Innovations
Number 62 2020 August
www.journal-innovations.com

Critical analysis of Personality, Attribution and Environment and psychological relation

S.Gumani

Research scholar
Department of education
Rayalaseema University
Kurnool
Andhra Pradesh

Abstract

Creativity as an established research field in Psychology is no more side-lined as in the first half of 20th century. There are many aspects observed in the types of studies published in the contemporary journals on creativity. A review of researches done in the area of creativity is presented under three thematic categories - Personality, Attribution and Environment. The study of personality factors includes the effect of psychopathology, motivation, attention and memory in the creative performance. The study of a creative environment includes the creativity training, studying anti-creative environments, technology, the role of ambiguity and the knowledge provided. The study of environmental factors includes parenting styles, effect of technology on creativity of children in classrooms, anti-creative environments, tolerance of ambiguity and creativity training. The study of Cultural factors includes social, political, religious and economical aspects which influence creativity. The three dimensions of Personality, Attribution, and Environment are critically analysed.

Keywords: *1. Attribution, 2.Creativity, 3.Culture, 4.Environment, 5.Personality.*

Introduction

Creativity is an area which can be problematizedand studied using different dimensions of creativity. The ex nihilo aspect of creativity is a major roadblock in its understanding. After all, creativity is a set of behaviours that has a wide range and different tags like emotionally creative, artistically creative, verbally creative and so on. Compartmentalization and studying as separate parts are the preferred ways of research in this area. However there has been enough research done on variables related to creativity. They are affect, cognition, training, individual differences, individual differences in intelligence, gender differences and psychopathology. The present attempt is to provide a review of studies and a contemporary analysis of creativity within the discipline of psychology in three themes – Personality, Environment, and Attribution.

Creativity and Personality

Personality of an individual is considered as a good predictor of creativity by researchers like Oztunc (2011), Ann Roe (1946a), Amabile (1998) etc. Studies in personality and creativity provide insights in nurturing creativity. According to Feist and later elaborated by Oztunc (2011) the studies of creative personality were conducted more from 1950's only and these provided us with two variables such as originality and usefulness as key evaluative criterion or traits of creative acts or thoughts. Though this idea will be evaluated later, the traits identified as autonomy and independence better account for originality and creativity (Oztunc, 2011). Creative individuals are often observed to remain aloof from the

`

society or in other words separated from their social environments when they are working with their creative products. This tendency is conceptualised in the variable independence and such drive is called autonomy. Independence is the actual state of being free from other persons' control or influence. Autonomy helps to attain independence. The strong inclination for independence may be termed as autonomy. In addition to this, introversion may also help in producing such effects.

Introversion and its relation to creativity has been studied. Studies by Ann Roe, Bernice Eiduson, Jack Chambers and Ravenna Helson contributed to this area. A study conducted by Ann Roe (1946b, 1961) in scientists confirmed that more creative scientists are more achievement- oriented and are less affiliative when compared with the scientists who are less creative. Another study confirms that research-oriented psychologists are less extroverted and have higher independence compared to teaching-oriented psychologists.

Studies into the internal locus of control and its significance in creative acts and thoughts have produced consistent results that creative people have more internally oriented locus of control. People attribute the control of their life events and environment either to themselves or to some other authority resting outside and personally have little control over it. The former one is identified as internal locus of control group while the latter one is identified as external locus of control group. Past 20 years of studies help us to arrive into this conclusion (Oztunc, 2011).

Intrinsic motivation was considered as an important aspect of creativity by researchers like Amabile (1998) and Runco (1994; 1995). Researchers find that both intrinsic and extrinsic motivations are important and the focussing only on extrinsic motivators and neglecting the intrinsic motivators may negatively affect creativity. They suggest that pleasure, satisfaction and enjoyment from the activity itself increases the level of creativity. Teresa Amabile (2005) also argues that people becomes less creative when they are motivated by external factors such as evaluation, competition, reward, surveillance etc. The literatures that are creative come from intrinsically motivated writers. In schools, the children are not able to put concerted efforts in exams due to test anxiety. This is due to the pressure of external evaluation. If teachers motivate children internally then test anxiety that negatively affects performance of children can be reduced. Eisenberg (1999) suggest that rewards given with the direction for being creative may increase the creative performance of children. Runco (1994) suggests that negative affect is also important for creativity as one should perceive something bad or worse with the current system to modify and change it for better.

