

## Chapter 4

# The Geography of the Creative Mind: A Cross-Cultural Study of Implicit Theories of Creativity Between the USA and Singapore

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**Abstract** The “term” culture does not have a unilateral definition. Culture allows us to define who we are and what is meaningful, as well as to manage our physical and social milieu. As a result, our cultures have a tremendous influence on the way we think and feel, the way we view the world, the way we communicate, and the way we behave. Culture is not a static construct but created daily through contacts, exchanges, and communication between individuals and their social landscapes. The underlying assumption is that people’s thoughts and actions are guided by their own personal definitions of creativity, and they have their own beliefs about how to foster and judge creativity, which may be similar to the theories developed by experts in the field of creativity. This chapter explores the extent of influence of culture on implicit theories of creativity among laypeople from the USA, a predominantly Western culture, and Singapore, a predominantly Eastern culture, as well as the ethnic groups in Singapore, in regard to adaptive and innovative styles of creativity and their own conceptions of creativity.

## Introduction

Early research on creativity tended to adopt an individualistic perspective, where creativity has been theorized in a variety of domains. Some examples include creativity as a process that occurred in the minds of individuals who possessed suitable personal characteristics and experiences (MacKinnon 1965), cognitive approaches in terms of cognitive style (Martinsen and Kaufmann 1999), and the pragmatic approach, where the concern is primarily with developing creativity (De Bono 1971; Osborn 1953). Glaveanu (2014) refers to this perspective as the “I-Paradigm,” where the individual is the unit of analysis.

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The “voice” behind the “I-Paradigm” was that of J.P. Guilford, in his 1950 American Psychological Association’s presidential address. He made a clarion call to psychologists to make creativity a focal point of psychological inquiry (Guilford 1950). Following Guilford’s message, psychologists responded to this call and creativity research flourished in the 1960s and early 1970s. The literature on creativity included several core disciplines of psychology, mainly personal attributes, cognitive processes, and the acquisition and actualization of creative potential (Simonton 2000).

It was only in the 1980s and 1990s that interest in the role of culture in creativity studies gained momentum, since “creative expression is a universal human phenomenon that is firmly grounded in culture and has its own profound effect on culture itself” (Rudowicz 2003, p. 273). Sociologists and anthropologists have long pointed out that creativity is mostly a sociocultural phenomenon (e.g., Kroeber 1944). Furthermore, Csikszentmihalyi (1990) asserts that to study creativity alone is “like trying to understand how an apple tree produces fruit by looking only at the tree and ignoring the sun and soil that supports its life” (p. 203). In sum, in studying creativity, one must consider the holistic nature of the individual as part of an evolving system within a cultural setting.

The “term” culture does not have a unilateral definition. Stated simply, culture is a “set of attitudes, values, beliefs, and behaviors, shared by a group of people, communicated from one generation to the next via language or some other means of communication” (Matsumoto 1994, p. 4). Culture allows us to define who we are and what is meaningful, as well as to manage our physical and social milieu. As a result, our cultures have a tremendous influence on the way we think and feel, the way we view the world, the way we communicate, and the way we behave. Culture is not a static construct but created daily through contacts, exchanges, and communication between individuals and their social landscapes.

Apart from using psychometric approaches to measure creativity, a useful application of a person-oriented psychometric method is the role of implicit theories. Unlike explicit theories where they are “opinions and views held by scientists” (Runco 1999, p. 27) and typically based on “some psychological or scientific construct” (Runco 1990, p. 236), implicit theories are tacit knowledge held by an individual and are often “personal rather than shared” (Runco 1999, p. 27). Davis (2004) describes implicit theories as conceptions held in people’s minds and can serve as “mental prototypes that can be used to decide if a product, behavior or person is creative” (p. 70). Therefore, the underlying assumption is that people’s thoughts and actions are guided by their own personal definitions of creativity, and they have their own beliefs about how to foster and judge creativity, which may be similar to the theories developed by experts in the field of creativity.

