but in having items which represent in the context of the ability to decide; and thus with their meaning they get through rather more to the ability to achieve closure in the process of deciding (the scale AACS, which was made by Bar-Tal, 1994), than to the need for closure. Roets and Van Hiel (2007) managed to confirm this new alternative perspective in a study, in which they created very new revised version of the NFC scale, where items from facet

decisiveness were replaced by items expressing more the need, rather than the ability. Therefore, we decided to use the revised version of NFC scale instead of PNS survey.

1.1 The need and the ability to achieve closure in connection with dependency and independency from field

From the both concepts - the need for cognitive structure and its ability to achieve it, only the need was inspected in connection with cognitive style of dependency and independency from the field by the academic community; by the authors Sarmány-Schuller and Sollár (2002), who haven't confirmed the assumption of statistically important relationship between the need for cognitive structure (measured by PNS) and dimensions of cognitive style-dependency and independency of field.
According to Ruisel (2004), the cognitive style could be defined as a way of exploring the objective reality which is about perception, choice, saving and coding accepted impulses. Cognitive style –dependence and independence from the field – was created and exactly defined by Witkin et al. (1962). Ruisel (2004) states that individual who is independent from the field, is able to notice less conspicuous characteristics of the impulse, can better reorganize accepted information for more effective saving, is recalling and prompter generalising of accepted or already saved information. Bahar (2003) and Tinajero and Paramo (1997) who were dealing with content character of cognitive structures and performance of recognizing abilities which state that participants independent from the field are better at solving performance tests than participants dependent from the field. They are better at solving various tasks which identify quantitative character of cognitive structures as academic achievement test or word association test.
As Macizo et al. (2006) states, the performance of the participants who are independent from the field is better. They can pay attention to a given stimulus also when distractors appear. On this basis, it can be assumed that the participants independent from the field are able to learn better thanks to more effective visual and auditory memory – moreover, they can filter relevant stimuli from irrelevant ones better. The hypothesis was tried to be proved by Jia, Zhang, Li (2014) having a sample of 168 students of Shandong Normal University. To test the ability to filter relevant information from irrelevant one, they used a procedure of introducing three different combinations of objects (little squares of various colours) inside the squares, in series, in rectangular (4° vertical and 7,3° horizontal) background. Picture No. 1 shows that in all three combinations, the square with a fixative point + appears first. It separates the field scanned by the left hemisphere from the field of the right hemisphere, and the upper part from the lower one. About 600 or 700 milliseconds after the first empty square has been introduced, a full square appeared. This one contained visible objects (colourful little squares) whose colour and placement a participant was supposed to remember (colour and placement was determined by an arrow, or either the lower or upper part of the left or right quadrant of the whole square). Consequently, after 900 milliseconds, the participant was supposed to compare remembered colour and placement with the colour and placement of objects in a new test square. In case the colour and placement of the objects in the first square corresponded with the colour and placement of the objects in the following test square, the participant was supposed to press “F” button; if not, “J” button was supposed to be pressed. In the first combination, in the first and test squares, two colourful objects appeared – either in the upper or the lower part, symmetrically in the fields of the both hemispheres. In the second combination, in the first and test squares, two objects of different colours appeared up and down, symmetrically in the both fields of the hemispheres (which the participant was supposed to concentrate on and later compare them with the test square), and two distractors (which the participant was supposed to ignore). In the third combination, in the first and test squares, four objects of different colours appeared up and down, symmetrically in the both hemispheres – the participant was supposed to compare them and confirm their match. In parallel, during solving these tasks, activity of specific neuronal parts of the brain was scanned through an electroencephalogram. The results prove that the performance of participants dependent on the field was significantly worse in the second task (combination) where distractors occurred, compared with the first task where no distractors existed. The performance of the participants independent from the field reached a similar level of success in the both - first and second tasks. An analysis of the encephalogram data through the method of contra-lateral delay activity shows that participants independent from the field processed the task with the distractors differently from those dependent on the field. The amplitude rate during solving the second task (two test objects and two distractors) of those who were dependent on the field was similar to the amplitude rate during solving the third task (four test objects and no distractor). The amplitude rate measured during solving the second task (two test objects and two distractors) of the participants independent from the field was similar to amplitude rate during solving the first task (two test objects and no distractor). We thus may deduce that the participants dependent on the field have a significant difficulty to keep their attention on deliberate relevant stimuli – when they consider them irrelevant – which is finally visible also on the activity of neuronal correlates. According to the authors, this ability to separate irrelevant stimuli from the relevant ones is determined by a level of selective attention of every individual.