Many creative artists have been found to be impervious to group influence. Richard Crutchfield (1962) studied on the same questions and suggested that 24 % of people who were creative were not affected by any such group conformity. This suggests that there is a strong connection between non-conformist behaviour and creativity.It has been also found from the research (e.g., Van Zelst & Kerr 1953) that self-confidence and arrogance which are related to internal locus of control and connected to autonomy may make a person more productive. The self confidence of the individual makes him think and say without any inhibitions. This may help in getting accomplishments in the world controlled by dominance

Gregory Feist (1999) found that artists have low scores of responsibility, socialisation and achievement when assessed by California Psychological Inventory. Creative artists scored high in the psychoticism subscale of Eysenck Personality Inventory that assesses individuals' impulsiveness, anti-social behaviour and so on. Another study by Csikszentmihalyi (2009) reports that successful art students have less levels of warmth which are measured by Sixteen Personality Factor Questionnaire. All together, it is right to presume that Creativity has associations with aloofness, anti-social nature, solitude and even psychoticism.

`

Chavez-Eakle, Jonathan-Eakle and Cruz-Fuentes (2013) studied the relationship between creativity and personality. The traits found in creative persons were studied using various tests. The study revealed neurobiological foundations of creative personality. Personality has an influence on the realisation of the creative potential. Lovelace and Hunter (2013) studied the influence of leadership on creativity of subordinates. The influence of the leader was studied across the creative process of subordinates. The leader can be charismatic, ideological and pragmatic (CIP model). The results have shown that, the Charismatic leadership can influence the subordinates' creativity more compared to Ideological and Participative leadership on middle-stage creative tasks.

Jeon, Moon and French (2011) studied creative performance in Arts and Maths by focusing on divergent thinking, knowledge and interest of the subjects. Regression analysis was conducted in a group of Korean students of 8th standard. The results showed that both divergent thinking and domain knowledge influenced the scores on creativity. In the field of art, divergent thinking influenced creativity compared to the variable domain knowledge

Cho, Nijenhuis, Vianen, Kim and Lee (2010) studied the relationship between creativity and intelligence. They found that the General intelligence factor or g factor was correlated with TTCT-figural and TTCT-verbal. But this association is not attributed to traits such as Fluency and Originality. The results indicate that the mental operation of creativity is different from that of intelligence but crystallized intelligence can be used as a mental resource for the operation of creativity.

Kim (2008) studied the comparative evaluation of divergent thinking and I.Q's effects on creative achievements. Analysis was done using Fisher's Z-transformed correlation coefficients. The results have shown that there is a high level of relationship between divergent thinking scores and creativity compared to the scores of I.Q. The study found out that Torrance Test for Creative thinking (TTCT) predicts creative achievement better than other DT tests. Li and Wu (2011) studied the relationship between optimism and innovative behaviour. The results indicated that, cognitive reappraisal and promotion have positive effects on optimism. Creative self-sufficiency significantly mediated the relationship between optimism and innovative behaviour.

Torrents, Castaner, Dinusova and Anguera (2010) studied motor creativity in dancing performance. They utilized contact improvisation (CI). The result showed that motor creativity is affected by the partner and there is reciprocal influence in the dance. Furthermore, the motor creativity is enhanced by partner interaction. This study shows how motor skills are learned from the social world.Zibarras, Port and Woods (2008) studied Innovation by focussing on its dark side and the associated dysfunctional personality traits. The results show that, certain dysfunctional traits such as Manipulative, Dramatic, Arrogant and Eccentric are associated with the innovativeness. Jesus, Rus, Lens and Imaginario (2013) studied motivation in relation to creativity. It was found that there was a significant relationship between intrinsic motivation and creativity related to product. Also, no significant difference was found between students and employee samples on the relationship.