In order to discover laypeople’s implicit theories of creativity that can lead to greater insights on a present explicit theory of creativity, this study utilized the explicit theory of Kirton’s (1976) adaption and innovation theory (KAI). Kirton’s (1976) explicit theoretical proposition is that individuals lie within a cognitive style continuum ranging from adaptive to innovative orientation. At one end of the continuum is the high adaptor, who tends to accept the problem and stay within the current paradigms, rules, policies, and structures. They work to improve on them and generate solutions that are conventional, less disruptive, and easier to implement. At the other end of the continuum is the high innovator, who tends to abandon

the current paradigm and redefines the problem with a new approach. Thus, adaptors do things better, while innovators do things differently when solving problems (Kirton 1976, 1999). The assumption of this study is that if there is indeed a matching between these two types of theories (the implicit theories of laypeople and the explicit theory of the KAI), laypeople will have an innate understanding that they are creative but in different ways within the continuum of an adaptor or innovator.

This chapter explores the extent of influence of culture on implicit theories of creativity among laypeople from the USA, a predominantly Western culture, and Singapore, a predominantly Eastern culture, as well as the ethnic groups in Singapore, in regard to adaptive and innovative styles of creativity and their own conceptions of creativity. Although there have been comparative studies between a Western culture and an Eastern culture (Kim 2005; Li 1997; Soh 1999), there have not been studies done in regard to ethnic groups within a particular national culture. In this study, Singapore, as a national culture, is multiracial in nature because it comprises three main ethnic groups—the Chinese, the Malays, and the Indians. Comparisons among these ethnic groups provide deeper insight as to whether issues of ethnicity and other cultural mores distinct in each ethnic group play a role in how creativity is conceived.

The following were the specific research questions that guided this study:

1. Using Kirton's explicit theory of adaption and innovation (KAI) to access laypeople's implicit views of creativity
  - To what extent do laypeople from the USA and Singapore have similar views of Kirton's contention that adaptors and innovators are equally creative?
  - To what extent do different ethnic groups within Singapore (i.e., Chinese, Malays, and Indians) have similar views of Kirton's contention that adaptors and innovators are equally creative?
2. When asked to define creativity in their own words
  - To what extent do laypeople from different national cultures in the USA and Singapore hold similar or different conceptions of creativity?
  - To what extent do laypeople from different ethnic groups in Singapore hold similar or different conceptions of creativity?

## Method

### *Participants*

The study included 523 participants, ranging from 18 to 75 years of age. The participants were obtained through convenience sampling. There were three sets of samples. The first set was sample A, which consisted of 139 participants from the USA, in Buffalo, New York. The second set was sample B, which consisted of 199 participants from Singapore. As for the third set, sample C, it consisted of 185 Singaporean participants from the three main ethnic groups—84 Chinese, 54 Malays, and 47 Indians. All the participants had no formal training or background in creativity studies, as well as no prior knowledge of Kirton's adaption and innovation (KAI) theory.

## Materials

The study utilized a questionnaire that contained a close-ended section and an open-ended section. In the close-ended section, the participants were given descriptions of two different people. The two descriptions were characteristics of the adaptor and innovator, which were directly taken from Kirton's work (1994). The two sets of characteristics were labeled as person A and person B. Approximately half the questionnaires had characteristics of the innovator and labeled as person A, while the other half had characteristics of the adaptor but labeled as person B. This arrangement helped to suppress any bias and counterbalance the effect of reading one description first and, for that reason, rating one person higher than the other. A response scale ranged from 1 to 10 (one meaning "not at all creative" and ten meaning "exceptionally creative").

The questionnaire also included an open-ended question. The question was: "When you hear the word 'creativity,' what words come into your mind? Please list below those words you associate with creativity." Overall, the survey was designed to take less than 10 minutes to complete.

## Procedure

The researcher worked remotely from the USA with a research assistant based in Singapore and another research assistant based in Buffalo, New York. The researcher conducted online discussions with the two research assistants so that they were familiar with the goals and procedures of the study. Ethical considerations like voluntary participation and use of consent forms were thoroughly discussed and explained. They were given a detailed description of the study on paper so that they were familiar with the procedures for obtaining participants for the study.

Before engaging an individual to participate in the study, the conditions of participation in the study were explained. The participants read and signed the consent form and indicated their gender, occupation, and age on the front cover of the questionnaire. Participants from the Singaporean sample (sample C) also indicated their ethnicity—Chinese, Malay, or Indian. Care was taken to ensure that the Singaporean sample consisted of only Singapore citizens, as the country has a large proportion of permanent residents from various countries. The forms were in English as this was the lingua franca, so translation to the various languages was not necessary.

