University of Economics in Katowice

Journal of Economics and Management

ISSN 1732-1948 Vol. 25 (3) • 2016

Katarzyna Piórkowska

Wroclaw University of Economics
Faculty of Management, Information Systems, and Finance
Department of Strategy and Management Methods
katarzyna.piorkowska@ue.wroc.pl

Ontological, epistemological and methodological taxonomy of creativity phenomenon research – call for path forward

DOI: 10.22367/jem.2016.25.07

Abstract

The aim of the paper is to contribute to call for, on one hand, systematizing the research on creativity in terms of linking ontological, epistemological, and methodological issues specifically, for a heuristic framework combining individual, team, and organizational level, creativity facets at every level as well as, on the other hand, for more focus on both unifying methodology and qualitative research methods in that field The aim has been realized through extensive literature studies and in the part concerning creativity methodology review – systematic literature review. Consequently, as the overarching findings, particular postulates concerning the creativity construct research have been formulated.

Keywords: creativity, multi-level research.
JEL Classification: L10, L26.

Introduction

While some aspects of creativity like facets (i.e. 4P – person (traits), process, product, and press (context)) are recalled in the studies as well as there is intensive research in that field conducted from various perspectives and approaches, there is still a lack of consensual conceptualization of creativity what

leads to various and not unified measurement approaches and hinders the findings synthesis in that field [Batey 2012].

Hence, the aim of the paper is to contribute to call for, on one hand, systematizing the research on creativity in terms of linking ontological, epistemological, and methodological issues – specifically, for a heuristic framework combining individual, team, and organizational level, creativity facets at every level, and the antecedents of those facets at every level of analysis, as well as, on the other hand, for more focus on unifying methodology and on qualitative research methods in that field since it seems that dominant quantitative research methodology does not help investigate on one hand contextual factors influencing creativity processes and, on the other hand, the aggregation that occur amongst creativity levels. The aim has been realized through extensive literature studies and in the part concerning creativity methodology review – systematic literature review in the field of selected journals specialized in examining creativity phenomenon.

The paper is organized three-fold. The first section presents a brief description of the creativity phenomenon as a multi-dimensional and multi-faceted construct in terms of ontological and epistemological layers − traits, processes, and outcomes occurring at multiple levels of analysis. The second section involves a general review of creativity research methodology that has revealed the methodology gap – too little scholars' attention paid to qualitative methodology. Finally, as a result, some propositions and recommendations in terms of ontological, epistemological, and especially methodological issues have been alluded.

1. Disentangling creativity –a multi-dimensional and multi-faceted construct

Intensive research has been conducted in psychology [e.g. Amabile 1996; Hennessey & Amabile 2010] and management [e.g. Shalley, Zhou & Oldham 2004; George 2007] to better explain and understand creativity phenomenon as well as it has been explored from various realms, e.g. cognitive, neurological, personal, or organizational as well as in terms of different theoretical approaches such as:

- confluence approach in which creativity requires interaction of individual, domain, and field [Csikszentmihalyi 1988; 1996, pp. 107-126 plus Notes] including an investment theory as for which creative people buy low and sell high in the world of ideas – it encompasses confluence of six resources: knowledge, intellect, thinking styles, personality, motivation, and environment [Sternberg & Lubart 1999],

