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Polish Version of the Creative Approach Questionnaire: An Initial Adaptation*

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ABSTRACT

Several theoretical models in the creativity literature describe different styles or types of creativity constituting the dimension of evolutionary vs. revolutionary creativity. Unfortunately, in Poland there are no available instruments to measure the type of creativity understood in such a manner. The objective of this article is to present the effects of the first stage of work on the Polish version of the Creative Approach Questionnaire (Durmysheva & Kozbelt, 2010), based on the Galenson's (2001, 2009) 'finder-seeker' typology. Three studies conducted as a part of the adaptation of the questionnaire are presented. Study 1 was aimed at the assessment of the theoretical validity and linguistic appropriateness of the statements included in the initial version of the questionnaire. Study 2 was devoted to examination of the connections between the original and the Polish version of the instrument. Study 3 examined the susceptibility of the Polish version of the questionnaire to social approval.

The description and measurement of creativity can be achieved in various ways. One can analyse creative processes and works, the cultural and psychosocial conditions of creativity or the personal traits of creators (Rhodes, 1961). The analysis of creativity as a personal characteristic is usually focused on two main issues: (1) the level of creative potential and (2) the way or style of creative functioning (Galenson, 2001, 2009; Kaufmann, 1979; Kirton, 1976). In other words, researchers attempt to answer two different questions: (1) whether the person is more or less creative and (2) what kind (type, style) of creativity the person prefers. Some theoretical models (Galenson, 2001, 2009; Kaufmann, 1979; Kirton, 1976; Nijstad, De Dreu, Rietzschel & Baas, 2010; Puccio, 2002; Sternberg, Kaufman & Pretz, 2002) indicate the fact that style or type of creativity may be described by the distinction: "evolution vs. revolution" (Nowacki, 2013, 2013a). For example, Kirton's theory (1976) assumes that there exists a continuum, whose extremes are

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described as adaptiveness and innovation. Adaptors work in a gradual and systematic manner; they are precise, diligent, efficient, methodical, but also conformist. Innovators work on a paradigm-rejection basis; they are inclined to take various tasks, shock, question the rules and disregard the achievements of their predecessors (Kirton, 1976). The theory of Assimilation–Exploration (Kaufmann, 1979) accounts for two cognitive styles: the first (Assimilator) amounts to stretching established principles to meet novel tasks and is connected with greater conventionality, conscientiousness, agreeableness and neuroticism (Martinsen & Diseth, 2011); the second (Explorer) is oriented toward seeking novel solutions and is less agreeable and conscientious, but more open to experience and more emotionally stable (Kaufmann, 1979; Martinsen & Diseth, 2011). A typology of creators has also been proposed by Galenson (2001, 2009) which accounts for the two types of creativity. The first one (Seeker) introduces gradual changes and builds up skills, the second (Finder) – creates various works, cut off from tradition (Galenson, 2001; Durmysheva & Kozbelt, 2010). In the propulsion model of kinds of creative contributions (Sternberg, Kaufman & Pretz, 2002) a distinction is made between the kinds of creativity that accept current paradigms, the kinds of creativity that reject current paradigms and the kind of creativity that synthesizes paradigms. Therefore, according to this concept, creativity may have an evolutionary character (first category) or revolutionary character (second category). A self-report measure called *FourSight* (Puccio, 2002) measures four preferences connected with creative problem solving (Clarifier, Ideator, Developer and Implementer). The Clarifier is a preference, positively connected with conscientiousness and negatively connected with influence. The Clarifier has tendencies to adjust him/herself to the rules and the structure, is analytical, careful, exacting, accurate, reflective, sceptical and logical, is a master of fact and is critical. The Ideator is characterised by the tendency to generate ideas, playing with new possibilities, reflecting a high degree of comfort with change, a willingness to challenge existing paradigms and looking for diversity. Both the Ideator and the Implementer show tendencies toward breaking rules and avoiding structures (Puccio & Grivas, 2009). Finally, the dual pathway to creativity model (Nijstad, De Dreu, Rietzschel & Baas, 2010) shows the existence of two qualitatively different processes leading to creativity: the persistence pathway (connected with hard work and systematic and effortful exploration of possibilities within only a few categories or perspectives) and the flexibility pathway (connected with flexible switching among categories, approaches and sets). Therefore in these models creativity is described either as an evolutionary activity, characterised by agreeableness, conscientiousness, gradual and systematic hard work (Galenson, 2001, 2009; Kaufmann, 1979; Kirton, 1976; Nijstad,

De Dreu, Rietzschel & Baas, 2010; Puccio & Grivas, 2009) or as revolutionary activity, characterized by diversity and independence, dominance and breaking the rules (Galenson, 2001; Kaufmann, 1979; Kirton, 1976; Puccio & Grivas, 2009).

It seems possible that both styles can be interpreted in terms of the configuration of personality traits. Within the context of P-E-N theory (Eysenck, 1952), it can be deduced that the preferred style corresponds to the severity of psychoticism. The characteristics of low psychoticism are the traits associated with "evolutionary creativity": socialized, conventional, conformist. On the other hand, the characteristics of high psychoticism are: egocentric, impersonal, antisocial, impulsive, tough-minded (Eysenck, 1995). Looking at the relationships between some of the style theories (Kirton, 1976; Kaufmann, 1979) and the Big Five Factors (Costa & McCrae, 1992), it can be seen that evolutionary preferences (adaption, assimilation) are positively related to Agreeableness, Neuroticism and Conscientiousness, while revolutionary preferences (innovation, exploration) are positively related to Extraversion and Openness (Martinsen & Diseth, 2011; Wittich & Antonakis, 2011). Also, the higher-order factors model of the Big Five (DeYoung, Peterson & Higgins, 2002; Digman, 1997) brings to mind two key creativity styles. This model assumes that there are two personality metatraits: Stability and Plasticity. The first one is formed by Emotional Stability, Agreeableness, and Conscientiousness, and the second is formed by Extraversion and Openness. "The shared variance of Emotional Stability (reversed Neuroticism), Agreeableness, and Conscientiousness appears to reflect stability in emotional, social, and motivational domains (...). The shared variance of Extraversion and Openness, by contrast, appears to reflect the tendency to explore or to engage voluntarily with novelty and may, in consequence, be associated with plasticity or flexibility in behavior and cognition" (DeYoung, Peterson & Higgins, 2002, p. 535). Moreover, Stability is positively related and Plasticity is negatively related to conformity (DeYoung, Peterson & Higgins, 2002). Excepting reversed Neuroticism, this model is consistent with the findings mentioned above.