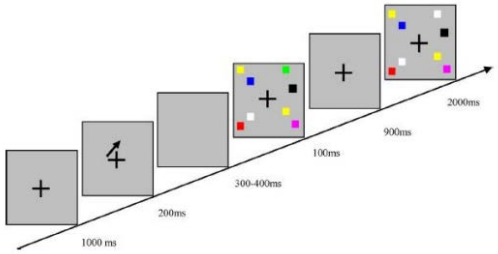

Fig. 1 Research procedures to test the ability to separate relevant information from irrelevant one used by Jia, Zhang and Li (2014) (Jia, Zhang, Li, 2014)

1.2 Need and ability to achieve closure linked with creativity

Likewise, in case of cognitive style - dependence and independence from the field, the connection between the need for cognitive structure and the ability to achieve it was researched by the same authors and in the same work of Sarmány-Schuller and Sollár from 2002; however, the authors didn't accept statistically important relationship between creativity, its dimensions and need for cognitive structure.

In past decades many definitions describing creativity have been made. One of the most famous and respectable is definition of Torrance (1966, in Jurčová 1983), who describes creativity as a process in which sensitivity is applied on problems and defects, gaps in knowledge and missing parts; or as a process of looking for a solution, estimating or formulating hypothesis. He states that creative individuals feel strong need to get rid of incompleteness and indefiniteness. They focus on details, see defects, test and communicate about problems they can't find answer to (complex of these processes and abilities is captured in Torrance's figural test, which measures figural fluency, flexibility, originality and elaboration). Fluency represents the ability to produce as many ideas as possible. Without high creativity they are often just very common, clear or even banal. Flexibility is the ability to cut off from the rigidity of thinking and flexibly create various ways of solving a problem, use multiple points of view and quickly change strategies. Elaboration which is typical also for people who are independent from the field is characteristic with its ability to work out details of solution, complete this solution and adjust its proportions. Such description of a creative individual, who focuses on details and works with them, creates natural space for reflection of its connection with independence from the field. Flach (1986) identified these connections between creativity and independence from the field. In their research, participants who were independent from the field had better results in tests of creativity such as “alternative uses test” and “new uses test” than

the ones independent from the field. We set following questions in our research:

RQ 1: Can we assume statistically important positive relationship between independence from the field and ability to achieve cognitive closure?
RQ 2: Can we assume statistically important positive relationship between independence from the field and the need for achieving cognitive closure?
RQ 3: Can we assume statistically important positive correlation between all dimensions of creativity and the ability to achieve closure?
RQ 4: Can we assume statistically important positive correlation between the need for cognitive structure and all dimensions of creativity?
RQ 5: Can we assume statistically important positive relationship between independence from the field and figural elaboration?

2 Method and Methodology

In the process of gathering research data itself we proceeded according to accurately determined instructions of relevant test manuals and available information from other researches.

2.1 Participants

The sample was formed by 148 participants from 18 to 19 years who attended grades with school-leaving exams. We chose this category not only because accessibility but also on the basis of relative stability of cognitive functions. The choice was occasional and we had 95 women and 53 men.

2.2 Measuring tools

We used revised version of Roets's and Van Hiel's (2007) NFC scale to estimate the level of need for closure. The scale is standardized in Belgium. We adopted it and translated, it is not standardized in our country. The scale is formed of 41 questions; every question is evaluated on 6 point Likert scale from 1 (total disagreement) to 6 (total agreement). Individual items are categorized into 5 differentiated dimensions. The first dimension is known as a preference of order and structure in respondent's life and hatred of chaos and confusion. The second dimension “preference of predictability” represents the desire of individual to predict future actions. The third dimension “decisiveness” is evaluated highly by those respondents who find themselves quickly deciding people. The items of fourth dimension “unconformity from ambiguity” are highly evaluated by people who need to have direct and clear answers in their lives. Fifth dimension's “rigidity” - highly evaluated by those who are not likely to change their knowledge by alternative attitudes. The coefficient of Cronbach's alpha within our research sample without removing any item had figure 0,808.