Once the participants filled out the consent form, they proceeded to the questionnaire. They were given as much time as they needed to complete the full questionnaire. Overall, the questionnaire took less than 10 minutes to complete.

## Results

The first analysis of the close-ended questions in the questionnaire used *t*-tests to compare the participants' ratings of the adaptor and innovator across the three samples. Table 4.1 indicates the minimum and maximum ratings of the adaptor and innovator styles, the mean adaptor and innovator ratings, and the standard deviations of each sample, A, B, and C.

Table 4.1 shows the mean rating for the adaptive style ranged from 4.6 to 4.9, while the mean rating for the innovative style ranged from 7.1 to 7.3. In all three samples, the innovator style received higher ratings for creativity. It is also noted that both adaptor and innovator styles received ratings across the full continuum; that is, both the adaptor and innovator styles were rated as 1 (not at all creative) and 10 (exceptionally creative).

Since sample C comprised the three ethnic groups in Singapore (i.e., the Chinese, the Malays, and the Indians), the minimum and maximum ratings of the adaptor and innovator styles, the mean adaptor and innovator ratings, and the standard deviations for these specific subgroups are shown in Table 4.2.

**Table 4.1** Adaptor and innovator ratings for samples A, B, and C

	<i>N</i>	Min.	Max.	Mean	SD
Sample A—USA	139				
Adaptor rating		1.0	10.0	4.6	2.2
Innovator rating		1.0	10.0	7.3	1.9
Sample B—Singapore	199				
Adaptor rating		1.0	10.0	4.8	1.9
Innovator rating		1.0	10.0	7.1	2.0
Sample C—Singapore (Chinese, Malay, and Indian ethnic groups)	185				
Adaptor rating		1.0	10.0	4.9	1.9
Innovator rating		1.0	10.0	7.3	2.0

**Table 4.2** Adaptor and innovator ratings for sample C—Chinese, Malays, and Indians

	<i>N</i>	Min.	Max.	Mean	SD
Chinese	84				
Adaptor rating		1.0	9.0	4.9	1.7
Innovator rating		2.0	10.0	7.5	1.6
Malays	54				
Adaptor rating		1.0	10.0	5.4	1.9
Innovator rating		1.0	10.0	7.3	2.2
Indians	47				
Adaptor rating		1.0	9.0	4.5	2.2
Innovator rating		2.0	10.0	6.9	2.1

**Table 4.3** Implicit perceptions of adaptor–innovator creativity (across all samples)

Sample	<i>N</i>	Mean	SD	<i>t</i>	<i>p</i>
A, B, and C	523				
Adaptor rating		4.85	2.03	-19.51	0.001
Innovator rating		7.28	1.99		

In Table 4.2, the mean rating for the adaptive style ranged from 4.5 to 5.4, while the mean rating for the innovative style ranged from 6.9 to 7.5. Just like Table 1.1, the innovator style received higher ratings for creativity. Only the Malay group had both adaptor and innovator styles receive ratings across the full continuum; that is, both the adaptor and innovator styles were rated as 1 (not at all creative) and 10 (exceptionally creative).

Next, *t*-tests were used to analyze the differences between mean ratings for adaptors and innovators for samples A, B, and C combined. Table 4.3 shows the *t*-test analysis of the mean ratings of the adaptor and innovator for the 523 participants from the three samples combined.

Table 4.3 shows the innovator style received a higher mean rating (7.28) than the adaptor style (4.85) of all the participants involved in this study ( $n=523$ ). The difference in the mean ratings is statistically significant with  $p=0.001$  ( $p<0.05$ ).

The second analysis of the data involved the open-ended question where qualitative analysis was conducted. The method of coded data was employed to categorize the responses for the open-ended question (Huberman and Miles 1994). Responses from all participants were compiled and each response was assigned a code. A code was created as long as there was a minimum of two similar responses from each sample. For each code, the frequency of similar responses was noted. A “miscellaneous” category was set up to include responses that did not fit into any assigned codes. A total of 87 codes, including the “miscellaneous,” category was formed. Table 4.4 shows the top categories (codes) from sample A and sample B.

In Table 4.4, the top categories accounted for 404 responses (45.2 %) out of a total of 879 responses. The top category from the American sample was “arts/artistic” which accounted for 10.2 % of all the responses, while this category accounted for only 4.1 % of the Singaporean sample. In sample B, the top categories accounted for 424 responses (48.3 %) out of a total of 871 responses. The top category was “new,” which accounted for 11.4 % of all the responses. Both samples have “think out of the box” as the category with the second highest number of responses.