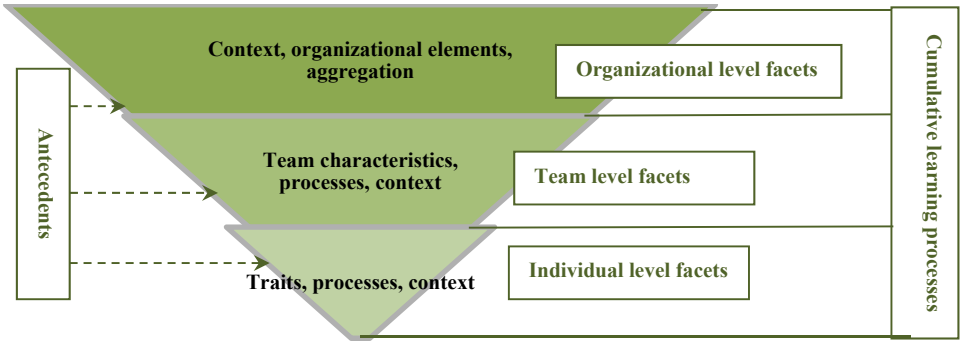
- systems theory [Csikszentmihalyi 1988] that involves the following interrelated elements: a field (community of practice, gatekeepers) including a social system, a person (an individual practitioner) with genetic makeup, talents, experience, and a domain (knowledge, tools, values, practices) embedded in a cultural system,
- contextual methodology [Mayer 1999] detecting social, cultural and evolutionary influences on creativity,
- social psychology and componential model emphasizing the impact on the creative process of external social – environmental factors and illustrating creativity as a process consisting of five stages: problem or task identification, preparation, response generation, response validation and communication, and outcome [Amabile 1996],
- Social Cognitive Theory & socio-constructivist approaches in which creativity is invoked in a complex socio-cultural process enhancing convergent and divergent brain capacities [Edwards-Schachter et al. 2015],
- psychological trait theory [Hennessey and Amabile 2010] positing that the individual psychological traits determine individual level creativity degree,
- a psychodynamic approach due to intrusion of unmodulated thoughts into consciousness [Kris 1952],
- behavioral theories & functionalist approaches in which a creative individual is perceived due to cognitive characteristics, personality and motivational features with contextual factors [e.g. Bird 2002; Edwards-Schachter et al. 2015].

The most frequent conceptualizations of creativity focus on producing/generating novel and useful ideas by an individual or a small group of individuals working together [West & Farr 1990; Oldham & Cummings 1996; Amabile 1997; Zhou & George 2001; Dewett 2004; Dyduch & Bratnicki 2012; Anderson, Potočnik & Zhou 2014; Bratnicka 2015] or, in other words, on the interplay between ability and process by which an individual or group produces an outcome or product that is both novel and useful within some social context [Plucker & Beghetto 2004].

Hence, the creativity construct involves multiple ontological, epistemological, and methodological associations [e.g. Bouchard & Bos 2006; Batey 2012; Fischer, Oget & Cavallucci 2015]. Ontologically, it might cover at least individual traits, processes, and outcomes. Those elements of creativity occur at multiple levels of analysis (at least individual, team and organizational) [Anderson, Potočnik & Zhou 2014] since epistemologically, the creativity concerns at least individuals, teams, organizations as well as all of them are embedded in the particular context. Consequently, Hennessey and Amabile [2010] call for a systems view of creativity that involves a variety of interrelated interdisciplinary condi-

tions that ought to be recognized at multiple levels. Hence, the figure 1 illustrates, on the basis of the literature review [e.g. Anderson, Potočnik & Zhou 2014; Batey 2012; Bouchard & Bos 2006; Fischer, Oget & Cavallucci 2015; Hennessey & Amabile 2010; Zhou & George 2001], a heuristic framework in terms of ontological and epistemological taxonomy of the creativity construct proving its complexity – multi-dimensionality (multiple facets) and multi-level phenomenon. In addition, the creativity facets at every level of analysis are determined by particular conditions specific and relevant to the given level. Moreover, what makes creativity construct investigation more demanding, the cumulative learning processes might occur amongst levels what results in data aggregation– admittedly not just simple one.

Figure 1. A heuristic framework due to ontological and epistemological taxonomy of the creativity construct



All of those aspects aforementioned require the methodology of examining the creativity construct to be above all considered and even revisited.

2. Creativity research methodology – review

With regard to the methodology incorporated in the research on creativity, both quantitative and qualitative approaches and measures are alluded, however, the overwhelming majority of studies is still based on quantitative methodology [Wehner, Csikszentmihalyi & Magyari-Beck 1991; Kahl, da Fonseca & Witte 2009; Long 2014] involving at most self-report questionnaires. According to the Long's study [2014] examining creativity research in the period 2003-2012, creativity research was predominantly quantitative as well as psychometrics and experiment were the most frequently used quantitative methods, and correlational techniques were utilized most widely to analyze quantitative data. A case study (mainly a multi-case educational case study, instrumental case study, de-

scriptive case study, and collaborative one) was the most frequently used qualitative methodology – especially by biographical methodologists and scholars representing contextual methodology. Other marginally used qualitative methods were phenomenological studies, critical visual methodology, and a self-study approach. Regarding mixed-methods studies, most of them were rooted in quantitative methodology.

