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Cognitive-characterological Traits of the Self-employed: the Exemplification from Poland

Savarankiškai dirbančių kognityviniai bruožai: Lenkijos kontekstas

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Abstract

The paper concerns exploring cognitive-characterological traits of the self-employed in Poland. Those traits determine either a creative attitude or a reproductive one. A cognitive sphere includes heuristic behaviour characteristics and algorithmic ones, whereas a characterological sphere deals with conformity components and non-conformity ones. A creative attitude model is represented by non-conformity features and heuristic behaviour. However, a reproductive attitude model is regarded as a combination of conformity characteristics and algorithmic behaviour.

The purpose of the article is to present the research results in exploring cognitive-characterological traits of self-employed people in Poland using Popek's Creative Behaviour Questionnaire.

The research problem is defined by the following research questions: 1) which cognitive-characterological traits (creative or reproductive attitude) are most frequently observed in surveyed self-employed people in Poland? 2) Which is the structure of the primary components of both creative and reproductive attitude according to the surveyed self-employed? 3) Which is the structure of the detailed components of both creative and reproductive attitude according to the surveyed self-employed? 4) Can cognitive - characterological traits in terms of creative or reproductive attitude influence formulating and implementing a strategy in an enterprise?

The most general empirical finding is that among the surveyed interlocutors the characteristics of creative attitude are more frequent, especially concerning non-conformity and heuristic behaviour.

KEYWORDS: Self-employment, creative attitude model, behavioural strategy, micro-foundations.

Introduction

Self-employment reflects a multi-faceted approach including semantic discrepancies, especially in strategic management field, in which self-employed persons might be recognized as top managers developing particular strategies in their enterprises. Consequently, it is embedded in the concept called behavioural strategies supposedly emerging from micro-foundations in management, especially strategic one. A behavioural strategy refers to a strategy of a person (a manager) expressed by his/her attitude or/and behaviour. Hence, it constitutes a strategy of an enterprise described in the same language (psycho-sociological) as attitudes and behaviour of managers (Piórkowska, 2014). The article content alludes to creative against reproductive individual (the self-employed – managerial) attitudes.

The overarching premise of the exemplification conducted is to contribute to order the behavioural strategies concept in terms of the individual attitudes that constitute the behavioural



strategy dimensions. Simultaneously, the minor premise is to validate Popek's Creative Behaviour instrument in terms of expanding the population age in the future. The first step was to use Popek's questionnaire amongst self-employed people in Poland. The Polish self-employed population has been chosen for the sake of the respondents' availability. Hence, selecting Poland as the exemplification is valuable for solving the research problem for two reasons. First, hopefully it will allow to extend the research in the future due to probabilistic sample in Polish population and comparatively in other countries. Secondly, it constitutes accessible base for providing the added value for the behavioural strategies concept development. According to the patterns of the self-employed in Poland, simplifying, there are two groups of self-employed people – individuals who freely choose self-employment (an independent profession) and those forced to choose self-employment at their own risk. The specified structure of self-employment in Poland is presented in Appendix 1 that constitutes the grounding field for that exemplification in terms of the self-employment framework in Poland. In general, it constitutes around 18 percentage of total employment in Poland (what exceeds the average number of the self-employed in European Union, Poland is placed on the third place beginning from the highest rate: i.e. Eurostat 2014) and constitutes a salient role in developing Polish economy, however, it is not appreciated and supported by government policy.

There is a wide range of evidence confirming the associations between self-employment and entrepreneurship (e.g. Blanchflower and Oswald, 1998; Krasniqi, 2014; Faggio and Silva, 2012; Faggio and Silva, 2014; Margolis, 2014; Hamilton, 2000) as well as of the research on personality (i.e. Obschonka *et al.*, 2014; Caliendo *et al.*, 2011; Beugelsdijk and Noorderhaven, 2005; Benz and Frey, 2003; Simoes *et al.*, 2013) and a gender role in terms of female and male motivators for choosing self-employment as the form of running business (i.e. Allen and Curington, 2014; Obschonka *et al.*, 2014; Georgellis and Wall, 2005; Hughes, 1999; Lohmann, 2001). Nevertheless, although exemplarily listed and the other scholars have conducted extensive research on those factors, little significant research (i.e. Fritsch and Sorgner, 2013; Douglas and Shepherd, 2002; Block *et al.*, 2009; Fritsch and Rusakova, 2010) exists to explain the socio-psychological antecedents of self-employed people's characteristics in different terms than psychological traits – for instance creative attitude/behaviour, especially in terms of a cognitive sphere and characterological one. While Fritsch and Sorgner (2013) analyzed the level and the determinants of self-employment in creative professions at the level of individuals and found that people in creative professions appeared more likely to be self-employed and that a high regional share of people in the creative class increases an individual's likelihood of being an entrepreneur, they did not investigate the individual cognitive-characterological traits determining the creativity level of the self-employed. In a similar vein, Douglas and Shepherd (2002) investigated the relationship between career choice and peoples' attitudes toward income, independence, risk, and work effort. They found significant relationships between the utility expected from a job and the independence, risk and income it offered. Moreover, the strength of intention to become self-employed was significantly related to the respondents' tolerance for risk and their preference for independence. Despite great contribution to the development of entrepreneurship concept, that paper did not involve the issues of cognitive-characterological traits of the self-employed. Admittedly, Block *et al.* (2009) examined individual attitudes in terms of being the self-employed even including the creativity phenomenon, however, they were mainly focus on risk tolerance and investigated that opportunity entrepreneurs were more willing to take risks than necessity entrepreneurs were. In addition, their research resulted in the conclusion that entrepreneurs who were motivated by creativity were more risk-tolerant than other entrepreneurs were. Fritsch and Rusakova (2010) on the occasion of examining the relationships between the lev-

el of entrepreneurship and environmental creativity, they investigated also individual characteristics of creative people in three groups: dependently employed, entrepreneurs, and the self-employed. Nonetheless, they were rather focus on particular elements of personality traits than cognitive-characterological ones. Those instances are obviously not exhaustive, yet they present the theoretical and research gap in terms of cognitive-characterological traits of the self-employed.