In looking at the styles or types of creativity distinguished above, it is worth noting that there are available instruments to measure evolutionary vs. revolutionary ways of creative functioning (i.e. Kaufmann & Martinsen, 1992; Kirton, 1976). In Poland, however, there are no measures that match this distinction. Hence, the author's goal is to prepare a Polish adaptation of the Creative Approach Questionnaire – CAppQ (Durmysheva & Kozbelt, 2010), based on Galenson's (2001, 2009) 'finder-seeker' typology. The main assumptions of Galenson's theory and Durmysheva and Kozbelt's self-report instrument are described below. Some results of studies on the original version of CAppQ are also re-

ported. Finally, the present studies, aimed at preparing a Polish version of the questionnaire are presented.

THE CREATIVE APPROACH QUESTIONNAIRE: OPERATIONALIZING GALENSON'S FINDER-SEEKER TYPOLOGY

The Creative Approach Questionnaire is a paper-and-pencil instrument created by Durmysheva and Kozbelt (2010). It measures individual differences in the constructs based on Galenson's (2001, 2009) creator typology. Galenson distinguishes between two kinds of creativity: conceptual execution and aesthetically motivated experimentation. Conceptual innovators (also described as "finders") have a deductive approach to creativity. Their goals for a particular project are precise and all major decisions are made in advance. One can say that they are "revolutionists": their innovations are quite different from other artists' work and from the artist's own previous work. They make sudden breakthroughs, usually at an early age. Finders are often satisfied with their achievements; it can free them to pursue new goals, so their careers have a high level of diversity. In contrast, experimental innovators ("seekers") are empiricists, working inductively, by extended observation and experimentation. Their goals are imprecise and their procedure is more "evolutionary": they work by trial and error, cautiously and incrementally. They repeat themselves, learning and gradually improving their work. Unlike finders, seekers are perfectionists, who rarely feel they have succeeded, and their careers are often dominated by the pursuit of a single objective (Galenson, 2001; see also Durmysheva & Kozbelt, 2010).

As one can see, the types distinguished by Galenson (2001, 2009) match the previously proposed dimension of evolutionary vs. revolutionary creativity. It also seems possible that the characteristics of the finder and the seeker can be treated as certain configurations of personality traits. Based on the Big Five model (Costa & McCrae, 1992), one can suppose that the finders are characterized by Emotional Stability, Extraversion and Openness: they are self-confident and satisfied with their work, able to work on various problems and willing to communicate ideas or emotions. On the other hand, the seekers appear to be characterized mainly by Neuroticism and Conscientiousness: they are uncertain, troubled by dissatisfaction, prone to frustration and their work is both cautious and incremental (Costa & McCrae, 1992; Galenson, 2001, 2009). Such a putative solution is convergent with the findings of personality correlates of Assimilation-Exploration (Martinsen & Diseth, 2011) and adaption-innovation (Wittich & Antonakis, 2011). Thus, a description of the finder-seeker typology in terms of personality factors makes Galenson's (2001, 2009) model consistent with some other theories. This suggests that it is possible to reduce the various models of style (type) of creativity to a common de-

nominator, which is a configuration of personality traits.

Although Galenson's (2001, 2009) types were originally based on characteristics of famous visual artists, Durmysheva and Kozbelt focus "on the subset of the typology highlighting approaches to solving creative problems, since these (as opposed to career trajectories or bases of posthumous reputations) are more appropriate for study via psychometric methods, are generally applicable to a broad population (rather than samples of elite creators), and probably have more pragmatic implications – for instance, in education and pedagogy, in terms of adapting educational methods to different creative styles, for maximum efficacy" (Durmysheva & Kozbelt, 2010, p. 40).

The 40-item version of the CAppQ, used in the validation study presented below, includes two subscales: one with 20 finder items and one with 20 seeker items. The participants' responses to each statement are marked on a 6-point scale, where 1 refers to "strongly agree" and 6 refers to "strongly disagree". The original study was conducted in a group of 696 Brooklyn College undergraduates. Analyses included factor analyses, examination of the correlations between pairs of finder and seeker items, Rasch IRT analyses (Rasch, 1960/1980) and examination of the relationship between the two constructs (finder and seeker). The factor analyses did not reveal any simple solution (with a single factor or two clear factors). This suggests that Galenson's (2001, 2009) constructs are somewhat more multi-faceted, which perhaps corresponds with the richness of his characterization of the two types. The examination of the correlations between pairs of items demonstrated that seven pairs of items were moderately negative correlated, six pairs of items produced low correlations (less than .12), and seven pairs of items even yielded positive correlations (greater than +.15). These results are surprising and may suggest that some of the items were unclearly worded or that characteristics treated as typical for the finder or the seeker are not necessarily clear-cut. It seems possible that a particular person may possess some characteristics that are important for both finders and seekers. The instrument was also refined during Rasch IRT analyses. Four items from the finder subscale (items no 12, 34, 9 and 1 from the original scale) and two items from the seeker subscale (items no 40 and 10) showed poor fit and thus were excluded from the model. Such purification led to determination of the nature of the relationship between the finder and seeker constructs. At this stage, the most fundamental question was: "are Galenson's two types mutually exclusive endpoints of a one-dimensional continuum, largely independent, or something else?" (Durmysheva & Kozbelt, 2010, p. 49). The Pearson correlation between the finder and seeker subscale measures was moderately negative, $r(694) = -.26$, $p<.001$. As the authors note:

> "The meaning of this result is open to some interpretation. On one hand, the negative correlation indicates that overall, the finder and seeker constructs loosely function as opposites, so that the extent to which a person has more finder-like characteristics, they will have fewer seeker-like characteristics. However, while the correlation is moderate, the variability in one subscale accounts for only 7% of the variability in the other subscale. Thus, there remains a considerable leeway for the two constructs to function fairly independently, and a particular person may well possess characteristics prototypical of both finders and seekers" (Durmysheva & Kozbelt, 2010, p. 49).