The research methodology of creativity research involves either the perception of a particular issue (object, process) evaluated or the creativity product/output features as well as it is proposed to order it in terms of (a) the levels of analysis (individual, team, and organizational), (b) the facets investigated, and (c) measurement approach (quantitative *vs*. qualitative) (compare Batey 2012). The endeavor of such a systemic perspective is presented in Table 1. It constitutes the result of studying creativity phenomenon at most in the following journals: "Creativity Research Journal", "The Journal of Creative Behavior", "Journal of Organization Behavior", "Thinking Skills and Creativity", "Journal of Managerial Psychology", "Journal of Management", "Journal of Personality and Social Psychology", "Academy of Management Annals", "Annual Review of Psychology", "Journal of Applied Psychology", "Academy of Management Review", "Academy of Management Journal" in the period 2010-2016[1].

Table 1. Methodological taxonomy of creativity research – review

Exemplary facets	**Measurement approach**	**Selected exemplary authors**
1	*2*	*3*
Individual level		
Creative self-efficacy	Quantitative (scale)	Tierney & Farmer [2002]
Self-perception on creativity	Quantitative (scale)	Edwards-Schachter et al. [2016]
Creativity domain	Quantitative (scale, self-concepts)	Kaufman [2006], Kaufman et al. [2009]
Divergent and convergent thinking, linear/non-linear thinking	Quantitative (scale)	Groves & Vance [2014], Soroa et al. [2015], Torrance [1974], Vance et al. [2007]
Creative thinking abilities & processes and creative cognition	Quantitative (scale)	Kalis, Roke & Krumina [2014], Finke, Ward & Smith [1992]
Creative thinking in resilience	Qualitative and quantitative (mixed-methods research)	Metzl [2009] − interviews and questionnaires
Creative expression	Qualitative – critical visual methodology	Hall & Mitchell [2008]
Emotions	Quantitative (scale)	Soroa et al. [2015]
Imagination	Qualitative – phenomenological studies	Trotman [2008]
Imaginative capability – reproductive and creative	Quantitative (scale)	Liang et al. [2012], Liang, Chang & Hsu [2013]

[1] As a result, 840 papers dealing with creativity construct have been analyzed, however, the Table 1 presents only brief results and selected (mostly recurring in papers) exemplary facets and authors due to editorial requirements (page limitation – 25 000 characters).

Table 1 cont.

1	*2*	*3*
Traits (e.g. personality, motivation)	Quantitative (scale)	Gough [1979]; Eysenck [1996]; Carson, Peterson and Higgins [2005]; Reuter et al. [2005]; Batey & Furnham [2006]; Batey, Chamorro-Premuzic & Furnham [2010]; Horng, Tsai & Chung [2016]
Individuals and individual creativity outcomes: scoring for e.g. originality and fluency	Quantitative and qualitative (subjective judgments)	Cox [1926]; Amabile [1982]; Amabile [1996]; Basadur & Hausdorf [1996]; Besemer and Quin [1999]; Hu and Adey [2002]; Reiter-Palmon et al. [2009]; Cropley, Kaufman and Cropley [2011]; Simonton [2009]
Creativity conception	Qualitative	Chappell [2007] – multi-case case study (interpretive) ; Kokotsaki [2011] – phenomenography; Craft, McConnon & Matthews [2012] – collaborative case study]
Creative problem-solving	Qualitative and quantitative (mixed-methods research)	Barak & Mesika [2007] − pre- and post-course quizzes, interviews and observations
Creativity learning	Qualitative and quantitative (mixed-methods research)	Cheng [2011] − self-evaluation questionnaires and semi-structured, focus group interviews
Team level		
Transactive memory systems	Quantitative (scale)	Lewis [2003]
Team heterogeneity	Quantitative (scale)	Shin & Zhou [2007], Somech [2006], van der Vegt & Janssen [2003]
Team tasks routinization	Quantitative (scale)	Becker & Knudsen [2001]
Task interdependence	Quantitative (scale)	Kiggundu [1983], van der Vegt & Janssen [2003]
Organizational level		
At most the aggregate of individual creativity scores	Quantitative (scale)	Nayak [2008]
Context (e.g. organizational climate; network configurations)	Quantitative (scale)	Amabile [1996], Ekvall [1996], Perry-Smith [2006]