Since sample C consisted of the three ethnic groups, a breakdown of categories from each ethnic group is provided in Table 4.5.

In Table 4.5, the top category for the Chinese group is “think outside the box,” which accounted for 13 % of all the responses. The top category for the Malay group was “arts/artistic” which accounted for 9.3 % of all the responses, while the top category for the Indian group was “new,” which accounted for 8.8 % of all the responses. Also, the Chinese had two categories, “bold” and “interesting,” which were absent from the Malay and Indian samples. In all the three ethnic groups, a new category, “abnormal/weird,” was formed. This category was absent in sample A (USA) and sample B (Singapore).

**Table 4.4** Top categories reported from sample A and sample B

Sample	Category	Frequency	%
Sample A—USA ( <i>n</i> = 139)			
Total number of responses = 879	1. Arts/artistic	90	10.2
	2. Think outside the box	50	5.6
	3. New	40	4.5
	4. Open	32	3.6
	5. Intelligent	30	3.4
	6. Problem solver	27	3.0
	8. Imagination	27	3.0
	10. Unusual	27	3.0
	11. Different	21	2.3
	12. Innovative	20	2.2
	14. Flexible	20	2.2
	16. Unique	20	2.2
Total		404	45.9
Sample B—Singapore ( <i>n</i> = 199)			
Total number of responses = 871	1. New	100	11.4
	2. Think outside the box	60	6.8
	3. Innovative	43	4.9
	5. Different	43	4.9
	6. Unusual	41	4.7
	7. Arts/artistic	36	4.1
	9. Ideas	36	4.1
	10. Problem solver	22	2.5
	12. Bold	22	2.5
	13. Imagination	21	2.4
Total		424	48.6

## Discussion

A clear pattern that emerged from the mean ratings of the adaptor and innovator was that the participants in the USA and Singapore indicated an implicit belief that a high level of creativity was more associated with Kirton's (1976) innovative style of creativity. There was a consistent higher mean rating to the innovator than the adaptor. If generalizable, there seemed to be a perceptual bias toward the innovator being more creative than the adaptor. This is in contrast with Kirton's (1976) explicit theory where it states that adaptors are equally creative as innovators, at least with regard to laypeople.

Studies by Puccio and Chimento (2001), Gonzalez (2003), and Muneyoshi and Kagawa (2004) noted similar findings where the innovator was rated as more creative than the adaptor. Puccio and Chimento (2001) believed that culture could have played a role in influencing the perception of the innovator style as being more creative since "innovation" is highly valued, marketed, publicized, and sought after. Furthermore, they suggested that "the popular phrase often used to describe creativity, 'out-of-the-box-thinking', seems to reflect a bias towards the paradigm-breaking style associated with Kirton's innovator" (p. 679).

**Table 4.5** Top categories reported from each ethnic group in sample C (Singapore)

Sample	Category	Frequency	%	
<b>Chinese (<i>n</i> = 84)</b>				
Total number of responses = 415	1. Think outside the box	54	13.0	
	2. New	53	12.7	
	3. Unusual	24	5.7	
	4. Innovative	22	5.3	
	5. Unique	17	4.0	
	7. Different	17	4.0	
	8. Problem solver	15	3.6	
	10. Bold	15	3.6	
	11. Arts/artistic	11	2.6	
	13. Interesting	11	2.6	
	14. Abnormal/weird	9	2.1	
	Total		248	59.7
	<b>Malays (<i>n</i> = 54)</b>			
	Total number of responses = 299	1. Arts/artistic	28	9.3
2. Think outside the box		18	6.0	
3. Unique		17	5.6	
4. New		11	3.6	
5. Innovative		10	3.3	
7. Different		10	3.3	
8. Abnormal/weird		9	3.0	
9. Imagination		8	2.6	
11. Intelligent		8	2.6	
Total			119	39.7
<b>Indians (<i>n</i> = 47)</b>				
Total number of responses = 259	1. New	23	8.8	
	2. Think outside the box	21	8.1	
	3. Innovative	17	6.5	
	4. Unique	15	5.7	
	5. Unusual	14	5.4	
	7. Different	14	5.4	
	8. Imagination	10	3.8	
	9. Arts/artistic	7	2.7	
	11. Problem solver	7	2.7	
	13. Abnormal/weird	7	2.7	
	Total		135	52.1