Lin and Lien (2013) studied the problem of the effect of memory on creativity. The working memory was studied in two roles- open-ended vs. closed-ended creative problem solving tasks. Taking from the dual process theories, the hypothesis is that, the idea generation in a divergent test relies more on associative, effortless system1 processing. The insight problem-solving requires rule-based, system2 processing. In first experiment, when the participant's working memory load was increased then divergent-thinking performance was increased and insight problem solving performance was hindered. Cassandro and Simonton (2010) studied the diversity of topics in creative products. This study also included the effect of versatility and openness to experience in influencing creativity of people. They have studied 67 eminent scientists, writers, philosophers and scholars in the West. Their study found that

`

versatile creators had their work with more topical diversity than the non- versatile creators. However, topical diversity was positively associated with openness to experience.

Zenasni, Besancon and Lubart (2008) studied creativity and tolerance of ambiguity. Three tasks were administered: a story writing task, divergent thinking tasks and self-evaluation of creative attitudes and behaviour. This study provides us with insights into the ambiguity tolerance and creativity measure, which are found to be related.Murphy, Acar and Palmon (2013) studied the genetic basis of creativity by understanding Dopamine's effect on the phenomena. Many human characteristics are polygenetic which is neglected in previous studies. The results found that DAT, DRD4 and COMT were related to fluency from verbal DT tests and COMT, TPH1 and DRD4 were related to fluency from figural tests. For Originality, DRD2, DAT and DRD4 were related to verbal DT tests. The genes DAT and DRD4 were related to figural DT tests. For flexibility test DAT was related to Verbal DT. This study makes clear the Dopamine's effect on creativity and the possible genetic basis to it.

Critical Analysis

Most of the research works done to understand the relationship between creativity and personality had many meta-theoretical assumptions. First and foremost, there were researchers who were confident that they can measure such traits and can use numbers to represent the level of creativity of a person. They believe that this principle is universally applicable and the scores of a person can be compared with the scores of another such that it may help in recruitment, training and management of workers. Scores within and across cultures may be studied using this technique provided that the test is enough standardised and tested with its reliability and validity with similar tests.

Secondly, there is an assumption that the personality of an individual is a fixed entity and is invariable. Traits such as keeping oneself aloof, introversion, mild psychosis or psychopathology are regarded as aspects that have relations with creativity. Such characteristics are measured by objective tests and the scores corresponding to it is rated with creativity such that a causal or correlational effect is obtained. These characteristics are not unchanging or can be influenced by sudden mood changes or with unprecedented changes in the life events that made the person puzzled, confused and reduced his or her confidence. But latter, the person may recover from such problems which once made him or her to keep aloof or introverted.

Another aspect of personality and creativity is bringing up a fragmented profile of personality that is entirely segmented into objectified areas of I.Q, extraversion-introversion, self-sufficiency, dysfunctional personality traits such as dramatic, arrogant and eccentric, intrinsic and extrinsic motivation, memory and genetic basis of creativity. Studies focus more on separation rather than integration of these aspects.

Viewing the variables as dichotomous categories is also a problem. Such categories may include extraversion-introversion, intrinsic and extrinsic motivation, psychotic and neurotic, dysfunctional personality traits and functional personality traits, asocial and anti-social and culturally learned and inherited etc. Behaviour is as vast as ones subjectivity is concerned and rarely can we trap it in objective categories. A person may be extrovert in one situation and introvert in another. Furthermore, deciding a trait as functional is largely by cultural and social values and it may change with respect to culture. Motivation in real life may be a mix of intrinsic or extrinsic motivation and there may not be such a rigorous categorical distinction for any such creative behaviour.

Again studying creativity as motor creativity, figural creativity, verbal creativity, artistic creativity, everyday creativity, Big C, Little c, motor creativity will aid the diversity of creativity studies

`

and on the other hand there should be a general understanding and integrative research towards the fostering and development of general creativity among children.