Conclusion and discussion

This study addresses the review of ontological, epistemological, and methodological issues of researching creativity. Consequently, the following propositions have been formulated:

1. It is proposed to examine as the whole a heuristic framework of creativity research encompassing (a) individual, team, and organizational level, (b) creativity facets at every level (traits/characteristics, processes, outcomes, context), and (c) the antecedents of those facets at every level of analysis (Figure 1).
2. It is proposed to select a particular methodology approach at every level and due to particular facets and their determinants – it entails the consequences for setting particular research methods.
3. It is suggested setting unified methods for evaluating creativity facets at every level.
4. It is proposed to establish unified antecedents of creativity at every level as well as unified methods corresponding to them.

5. It is proffered to envisage the cumulative character of creativity phenomenon in terms of epistemological levels and unifying the method for aggregating individual and team creativity traits encompassing at least learning processes (not simply linear aggregation). It justifies an increasing salience of multi-level methodology in organization science.

Moreover, Piffer [2012] evokes the limitations of standard quantitative methods arguing that creativity construct ought to be encompassed in the process of understanding the context – moreover, creativity needs social validation [Fischer, Oget & Cavallucci 2016, p. 127]. Consequently,

6. It is recommended to consider more attention to incorporate qualitative methodology to explore elusive creativity phenomenon, especially in terms of the antecedents, facilitators, inhibitors, and context of creativity as the trait, process, and outcome (what is relevant to the general methodological debate in social sciences). Hence,
7. Since the major focus is on the individual level creativity, it is suggested investigating that construct in-depth not only at the individual level of analysis, yet also at the collective one (team and organizational) since they are deeply embedded in the context. The complex and multidimensional character of creativity requires a more comprehensive approach [Park, Chun & Lee 2016] and special attention in advancing research in theoretical relationships amongst constructs [Venkatraman & Grant 1986].
8. It is also proposed to make endeavor to make the results of the research on creativity in different fields (e.g. psychology, management, business, and economics) convergent what assumes to conduct interdisciplinary studies.

Acknowledgement

The publication is realized in the scope of the project that has been financed by the National Scientific Centre in Poland on the basis of the decision no. DEC-2012/05/D/HS4/01317.

References

Amabile T.M. (1982): *Social Psychology of Creativity: A Consensual Assessment Technique*. "Journal of Personality and Social Psychology", Vol. 43, pp. 997-1013.

Amabile T.M. (1996): *Creativity in Context*. Westview Press, Boulder, CO.

Anderson N., Potočnik K., Zhou J. (2014): *Innovation and Creativity in Organizations: A State-of-the-Science Review, Prospective Commentary, and Guiding Framework*. "Journal of Management", Vol. 40, pp. 1247-1333.

Barak M., Mesika P. (2007): *Teaching Methods for Inventive Problem-Solving in Junior High School*. "Thinking Skills and Creativity", Vol. 2, pp. 19-29.

Basadur M.S., Hausdorf P.A. (1996): *Measuring Divergent Thinking Attitudes Related to Creative Problem Solving and Innovation Management*. "Creativity Research Journal", Vol. 9, pp. 21-32.

Batey M. (2012): *The Measurement of Creativity: From Definitional Consensus to the Introduction of a New Heuristic Framework*. "Creativity Research Journal", Vol. 24 (1), pp. 55-65.

Batey M., Chamorro-Premuzic T., Furnham A. (2009): *Intelligence and Personality as Predictors of Divergent Thinking: The Role of General, Fluid and Crystallised Intelligence*. "Thinking Skills and Creativity", Vol. 4, pp. 60-69.

Batey M., Furnham A. (2006): *Creativity, Intelligence and Personality: A Critical Review of the Scattered Literature*. "Genetic, Social, and General Psychology Monographs", Vol. 132, pp. 355-429.

Becker M.C., Knudsen T. (2001): *The Role of Routines in Reducing Uncertainty – Some Empirical Evidence*. Paper presented at the Academy of Management Conference, August, Washington.