As Durmysheva and Kozbelt (2010) suggest, further validation and refinement of the CAppQ are needed. Some new perspectives may be opened by the preparationof the Polish version of the questionnaire. The report for the initial adaptation is presented below.

PRESENT STUDIES

Before starting the research, an initial Polish version of the CAppQ was constructed, based on the translation and back-translation procedure (Brislin, 1970). In Study 1 experts were asked to assess the theoretical validity and linguistic appropriateness of each item. The objective of Study 2 was to establish the relationship between the original and the Polish version of the instrument. In this study people using both Polish and English participated. Study 3 examined the susceptibility of the Polish version of CAppQ to social approval: participants were asked to fill in the questionnaire, and some of the them received the instructions to present themselves in the most favourable light. The effect of these changed instructions in the Polish CAppQ was evaluated.

Preparation

The process of adaptation of the CAppQ began in the form of preparation of an initial Polish version of the questionnaire. For this purpose the procedure of translation and back-translation was used. Firstly, two independent translations of each item were performed. Secondly, the translations were compared and those that were considered to be more accurate were chosen. Additionally, an independent translator, translated chosen Polish versions of particular items into English. This gave the possibility of checking whether the original sense of each item had been preserved.

Study 1

Participants. In the study 6 experts were asked to assess the theoretical validity and linguistic appropriateness of each of the items, prepared in the first stage. The experts were employees and co-workers of the Creative Education Lab. at the Academy of Special Education in Warsaw.

Materials. An evaluation survey created for the purposes of the research was sent via

e-mail to each expert. The survey contained the following elements: instructions for the experts, descriptions of finder and seeker types prepared on the basis of the article by Durmysheva and Kozbelt (2010), Polish versions of each item and two five-point scales for the assessment of the theoretical validity and linguistic appropriateness of the items.

Procedure. The experts assessed the theoretical validity of each item, using a five-point scale, where 1 meant "definitely finder" and 5 "definitely seeker". They also assessed the linguistic appropriateness of each item, using a five-point scale, in which 1 meant "definitely incorrect language" and 5 meant "definitely correct language". In a few cases the experts also expressed other comments.

Results. The assessments of the experts concerning the theoretical validity and linguistic appropriateness of each item are presented in Table 1.

TABLE 1
Assessments of the experts concerning the theoretical validity and linguistic appropriateness of each item

Item	*Theoretical validity*			*Linguistic appropriateness*		
	M	***Median***	***SD***	***M***	***Median***	***SD***
1F. I prefer working on problems that no one has studied before.	3.17	3.00	1.72	5.00	5.00	0
2S. During the creative process, I find it difficult to describe what I'm trying to do.	4.67	5.00	.52	4.83	5.00	.41
3F. When I start a new project, I usually have a clear sense of what the final product will be like.	1.17	1.00	.41	5.00	5.00	0
4F. I prepare a detailed plan when starting new projects.	1.00	1.00	0	4.83	5.00	.41
5F. Ideas themselves can be intrinsically good or bad.	3.00	3.00	.89	3.00	3.00	.63
6S. I tend to learn very deeply.	2.83	3.00	1.33	3.83	4.00	.75
7S. During the creative process, my work undergoes substantial revisions.	4.83	5.00	.41	4.33	4.50	.82
8F. When I have completed a project, I am confident that it is truly finished.	1,17	1.00	.41	4.33	4.50	.82
9F. Over the course of my career, I have worked on a diverse array of projects.	2.83	3.00	1.60	5.00	5.00	0
10S. Developing ideas is the key to creativity.	3.33	3.50	1.21	5.00	5.00	0
11S. When I think about creativity, I think about the creative process.	3.67	4.00	1.03	4.50	5.00	.84

Item	Theoretical validity			Linguistic appropriateness		
	M	*Median*	*SD*	*M*	*Median*	*SD*
12F. Creativity is best achieved by rebelling against tradition.	2.83	3.00	1.72	5.00	5.00	0
13F. As I am working on a project, I usually have a very clear sense of what I want to do next.	1.67	1.50	.82	4.33	4.50	.82
14F. When I am creating something, making decisions is easy for me.	2.33	2.00	1.51	4.83	5.00	.41
15S. As I am working on a project, I have difficulty deciding what my next move will be.	4.67	5.00	.52	5.00	5.00	0
16S. Over the course of my career, most of my works have had a common theme.	3.33	3.50	1.37	4.50	4.50	.55
17F. Sheer originality is the key to creativity.	2.83	2.50	1.47	4.33	4.50	.82
18F. A theory is necessary for creative accomplishment.	2.17	1.50	1.60	5.00	5.00	0
19S. I use an inductive approach in my work, starting with specific pieces of information.	4.50	4.50	.55	4.67	5.00	.52
20F. I am constantly trying to get novel ideas.	3.33	3.00	1.37	5.00	5.00	0
21S. Creativity is best achieved by building on tradition.	3.17	3.00	1.33	4.50	5.00	.84
22S. I am constantly trying to improve my skills.	3.83	3.50	.98	5.00	5.00	0
23F. When I think about creativity, I think about the creative product.	1.50	1.00	.84	4.50	5.00	.84
24S. I prefer working on problems that are mainstream in nat	2.83	3.00	.98	4.83	5.00	.41
25S. It takes me a long time to complete a project.	4.00	4.50	1.55	4.83	5.00	.41
26F. During the creative process, my work unfolds in a way that is consistent with my initial plan.	1.33	1.00	.52	4.50	5.00	.84
27F. I tend to learn very quickly.	3.17	3.00	1.33	5.00	5.00	0
28S. When I am creating something, making decisions takes a lot of effort.	3.67	4.00	1.03	4.33	4.00	.52
29F. Generating ideas is the key to creativity.	3.33	3.50	1.21	4.50	5.00	.84