Aiming at filling that gap, the objective of this paper is to contribute to this under-researched area by investigating the creative behaviour components within the sample of the self-employed in Poland using Popek's Creative Behaviour Questionnaire KAHN-1. The paper constitutes initial research framework dealing with socio-psychological traits' impact on strategies character in enterprises included in behavioural strategies and micro-foundations field, especially the paper deals with one part of the research – creativity antecedents (characterological and cognitive) within the sample of self-employed people. It ought to be stressed that the research presented is not at its preliminary stage encompassed in the nomothetic methodological approach and consequently, it is not aimed at verifying hypotheses or testing the particular relationships, yet on exemplifying the potential associations between cognitive-characterological traits and the self-employed and on incorporating creativity as the attitude to behavioural strategies concept. That is the reason why more advanced statistical tools have not been used yet at that stage. Moreover, it would be even not purposeful in terms of, *inter alia*, sample selection (individuals are not derived from a random sample), the research problem and purpose addressed. Additionally, due to the questionnaire used there are standardized ways of interpreting the data (see Table 4) and the sole aim of using in the article descriptive statistics has been better illustrating the results of presented exemplification. Nonetheless, it is planned to deepen empirical studies using statistical analysis (*i.e.* repeated measure ANOVA) in further research.

Popek's Creative Behaviour Questionnaire emphasizes the role of cognitive and characterological features of creative people. The model components include both a cognitive area and characterological one. According to the cognitive sphere, algorithmic and heuristic behaviour are taken into consideration. On the other hand, conformity and non-conformity constitute the components of the characterological sphere. According to Popek (2006), non-conformity and heuristic behaviour direct people to creative activities (and attitude), while conformity and algorithmic behaviour contribute to enhance reproductive (contrary to creative) attitudes and behaviour. The purpose of the article has been realized through answering the following primary research questions: 1) Which cognitive-characterological traits (creative or reproductive attitude) are most frequently observed in the surveyed self-employed people in Poland?; 2) Which is the structure of primary components of both creative and reproductive attitude according to the surveyed self-employed?; 3) Which is the structure the detailed components of both creative and reproductive attitude according to the surveyed self-employed?; 4) Can cognitive - characterological traits in terms of creative or reproductive attitude influence formulating and incorporating a strategy in an enterprise?

The first part of the paper highlights the general cognitive issues (embeddedness and underpinnings) of creative behaviour model's components. In the second part, the sample and method have been presented. Then, some empirical findings have been described, and finally, conclusions and discussion including general findings, relatedness with expectations, with the current state of the art and with filling the gap as well as limitations and future research directions, have been highlighted.

Creative behaviour model's components are ushered in the following phenomena: algorithmic thinking and heuristic one as well as conformity and non/anti-conformity. While the notions 'algorithmic thinking', 'algorithmic behaviour', 'heuristic thinking', 'heuristic behaviour' are commonly used and both semantically and methodologically accepted and prevalent in studies, especially in a psychological field, the categories 'conformity' and 'non-conformity' are more controversial and vague. That is the reason why conformity and non-conformity issues are going to be described more extensively than the others are.

Conformity and non-conformity

The research on conformity mainly emerges from the work by Asch (1951, 1956), Sherif (1935): autokinetic effect, informational influence, and Deutsch and Gerard (1955) as well as concerns the pressures put on a person and the aspects of adjusting people to environment's (the group, society, organization, leader, etc.) expectations. Deutsch and Gerard (1955) have distinguished central informational and normative motivation of conformity. Informational conformity motivation (informational influence) refers to the desire of properly interpreting reality and behaving in the context of appropriately executing tasks (a lack of objective information results in the situation that the norms of the group become a frame of references). On the other hand, normative conformity motivation deals with affiliation needs and with obtaining approval so as to avoid social exclusion (normative influence). Hornsey et al. (2003) state that the informational influence of the conformity is internalized by a person and leads to an authentic change of an attitude, however, normative influence does not imply the authentic attitude change, but rather the person's efforts to be approved and to avoid exclusion (Hornsey *et al.*, 2003, pp. 4-5). The spiral of silence (Noelle-Neumann, 1974, 1993) constitutes certain generalization of normative influence in the context of attitude expression. Both informative and normative motivational factor are associated each other and it is very difficult to separate them theoretically and empirically. Markus and Kitayama (1991) consider conformity from the perspective of differences in values and in the sources of self-confidence, they have also proposed independent and co-dependent constructs of a person. The motivation of co-dependently constructed people is belongingness, group promotion and, what is interesting; such persons obtain self-confidence from the ability to adjust to social environment and to maintain harmony between themselves and social context. Nevertheless, independently constructed people draw self-confidence from the ability to express themselves and confirm their internal attributes. In general, the work and research on conformity (non-conformity) is cognitively focused threefold: a) conformity as a personality trait (behavioural stability, a person is a frame of reference), b) conformity as a cognitive (and referring to an attitude) change of thinking and behaving (real or imagined) being a result of group norms (social influence, a group constitutes a frame of reference) (Mohgaddam, 1998), c) conformity as group confirmation. The ontological essence of conformity (non-conformity) is embedded in social norms (an axiological function) (Bocchiaro and Zamperini, 2012, p. 276). However, it should be highlighted that conformity unnecessarily is a conscious and aware process (Bargh and Chartrand, 1999). Although it is confirmed and approved that many factors influence modifying opinions, both the mechanism of such modification and the extent to which it is based on either making decisions or perception have not been founded (compare: Berns *et al.*, 2005, p. 245 – the research results on neurobiological correlates of conformity and independence). Conformity might be referred to personality (a characteristic feature of the person disclosing in the tendency to adjust), an attitude (a change of the attitude as a result of group pressures), and behaviour (the tendency to adjust to a group). The personality, attitude, and behaviour are commonly regarded as conformity dimensions. Festinger (1950) emphasizes positive

Creative behaviour model's components – embeddedness and underpinnings

sides of conformity, in contrast to other research (i.e., Milgram, 1974) – destructive behaviour as a result of conformism, Ash (1952) – aspects of disturbed reality perception), arguing that adjusting to the group favours group homogeneity that reveals group cohesiveness what results in the fact that a person subjectively perceives social advantage achieved. Allen (1965) regards that a salient factor determining the conformity degree is person's similarity to the group. According to his research results, the more person is similar to the group, the bigger degree of conformism (the person treats the group as a proper frame of reference) occurs as well. One more issue ought to be stressed, the conformity degree depends also on the person's status in the group – the weaker status, the bigger tendency to conform (Jetten et al., 2006). It is connected with so called *idiosyncrasy credit* (Hollander, 1958) illustrating that people possessing stronger status in the group are more willing to behave freely (they have bigger psychological credit resulting in higher acceptability limitations).

