Creativity Map: Toward the Next Generation of Theories of Creativity

Zorana Ivcevic
Tufts University

What is creativity and how should it be studied after more than 60 years of research? In this paper I call for more terminological clarity in creativity research, especially regarding the distinction between creative potential and creative behavior. The former concerns cognitive abilities and processes and personality dispositions facilitating creative expression. The latter refers to observable behavior, communicated ideas, or products that result from the interaction between individual potential and situational or cultural influences. Much research has focused on different attributes of creative potential, such as creative personality or divergent thinking abilities. I argue that future work in this area will have to specifically address domain-specific creative potential as well as the interaction between attributes of creative potential and situational or social attributes. The interaction of personal potential and social environment will determine whether creativity is expressed and how it is expressed.

Keywords: theory, creative potential, creative behavior, social situation, culture

Creativity is an ability to respond adaptively to the needs for new approaches and new products. The “something new” is usually a product resulting from a process initiated by a person. —Frank Barron (1988, p. 80)

Barron (1988) essentially said that creativity was a product of the creative process done by a creative person. The definition itself is original. It would be difficult to find a similar definition in a systematic literature review. It might also be appropriate; a criterion for judging creativity that is more elusive. Although it might seem circular and unspecific, it points to multiple elements in the study of creativity, including process, person, and product. In line with this definition, I suggest that the study of creativity would benefit from a focus on creative behavior and its determinants in the interaction of individual potential and social environment. Along the way, I point to the areas of gap in our current understanding of creativity. In particular, I argue that the social and cultural context should become more central in our thinking about creativity.

What Is Creativity?

Creativity is commonly defined in terms of originality and appropriateness. Published research has employed broad criteria for what can be considered a measure of creativity under such definition. Cognitive tests, including divergent thinking, remote associates, and word associations, have been used as criteria in foundational studies examining creativity in relation to personality (McCrae, 1987), affect (Isen, Daubman, & Nowicki, 1987), motivation (Eisenberger & Steel, 1994), culture (Leung & Chiu, in press), and in research testing the tenets of at least one major theory of creativity (Eysenck, 1995). Other measures of creativity fall into a similar category of intrapersonal attributes of creative potential—preference for complex drawings (Eysenck, 1994), endorsement of “creative” personality traits (Cox & Leon, 1999), and people’s beliefs whether they are creative in different domains (J. C. Kaufman & Baer, 2004).

These measures have substantial predictive validity and show expected group differences. For instance, accomplished artists give more unusual word associations than controls and they are able to evaluate the uncommonness of their responses (Merten & Fischer, 1999), and women rate their creativity in math and science significantly lower than men (J. C. Kaufman, 2006). These results show that intrapersonal measures assess creative potential—high scores on these tests increase a person’s likelihood of exhibiting observable creativity. However, other intrapersonal or social factors may prevent this potential from actualizing. Creativity researchers should be clear in their writing whether they are studying traits and processes related to creativity or creativity that is observable in how people behave and what they accomplish. To clarify the terminological confusion in creativity research a map might be helpful. Figure 1 delineates areas of intrapersonal creative potential and creative behavior evident in ideas, products, behaviors, and membership in social groups.

Creativity as Creative Behavior

Although creativity exists in all aspects of life, it has been studied most often in the arts and sciences. This bias in the focus of creativity researchers reflects both the culture-changing importance and fascination with unambiguous creativity, such as achievements of Einstein’s miraculous year and the originality of Picasso’s art. Other examples of creative behavior can be found in relatively private behavior, such as devising a way to teach a dyslexic child to read.

One successful approach in studying the great diversity of creative behavior has been a semistructured interview format (Richards, Kinney, Benet, & Merzel, 1988). This approach enables an assessment of people’s activities without their direct awareness...
that creativity is the topic of study thus minimizing biases inherent in socially desirable responding. Moreover, this approach enables an assessment of originality and quality of work. For instance, when a person describes painting a lot, it is possible to probe about the nature of her painting and distinguish between “mass production” paintings of faux-impressionist landscapes for hotel chains (not creative) from paintings exhibited in art shows (creative).