We have gained understanding about the dynamics of personality governing the behaviour of individuals including the creative behaviour. Past researches have helped us in this venture and the ongoing researches will guide us through this area. But directly giving the full credit to personality factors in determining creativity is challenged by the researches done in the field attribution. According to these researches, creativity is a social construct and often we attribute meaning to it by social processes. Analysis of studies on creativity and attribution testifies the practicality of such an attempt. From the review different dimensions and correlates of creativity were identified in personality theme. They are autonomy, introversion, internal locus of control, intrinsic motivation, non-conformist behaviour, divergent thinking, domain knowledge and tolerance of ambiguity.

Creativity and Attribution

It can be stated that creative behaviour will have explanations on how and why it is exhibited and observed. Creativity is explained in the discipline by dispositional factors and situational factors. However, it is also understood that more importance is given in understanding the former as suggested by the number of researches (e.g., Jeon et al. 2011, Kim 2008, Li & Wu 2011, Jesus 2013) in the respective field. Understanding creativity through situational factors or environmental factors was given less focus compared to the works done on dispositional factors in the discipline of Psychology.

Attribution theory is an attempt to theoretically engage with the situational determinants of behaviour. It is a sociology-based approach which asks the question of why to the behavioural responses of individuals. This approach deals whether the causes of behaviour can be situated with dispositional qualities or situational factors. This theory explains creativity with situational determinants of behaviour.

Attribution theory is credited to Fritz Heider (1958) who proposed it in his book 'The Psychology of Interpersonal Relations'. Joseph Kasof (1995b, 1995a; 2007) applied it in the field of creativity. He argued that the characteristics such as originality, novelty and infrequency serve only as the objective guidelines to evaluate creativity and is not the be all and end all (Kasof, 1995b). Other than the objective component it has subjective components such as the evaluation of the product by the judges. He has objected the idea that the total score of an objective test can be completely attributed to the individual as creativity does not emerge from isolation. Creativity is a social construct. Receptivity of a product is also socially constructed (Kasof, 1995a). Even the evaluation by the judges is influenced by the social values they carry. Thus this view claims that while assessing individual creativity, it cannot be separated or treated in isolation with the situational factors.

According to Encyclopaedia of Creativity both researchers and lay people have attributed creativity to gene, brain and personality traits where all of them are dispositional characteristics. Plato, Aristotle, Kant and Galton also explained creativity along similar lines. Guiford's historic Presidential Address was focussed on dispositional characteristics of creativity. Creativity researchers like M.A. Runco, Frank Barron, E.P. Torrance and many others focussed along the same lines. However, researchers like M. Csikszentmihalyi, T.M. Amabile and many other focuses on the situational as well as dispositional nature of creativity. However Kasof was able to list three basic mechanisms that influence attributions of creativity. They are covariation, salience and self-serving bias.

Covariation principle as defined by Kelly (1973), who introduced the concept, states that it is an attribution of the effect to one of its possible causes with which it covaries over a period of time. Covariation principle explains the attributions on the basis of three factors. The first one is consensus. This refers to generalisations across persons. When an individual attribute the behaviour of a person,

`

then they consider whether all individuals behave similarly in a given situation. This is generalisation across persons. The second variable or factor is consistency. This is known as generalisation across time. People consider how an individual react in similar situations for attributing a behavioural pattern. The third variable is distinctiveness. It is taken into account by considering whether a person behaves similarly in different situations. The individual uses all the variables of attribution for the process of attribution.

Another aspect of attribution is salience. Cayirdag (2011) says that the salient personalities in a group may be considered creative other than the other performing ones in the group. For example the lead singer in the group is regarded as more creative than the guitarists or jazz players. The characteristics such as unsociable, unusual hair and marginalised people are considered to be more creative than others. However the relationship of salience to creativity is bidirectional. Creative products are viewed as salient because it happens to be new, discovered or invented. But people attribute the salience of the product to the personality of individual and underestimate the situational factors.

Self-serving bias is another factor that influences the attribution of creativity. People attribute the desirable outcomes to personality traits and undesirable outcomes to environmental factors. As creativity is a desirable characteristic it is attributed to internal factors. There is also Group-serving bias. When a community or a group is attributed the desirable outcomes for personality traits and negative outcomes for situational factors then it is Group-serving bias. The evaluation of creativity by a judge may view a person more creative who may be the member of a common community where both have memberships. We may now focus on gender attribution and creativity. It is interesting to note that we have fewer women Nobel Laureates and fewer women entrepreneurs because of social and political reasons, not entirely because of personal reasons.