Non-conformity might occur as constructive non-conformity and destructive one called anti-conformity. Hollander and Willis (1967) just perceive anti-conformity as the contrary to conformity phenomenon arguing that in the case of conformity people conform to the group counter to their views as well as in the case of anti-conformity a person is even able to exist in internal inconsistencies so as to be distinguished from the group (Hollander and Willis, 1967). According to prominent research results on anti-conformism of Horney *et al.* (2003), people with a strong moral ground of an attitude perceiving social support as weak tend to react publicly against group norms. Hence, in the case of incompatibility of values or attitudes, people might: a) assimilate opinions with the group (conformity), b) not to identify with the group and direct to individualization (anti-conformity), c) reconfigure intergroup context as for an ideological ground (non-conformity) (Horney *et al.*, 2003, pp. 25-26). Popek (2008) highlights that conformity and non/conformity nature is not homogenous and they might reveal either constructive or destructive value. Destructive conformity value concerns negative consequences for a cognitive process and as for destructive non-conformity value, it is envisaged that people destroying current structures do not create a new order as they do not have enough creativity to realize their own ideas.

Unfortunately, as for a methodological perspective, there are many in-between forms of conformity and non/anti-conformity with not strict semantic principles. For instance, collating the issues of public and individual acceptance, Festinger (1953) describes internalization phenomenon as the occurrence of simultaneous public and individual approval. On the other hand, Kelman (1958) highlights the phenomenon of compliance as the occurrence of public approval and individual disapproval what frequently results in cognitive dissonance. The compliance and internalization do not exclude each other, they are rather perceived as two poles in the continuum scale.

Algorithmic and heuristic thinking

Scholars relate algorithmic thinking including also algorithmic decomposition (Baron, 2006) closely to the development of analytical, computational thinking as the enhancement of problem-solving skills (Resnick, 2007; Tsalapatas et al., 2012). Algorithmic thinking indicates imitating and reproductive attitudes, such as directed perceptibility, mechanic memory, reproductive imagination, convergent thinking, reproductive learning, intellectual inflexibility, cognitive passiveness, low extent of reflectiveness, low efficiency in processing and constructing, a lack of technical and artistic inventiveness (Popek, 2008, p. 24).

Heuristic as a pattern of thinking was used even in Lakatos' early papers in terms of logic of discovery – obviously beyond methodological issues (Lakatos, 1976). He aimed at describing

the patterns of thinking as the mean of growing knowledge. A high level of consensus has emerged that idea generation, divergent thinking, and heuristics constitute the determinants of creative behaviour. Vessey and Mumford (2011) present the heuristics appraisal as one of the creativity development component. They prove that heuristics provide a particularly strong basis for instructional programmes to improve creative performance. Heuristic thinking involves such characteristics like observation independence, logical memory, creative imaginativeness, divergent thinking, reconstructive and independent learning, learning by reasoning, intellectual flexibility and pliability, cognitive activeness, reflectiveness, intellectual independence, constructive creativity, potential artistic talents (Popek, 2008, pp. 24-25). Concluding considerations in the field of phenomena like conformity, non-conformity, anti-conformity, algorithmic thinking and heuristic one, it ought to be emphasized that they are not completely specified and they depend on many aspects in the social influence field. Nevertheless, it is supposed that the behaviour of self-employed people is determined, amongst others, by the attitudes – for instance implied by conformity, non-/anti-conformity, and algorithmic/heuristic attitudes.

One-hundred and sixty four self-employed people were surveyed in the year 2014 (January - December). The sample was not selected randomly due to the fact that the exploration presented constitutes the first step in researching socio-psychological issues in running business by not only the self-employed. Consequently, the purpose of the research was to obtain initial data enabling to find some implications for the future research in the field of behavioural strategies and micro-foundations in strategic management.

Table 1 presents the characteristics of self-employed exemplified in terms of gender, age cohort, and education attainment. For instance, surveyed men declared that they were more likely to be self-employed or business owners than women were (this obviously not empirically verified observation in the case presented is supported with the data presented in Appendix 1), which might be due to a still traditional society and strict legal regulations in terms of self-employment during maternity leave. When it comes to the age cohort, it shows that a majority of individuals involved in entrepreneurial activities on their own are younger than 40 years. According to the education level, surveyed people without university education declared to be more willing to be self-employed than the other groups which might reflect the situation that people without university education in Poland are less likely to be employed. However such an interference ought to be empirically verified, indeed it does not constitute the article's content.

The normalized method that has been used is called Creative Behaviour Questionnaire (Appendix 2) by Popek (2008) using the model of a creative attitude in learning and in action as well as consisting of four scales: conformity (C) and non-conformity (N) (a characterological sphere), algorithmic behaviour (A) and heuristic one (H) (a cognitive sphere). Each scale controls 15 double-arranged traits formulated as continuous traits, e.g. mechanic memory - logical memory. On the basis

Characteristics	Self-employed
Gender	
Female	29,88
Male	70,12
Age cohort	
18-24	14,63
25-40	59,76
41-65	26,61
Education	
Primary	2,44
Secondary	1,83
High School	58,54
University and Post-University	37,19

Sample and method

Table 1

Characteristics of self-employed surveyed (in %) (N=164)

of the diagnostic reliability and validity tests of the questionnaire made by Popek (2008), the following settlements were made. According to the reliability of the questionnaire, reliability coefficients were found for the scales: conformity - non-conformity (0.87), algorithm behaviour - heuristic behaviour (0.83). Discriminating efficiency of the questionnaire were found by means of coefficient of biserial correlation using Spearman-Brown formula. The means r_{bi} for conformity-non-conformity scales is 0.435 and for algorithm behaviour-heuristic behaviour scales is 0.380. Reliability of the questionnaire was based on the study of 170 persons repeated after three weeks. As for the diagnostic validity, it was established by using an external criterion - Davis' How Do You Think test (HDYT), all correlation coefficients are found to be significant at a level = 0.001 (for details see Popek, 2008, p. 84). When it comes to the theoretical validity, it is shown with reference to wide interpretation of creative behaviour or creative attitude on the ground of personality psychology.

According to Popek (2008), a creative attitude is determined by non-conformity and heuristic thinking, however, a reproductive attitude is implied by conformity and algorithmic thinking. Both conformity - non-conformity scales and algorithmic - heuristic thinking scales were created using contrary features – the instances are included in Table 2.