Another possible explanation is that in the case of the USA, Western values on creativity were dominated by American ideology, whereby creativity was viewed as creating new and useful objects and ideas that significantly departed from existing ones (Weiner 2000). Also, because of a strong emphasis on freedom of expression, individualism, and democracy as reinforced by a political system that protected freedom and protesting rights, Americans were imbued in a culture where they were encouraged to go beyond the existing frontiers (Weiner 2000). This implies that breaking paradigms and questioning the norms are hallmarks of a creative society, and these in turn seem to reflect the innovator style of creativity.



A similar situation was also found in the Singaporean samples. Although Singapore is an Asian country that is considered to be more collectivist in nature, where there is communal-based regulation of society (Hofstede 1984), the innovator style was deemed more creative, not unlike the participants in the American sample. Even within the national culture of Singapore, the three ethnic groups registered a similar implicit belief that high creativity was associated with the innovative style of creativity.

When laypeople from the USA and Singapore were asked to define creativity in their own words, one similarity between the samples was that most of the top categories of responses seemed to have an innovator bias in the laypeople's implicit theory of creativity. For example, words like (a) think out of the box, (b) new, (c) innovative, (d) unusual, and (e) different were some of the top categories from each national culture. This finding further corroborated the participants' implicit belief that creativity was more associated with the innovative style of creativity rather than the adaptive style.

On a larger scale, the participants did not share the explicit notion of what creativity is. The general consensus in the field is that creativity includes not only the features of novelty or originality but usefulness (appropriateness) as well (Amabile 1983; Mayer 1999). However, in the implicit theories of laypeople in this study, the concept of "useful" was clearly absent in their responses, even in the sample from the USA, a Western culture. There is a possibility that laypeople's implicit views were based solely on novelty.

Some differences were also noted. The top category from the American sample was "arts/artistic," unlike the Singaporean sample. Leung et al. (2004) noted, "In the West, creativity is often viewed as an individual activity, and that may be why creativity is typically associated with artists or scientists" (p. 121). This finding is consistent with Runco's observation (1999) that creativity is only found in the arts domain. Further, within one national culture, the Malay ethnic group equated creativity with the arts, unlike the Chinese and Indian ethnic groups.

Most of the categories from the three ethnic groups indicated a perceptual bias toward the innovator style. One category that seemed to be absent from the two national cultures of the USA and Singapore was "abnormal/weird." Words in this category included (a) crazy, (b) irrational, (c) eccentric, and (d) wacky. Thus, creativity was associated with ideas, behaviors, or products that were out of the norm or particular paradigm. This again reinforced the idea that creativity was more associated with the innovative style of creativity rather than the adaptive style.

This study confirmed other research studies using Kirton's explicit theory of adaption and innovation to access laypeople's implicit theories of creativity (Gonzalez 2003; Muneyoshi and Kagawa 2004; Puccio and Chimento 2001). Three very distinct cultures—Latin, Anglo-Saxon, and Asian—consistently gave higher scores to the innovator, an indication of a perceptual bias across various types of cultures toward the innovator style of creativity, which was in direct contention to Kirton's theoretical position.

A Western or Eastern culture is not entirely homogeneous. These are very broad terms that do not allude to a myriad of subcultures within a particular national culture.

The vast historical and sociopolitical differences in the Western and Eastern cultures simply do not justify treating these groups as uniform entities. Thus, the findings from this study imply that research in Western and Eastern conceptions of creativity should give way to more research within a particular national culture so as to unearth the richness of how creativity is conceived in various subcultures within a larger entity. Perhaps, instead of coming up with a common definition of creativity that can cross all cultures, the complexities of how creativity is conceived in various cultures should be recognized.

In conclusion, an explicit theory cannot be assumed to have a shared global understanding of its concepts and ideas. The findings from this study can pave the way for more research on implicit theories of creativity, where there can be a deeper appreciation of how creativity is viewed all over the globe. Any explicit theory on a psychological construct can incorporate testing it on the general population by way of implicit theories so as to add more rigor and acceptance within a given society.