Item	Theoretical validity			Linguistic appropriateness		
	M	*Median*	*SD*	*M*	*Median*	*SD*
30S. I have difficulty deciding that a project is definitively completed.	4.50	5.00	.84	4.50	5.00	1.23
31S. Real-world experience (data) is necessary for creative accomplishment.	2.83	3.00	1.33	5.00	5.00	0
32S. When I start a new project, I am not exactly sure how the work will turn out in the end.	4.67	5.00	.52	4.67	5.00	.52
33F. Once I start working on a project, I usually complete it quickly.	2.17	2.00	.75	4.17	5.00	1.60
34F. I believe that one's best work can be produced at a relatively early age.	2.17	1.00	1.84	5.00	5.00	0
35S. Technical skill is the key to creativity.	3.33	3.50	1.63	4.67	5.00	.82
36F. During the creative process, I can easily articulate my goals.	2.17	2.00	.75	4.67	5.00	.52
37S. Ideas are only good or bad in terms of how they are elaborated.	2.50	2.50	1.05	4.83	5.00	.41
38F. I use a deductive approach in my work, starting with general principles.	1.33	1.00	.52	4.83	5.00	.41
39S. I believe that one's best work occurs in maturity.	3.00	3.00	2.19	5.00	5.00	0
40S. I begin projects without a detailed understanding of where it will lead.	4.83	5.00	.41	4.17	4.50	.98

Ten items were assessed as problematic in the light of Galenson's (2001, 2009) typology. Four items from the finder subscale (original numbers: 1, 20, 27, 29) were assessed by the experts as slightly closer to the characteristics of a seeker, while four items from the seeker subscale (6, 24, 31, 37) were assessed as slightly closer to the characteristics of a finder. In the case of two items (5, 39), the average assessments of the experts showed that it was difficult to decide, the type that these items might characterize. The degree of compliance among the experts in terms of theoretical validity was high (Cronbach's α=.81). The average assessment of the linguistic appropriateness was satisfactory (*M*=4.65, *SD*=.40). It should be indicated, that in this respect the experts demonstrated a moderate level of agreement (Cronbach's α=.64). Therefore, according to the

experts' assessments, the created Polish version of the questionnaire, was at this stage, in the main theoretically valid. However, the linguistic appropriateness turned out to be a more subjective issue. The version of CAppQ prepared at this stage was included in the further steps of the assessment.

Discussion. The theoretical validity of the initial version of the instrument used at this stage causes only slight doubts and reservations. The experts assessed three quarters of the questionnaire items (75% – 30 items) as theoretically valid. The quality of the 10 remaining items, remains an open question. Despite some doubts, these items were included in further analyses. Although they do not represent a good fit to the 'finder-seeker' model (Galenson, 2001, 2009), they do measure some characteristics of human functioning. It is difficult to state unambiguously, whether these problematic assessments are a matter of imperfect translation or whether the items were unclearly formulated in the original version of the instrument. It is possible, that the ambiguity of the factor structure of the questionnaire noticed by Durmysheva and Kozbelt (2010) is associated, among others, with insufficient levels of theoretical validity for some of the items.

Study 2

The objective of the study was to examine the association between the original version and the Polish version of CAppQ.

Participants. A total of 50 individuals participated in Study 2: 33 females, 16 males, 1 undisclosed, with a *M* (*SD*) age=22.64 (2.46) years. Only people using both Polish and English were invited to participate.

Materials. The original, 40-item version of CAppQ and the Polish version of the questionnaire, prepared in the previous stage of the research were used in the study. A set of instructions translated from the original version were attached to the Polish version of the questionnaire. Half of the participants completed the original version of the questionnaire first, followed by the Polish version, and the other half filled in the questionnaires in the reverse sequence.

Procedure. Each participant received both the English and Polish version of the research instruments, together with the necessary instructions. The obtained data were then subjected to relevant statistical analyses.

Results. Firstly, the intra-class correlation coefficient between the original and the Polish version of each item was analysed. On average the correlations amounted to r_{ICC}=.91; p<.001. Secondly, the averages obtained by the participants in the original and Polish version of each item were compared. For this purpose the paired-*t*-test was used. Descriptive statistics for the original and Polish version of each item, the intra-class corre-

lation coefficients and the results of the *t*-test are presented in Table 2.

TABLE 2
Comparison of the original and Polish version of each item

Pairs of items	*M (SD)*	*Skewness*	*Kurtosis*	*ICC*	*t(df)*
1F. I prefer working on problems that no one has studied before.	3.20 (1.51)	.38	-.59	.94***	1.00(49)
1F. (Polish)	3.10 (1.46)	.48	-.40		
2S. During the creative process, I find it difficult to describe what I'm trying to do.	3.57 (1.53)	-.07	-1.16	.98***	1.00(47)
2S. (Polish)	3.49 (1.49)	.001	-1.13		
3F. When I start a new project, I usually have a clear sense of what the final product will be like.	3.66 (1.66)	.01	-1.37	.96***	1.09(48)
3F. (Polish)	3.61 (1.66)	-.06	-1.20		
4F. I prepare a detailed plan when starting new projects.	3.56 (1.61)	-.16	-1.18	.93***	.18(49)
4F. (Polish)	3.54 (1.64)	.01	-1.26		
5F. Ideas themselves can be intrinsically good or bad.	3.45 (1.57)	-.02	-.85	.90***	-1.63(48)
5F. (Polish)	3.72 (1.68)	-.21	-1.14		
6S. I tend to learn very deeply.	3.58 (1.51)	.02	-.94	.96***	.44(49)
6S. (Polish)	3.54 (1.62)	.05	-1.09		
7S. During the creative process, my work undergoes substantial revisions.	3.69 (1.28)	.05	-.79	.78***	-.51(48)
7S. (Polish)	3.74 (1.34)	.02	-.96		
8F. When I have completed a project, I am confident that it is truly finished.	3.40 (1.58)	.18	-1.24	.88***	-.40(49)
8F. (Polish)	3.46 (1.64)	.19	-1.31		
9F. Over the course of my career, I have worked on a diverse array of projects.	3.31 (1.58)	.06	-1.14	.93***	-.36(48)
9F. (Polish)	3.30 (1.49)	-.04	-.93		
10S. Developing ideas is the key to creativity.	2.70 (1.53)	.60	-.82	.89***	.14(49)
10S. (Polish)	2.68 (1.67)	.78	-.78		
11S. When I think about creativity, I think about the creative process.	3.36 (1.35)	-.18	-.98	.92***	1.43(49)
11S. (Polish)	3.20 (1.47)	.08	-1.12		
12F. Creativity is best achieved by rebelling against tradition.	3.62 (1.58)	-.21	-.96	.91***	.00(49)
12F. (Polish)	3.62 (1.59)	-.17	-.94		
13F. As I am working on a project, I usually have a very clear sense of what I want to do next.	3.62 (1.35)	.12	-1.11	.96***	.26(49)
13F. (Polish)	3.60 (1.36)	.01	-1.06		