The questionnaire consists of 60 statements connected with various human activities occurring in the process of learning and in action. The statements with numbers: 4, 7, 11, 14, 17, 24, 27, 30, 34, 37, 41, 45, 48, 52, 55 refer to the conformity scale, the statements with numbers: 2, 6, 10, 15, 20, 22, 26, 32, 36, 40, 44, 49, 54, 58, 60 deals with the non-conformity scale, the statements with numbers: 5, 9, 13, 16, 18, 23, 28, 31, 35, 39, 43, 47, 51, 57, 59 concern the algorithmic behaviour scale, and finally the statements with numbers: 3, 8, 12, 19, 21, 25, 29, 38, 42, 46, 50, 53, 56 refer to the heuristic behaviour scale. There are three options possible to be marked by an interlocutor as for every statement: a) the statement is completely true

Table 2
Conformity - Non-conformity & Algorithmic - Heuristic behaviour scales' contrary components

Conformity	Non-conformity	Algorithmic behaviour	Heuristic behaviour
Dependence	Independence	Directed observation	Observation independence
Passiveness	Activeness, vitality	Mechanic memory	Logical memory
Adaptive inflexibility	Adaptive flexibility	Reproductive imagination	Creative imagination
Stereotyping tendencies	Originality	Convergent thinking	Divergent thinking
Weakness	Perseverance	Reproductive learning	Reconstructed learning
Timidness	Courage	Directed learning	Independent learning
Slavenship, subordination	Domination	Learning by the process of understanding	Learning by understanding
Poor self-organizing	Self-organizing	Intellectual inflexibility	Intellectual flexibility
Rigidness	Spontaneity	Cognitive passiveness	Cognitive activeness
Defensiveness	Openness	Low extent reflection tendencies	High extent reflection tendencies
Weak resilience	High resilience	Intellectual dependence	Intellectual independence
Irresponsibility	Responsibility	Low constructive creativity	High constructive creativity
A lack of self-criticism	Self-criticism	Verbal reproductiveness	Verbal creativity
Intolerance	Tolerance	A lack of technical abilities	Technical abilities
Weak self-confidence	High self-confidence	A lack of artistic talents	Potential artistic talents

Source: Popek (2008, pp. 24-25, 67).

(2 points), b) the statement is partially true (1 point), c) the statement is false (0 points). The scales C-N and A-H constitute opposed poles of behaviour results. It means that a particular person might obtain some points both in the conformity scale and non-conformity one. It meets the criteria of dynamic personality theories, in which one of characteristics of creative people is the occurrence of contrary features in their behaviour. The research results are to be analysed using not only primary scores, but also sten ones for a) conformity scale, b) non-conformity scale, c) algorithmic behaviour scale, d) heuristic behaviour scale, d) creative attitude (N+H), and e) reproductive attitude (A+C) (see Table 3).

Results	Sten scores	Results	Sten scores	Results	Sten scores
Conformity (C)		Non-conformity (N)		Creative attitude (N+H)	
0-3	1	0-11	1	0-23	1
4	2	12-13	2	24-25	2
5-7	3	14-15	3	26-30	3
8-9	4	16-17	4	31-32	4
10-12	5	18	5	33-36	5
13-15	6	19-20	6	37-40	6
16-17	7	21-22	7	41-43	7
18-19	8	23-25	8	44-47	8
20-22	9	26-27	9	48-50	9
23-30	10	28-30	10	51-60	10
Algorithmic behaviour (A)		Heuristic behaviour (H)		Reproductive attitude (A+K)	
0-7	1	0-8	1	0-13	1
8	2	9-11	2	14-15	2
9-10	3	12-13	3	16-18	3
11-12	4	14-15	4	19-23	4
13-14	5	16-17	5	24-28	5
15-16	6	18-19	6	29-31	6
17-18	7	20-21	7	32-36	7
19-20	8	22-23	8	37-39	8
21-22	9	24-25	9	40-42	9
23-30	10	26-30	10	43-46	10

Source: Popek (2008, pp. 52-53).

In recognition of the fact that the presented research results constitute the initial exploratory exemplification not encompassed in the nomothetic methodology, it ought to be emphasized that the findings concern only the group of the surveyed individuals and they are not authorized to be generalized. As it has been shown in Table 4 and Figure 1, illustrating exemplification findings in accordance with a creative and reproductive attitude model, in the group of self-employed interlocutors surveyed a creative attitude was dominated in the comparison with a reproductive one – creative attitude scores were definitely higher than a medium level of scores possible to be obtained in that area (15 scores) as well as reproductive attitude scores were lower than a medium level (15 scores). When it comes to sten scores, creative attitude results (higher than a medium level: 5 scores) exceeded reproductive attitude scores (a little bit higher than a medium level of scores: 5).

Table 4 and Figure 2 present the findings according to aggregated components of the creative and reproductive attitude model. Non-conformity scores are apparently higher than conformity ones. Similarly, heuristic behaviour results exceed algorithmic one.

Table 3

Creative and reproductive attitude as well as their component characteristics: norms for primary and sten scores

Exemplification findings

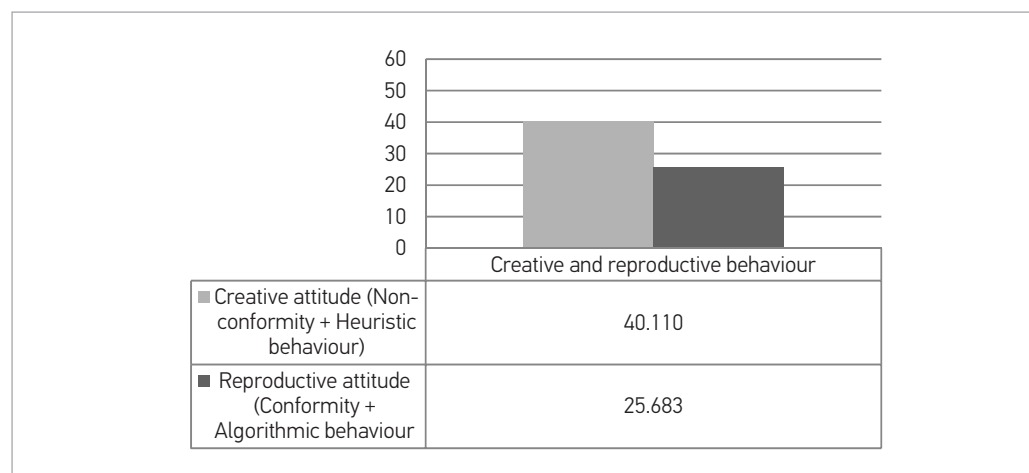
Table 4

Creative and reproductive attitude and their components - primary and sten results