Creativity and Environment

Few researchers considered the importance of the kind of environments that influences creativity. This question of role of environment on creativity was broad in nature as it required formulating the relative influences of specific factors involved in the environment which might be facilitating creativity. It also asks the question of how anti-creative environment operates to produce less creative products and ideas. Many factors were identified that affect the creativity of individuals in different developmental stages of the individual. There are theoretical frameworks for environmental influence on creativity in the context of organisation and also from the perspective of an artist, writer or any eminent individual.

In the context of organisation, the term organisational climate is used for representing environment. Amabile, Conti, Coon, Lazenby and Herron (1996) studied creative process and motivation. They have listed five general dimension of work environment that may facilitate the individual's creativity in organisation. These include, encouragement for creativity- organisational and supervisor encouragement; autonomy or freedom; resources; pressures such as challenging work load; and finally organisational impediments.

Harrington (1990) gives a theoretical framework to account for the environmental influences. He lists five aspects of creative working environments. First, the physical spaces they work such as offices, libraries, schools etc; second the creative spouses, friends or partners; the informal settings such as cafes, hotels etc where they exchange work related ideas to people involved in similar activities; finally, the setting that has been designed to foster creative work such as artists' collectives and colonies, centre for advanced studies etc. The studies that relate environment and creativity are listed as follows.

`

Rubin (1963) looked into the effect of technology on creativity of children in classrooms. The changes in life style and the technological innovativeness especially digital technology made the children to familiarize with different studying habits (Conway & Rubin, 1991). Teachers and parents belonging to the old generation view the change in them and remain confused and challenged. Some question whether adequate brain development of children takes place in the digital era? Higher order thinking and creative idea generation are influenced by study habits that change with technology. He concludes that even reading has no direct link to creativity but provides to its foundation of creative ideas and thought (Rubin, 2012). The brain functioning demanded by the new technology may compensate for traits that is identified with reading.

Fearson Copeland and Saxon (2013) studied the relationship between parenting styles and creativity in a group of Jamaican children. Both students and parents participated in the study. The results show that the authoritarian parenting style had a negative effect on creativity of the students. However, it was found that the parent's creativity was greater in such a community than that of children also the parent's creativity was predictive of children's level of creativity. Jamaican population are known for its authoritarian parenting.

Kim and Hull (2012) studied how anti-creative environments are responsible for the high school dropouts. The high school dropouts from Southern Michigan State were subjects in the experiment. Creativity was measured by using Runko Ideational Behavioural Scale, Torrance test of creative thinking, Scales for Rating the Behavioural Characteristics of Superior Students. The anti-creative school environment and creative personality was measured by using NELS and ELS. The results by logistic regression analysis showed that anti-creative school environments have a negative effect on creative performance and that may lead to students dropping out. This study calls for an appropriate structural change in the classroom so that creativity is well nourished.

Scott, Leritz and Mumford (2004) studied the effectiveness of creativity training on improving the creative talents of persons. A quantitative meta-analysis was performed on 70 studies. The study revealed that well designed creativity training programs improves performance. It was also found that, successful programs focussed on the development of cognitive skills and heuristics.

Ivcevic (2007) studied artistic and everyday creativity in a comparative fashion. The study was aimed at identifying the content of behaviours in both types of creativity and also to study its relationships with personality traits and psychopathology. The artistic creativity includes generation of art works, achievements in arts and investment of time in art. On the other hand everyday creativity was concerned with humour and self-expression. The results found that, artistic creativity was related to psychopathology. However, everyday creativity was related to personal growth, extraversion and conscientiousness. This study shows the importance of the domain changes in the expression of creativity and its personality influences.