Pairs of items	*M (SD)*	*Skewness*	*Kurtosis*	*ICC*	*t(df)*
14F. When I am creating something, making decisions is easy for me.	2.94 (1.60)	.32	-1.04	.90***	-1.16(49)
14F. (Polish)	3.10 (1.64)	.21	-1.15		
15S. As I am working on a project, I have difficulty deciding what my next move will be.	4.00 (1.54)	-.21	-1.14	.87***	1.45(49)
15S. (Polish)	3.78 (1.62)	-.26	-1.14		
16S. Over the course of my career, most of my works have had a common theme.	3.76 (1.41)	-.15	-.83	.96***	1.00(48)
16S. (Polish)	3.68 (1.45)	-.08	-1.03		
17F. Sheer originality is the key to creativity.	3.52 (1.75)	.05	-1.41	.92***	.00(49)
17F. (Polish)	3.52 (1.74)	.01	-1.43		
18F. A theory is necessary for creative accomplishment.	3.84 (1.30)	-.04	-.70	.96***	2.44(49)*
18F. (Polish)	3.66 (1.33)	-.14	-.59		
19S. I use an inductive approach in my work, starting with specific pieces of information.	3.40 (1.41)	-.08	-.61	.91***	.50(49)
19S. (Polish)	3.34 (1.51)	.02	-.73		
20F. I am constantly trying to get novel ideas.	2.78 (1.58)	.41	-1.07	.88***	-1.20(49)
20F. (Polish)	2.96 (1.69)	.44	-1.06		
21S. Creativity is best achieved by building on tradition.	3.84 (1.43)	-.05	-.65	.92***	.19(48)
21S. (Polish)	3.78 (1.39)	.13	-.70		
22S. I am constantly trying to improve my skills.	2.54 (1.57)	.72	-.58	.93***	-.18(48)
22S. (Polish)	2.59 (1.61)	.65	-.76		
23F. When I think about creativity, I think about the creative product.	3.26 (1.56)	.18	-.95	.85***	.00(49)
23F. (Polish)	3.26 (1.47)	.09	-.91		
24S. I prefer working on problems that are mainstream in nature.	3.72 (1.46)	-.11	-.71	.91***	.47(49)
24S. (Polish)	3.66 (1.67)	-.06	-1.17		
25S. It takes me a long time to complete a project.	3.10 (1.42)	.31	-.63	.87***	-1.81(48)
25S. (Polish)	3.35 (1.36)	.26	-.48		
26F. During the creative process, my work unfolds in a way that is consistent with my initial plan.	3.96 (1.34)	-.14	-.87	.82***	-.27(49)
26F. (Polish)	4.00 (1.33)	-.22	-.75		
27F. I tend to learn very quickly.	3.22 (1.56)	.13	-1.07	.93***	-1.39(48)
27F. (Polish)	3.34 (1.64)	.15	-1.06		
28S. When I am creating something, making decisions takes a lot of effort.	3.64 (1.58)	.01	-.95	.87***	.83(49)
28S. (Polish)	3.52 (1.46)	.21	-.68		

Pairs of items	*M (SD)*	*Skewness*	*Kurtosis*	*ICC*	*t(df)*
29F. Generating ideas is the key to creativity.	2.96 (1.62)	.52	-.88	.94***	.70(49)
29F. (Polish)	2.88 (1.66)	.48	-1.07		
30S. I have difficulty deciding that a project is definitively completed.	3.56 (1.57)	.08	-1.16	.96***	1.22(49)
30S. (Polish)	3.46 (1.54)	.04	-1.14		
31S. Real-world experience (data) is necessary for creative accomplishment.	3.44 (1.49)	.28	-.76	.82***	.00(49)
31S. (Polish)	3.44 (1.42)	.19	-.82		
32S. When I start a new project, I am not exactly sure how the work will turn out in the end.	3.16 (1.58)	.24	-1.06	.93***	-.34(49)
32S. (Polish)	3.20 (1.67)	.17	-1.17		
33F. Once I start working on a project, I usually complete it quickly.	3.80 (1.31)	-.24	-.29	.96***	.83(49)
33F. (Polish)	3.74 (1.32)	-.16	-.38		
34F. I believe that one's best work can be produced at a relatively early age.	2.88 (1.65)	.40	-1.15	.98***	2.19(49)*
34F. (Polish)	2.74 (1.60)	.60	-.69		
35S. Technical skill is the key to creativity.	3.50 (1.31)	-.11	-.47	.91***	-.18(49)
35S. (Polish)	3.52 (1.33)	-.13	-.55		
36F. During the creative process, I can easily articulate my goals.	3.16 (1.42)	-.21	-.97	.90***	-1.95(49)
36F. (Polish)	3.40 (1.46)	-.29	-.89		
37S. Ideas are only good or bad in terms of how they are elaborated.	3.42 (1.50)	-.01	-.99	.91***	-.60(49)
37S. (Polish)	3.50 (1.69)	-.03	-1.28		
38F. I use a deductive approach in my work, starting with general principles.	3.38 (1.37)	.21	-.72	.85***	-.43(49)
38F. (Polish)	3.44 (1.39)	.39	-.64		
39S. I believe that one's best work occurs in maturity.	4.08 (1.54)	-.53	-.68	.83***	-.74(49)
39S. (Polish)	4.20 (1.50)	-.58	-.60		
40S. I begin projects without a detailed understanding of where it will lead.	3.30 (1.57)	.24	-.92	.90***	-1.53(49)
40S. (Polish)	3.50 (1.54)	.14	-.94		

Note. On the scale of answers 1 meant "strongly agree", and 6 meant "strongly disagree", hence the lower value denotes higher scores. ICC refers to consistency and average measure. *p<.05. ***p<.001.