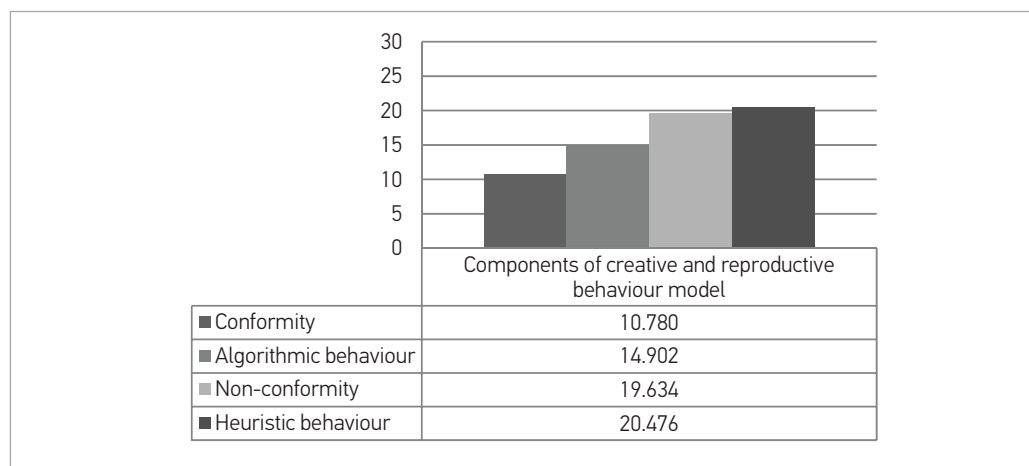
	Conformity	Non-conformity	Algorithmic behaviour	Heuristic behaviour	Creative attitude	Reproductive attitude
	Primary scores					
Mean	10,780	19,634	14,902	20,476	40,110	25,683
St. dev.	5,536	4,393	4,191	5,137	9,142	9,186
	Sten scores					
Mean	4,780	5,756	5,561	6,883	6,439	5,110
St. dev.	2,243	2,394	2,055	2,621	2,579	2,276

Figure 1

Creative and reproductive behaviour - summary. The axis Y presents the averages of primary scores; Max = 60, Min = zero

**Figure 2**

Components of creative and reproductive behaviour model. The axis Y presents the averages of primary scores; Max = 60, Min = zero



Taking into consideration conformity component characteristics (Figure 3), there are three of them with scores exceeding a medium level (1,0): adaptive inflexibility (1,454), stereotyping tendencies (1,439), and a lack of self-criticism (1,439).

Moving to consider non-conformity component characteristics (Figure 4), definitely more features obtained results higher than a medium level in comparison with conformity characteristics, specifying those like: independence (1,78), activeness, vitality (1,329), originality (1,561), perseverance (1,659), courage (1,098), domination (1,012), self-organizing (1,890 – the highest score), openness (1,561), high resilience (1,22), self-criticism (1,439), and tolerance (1,659).

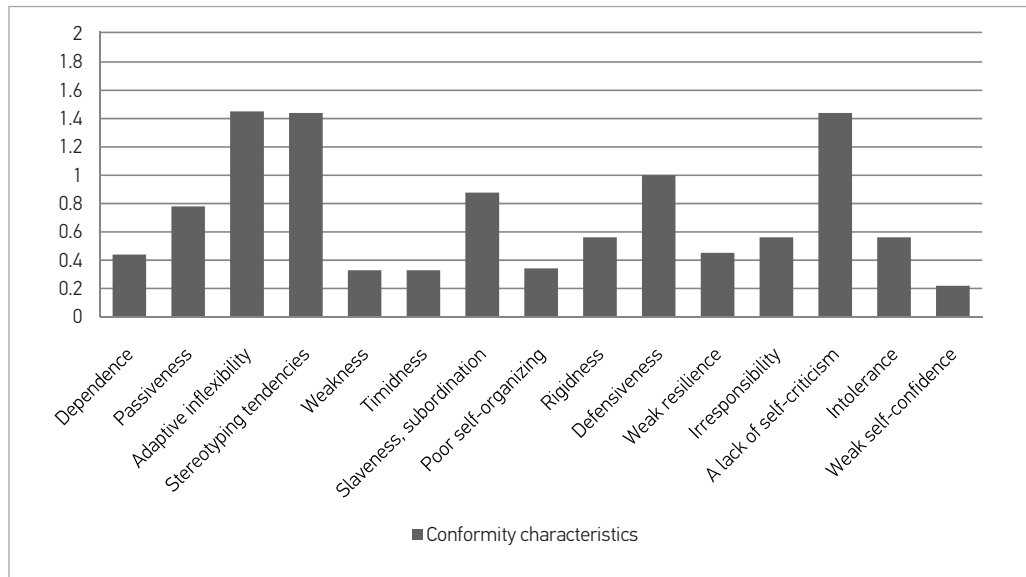


Figure 3

Conformity characteristics – primary scores.

The Y axis presents the averages of primary scores due to particular components; Max = 2, Min = zero.

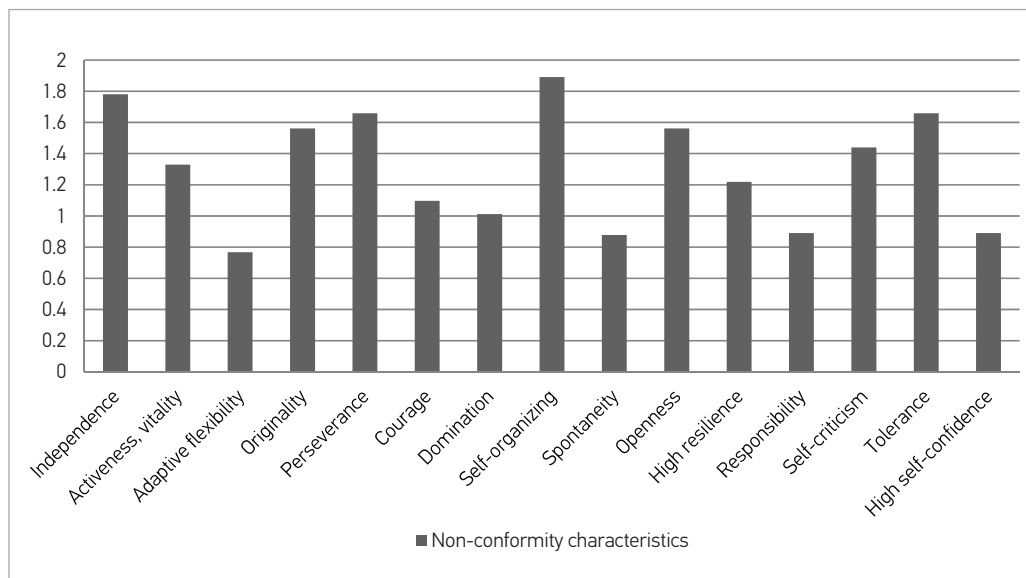


Figure 4

Non-conformity characteristics – primary scores.