Besemer S.P., O'Quin K. (1987): *Creative Product Analysis: Testing a Model by Developing a Judging Instrument*. In: *Frontiers of Creativity Research: Beyond the Basics*. Ed. by S.G. Isaksen. Bearly, Buffalo, NY, pp. 367-389.

Bird B. (2002): *Learning Entrepreneurship Competencies: The Self-Directed Learning Approach*. "International Journal of Entrepreneurship Education", Vol. 1(2), pp. 203-227.

Bouchard V., Bos C. (2006): *Dispositifs intrapreneuriaux et créativité organisationnelle: une conception tronquée*? "Revue Française de Gestion", Vol. 32 (161), pp. 93-114.

Bratnicka K. (2015): *Creativity and Effectiveness in Organizations. A New Approach to an Old Question*. "Management", Vol. 19(1), pp. 33-45.

Carson S.H., Peterson J.B., Higgins D.M. (2005): *Reliability, Validity, and Factor Structure of the Creative Achievement Questionnaire*. "Creativity Research Journal", Vol. 17, pp. 37-50.

Chappell K. (2007): *The Dilemmas of Teaching for Creativity: Insights from Expert Specialist Dance Teachers*. "Thinking Skills and Creativity", Vol. 2, pp. 39-56.

Cheng V.M.Y. (2011): *Infusing Creativity into Eastern Classrooms: Evaluations from Student Perspectives*. "Thinking Skills and Creativity", Vol. 6, pp. 67-87.

Cox C.M. (1926): *Genetic Studies of Genius II: The Early Mental Traits of Three Hundred Geniuses*. Stanford University Press, Stanford, CA.

Craft A., McConnon L., Matthews A. (2012): *Child-Initiated Play and Professional Creativity: Enabling Four-Year-Olds' Possibility Thinking*. "Thinking Skills and Creativity", Vol. 7, pp. 48-61.

Cropley D.H., Kaufman J.C., Cropley A.J. (2011): *Measuring Creativity for Innovation Management*. "Journal of Technology Management & Innovation", Vol. 6, Iss. 3, pp. 13-29.

Csikszentmihalyi M. (1988): *Society, Culture, and Person: A Systems View of Creativity*. In: *The Nature of Creativity*. Ed. by R.J. Sternberg. Cambridge University Press, New York, pp. 325-339.

Csikszentmihalyi M. (1996): *Creativity: Flow and the Psychology of Discovery and Invention*. Harper Perennial, New York.

Dewett T. (2004): *Creativity and Strategic Management*. "Journal of Managerial Psychology", Vol. 19, Iss. 2, pp. 156-169.

Dyduch W., Bratnicki M. (2012): *Organizational Creativity and the Dilemmas of Creative Strategy*: *The Construct and Its Operationalization*. In: *Social Innovation for Competitiveness, Organizational Performance and Human Excellence.* Paper presented at the EURAM 2012 Conference, Rotterdam.

Edwards-Schachter M., García-Granero A., Sánchez-Barrioluengo M., Quesada H., Amara N. (2015): *Disentangling Competences: Interrelationships on Creativity, Innovation and Entrepreneurship*. "Thinking Skills and Creativity", Vol. 16, pp. 27-39.

Ekvall G. (1996): *Organizational Climate for Creativity and Innovation*. "European Journal of Work and Organizational Psychology", Vol. 5 (1), pp. 105-123.

Eysenck H.J. (1996): *The Measurement of Creativity*. In: *Dimensions of Creativity*. Ed. by M.A. Boden. MIT Press, Cambridge, MA, pp. 199-242.

Finke R.A., Ward T.B., Smith S.M. (1992): *Creative Cognition: Theory, Research and Applications*. MIT Press, Cambridge, MA.

Fischer S., Oget D. & Cavallucci D. (2015): *The Evaluation of Creativity from the Perspective of Subject Matter and Training in Higher Education: Issues, Constraints and Limitations*. "Thinking Skills and Creativity", Vol. 19, pp. 123-135.

George J.M. (2007): *Creativity in Organizations*. "Academy of Management Annals", Vol. 1, pp. 439-477.

Gough H.G. (1979): *A Creative Personality Scale for the Adjective Check List*. "Journal of Personality and Social Psychology", Vol. 37, pp. 398-1405.