A more economical approach is to create inventories of creative behavior (e.g., Hocevar, 1979; Ivcevic, 2007; Ivcevic & Mayer, in press). For instance, Ivcevic and Mayer (in press) developed an inventory of creative behavior in everyday life, the arts, and intellectual domains. We argued that target behaviors should satisfy three criteria. First, creative behavior should be assessed in multiple domains. This criterion acknowledges that creativity is expressed in many ways, that different kinds of activities can inform the creative process, and it enables examination of creative types. Second, behaviors should be appropriate for the population of interest (e.g., participating in a science fair for high school students vs. presenting at a research conference for graduate students). And third, a range of behaviors and accomplishments should be assessed. For instance, in the arts, it can be asked how many art projects people completed in a certain time period, whether they exhibited their work in public, and whether they received any recognition for their art. Even studies of unambiguous examples of creativity can benefit from this approach by enabling a researcher to more closely study the quantity and quality of work.

Based on these criteria, Ivcevic and Mayer (in press) identified multiple areas of creative lifestyle and creative interests (self-expressive creativity, interpersonal creativity, crafts, sophisticated media use, and cultural refinement), artistic creativity (music, dance, theater, visual arts, and writing), and intellectual creativity (technology, science, and academic orientation). Furthermore, five distinct patterns of creative behavior or five creative types were identified in both college students and professional adults: conventional person, everyday creative person, artist, scholar, and renaissance person (Ivcevic & Mayer, 2006). Conventional people report below average creative behavior in all three domains. Everyday creative people have above average creative lifestyle and are below average in the arts and intellectual domains. Artists and scholars show above average creative behavior in the arts and intellectual domains, respectively, but also at least average levels of creative lifestyle and creative interests. This research shows that for most people creativity is largely domain specific (i.e., expressed either in the arts or intellectual domains). However, generality is also evident in that artistic and intellectual creativity is complemented by a creative lifestyle. Finally, there are a few renaissance people (approximately 1%), who report above average creative behavior in all three domains. More targeted research will have to examine who are these people and how they are different from other creators.

Research using inventories of creative behavior can answer many questions about the nature of creativity, but it also has a number of limitations. This approach does not allow a good assessment of the originality and quality of behavior. A good painting is more creative than a not so good one, and it could even be argued that not so good paintings should not earn a label of creativity. Because productivity or quantity of work is significantly correlated with quality (Simonton, 1997), measures of quantity of work still hold validity in creativity assessment. Ideally, these
measures would be complemented by others that more closely assess the quality of work. After the initial screening using inventories of creative behavior, individuals can be observed in a laboratory or they may present a portfolio of work to be judged.

Individual Potential for Creativity

Intrapersonal traits and beliefs constitute potential for creativity and influence all forms of expressed creativity. These are cognitive processes, personality traits, and aspects of the self-concept at the core of the creative process and the creative person. Creative potential is based on cognitive abilities and thinking styles (Sternberg & Lubart, 1995; Torrance, 1988), personality traits (Feist, 1998), affect (Shaw & Runco, 1994), and motivation (Amabile, 1996).

In recent years, we have seen meta-analyses on the relationship between creative achievement and both divergent thinking and intelligence (Kim, 2008) and personality traits in artists and scientists (Feist, 1998). There are fewer studies that investigate how the different pieces of the creativity puzzle fit together. Based on their investment theory, Lubart and Sternberg (1995) showed that creativity on various laboratory tasks is independently predicted by cognitive and noncognitive factors, including intellectual abilities, knowledge, and intellectual styles as well as personality and motivation. Another approach has systematically sampled elements of creative potential describing social traits (e.g., nonconformity), emotion and motivation (e.g., intrinsic motivation), cognition (e.g., divergent thinking), and self-regulation (e.g., persistence) and demonstrated differing trait profiles in relation to creative types (Ivecic & Mayer, 2006).