Hong, Hartzell and Greene (2009) studied the teacher's reliance on the institutional practices that may foster creativity among school children. Epistemological beliefs, goal orientation and motivation among the teachers towards the institutional practices were studied specifically. The subjects were elementary school children of third to fifth grades. The result has indicated that teachers' learning goal orientation was the most significant attribute that has impact on the institutional measures that foster creativity. High intrinsic motivation and sophisticated beliefs about knowledge among teachers helped to foster creativity among students. But teachers' beliefs about learning and performance goal and their motivation for challenging tasks was not predictive of most of the creativity fostering educational practices in the institution. Study provides relevant insights into educational implications.

`

Broekkamp, Janssen and Bergh (2009) studied creative writing and how it is related to literature reading ability. The subjects were 11th grade students and they identified good readers of literature and poor readers of literature. Subjects were asked to read four literary texts and write five creative short stories or poems. A set of judges analysed the final text. The results were in supportive of the hypothesis that positive relationship exists between creative writing and literature reading. This work provides insights on how to advance creative writing in the curriculum framework.

Ewoldsen, Black and Mccown (2008) have studied age-related changes in creative thinking. They take the theoretical framework of Geneplore model which proposes a two stage model of creativity i.e., generating an idea and exploring the implications of that idea. They used Creative Invention Tasks (CIT), Torrance Test of Creative Thinking (TTCT) and paper folding test to measure the variables. The results indicated that there were age-related declines in CIT but not in TTCT. However, after the adjustment of working memory capacity the age-related changes in CIT was not significant. This study provides insights into the effect of age on creative thinking.

Critical Analysis

Many environmental influences were identified in the past researches. The parenting styles of adults were studied to understand how it may affect creativity. The leadership style was analysed with the categories of charismatic style, authoritarian style and democratic style. Creative and anti-creative environments were analysed. This perspective is more efficient as it takes into consideration both the individual and the environment.

But it should be noted that good environments are not sufficient or necessary for creativity to occur. In the most anti-creative environments such as in the case of colonies during the colonial period creativity was not flourishing(Fryer & Bolingbroke, 2011). Colonial oppression and authoritarian regime can hinder creativity. But exceptions may be noted as in case of Poland (Kaufman & Sternberg, 2006). Here these conditions helped to flourish creativity.

Dividing the context into creative and anti-creative environments may reduce a lot of complex details involved in the environment-creativity interaction. Such a perspective would be simplistic though reductionist in nature. But other than the just immediate environment there can be a higher cultural dimension that defines why one culture is different from another and how the cultural practices influence the creativity of that community. From the review of the environment theme, the identified dimensions and correlates of creativity are parenting styles, technology, creative and anti-creative environments, teaching styles and epistemological beliefs.

Conclusion

The construct creativity is examined through different researches done in the discipline of Psychology. The review was structured along the dimensions of personality, attribution, the environment and culture. The research adapting a personality dimension focussed on the relationship of personality traits or dispositional factors to creative performance. This view was based on the compartmentalisation of personality traits and evaluating each of them separately in relation to creativity. But it ignored the situational, cultural and substantive cognitive dimensions including imagination for accounting the creativity of people.

Situational factors were taken into account in the attribution approach to creativity. Concepts of covariation principle, salience and self-serving bias were instrumental in bringing a theoretical perspective to creativity. But it never defined what creativity is. It was based on the individuals' reaction towards creative products. One criticism of this perspective was failure in recognition of inherent

`

creativity and attributed creativity. There is a 'real' creativity in individual other than what is attributed. The attributional perspective helped researchers to address the question of gender differences in creative performance.

The environmental dimension described here considers only the immediate environment and leaves the space for cultural effects to be dealt as another dimension. This includes the parenting styles, the leadership style, anti-creative environments and so on. But environmental dimension could not give a full explanation of creativity. Environment is not a necessary or sufficient condition for creativity but positive environments boost creative performance. Evidently, this perspective does not problamatize imagination even though parenting styles talk about child's learning environment and play.