Groves K.S., Vance Ch.M. (2014): *Linear and Nonlinear Thinking: A Multidimensional Model and Measure*. "The Journal of Creative Behavior", Vol. 49, Iss. 2, pp. 111-136.

Hall J., Mitchell M. (2008): *Exploring Student Midwives Creative Expression of the Meaning of Birth*. "Thinking Skills and Creativity", Vol. 3, pp. 1-14.

Hennessey B.A., Amabile T.M. (2010): *Creativity*. "Annual Review of Psychology", Vol. 61, pp. 569-598.

Horng J.S., Tsai Ch.-Y., Chung Y.-Ch. (2016): *Measuring Practitioners' Creativity in the Taiwanese Tourism and Hospitality Industry*. "Thinking Skills and Creativity", Vol. 19, pp. 269-278.

Hu W., Adey P. (2002): *A Scientific Creativity Test for Secondary School Students*. "International Journal of Science Education", Vol. 24(4), pp. 389-404.

Kaufman J.C. (2006): *Self-Reported Differences in Creativity by Gender and Ethnicity*. "Journal of Applied Cognitive Psychology", Vol. 20, pp. 1065-1082.

Kaufman J.C., Cole J.C., Baer J. (2009): *The Construct of Creativity: A Structural Model for Self-Reported Creativity Ratings*. "Journal of Creative Behavior", Vol. 43, pp. 119-34.

Kahl C.H., da Fonseca L.H., Witte E.H. (2009): *Revisiting Creativity Research: An Investigation of Contemporary Approaches*. "Creativity Research Journal", Vol. 21, pp. 1-5.

Kalis E., Roke L., Krumina I. (2014): *Investigation of Psychometric Properties of the Test for Creative Thinking − Drawing Production: Evidence from Study in Latvia.* "The Journal of Creative Behavior", Vol. 50, Iss. 1, pp. 47-63.

Kiggundu M.N. (1983): *Task Interdependence and Job Design: Test of a Theory*. "Organizational Behavior and Human Decision Processes", Vol. 31(2), pp. 145-172.

Kokotsaki D. (2011): *Student Teachers' Conceptions of Creativity in the Secondary Music Classroom*. "Thinking Skills and Creativity", Vol. 6, pp. 100-113.

Kris E. (1952): *Notes on the Development and on Some Current Problems of Psychoanalytic Child Psychology*. "The Psychoanalytic Study of the Child", Vol. 26, pp. 24-46.

Liang Ch., Chang Ch.-Ch., Hsu Y. (2013): *Differential Effects of Personality Traits and Environmental Predictors on Reproductive and Creative Imagination*. "The Journal of Creative Behavior", Vol. 48, Iss. 4, pp. 237-253.

Liang C., Hsu Y., Chang C.-C., Lin L.-J. (2012): *In Search of an Index of Imagination for Virtual Experience Designers*. "International Journal of Technology and Design Education", Vol. 23(4), pp. 1037-1046.

Long H. (2014): *An Empirical Review of Research Methodologies and Methods in Creativity Studies (2003-2012)*. "Creativity Research Journal", Vol. 26(4), pp. 427-438.

Mayer R.E. (1999): *Fifty Years of Creativity Research*. In: *Handbook of Creativity*. Ed. by R.J. Sternberg. Cambridge University Press, New York, NY, pp. 449-460.

Metzl E. (2009): *The Role of Creative Thinking in Resilience after Hurricane Katrina*. "Psychology of Aesthetics Creativity and the Arts", Vol. 3(2), pp. 112-123.

Nayak A. (2008): *Experiencing Creativity in Organizations: A Practice Approach*. "Long Range Planning", Vol. 41, pp. 420-439.

Oldham G.R., Cummings A. (1996): *Employee Creativity: Personal and Contextual Factors at Work*. "Academy of Management Journal", Vol. 39(3), pp. 607-634.

Park N.K., Chun M.Y., Lee J. (2016): *Revisiting Individual Creativity Assessment: Triangulation in Subjective and Objective Assessment Methods*. "Creativity Research Journal", Vol. 28(1), pp. 1-10.