Domain-specific potential for creativity has been less well understood. One approach to understanding creativity in different domains is an in-depth study of a single domain (e.g., Kaufman & Kaufman, 2007). Alternatively, we can examine the key ingredients of the creative process and person that should differ across domains (e.g., domain-specific self-efficacy). Sternberg (2000) defined creativity as a decision. It can be argued that this decision is largely domain specific. A person who does not believe that they can be creative in science will not attempt to be creative in science and therefore not achieve creatively in this domain. The next generation of creativity theories will explicitly define many such domain specific connections.

Creativity in Space and Time

Creativity “happens” in a specific space (physical and social environment) and a specific time (developmental moment on the individual level and historical moment on the social level). Individual potential for creativity is influenced by different elements of such situations. For instance, scores on divergent thinking tests can be affected by variations in test instructions (Runco, Illies, & Eisenman, 2005). What are the active ingredients of situations that affect creativity? One potential hypothesis is that manifestations of creative potential are influenced by situations that change people’s perception of freedom on a task. The sense of psychological freedom can be undermined in situations of competition and social comparison or explicit presence of rewards, as demonstrated by Amabile and her colleagues (1996). Social norms and cultural values that place an emphasis on harmony and fitting in can also limit people’s sense of appropriateness of free expression and consequently negatively impact originality. These social values are characteristic of collectivist cultural orientations as well as certain developmental periods in childhood and adolescence when peer groups increase in importance. Of course, this is not to say that certain cultures do not have high potential for creativity; rather, individual potential may be expressed differently depending on the cultural (and/or developmental) context.

Culture is a macro social situation in which all other situations are embedded. Cultures differ in global value orientations, such as individualism and collectivism, which influence self-concept, social attitudes, motivation, and emotions (Oyserman & Lee, 2008). Individualism is a cultural orientation characterized by beliefs that the self is unique and separate from the social environment and an emphasis on self-reliance and personal accomplishment. On the other hand, collectivism is characterized by beliefs that the self cannot be separated from the social environment and emphasizes social harmony, obligation, and concern for others’ needs. Individualism is related to values such as self-direction and hedonism, whereas collectivism is related to conformity and security values (Triandis, 1995). Performance on creativity tasks in verbal, artistic, and mathematical domains is related to values similar to those characteristic of individualist cultural orientation (Kasof, Chen, Himsel, & Greenberger, 2007). Similarly, in comparison to other regions of the world, the people of East Asia (cultures high in collectivism) describe themselves as lower on Openness to Experiences (Schmitt, Allik, McCrae, & Benet-Martinez, 2007), a personality trait closely related to creativity in multiple domains.

Although there are significant cross-cultural differences in a number of attributes of creative potential, it remains unclear what is the root of these differences. The differences may be due to variations in chronically activated individualist and collectivist orientations, but these differences are often confounded with other social factors, such as different educational systems. Experimental studies can isolate the causal factors in cross-cultural differences observed in multiple-country comparisons. All cultures socialize their members for both individualism (e.g., people learn autonomy) and collectivism (e.g., people need and pursue social relationships) and at different times each of these orientations can be active. Consequently, it is possible to experimentally orient people toward either individualism or collectivism (Oyserman & Lee, 2008). By experimentally manipulating salience of cultural orientations in a laboratory situation, we can test whether differences in attitudes and behaviors observed in cross-cultural research are due to differences in individualism and collectivism.

The study of cultural influences on creativity will become increasingly important with increasing globalization. Contemporary technological, economic, and political changes make it more likely that people will interact with individuals from different cultural backgrounds and this intercultural contact can benefit creativity (Leung, Maddux, Galinsky, & Chiu, 2008). After watching a slide show juxtaposing symbols of American and Chinese cultures or a slide show presenting a fusion of the two cultures (e.g., music video by Vanessa Mae), participants wrote more creative stories than those who were exposed only to images of one culture. This research poses new challenges to creativity scholars. What are personality and developmental variables that facilitate this process of creative inspiration through exposure to other
cultures? Would these benefits be similar across multiple domains of work (e.g., scientific and artistic creativity)?