The ability to achieve cognitive structure - AACS created by Bar-Tal (1994). The survey is not standardized as well, and was adopted and translated. It is formed of 24 items evaluated on 6 point Likert scale from 1 (total disagreement) to 6 (total agreement). The survey is single-dimensional and measures how the participants perceive their ability to achieve certainty by creating meaningful conclusion (of whole). Fourteen questions are formulated the other way round, that is the reason why it is necessary to evaluate the answers reversely, in other words 1 = 6, 2 = 5, 3 = 4, 4 = 3, 5 = 2, 6 = 1. The coefficient of Cronbach's alpha within our research sample without removing any item had figure 0,790. We assume that the method was relatively reliable.

The dependence and independence from the field was estimated by Group Embedded Figures test (GETF) of Olman, Raskin and Witkin (1962). We used the Czech test version, which is not standardized in our country, but proceeds from standardized version of Witkin et al. (1962). The principle of test is to find simple shape in more complicated complex of figures. Number of these figures is 25 (only 18 are included) and they create 3 sets. The first set includes 7 simple practice figures which participant has 2 minutes to solve. This set is not evaluated. The second and the third set include 9 items which are taken into account of overall result. Every participant has 5 minutes to fill in one set. Overall administration of the test lasts around 15 minutes.

The level of creativity was estimated by Torrance's test of figural creativity (Jurčová 1983) on the third task-(circles). This task measures 4 attributes: fluency, flexibility, originality and elaboration. The main goal of the task is to use 30 circles on two sides, the circles being the main part of anything the participant creates. Participants with high scores in figural flexibility should not suffer from rigidity of thinking, they should be able to promptly produce various ways of solving troubles, which they can change quickly if necessary. Figural originality is more typical with people who immediately create new, smart, humorous and very extra-ordinary ideas, which provided with high figural elaboration are elegantly formulated, elaborated into details and completed.

2.3 Design

The research was realized in September, October and November of 2017. Administration was realized during one 45-minute-long class. During the first 15 minutes we presented GETF test for estimating dependency and independency from the field to our participants. Afterwards, after filling in GEFT test we introduced the third task of Torrance's test of figural creativity to our participants, who were solving it for 10 minutes. After finishing we handed them: NFC scale and AACS survey, which were filled in 15 minutes. We used remaining 5 minutes for debriefing.

3 Results and discussion

Right before the identification of correlation coefficients phase itself we realized an analysis-existence of normal distribution of our research sample. In results we found out, that normal distribution of data doesn't exist within our sample. Significance level of nearly all variables was below 0,05, which means we used non-parametric tests.
In tables, E1 represents figural elaboration, F stands for figural fluency, Fx for figural flexibility, O for figural originality, GEFT independency from the field, NFC need for closure and AACS the ability of achieving it.

Our first research question was whether we could assume statistically important, positive relationship between independence from field and the ability to achieve closure. As we can see in Table 1, we identified statistically important, negative relationship (-0.138, $p < 0.5$) between the ability to achieve closure and independence from the field.

The second research question was whether we could assume statistically important, positive relationship between need to achieve cognitive closure and independence from the field. Sarmány-Schuller and Sollar haven't discovered statistically important relationship between need for cognitive closure and independence from the field in their research (2002). As we can see in the Table 1, we haven't discovered any statistically important relationship between need for closure and independence from the field neither, which confirms our hypothesis.

Table 1 Spearmann's correlation coefficients between GEFT, NFC and AACS

	NFC	GEFT
AACS	,010	-,138*
NFC		-,064

*Significance level is $p < 0,05$.

The third question was whether there is any statistically important, positive correlation between the ability to achieve closure and figural dimensions of creativity. As we can see in Table 2, we haven't indentified any significant relationship

between individual dimensions of creativity and need and ability to achieve closure. We have identified significant positive relationship of figural originality with fluency and flexibility and statistically highly important, negative relationship between figural fluency and flexibility with elaboration.