In the case of two items (18, 34) the differences between the means were statistically significant. Moreover, the difference obtained in the case of item 36 was marginally significant *(p=.057).*

In the next step of the analysis, the results obtained by the participants in the finder and seeker subscales were analysed. The correlations between the original and Polish version of each subscale were tested. Also the correlations between the finder and seeker subscales in the original version and Polish version of the questionnaire were compared. The correlation coefficients are presented in Table 3.

TABLE 3

Correlations between Subscales

Pairs of Subscales	***Pearson Correlation***	***ICC***
Finder Subscale (original) Finder Subscale (Polish)	.93**	.96***
Seeker Subscale (original) Seeker Subscale (Polish)	.94**	.97***
Finder Subscale (original) Seeker Subscale (original)	.28*	.38*
Finder Subscale (Polish) Seeker Subscale (Polish)	.31*	.41*

Note. ICC refers to consistency and average measure. *p<.05. **p<.01. ***p<.001

As can be seen from Table 3, the correlations have similar strength as far as the original and Polish versions of the subscales are concerned. Finally, the results obtained by the participants in the original and the Polish version of each subscale were compared. For this purpose the paired-*t*-test was used. There were no significant differences in the case of the finder subscale, $t(49)=-.63$; $p>.05$, nor in that of the seeker subscale, $t(49)=.52$; $p>.05$.

Discussion. High correlation coefficients between the two-language versions of the items, and as a consequence, the scales, the lack of significant differences between the means and the similar strength of the correlations between the finder and seeker scales lead to the conclusion, that both versions of the instrument are equivalent. Some doubts can be raised by the differences between the language versions noticed in relation to two items. It is possible, that in the final version of the instrument they would need to be reformulated, so that they convey the sense of the original version more fully. However, these doubts do not undermine the conclusion, that the language versions are equivalent. At the same time, it is necessary to admit, that the procedure for the research may influence this result. It needs to be emphasised, that each participant filled in two versions of the same questionnaire, one immediately after the other. This might have strengthened the relationships obtained between the two versions.

Study 3

The objective of the study was to check the susceptibility of the Polish version of the instrument to social approval.

Participants. In total 64 individuals participated in Study 3:55 females, 5 males, 4 undisclosed, *M*(*SD*) age=21.63 (1.43) years. The participants were students of the Academy of Special Education in Warsaw.

Materials. Two independent sets of the Polish CAppQ were used at this stage. Set no 1 consisted of the Polish version of the CAppQ and instructions translated from the original version. Set no 2 consisted of the Polish version of the CAppQ and instructions encouraging the participants to present themselves in the most favourable light.

Procedure. The participants worked in group conditions. In each group, sets no 1 and 2 were distributed randomly: 33 participants received a set containing the instructions translated from the original version and 31 persons received a set containing the changed instructions. The participants filled in the questionnaires at their own pace.

Results. An independent-samples *t*-test was used to compare the means for each of the items of the CAppQ in the condition of the neutral and modified instructions. The results of the analyses are presented in Table 4.

TABLE 4
Descriptive statistics for each item in the version with neutral instructions and with modified instructions together with the results of *t*-test and Cohen's *d*

Item	*M (SD) in neutral version*	*M (SD) in modified version*	*t(df)*	*p*	*d*
1F. I prefer working on problems that no one has studied before.	3.00(1.03)	2.23(1.09)	2.93(62)	.005	.73
2S. During the creative process, I find it difficult to describe what I'm trying to do.	3.76(1.68)	3.55(1.73)	.49(62)	.625	.12
3F. When I start a new project, I usually have a clear sense of what the final product will be like.	3.22(1.43)	3.61(1.43)	-1.09(61)	.279	.27
4F. I prepare a detailed plan when starting new projects.	3.59(1.56)	2.65(1.43)	2.51(61)	.015	.63
5F. Ideas themselves can be intrinsically good or bad.	4.00(1.85)	3.74(1.79)	.57(62)	.573	.14
6S. I tend to learn very deeply.	3.21(1.14)	3.68(1.56)	-1.37(62)	.176	.34
7S. During the creative process, my work undergoes substantial revisions.	3.21(1.22)	2.65(1.28)	1.82(62)	.074	.45
8F. When I have completed a project, I am confident that it is truly finished.	3.03(1.45)	2.26(1.26)	2.26(61)	.028	.56

Item	*M (SD) in neutral version*	*M (SD) in modified version*	*t(df)*	*p*	*d*
9F. Over the course of my career, I have worked on a diverse array of projects.	3.27(1.61)	2.74(1.73)	1.27(62)	.208	.32
10S. Developing ideas is the key to creativity.	2.09(1.18)	1.90(1.22)	.63(62)	.534	.16
11S. When I think about creativity, I think about the creative process.	2.88(1.27)	2.87(1.46)	.02(62)	.982	.008
12F. Creativity is best achieved by rebelling against tradition.	3.64(1.32)	3.81(1.40)	-.50(62)	.619	.13
13F. As I am working on a project, I usually have a very clear sense of what I want to do next.	3.36(1.06)	3.19(1.30)	.58(62)	.567	.14
14F. When I am creating something, making decisions is easy for me.	3.27(1.26)	3.03(1.22)	.78(62)	.442	.19
15S. As I am working on a project, I have difficulty deciding what my next move will be.	3.48(1.33)	4.16(1.27)	-2.08(62)	.041	.52
16S. Over the course of my career, most of my works have had a common theme.	3.67(1.14)	3.90(1.42)	-.74(62)	.464	.18
17F. Sheer originality is the key to creativity.	2.39(1.22)	2.35(1.40)	.12(62)	.906	.03
18F. A theory is necessary for creative accomplishment.	4.22(1.24)	4.35(1.36)	-.42(61)	.679	.10
19S. I use an inductive approach in my work, starting with specific pieces of information.	3.76(1.15)	3.26(1.32)	1.62(62)	.110	.41
20F. I am constantly trying to get novel ideas.	2.91(1.16)	2.06(1.21)	2.86(62)	.006	.71
21S. Creativity is best achieved by building on tradition.	4.00(1.23)	3.90(1.17)	.32(62)	.747	.08
22S. I am constantly trying to improve my skills.	2.09(1.38)	1.68(1.28)	1.24(62)	.218	.31
23F. When I think about creativity, I think about the creative prod	2.79(1.05)	2.37(1.22)	1.47(61)	.146	.37
24S. I prefer working on problems that are mainstream in nature.	4.03(1.38)	3.68(1.60)	.95(62)	.348	.24
25S. It takes me a long time to complete a project.	2.88(1.32)	3.29(1.64)	-1.11(62)	.271	.28
26F. During the creative process, my work unfolds in a way that is consistent with my initial plan.	4.03(1.19)	3.84(1.42)	.59(62)	.559	.15
27F. I tend to learn very quickly.	2.70(1.26)	2.26(1.37)	1.34(62)	.186	.33