Perry-Smith J.E. (2006): *Social Yet Creative: The Role of Social Relationships in Facilitating Individual Creativity*. "Academy of Management Journal", Vol. 49, pp. 85-101.

Piffer D. (2012): *Can Creativity Be Measured? An Attempt to Clarify the Notion of Creativity and General Directions for Future Research*. "Thinking Skills and Creativity", Vol. 7(3), pp. 258-264.

Plucker J.A., Beghetto R.A. (2004): *Why Creativity Is Domain General, Why It Looks Domain Specific, and Why the Distinction Does Not Matter*. In: *Creativity: From Potential to Realization*. Eds. by R.J. Sternberg, E.L. Grigorenko, J.L. Singer. APA, Washington, pp. 153-198.

Reiter-Palmon R., Illies Young M., Kobe L., Buboltz C., Nimps T. (2009): *Creativity and Domain Specificity: The Effect of Task Type of Multiple Indices on Creative Problem Solving*. "Psychology of Aesthetics, Creativity, and the Arts", Vol. 3, pp. 73-80.

Reuter M., Panksepp J., Schnabel N., Kellerhoff N., Kempel P., Hennig J. (2005): *Personality and Biological Markers of Creativity*. "European Journal of Personality", Vol. 19, pp. 83-95.

Shalley Ch.E., Zhou J., Oldham G.R. (2004): *The Effects of Personal and Contextual Characteristics on Creativity: Where Should We Go from Here*? "Journal of Management", Vol. 30(6), pp. 933-958.

Shin S.J., Zhou J. (2003): *Transformational Leadership, Conservation, and Creativity: Evidence from Korea.* "Academy of Management Journal", Vol. 46, pp. 703-714.

Simonton D.K. (2009): *Varieties of (Scientific) Creativity: A Hierarchical Model of Disposition, Development, and Achievement*. "Perspectives on Psychological Science", Vol. 4, pp. 441-452.

Somech A. (2006): *The Effects of Leadership Style and Team Process on Performance and Innovation in Functionally Heterogeneous Teams*. "Journal of Management", Vol. 32(1), pp. 132-157.

Soroa G., Balluerka N., Hommel B., Aritzeta A. (2015): *Assessing Interactions between Cognition, Emotion, and Motivation in Creativity: The Construction and Validation of EDICOS*. "Thinking Skills and Creativity", Vol. 17, pp. 45-58.

Sternberg R.J., Lubart, T.I. (1991): *An Investment Theory of Creativity and Its Development*. "Human Development", Vol. 34(1), pp. 1-31.

Tierney P., Farmer S.M. (2011): *Creative Self-Efficacy Development and Creative Performance over Time*. "Journal of Applied Psychology", Vol. 96(2), pp. 277-293.

Torrance E.P. (1974): *Torrance Tests of Creative Thinking*. Personnel Press, Lexington, MA.

Trotman D. (2008): *Imagination and the Adolescent Lifeworld: Possibilities and Responsibilities in the National Secondary Review*. "Thinking Skills and Creativity", Vol. 3, pp. 125-133.

Vance C.M., Groves K.S., Paik Y., Kindler H. (2007): *Understanding and Measuring Linear/Nonlinear Thinking Style for Enhanced Management Education and Professional Practice*. "Academy of Management Learning & Education", Vol. 6, pp. 167-185.

Vegt G.S. van der, Janssen O. (2003): *Joint Impact of Interdependence and Group Diversity on Innovation*. "Journal of Management", Vol. 29(5), pp. 729-751.

Venkatraman N., Grant J.H. (1986): *Construct Measurement in Organizational Strategy Research: A Critique and Proposal*. "Academy of Management Review", Vol. 11, pp. 71-87.

Wehner L., Csikszentmihalyi M., Magyari-Beck I. (1991): *Current Approaches Used in Studying Creativity: An Exploratory Investigation*. "Creativity Research Journal", Vol. 4, pp. 261-271.

West M.A., Farr J.L. (1990): *Innovation and Creativity at Work: Psychological and Organizational Strategies.* Wiley, Chichester.

Zhou J., George J.M. (2001): *When Job Dissatisfaction Leads to Creativity: Encouraging the Expression of Voice*. "Academy of Management Journal", Vol. 44 (4), pp. 682-96.