The fourth research question was whether we could assume the existence of statistically important, positive correlation between need for closure and figural dimension of creativity. As you can see in Table 2, we haven't identified any statistically important relationship between figural dimensions of creativity and need for closure, what is in accordance with the results of Sarmány-Schuller and Sollár (2002).

Table 2 Spearmann's correlation coefficients between dimensions of creativity, NFC and AACS.

	F	Fx	O	El	AACS
NFC	-,094	-,093	-,080	,114	,010
F		,829**	,267**	-,351**	-,058
Fx			,285**	-,245**	,068
O				-,115	,056
El					,135

**Significance level is p < 0,01.

The fifth research question was whether we could assume relationship between independence from the field, which requires the ability of identification of simple figure in the complex of figures, and figural elaboration, which is typical for people who work with details, formulate them elegantly and complete them into whole. As we can see results in Table 3, we have identified statistically highly important, medium strong, positive relationship between ascending independence from the field and figural elaboration.

Table 3 Results of Spearmann's correlation analysis between dimensions of creativity and GEFT.

	El	F	Fx	O
GEFT	,352**	,037	,020	-,027

**Significance level is p < 0,01.

On the basis of analogical relationship between concepts of dependence and independence from the field, need for closure and ability to achieve it, we assumed, that these three concepts, in case of identification of statistically important relationships, could be linked together and maybe also create even determining effect, which wasn't confirmed. On account of the first research question, statistically important, negative relationship between independence from the field and the ability to achieve closure was confirmed. Goodenough (1978, In Nákonečný, 1995) states that individuals independent from the field go along with “inner reference ambit” and those dependent from the field rather go along “external reference ambit”, thus they are less active in accepting information. Perception of people who are dependent on the field is significantly determined by surrounding organization, which makes individual's identification of specific fragments in organization harder. Subject not dependent on the field has no problem with identification of fragment in the complex of more complicated organization, which points to slightly better level of space orientation skills. Among other things, Jia, Zhang & Li (2014) confirmed that individuals who are independent from the field are better in filtrating relevant information from irrelevant; which in their opinion is caused by the better selectivity.

According to Bar-Tal (1994, p. 46), the ability to achieve closure “represents ability, which individual uses to evade information, which can't be grasped and categorized to their already existing cognizance.” This means that individual like this selectively chooses the information, which is consistent with their actual cognizance, attitude, prototype or prejudice, which makes them decide quickly without longer thinking. According to this finding we formerly assumed that individual independent from the field will be more effective in process of identification of relevant and consistent information than individual dependent from the field. Our results point to opposite tendency (r = -0,138, p < 0,5). It can be explained by the fact, that individual independent from the field probably doesn't notice only information consistent and relevant to his/her attitudes, prejudices or prototypes, but also notices information less distinct, which isn't relevant and consistent with his/her existing knowledge structure. They don't decide quickly, rather slowly and they think more about specific problem. We could possibly assume, that if there was a performance type tool, which could be used for valid measuring the ability of achieving closure systematically, we would be able to identify much stronger, positive relationship between tool like this and ascending independency from the field. Insufficient discriminatory validity of AACS survey could even explain lower value of relationship between the ability to achieve closure and independency from the field; since the survey alone measures only whether the participant finds himself as a decisive person and thus quickly (heuristically) or slowly (systematically) deciding and it doesn't measure the process of filtering relevant and consistent information from inconsistent with actual scheme, prototype or scenario.