Other cultural factors influencing creativity concern the structure of social institutions. Educational systems differ in how much emphasis they place on basic skills and standardized testing, in how much autonomy is encouraged or expected from students, and in the balance between textbook knowledge and research-oriented work. Also, educational systems direct students toward relatively specialized training at different ages. Late bloomers will have a more difficult time developing knowledge necessary for creative contribution in countries that direct struggling students toward vocational schools at an early age (e.g., Germany) than in countries where such decisions are postponed (e.g., the United States). Furthermore, the physical environments in which students spend their time at school differ, ranging from stark rows of desks with little decoration such as I remember growing up in Croatia, to relatively free-form arrangement of desks and bulletin boards with children’s art and cartoon-like characters in many public schools in the United States. Such surroundings can impact creativity by creating a more or less supportive environment and influencing the emotional experience of school. To date, the effects of such environmental factors on creativity across cultures have not been systematically examined.

Many social and environmental factors either support or stifle creative potential and development of creative expression. Research on creativity development should attempt to answer the question of who becomes creative. We know that occupational creativity in middle age is related to recalled artistic and intellectual interests in childhood (Helson, Roberts, & Agronick, 1995). However, we do not know what percentage of children with artistic and intellectual interests achieves occupational creativity. It is likely that many or most creative paleontologists were interested in dinosaurs as children, but it is equally likely that most children who are interested in dinosaurs do not become paleontologists. What are the differences between those children whose early artistic and intellectual interests grow into adult creative achievement and those who become relatively more conventional? Are these developmental processes different for boys and girls, especially in the gender stereotyped domains of mathematics and science?

Developmental research will also have to address the path to domain specialization in creativity. Several models proposed development of creativity from early relatively general trait expressed in everyday behavior to increasingly domain-specific behavior (Ivcevic & Mayer, 2006; Kaufman & Beghetto, in press). If we were to study children nominated as creative by their teachers or parents, what creative behaviors and interests would we see at different ages? Do future creative scientists and engineers take apart toys and gadgets before they understand their inner workings? What environmental obstacles prevent early creative potential from developing and what environmental supports promote development of creativity?

Conclusions

What is the role of creativity theory? In this paper I argued that each study should start with a definition of creativity and situate the research in relation to this definition. In particular it is important to distinguish between creative potential (i.e., traits and abilities that make creativity possible) and creative behavior or achievement (i.e., observable expressions of creative potential). Creativity expressed in behavior and achievement is a product of creative potential in personality and cognition, which interact with the immediate situation and an implicit situation or larger culture.

References


**Members of Underrepresented Groups: Reviewers for Journal Manuscripts Wanted**

If you are interested in reviewing manuscripts for APA journals, the APA Publications and Communications Board would like to invite your participation. Manuscript reviewers are vital to the publications process. As a reviewer, you would gain valuable experience in publishing. The P&C Board is particularly interested in encouraging members of underrepresented groups to participate more in this process.

If you are interested in reviewing manuscripts, please write APA Journals at Reviewers@apa.org. Please note the following important points:

- To be selected as a reviewer, you must have published articles in peer-reviewed journals. The experience of publishing provides a reviewer with the basis for preparing a thorough, objective review.

- To be selected, it is critical to be a regular reader of the five to six empirical journals that are most central to the area or journal for which you would like to review. Current knowledge of recently published research provides a reviewer with the knowledge base to evaluate a new submission within the context of existing research.

- To select the appropriate reviewers for each manuscript, the editor needs detailed information. Please include with your letter your vita. In the letter, please identify which APA journal(s) you are interested in, and describe your area of expertise. Be as specific as possible. For example, “social psychology” is not sufficient—you would need to specify “social cognition” or “attitude change” as well.

- Reviewing a manuscript takes time (1–4 hours per manuscript reviewed). If you are selected to review a manuscript, be prepared to invest the necessary time to evaluate the manuscript thoroughly.