## References

- Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of Personality and Social Psychology*, *45*, 357–376.
- Csikszentmihalyi, M. (1990). The domain of creativity. In M. A. Runco & R. S. Albert (Eds.), *Theories of creativity* (pp. 190–212). Newbury Park, CA: Sage Publications.
- Davis, G. A. (2004). *Creativity is forever*. Dubuque, IA: Kendall/Hunt Publishing Company.
- De Bono, E. (1971). *Lateral thinking for management*. New York: McGraw-Hill.
- Glaveanu, V. D. (2014). *Thinking through creativity and culture: Toward an integrated model*. New Brunswick, NJ: Transaction Publishers.
- Gonzalez, M. (2003) *Implicit theories of creativity across cultures*. Unpublished Master's Thesis. Buffalo, NY: State University College at Buffalo, Center for Studies in Creativity.
- Guilford, J. P. (1950). Creativity. *American Psychologist*, *5*, 444–454.
- Hofstede, G. (1984). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage Publications.
- Huberman, A. M., & Miles, M. B. (1994). Data management and analysis methods. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 428–444). Thousand Oaks, CA: Sage Publications.
- Kim, K. H. (2005). Learning from each other: creativity in East Asian and American education. *Creativity Research Journal*, *17*(4), 337–347.
- Kirton, M. J. (1976). Adaptors and innovators: a description and measure. *Journal of Applied Psychology*, *61*, 622–629.
- Kirton, M. J. (1994). *Adaptors and innovators*. London: International Thomson Press.
- Kirton, M. J. (1999). Adaptors and innovators: a description and measure. In G. J. Puccio & M. C. Murdock (Eds.), *Creativity assessment: Reading and resources* (pp. 121–131). Buffalo, NY: Creative Education Foundation.
- Kroeber, A. L. (1944). *Configurations of culture growth*. Berkeley, CA: University of California Press.
- Leung, K., Au, A., & Leung, B. W. C. (2004). Creativity and innovation: East-West comparisons with an emphasis on Chinese societies. In S. Lau, A. N. N. Hui, & G. Y. C. Ng (Eds.), *Creativity: When east meets west* (pp. 113–135). Singapore: World Scientific Publishing.
- Li, J. (1997). Creativity in horizontal and vertical domains. *Creativity Research Journal*, *10*(2-3), 107–132.

- MacKinnon, D. W. (1965). Personality and the realization of creative potential. *American Psychologist*, 20, 273–281.
- Martinsen, O., & Kaufmann, G. (1999). Cognitive style and creativity. In M. A. Runco & S. R. Pritzker (Eds.), *Encyclopedia of creativity* (Vol. 1, pp. 273–282). San Diego, CA: Academic Press.
- Matsumoto, D. (1994). *People: Psychology from a cultural perspective*. Pacific Grove, CA: Brooks/Cole Publishing.
- Mayer, R. E. (1999). Fifty years of creativity research. In R. J. Sternberg (Ed.), *Handbook of creativity* (pp. 449–460). New York: Cambridge University Press.
- Muneyoshi, H., & Kagawa, Y. (2004). *Implicit versus explicit theories of creativity: East versus west. Poster session presented at the 6th student research and creativity celebration*, State University College at Buffalo.
- Osborn, A. F. (1953). *Applied imagination: Principles and procedures of creative thinking*. New York: Scribners.
- Puccio, G. J., & Chimento, M. D. (2001). Implicit theories of creativity: Laypersons' perceptions of the creativity of adapters and innovators. *Perceptual and Motor Skills*, 92, 675–681.
- Rudowicz, E. (2003). Creativity and culture: a two way interaction. *Scandinavian Journal of Educational Research*, 47(3), 273–290.
- Runco, M. A. (1990). Implicit theories and ideational creativity. In M. A. Runco & R. S. Albert (Eds.), *Theories of creativity* (pp. 234–252). Newbury Park, CA: Sage Publications.
- Runco, M. A. (1999). Implicit theories. In M. A. Runco & S. R. Pritzker (Eds.), *Encyclopedia of creativity* (Vol. 2, pp. 27–30). San Diego, CA: Academic Press.
- Simonton, D. K. (2000). Creativity – cognitive, personal, and social aspects. *American Psychologist*, 55(1), 151–158.
- Soh, K. C. (1999). East-west difference in views on creativity: Is Howard Gardner correct? Yes and no. *The Journal of Creative Behavior*, 33(2), 112–125.
- Weiner, R. P. (2000). *Creativity and beyond: Cultures, values, and change*. Albany, NY: State University of New York Press.