From the review different dimensions were identified from the themes of personality, attribution, environment and culture. The dimensions and correlates identified from personality are autonomy, introversion, internal locus of control, intrinsic motivation, non-conformist behaviour, divergent thinking, domain knowledge and tolerance of ambiguity. The dimensions and correlates identified from attribution theme are social construction of creativity, situational factors, Covariation principle – (consensus, consistency, and distinctiveness), salience and self-serving bias. The dimensions and correlates identified from environment theme are parenting styles, technology, creative and anti-creative environments, teaching styles and epistemological beliefs. The dimensions and correlates identified from culture theme are bi/multilingualism, horizontal individualism, horizontal collectivism, vertical collectivism and implicit theories

Reference

1. Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and Creativity at Work. Administrative Science Quarterly, 50(3), 367–403.
2. Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. Academy of Management Journal, 39(5), 1154–1184.
3. Conway, J. C., & Rubin, A. M. (1991). Psychological predictors of television viewing motivation. Communication Research, 18(4), 443–463.
4. Crutchfield, R. S. (1962). Conformity and creative thinking. In H. E. Gruber, G. Terrell, & M. Wertheimer (Eds.), Contemporary approaches to creative thinking: A symposium held at the University of Colorado (pp. 120–140). New York, New York, US: Atherton Press.
5. Csikszentmihalyi, M. (2009). Creativity: Flow and the Psychology of Discovery and. HarperCollins.
6. Eisenberg, J. (1999). How Individualism-Collectivism Moderates the Effects of Rewards on Creativity and Innovation: A Comparative Review of Practices in Japan and the US. Creativity and Innovation Management, 8(4), 251–261.
7. Feist, G. (1999). The influence of Personality on Artistic and Scientific Creativity. In R. J. Sternberg (Ed.), Handbook of Creativity. Cambridge University Press.
8. Fryer, M., & Bolingbroke, C. F. (2011). Encyclopedia of Creativity, Two-Volume Set: Online Version. In M. A. Runco & S. R. Pritzker (Eds.), Cross-Cultural differences in Creativity (2nd ed.). Academic Press.
9. Harrington, D. M. (1990). The ecology of human creativity: A psychological perspective. In M. A. Runco & R. S. Albert (Eds.), Theories of creativity (pp. 143–169). Thousand Oaks, CA, US: Sage Publications, Inc.
10. Heider, F. (1958). The Psychology of Interpersonal Relations. Lawrence Erlbaum Associates.
11. Kasof, J. (1995a). Clarification, Refinement, and Extension of the Attributional Approach to Creativity. Creativity Research Journal, 8(4), 439–462.
12. Kasof, J. (1995b). Explaining Creativity: The Attributional Perspective. Creativity Research Journal, 8(4), 311–366. www.doi.org

`

13. Kasof, J., Chen, C., Himsel, A., & Greenberger, E. (2007). Values and Creativity. Creativity Research Journal, 19(2–3), 105–122.
14. Kaufman, J. C., & Sternberg, R. J. (2006). The International Handbook of Creativity. Cambridge University Press.
15. Kelley, H. H. (1973). The processes of causal attribution. American Psychologist, 28(2), 107–128. www.doi.org
16. Oztunc, G. (2011). Encyclopedia of Creativity, Two-Volume Set: Online Version. In Mark A. Runco & S. R. Pritzker (Eds.), Personality: Autonomy and Independence (2nd ed.). Academic Press.
17. Roe, A. (1946a). Artists and Their Work. Journal of Personality, 15(1), 1–40.
18. Roe, A. (1946b). Painting and Personality. Rorschach Research Exchange, 10(3), 86–100.
19. Roe, A. (1961). The psychology of the scientist. Science, 134(3477), 456–459.
20. Rubin, J. (2012). Technology's Impact on the Creative Potential of Youth. Creativity Research Journal, 24(2–3), 252–256.
21. Rubin, L. J. (1963). Creativity and the curriculum. The Phi Delta Kappan, 44(9), 438–440.
22. Runco, Mark A. (1994). Creativity and its discontents. In M. P. Shaw & M. A. Runco (Eds.), Creativity and affect (pp. 102–123). Westport, United State: Ablex Publishing.
23. Runco, Mark A., & Chand, I. (1995). Cognition and creativity. Educational Psychology Review, 7(3), 243–267.
24. Van Zelst, R. H., & Kerr, W. A. (1953). Workers' Attitudes Toward Merit Rating. Personnel Psychology, 6(2), 159–172.

`