Similar interpretation of results holds true also for relationship between the need for closure and independency from the field. According to Kruglanski (1990), we can define the need for closure as every person's desire to achieve the answer to assigned topic, any answer which reduces confusion and ambiguity. Any answer means the answer achieved heuristically, the answer, which is possible to achieve as it works on the concept of the ability to achieve closure by filtering relevant and consistent information from that inconsistent (with existing attitude, scheme or scenario) or by substitution (replacing the answer with answer to another question). The results of analysis of relationship between need for closure and independency from the field demonstrated trivial, statistically unimportant, negative relationship (r=-0,64, p = 219). Despite the relationship being trivial, we can see, likewise in ability to achieve closure, tendency to inverse proportion between need for closure and independency from the field. Ruisel (2004), under the findings of Witkin et al (1962), states that individuals independent from the field prefer active studying and formulation of hypothesis, but mainly, they notice less conspicuous attributes of impulses within formulation of hypothesis themselves. We can possibly draw conclusion, that they also have stronger need to achieve closure systematically, not heuristically. Statistically unimportant, trivial, negative correlation achieved by us points out to this conclusion. The fact, that it is statistically unimportant and trivial could be caused by NFC survey's limit. NFC survey is formed of facets preference of order, preference of predictability, decisiveness, discomfort from ambiguity and rigidity. We can find out from the survey whether the respondent likes order in life, predictability of situations, whether he/she is decisive, hates ambiguity and whether he/she is rigid; however, what we can't find out from survey is whether he/she desires to achieve answer to assigned question at any cost, even heuristically. Again, we can assume, that if there was a tool with perfect discriminatory validity, the option of identification of statistically important, stronger relationship within representative aggregate.

Concerning the third question, the analysis didn't prove any statistically important relationships between single dimensions of creativity and the ability to achieve cognitive structure. As we can see the results in Table 4, concerning figural elaboration, significant relationship between ability to achieve closure was nearly confirmed. The reason why any statistically important relationship between figural dimension of creativity and the ability to achieve closure didn't occur can be wrong validity and reliability of Torrance's test of figural creativity. Since the norms, which serve as basis for evaluating figural originality and flexibility, are relatively invalid (in actual information and cultural progress) and require re-standardization.

Table 4 Results of correlation coefficients of AACS and dimensions of figural creativity analysis

		F	Fx	O	El
AACS	corr. coeff.	-,058	,068	,056	,135
	Sig.	,241	,207	,249	,051

Analysis of fourth question, whether the statistically important, positive relationship between figural dimensions of creativity exists, revealed that there isn't such relationship within our sample, which is completely in accordance to our results obtained by Sarmány-Schuller and Sollár (2002). However, more detailed analysis of factors of need for closure and individual figural dimension revealed weak, but statistically important relationship between figural elaboration and facet decisiveness of NFC survey (r = 0,166, p = 0,22). Facet decisiveness of NFC survey contains items, which evaluates individual as generally decisive or indecisive. Some items of AACS survey basically research the same, which explains the relationship between AACS and NFC, to which points Bar-Tal (2013). By way of an example of fifth research question, we can see clear medium strong, statistically important relationship (r = 0,352, p = 0,001) between figural elaboration and independency from the field; which not only clearly confirms logical analogy between these two concepts, but also is used to explain these weak, achieved relationships between figural elaboration, independence from the field with need and ability to achieve closure to a certain extent. We assume, that these weak relationships, which we obtained, are based on the limits of surveys NFC and AACS themselves. These surveys don't have projective function unlike tests which measure independency from the field and figural dimensions of creativity and thus they don't measure directly whether the respondent tends to decide systematically more often, but only latently, through hypothetical attributes of people, whom we assume to decide strictly heuristically.

3.1 Limits

One of the main limits is weak representativeness of our research sample caused by not identifying normal distribution nearly in all variables, and thus excessive number of respondents achieving extreme values on the edges of Gauss's curve. Hardly controllable impacts like insufficient attention of participants or descending motivation directly proportioned with time needed to fill in test sheets. Using too long surveys AACS (24 items) and NFCS (41) which nowadays already have their shortened versions or wrong discriminatory ability of AACS survey, which doesn't discriminate between deciding with economic, moral or legal context.

4 Conclusion

Our results imply that independency from the field within our sample probably doesn't allow participants to decide quickly and without difficulties, oppositely, it forces them to slow, more elaborated and deep deciding, which reflects in them presenting themselves as people who decide longer and harder in AACS survey. However, on account of lower value of correlation coefficient and insufficient representativeness of population of our sample these interpretations have significant limits. This is why our future goal is to create more representative sample, i.e. more participants and more randomly chosen sample, to design new method of performance type, which would measure tendency in various situations of deciding more validly and decide quickly (heuristically) or slowly (systematically) with variously differentiated context.

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