Item	*M (SD) in neutral version*	*M (SD) in modified version*	*t(df)*	*p*	*d*
28S. When I am creating something, making decisions takes a lot of effort.	3.15(1.44)	3.55(1.43)	-1.11(62)	.274	.28
29F. Generating ideas is the key to creativity.	2.03(.85)	2.03(1.40)	-.01(62)	.995	.0017
30S. I have difficulty deciding that a project is definitively completed	3.27(1.65)	3.90(1.65)	-1.51(61)	.136	.38
31S. Real-world experience (data) is necessary for creative accomplishment.	3.21(1.34)	3.06(1.41)	.43(62)	.669	.11
32S. When I start a new project, I am not exactly sure how the work will turn out in the end.	2.79(1.29)	2.71(1.51)	.22(62)	.824	.06
33F. Once I start working on a project, I usually complete it quickly.	4.12(1.29)	3.65(1.40)	1.41(62)	.163	.35
34F. I believe that one's best work can be produced at a relatively early age.	2.21(1.43)	1.55(.89)	2.21(62)	.031	.55
35S. Technical skill is the key to creativity.	3.88(.96)	3.58(1.36)	1.02(62)	.313	.25
36F. During the creative process, I can easily articulate my goals.	3.21(1.11)	3.00(1.24)	.72(62)	.473	.18
37S. Ideas are only good or bad in terms of how they are elabora.	3.06(1.27)	2.81(1.35)	.78(61)	.441	.19
38F. I use a deductive approach in my work, starting with general principles.	3.24(1.35)	3.13(1.15)	.36(62)	.719	.09
39S. I believe that one's best work occurs in maturity.	4.06(1.25)	4.65(1.08)	-2.00(62)	.050	.50
40S. I begin projects without a detailed understanding of where it will lead.	3.45(1.33)	3.48(1.73)	-.08(62)	.939	.02

Note. In the answer scale 1 meant "strongly agree", and 6 meant "strongly disagree", hence the lower value denotes higher scores.

In six cases out of forty (15%) statistically significant differences appeared. The participants asked to present themselves in the most favourable light achieved a higher result in five items belonging to the finder subscale (1, 4, 8, 20, 34) and significantly lower results in one item belonging to the seeker subscale (15). Also the difference in relation to statement 39 is worth noticing. Bearing in mind, that the questionnaire consists of 40 items, one must admit, that the influence of the modified instructions did not turn out to be very strong. Nevertheless, a tendency to value some features of the finder higher and to deprecate some features of the seeker was observed.

In analysing the data from Study 3, the reliability of each subscale of the Polish version of instrument was also examined. The reliability coefficient for the finder subscale amounted to Cronbach's α=.78 for all participants, Cronbach's α=.76 for the neutral ver-

sion and Cronbach's α=.77 for modified version of the instructions. The reliability of the seeker subscale was lower: Cronbach's α=.65 for all participants, Cronbach's α=.63 for the neutral version and Cronbach's α=.68 for the modified version. Hence, the results obtained in this subscale need to be interpreted carefully. The correlations between items and subscales for the neutral version are presented in Table 5.

TABLE 5

Item-total correlations for finder and seeker subscale (neutral version)

Finder Item	***Item-total Correlation***	***Seeker Item***	***Item-total Correlation***
1F. I prefer working on problems that no one has studied before.	.09	2S. During the creative process, I find it difficult to describe what I'm trying to do.	.22
3F. When I start a new project, I usually have a clear sense of what the final product will be like.	.27	6S. I tend to learn very deeply.	.24
4F. I prepare a detailed plan when starting new projects.	.44	7S. During the creative process, my work undergoes substantial revisions.	.28
5F. Ideas themselves can be intrinsically good or bad.	.19	10S. Developing ideas is the key to creativity.	-.18
8F. When I have completed a project, I am confident that it is truly finished.	.58	11S. When I think about creativity, I think about the creative process.	.27
9F. Over the course of my career, I have worked on a diverse array of projects.	.57	15S. As I am working on a project, I have difficulty deciding what my next move will be.	.03
12F. Creativity is best achieved by rebelling against tradition.	-.03	16S. Over the course of my career, most of my works have had a common theme.	.47
13F. As I am working on a project, I usually have a very clear sense of what I want to do next.	.53	19S. I use an inductive approach in my work, starting with specific pieces of information.	.06
14F. When I am creating something, making decisions is easy for me.	.35	21S. Creativity is best achieved by building on tradition.	.20
17F. Sheer originality is the key to creativity.	.48	22S. I am constantly trying to improve my skills.	-.15
18F. A theory is necessary for creative accomplishment.	.30	24S. I prefer working on problems that are mainstream in nature.	.07
20F. I am constantly trying to get novel ideas.	.48	25S. It takes me a long time to complete a project.	.36
23F. When I think about creativity, I think about the creative product.	.49	28S. When I am creating something, making decisions takes a lot of effort.	.44

Finder Item	*Item-total Correlation*	*Seeker Item*	*Item-total Correlation*
26F. During the creative process, my work unfolds in a way that is consistent with my initial plan.	.21	30S. I have difficulty deciding that a project is definitively completed.	.58
27F. I tend to learn very quickly.	.31	31S. Real-world experience (data) is necessary for creative accomplishment.	.40
29F. Generating ideas is the key to creativity.	.32	32S. When I start a new project, I am not exactly sure how the work will turn out in the end.	.20
33F. Once I start working on a project, I usually complete it quickly.	.18	35S. Technical skill is the key to creativity.	.12
34F. I believe that one's best work can be produced at a relatively early age.	.47	37S. Ideas are only good or bad in terms of how they are elaborated.	.46
36F. During the creative process, I can easily articulate my goals.	.50	39S. I believe that one's best work occurs in maturity.	.09
38F. I use a deductive approach in my work, starting with general principles.	-.04	40S. I begin projects without a detailed understanding of where it will lead.	.30