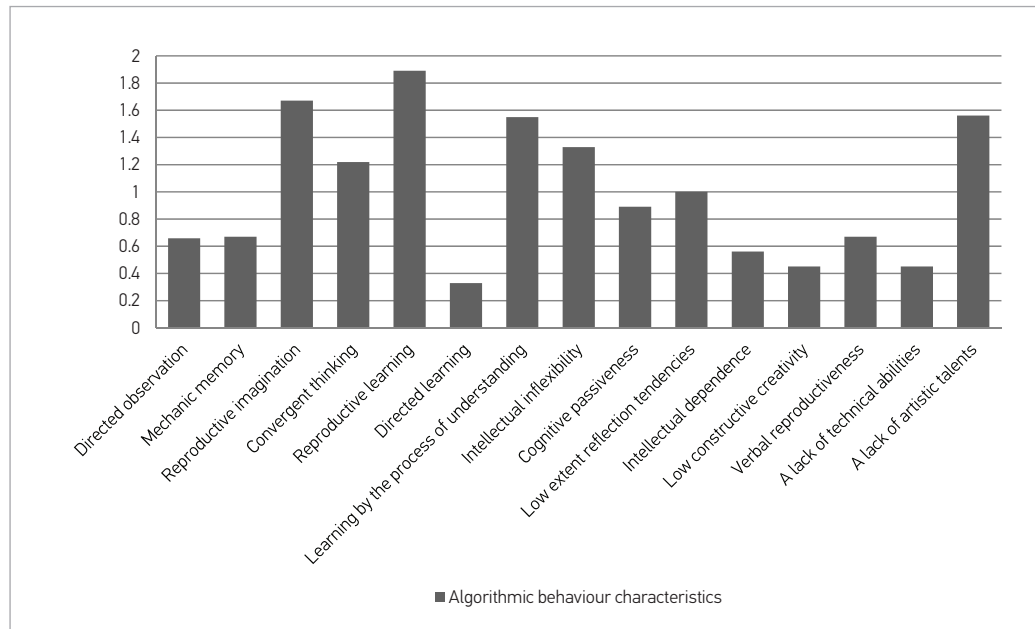
The Y axis presents the averages of primary scores due to particular components; Max = 2, min = zero

According to algorithmic behaviour component characteristics (Figure 5), the following ones obtained the highest scores: reproductive learning (1,890), reproductive imagination (1,671), a lack of artistic talents (1,561), learning by the process of understanding (1,549), and intellectual inflexibility (1,329).

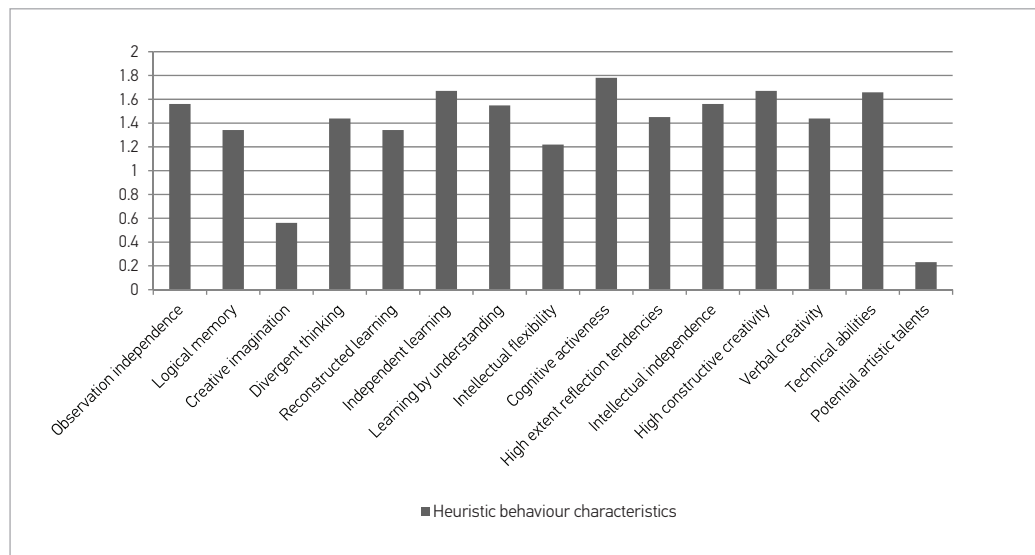
In the spirit of heuristic behaviour component characteristics (Figure 6), even thirteen features' scores (from all fifteen ones) exceeded a medium level; they were as follows: cognitive activeness (1,78), high constructive creativity (1,671), independent learning (1,671), high constructive creativity (1,67), technical abilities (1,659), observation independence (1,561), intellectual independence (1,561), learning by understanding (1,549), high extent reflection tendencies (1,451), divergent thinking (1,439), logical memory (1,341), reconstructed learning (1,341), intellectual flexibility (1,22).

Figure 5

Algorithmic behaviour characteristics – primary scores.
The Y axis presents the averages of primary scores due to particular components; Max = 2, min = zero

**Figure 6**

Heuristic behaviour characteristics – primary scores.
The Y axis presents the averages of primary scores due to particular components; Max = 2, min = zero



Conclusions: preliminary ascertainment

Referring to the article's research questions, exemplification findings, concerning exploring cognitive-characterological traits by means of Popek's Creative Behaviour Questionnaire, have entitled to formulate the following three preliminary ascertainment and two assumptions:

Ascertainment 1: It has been observed that the surveyed self-employed people in Poland more frequently revealed the characteristics of the creative attitude (78,08% of the surveyed interlocutors; average primary scores: 40,110) than the features of reproductive one (average primary scores: 25,683).

Ascertainment 2: According to the structure of both creative and reproductive attitude's primary components, it has been observed that average heuristic behaviour characteristics' scores (20,476) exceeded algorithmic ones (14,902) as well as average non-conformity fea-

tures' scores (19,634) exceeded conformity ones (10,780) in terms of the surveyed self-employed in Poland.

Ascertainment 3: In accordance with the structure of both creative and reproductive attitude's detailed components in terms of the surveyed self-employed in Poland, it has been observed that due to creative attitude (as more frequent than reproductive one) the following components pay more attention: independence, perseverance, tolerance (those for non-conformity), cognitive activeness, high constructive creativity, and independent learning (those for heuristic behaviour).

Assumption 1: Being a self-employed in Poland supposedly requires possessing particular cognitive-characterological traits: non-conformity features rather than conformity ones and heuristic behaviour characteristics rather than algorithmic ones.

Assumption 2: Since an attitude/behaviour is regarded as a dimension of behavioural strategies and cognitive - characterological traits in terms of creative attitude have been observed as frequent amongst the surveyed individuals, they might constitute the behavioural strategies' dimensions and might influence formulating and incorporating a strategy in an enterprise.

Hence, it unleashes the sense of the article's purpose addressed for the field of the behavioural strategies and it leads to the conclusion that investigating those phenomena becomes more broader viable.

It is widely acknowledged within the entrepreneurship professions including the self-employment that individual traits influence the way of behaving and operating. Nonetheless, a careful scrutiny of the relevant literature reveals that individual cognitive - characterological traits in terms of a creative attitude have not been examined enough so far.

The exemplification results having been presented relate to expectations and are congruent with the current state of the art in the field of individual traits' role for creativity as well as they fill the gap addressed, however, they are not by any means exhaustive in terms of researching socio-psychological attributes of self-employed people and undoubtedly, supporting above ascertainment and verifying the assumptions made require and merit further exploration that would enhance the understanding about micro mechanisms influencing the manager (the self-employed) operating in an enterprise (also own).

One of the most salient limitation of research presented is using the questionnaire standardized for only one age group (12,6-24,0) so in order to validate the tool for other groups the new standardization should be made in the future. Nevertheless, with these caveats, the exemplification might provide a frame of reference that facilitates a greater understanding of behavioural issues' influence on the activities of the self-employed as well as direct for further investigation. For instance, the correlations between psychological traits and attitudes might be made as the next step, the antecedents of those attitudes should be found as well as the model illustrating common features of self-employed people in Poland so as to enhance the processes of adapting those people to work on their own ought to be developed.

What seems to be very interesting, while psychology research typically explores universal traits, characteristics, heuristics that are common across individuals, strategy studies anecdotally identify traits, heuristics etc. that are idiosyncratic to particular enterprises (Bringham and Eisenhardt, 2011, p. 1439). It gives directions for devoting more attention to explore micro-foundations linking micro-level analysis (individuals - for instance the self-employed) and macro-level analysis (enterprise's strategy - for instance organizational activities conducted by the self-employed).

Discussion

Appendix 1

The employed by employment status and age (the third quarter of 2013)

SPECIFICATION	Total			Employees			Self-employed		Contributing family workers
	total	of which private sector		total	in sector		total	of which employers	
		total	of which farms in agriculture		public	private			
	in thousands								
TOTAL	15738	11792	1753	12306	3946	8360	2897	669	535
15-19 years	99	99	32	67	-	67	-	-	30
20-24	1012	909	94	885	103	782	59	12	68
25-29	2041	1661	124	1770	380	1390	212	40	60
30-34	2333	1828	155	1942	505	1437	343	89	49
35-44	4214	3122	425	3293	1093	2200	813	198	108
45-54	3546	2426	507	2638	1120	1518	795	169	113
55-59	1611	1085	224	1190	527	663	376	84	46
60-64	629	459	108	416	170	246	186	52	28
65 years and more	251	203	84	106	48	57	111	25	34
in the age pre-working	24	24	12	11	-	11	-	-	13
working	15268	11435	1617	12065	3833	8231	2733	632	471
post-working	447	334	124	231	113	118	164	37	52
Males	8748	7163	1008	6611	1585	5025	1938	472	200
15-19 years	63	63	24	38	-	38	-	-	23
20-24	612	564	67	524	48	476	41	8	47
25-29	1163	995	79	986	169	817	138	30	40
30-34	1302	1087	91	1052	215	837	233	61	17
35-44	2279	1846	215	1731	434	1297	529	136	19
45-54	1838	1449	272	1297	390	907	527	124	15
55-59	904	704	144	630	201	430	261	54	13
60-64	433	328	68	290	105	185	133	40	10
65 years and more	152	128	48	62	24	37	75	18	16
in the age pre-working	15	15	9	5	-	5	-	-	9
working	8581	7020	951	6544	1561	4982	1863	453	174
post-working	152	128	48	62	24	37	75	18	16
Females	6990	4630	745	5695	2361	3335	959	197	336
15-19 years	37	36	8	29	-	29	-	-	7
20-24	400	345	27	361	56	306	18	5	21
25-29	878	667	45	784	211	573	74	9	20

30-34	1031	741	65	890	289	600	110	28	32
35-44	1935	1276	210	1562	659	903	284	62	89
45-54	1708	978	235	1341	731	611	269	45	98
55-59	707	381	80	560	326	234	115	30	33
60-64	196	131	40	125	65	60	53	12	18
65 years and more	99	75	36	44	24	20	37	7	18
in the age pre-working	9	9		5	-	5	-	-	-
working	6687	4415	666	5521	2272	3249	870	179	297
post-working	294	206	76	169	89	81	90	18	36
URBAN AREAS	9542	6761	122	8204	2781	5423	1267	452	70
15-19 years	38	38		36	-	36	-	-	-
20-24	508	448	5	478	60	418	23	9	7
25-29	1262	1010		1154	253	901	100	27	8
30-34	1494	1137	7	1314	357	957	175	65	-
35-44	2552	1786	24	2188	765	1422	350	128	14
45-54	2065	1296	35	1738	769	969	309	108	17
55-59	1039	641	17	875	399	477	156	57	8
60-64	426	290	13	330	136	194	93	38	-
65 years and more	158	116	15	92	42	50	59	20	7
in the age pre-working	8	8		7	-	7	-	-	-
working	9247	6560	101	8005	2687	5318	1182	424	61
post-working	287	193	20	193	94	99	86	28	8
RURAL AREAS	6196	5032	1631	4101	1165	2937	1630	217	465
15-19 years	62	61	30	31	-	31	-	-	28
20-24	504	461	89	408	43	364	35	-	61
25-29	779	652	121	616	127	488	112	12	52
30-34	840	691	148	628	148	480	167	25	45
35-44	1663	1335	401	1105	327	778	463	70	95
45-54	1481	1130	473	900	351	549	486	61	96
55-59	572	444	207	315	128	186	220	26	38
60-64	203	169	95	86	34	52	92	14	25
65 years and more	93	87	69	14	6	8	52	5	27
in the age pre-working	16	16	11	-	-	-	-	-	12
working	6021	4875	1516	4060	1146	2914	1551	208	410
post-working	160	141	104	38	19	19	78	9	43

¹⁾ Excluding persons living in institutional households and persons employed abroad.

Source: Labour Force Survey (LFS) carried out by BAEL in the third quarter of 2013 in Poland.