Note. N = 33

Discussion. On observing the tendency towards slightly favouring one of the types, it is worth thinking about the explanation for this effect. It seems possible, that in Polish culture, the features of a finder (self-confidence, independence) are valued more, than the features of a seeker. This seems probable when we take into consideration the fact, that Polish society shows tendencies towards greater individualism (Hofstede & Hofstede, 2005; Nowacki, 2013a; Urban, 2008). Moreover, this phenomenon may exert some influence on the results obtained in the Polish version of the CAppQ. Having in mind their self-presentation, the participants may distort their self-description, irrespective of encouragement to present oneself in the most favourable light. In other words, the results obtained in the finder subscale may be somewhat overstated in relation to the seeker subscale. These doubts could be clarified by separate research devoted to the characteristics of the Polish version of the CAppQ.

General Discussion

In this article, the process of initial adaptation of the Creative Approach Questionnaire was presented. First, attention was drawn to the possibility of creative description from the perspective of the distinction between evolutionary vs. revolutionary creativity. Second, the main theses of Galenson's (2001, 2009) typology were briefly presented and the self-report instrument created on the basis of his model (Durmysheva & Kozbelt, 2010)

was characterised. Finally, three studies conducted in the process of preparation of a Polish version of the CAppQ were described. Study 1 was devoted to assessment of the theoretical validity and linguistic appropriateness of the initial version of the questionnaire. This version turned out to be generally theoretically valid and linguistically appropriate, although one fourth of the items of the questionnaire (10 out of 40 items) were considered to be poorly adjusted to the theoretical model according to the experts consulted. The objective of Study 2 was to establish the relationship between the original and the Polish version of the CAppQ. Both versions turned out to be closely related to each other. Study 3 examined the susceptibility of the Polish version of the CAppQ to social approval. The obtained results indicated the tendency of the participants to value some features of a finder higher and deprecate some features of a seeker. The question, as to whether future research with the Polish version of the CAppQ may reveal similar disproportions between seeker and finder remains open.

The results of each of the above-mentioned studies contain some ambiguities. All of the doubts that appear here may be clarified in future studies. It would seem necessary to conduct separate research, devoted to examining the characteristics of the Polish version of the CAppQ and comparing the results with the analyses by Durmysheva and Kozbelt (2010). This would help to clarify whether it is necessary to reformulate or delete some of the items of the questionnaire, or even to suggest new methods of interpretation of the results. Such research should form the next stage in the process of preparation of the Polish version of the CAppQ. However, a description of future research is beyond the scope of the present article, the aim of which was to provide a summary and evaluation of the first phase of the adaptation process for a Polish version of the CAppQ.

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APPENDIX: INITIAL POLISH VERSION OF THE CREATIVE APPROACH QUESTIONNAIRE

1F. Wolę pracować nad problemami, których nikt wcześniej nie zgłębiał.

2S. Kiedy tworzę, trudno mi opisać, co chcę zrobić.

3F. Kiedy rozpoczynam nowy projekt, zazwyczaj mam jasność, jaki będzie efekt końcowy.

4F. Gdy rozpoczynam pracę nad nowym projektem, przygotowuję szczegółowy plan działań.

5F. Pomysły są z natury dobre lub złe.

6S. Mam skłonność do uczenia się bardzo dogłębnie.

7S. W trakcie procesu twórczego efekty mojej pracy są często i znacząco zmieniane.

8F. Gdy kończę jakiś projekt, to wiem, że jest naprawdę skończony.

9F. W swoim życiu pracowałem nad wieloma różnorodnymi projektami.

10S. Rozwijanie pomysłów to klucz do twórczości.

11S. Gdy myślę o twórczości, przede wszystkim przychodzi mi do głowy proces twórczy.

12F. Twórczość osiąga się poprzez bunt przeciw tradycji.

13F. Zwykle gdy pracuję nad projektem, mam jasne poczucie, jaki powinien być kolejny krok.

14F. Gdy coś tworzę, szybko podejmuję decyzje.

15S. Gdy pracuję nad projektem, mam problemy z decyzją, jaki powinien być następny krok.

16S. Większość dzieł w mojej karierze miała wspólny temat.

17F. Kluczem do twórczości jest oryginalność.

18F. Teoria to podstawa twórczych dokonań.

19S. Pracuję w sposób indukcyjny, zaczynając od szczątkowych informacji.

20F. Wciąż staram się wymyślać coś nowego.

21S. Twórczość wymaga budowania na tradycji.

22S. Wciąż staram się rozwijać swoje umiejętności.

23F. Kiedy myślę o twórczości, przychodzą mi na myśl twórcze dzieła.

24S. Wolę pracować nad problemami, które są modne.

25S. Skończenie projektu zajmuje mi dużo czasu.

26F. W trakcie procesu twórczego moja praca przebiega dokładnie w taki sposób, jak sobie zaplanuję.

27F. Szybko się uczę.

28S. Kiedy coś tworzę, podejmowanie decyzji kosztuje wiele wysiłku.

29F. Wytwarzanie pomysłów to klucz do twórczości.

30S. Mam problem z uznaniem, że jakieś moje dzieło jest już na pewno skończone.

31S. Dane i wiedza są niezbędne dla twórczych osiągnięć.

32S. Gdy rozpoczynam nowy projekt, nie jestem całkowicie pewien, jak będzie wyglądał efekt końcowy.

33F. Gdy już zacznę pracę nad projektem, to zazwyczaj szybko kończę.

34F. Wierzę, że można stworzyć swoje najlepsze dzieło, będąc w stosunkowo młodym wieku.

35S. Kluczem do twórczości jest sprawność techniczna.

36F. W trakcie procesu twórczego łatwo formułuję swoje cele.

37S. Pomysły są dobre lub złe w zależności od tego, jak są opracowane.

38F. Pracując, stosuję podejście dedukcyjne, zaczynając od głównych zasad.

39S. Wierzę, że najlepsze prace powstają w dojrzałym wieku.

40S. Rozpoczynam projekt, nie mając szczegółowego rozeznania, do czego doprowadzi.

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