Appendix 2

Creative Behaviour Questionnaire (Popek 2008, pp. 58-61)

1. It is very easy for me to create my own texts and speeches.
2. I adapt very fast to new and unknown before situations and opinions.
3. I analyse every new phenomenon or a new experience regarding my own behaviour. That is why I do not indiscriminately acknowledge anything.
4. If I have to take up independent tasks in new and difficult situations, I notice myself chaotic actions.
5. I carefully observe things and phenomena if I am directed by someone.
6. I like dominating. I feel good when others subordinate to my decisions and when they agreed with me.
7. I strive towards using well checked and embedded ways of behaving, work rules, and commonly used customs.
8. While learning, I independently plan the scope and content. I do not ask others for help.
9. I feel good in a team where I can imitate others' behaviour.
10. I respect contrary opinions. I respect others' independence even when I am convinced that they are wrong and might be treated like enemies.
11. In the most of cases, my behaviour depends on my superiors.
12. I make efforts to behave sensibly. My behaviour is not dependent on others' patterns, yet I create my own rules.
13. While learning, I mainly tend to remember and understand the content.
14. I am stable and headstrong as for my views. It is difficult to me to adapt to changes and new situations.
15. I try to organize my spare time, work, learning independently. Then, I act the most effectively.
16. I do not reveal artistic talents in the field of music, art or literature.
17. In new environment or in new life situations I feel paralysed even though I know how to act and behave.
18. My imagination on the future is based strictly on observed facts – that is why I do not fantasise in an unjustified manner.
19. While learning, I do not only try to understand the issue, but I also aim at critically evaluating it. I create own ideas on the basis of found ones.
20. I have my own path of living and I try to execute tasks in a different way than the others do.
21. I have the talent in one field of art.
22. I do not hide my enthusiasm and energy excess so I act fast and directly. I cannot stand the situations in which nothing happens. Where I can, I realize my ideas, even against others.
23. I do not evince constructive behaviour. I have difficulties in simple technical alteration.
24. I am careful and mistrustful towards novelties.
25. I easily create the vision of the world and things for which it is difficult to find reflection in daily realities.
26. I choose the ways of behaving and overcoming difficulties independently on my superiors' advice.
27. I change my opinions and behaviour dependently on a situation or without explicit reasons.
28. I am stable in my opinions and I have difficulties in changing a way of understanding phenomena and things.
29. I am very curious about everything what surrounds us. I am self-reliant in observing things and phenomena.
30. Generally, I do not worry about things that I promised to do some days ago and I have not done it.
31. I try to solve tasks and overcome difficulties on the basis of acknowledged rules.
32. I am especially interested in realizing obligations and in the case of failure in that context I am ready to suffer the consequences.
33. I overcome all difficulties and life tasks independently avoiding commonly accepted principles and means.

34. I take up a task only when I have received from my any superiors instructions and when I am under control.
35. I learn effectively only when someone directs me.
36. I like to get to know and experience everything even without a practical goal, but I do not indiscriminately treat novelties.
37. During long-term work or difficult tasks, I dishearten myself, change my interests or even stop actively acting for a while.
38. I am efficient in wielding various tools, instruments. I effectively construct and improve tools in my environment.
39. I have stable opinions as for life so I slightly use current experience and events.
40. I am stable and consequent in my aspirations despite failures, adversities and unacceptance in the environment.
41. I cannot stand contrary opinions so I am consequent in attacking and destroying my opponents.
42. To my point view, understanding phenomena depends on rational arguments so I do not have difficulties in changing a viewpoint.
43. I do not like extensively realizing one task. I rather reveal a practical attitude to life.
44. I am persistent and I am little interested in others' opinions about my successes and failures.
45. I continuously get the impression that I do badly everything, that I am worse than others, and it results in a lack of courage in action.
46. I like getting to know various phenomena. I deepen my knowledge in the fields of my interests without the necessity of external inspiration.
47. While learning I take care of tackling the material in the scope of content, forms, etc.
48. I do not like leading and directing. I prefer someone else making a decision about my person, my activities and behaviour.
49. I usually try to initiate new tasks, new ways of solving problems forestalling my superiors.
50. I am able to invent new ways of technical solutions.
51. I bind myself to learnt speech forms, I find difficult to invent self-contained statements, expressions.
52. Despite good knowledge about a given issue, I do not give opinions as I am afraid of being lampooned and forced to justify my point of view.
53. While learning new issues, I am able to join them with my current knowledge and I consciously omit the less important issues.
54. I am willing to withdraw my opinions if I regard that I am wrong. I do not hide mistakes made, but I also do not easily conform to environment pressures.
55. In general, I am glad with my behaviour. I regard the critics towards me as envy.
56. While learning I try to remember the material presenting the logical whole, I omit the rest of issues.
57. While reading a book or listening I am able to remember a lot and repeat without the necessity of understanding the content.
58. I am independent as I know that I have more possibilities than others have.
59. In the case of simple device failure, I do not repair on my own, as I am not able to find the reason of the failure.
60. I am not afraid of giving my opinions even towards my superiors and authorities although sometimes I am lampooned.

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K. Piórkowska. Savarankiškai dirbančių kognityviniai bruožai: Lenkijos kontekstas

Straipsnio tikslas – nustatyti savarankiškai dirbančių kognityvinių bruožų raišką, akcentuojant kūrybinės ir reprodukcinės elgsenos komponentus Lenkijos kontekste. Savarankiškai dirbantys asmenys yra pakankamai neištyrinėta grupė, ypač atsižvelgiant į elgsenos fenomeną. Straipsnyje sprendžiami šie probleminiai klausimai: 1) kurie iš kognityvinių bruožų (kūrybiniai ar reprodukciniai) dažniausiai stebimi tarp savarankiškai dirbančių asmenų Lenkijoje? 2) kokia struktūra pasižymi

kūrybiniai ir reprodukciniai komponentai? 3) ar kūrybiniai ir reprodukciniai komponentai gali įtakoti ir būti įtraukti į įmonių strategiją?

Rengiant straipsnį buvo naudojamas Popek kūrybinės elgsenos klausimynas. Jis grįstas modeliu, kuriame atspindi kognityvinė ir charakterologinė erdvė. Kognityvinė erdvė apima algoritminę ir euristinę elgseną. Kita vertus, konformiškumas ir nekonformiškumas analizuojami charakterologinėje erdvėje.

Pirmojoje straipsnio dalyje analizuojamos pagrindinės kognityvinės problemos, susijusios su kūrybinio/reprodukcinio elgsenos modelio komponentais. Antrojoje dalyje pagrindžiama imties struktūra (164 respondentai), imties atranka, tyrimo metodika. Kitoje dalyje pateikiami esminiai tyrimo rezultatai. Straipsnio pabaigoje pateikiama diskusija, išvados, taip pat tyrimo apribojimai bei tolimesnių tyrimų kryptys.

Apibendrinant tyrimo rezultatus teigiama, kad euristinės elgsenos charakteristikų raiška yra stipresnė nei algoritminių; nekonformiškumo charakteristikos stipresnės nei konformiškumo.

Tyrimo rezultatai neišsiskiria iš kitų tyrimų, susijusių su sociopsichologinių savarankiškai dirbančių bruožų raiška. Straipsnyje taip pat siūloma Popek kūrybinės elgsenos klausimyną validuoti suaugusiųjų imtyje, atlikti reprezentatyvų tyrimą Lenkijos populiacijoje, o vėliau ir kitose šalyse, siekiant rezultatų palyginamumo.

REIKŠMINIAI ŽODŽIAI: savarankiškai dirbantys, kūrybinių nuostatų modelis, elgsenos strategija.

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