

Economic Creativity Development

Ekonomik Yaratıcılığın Gelişimi

Nasseroddin Kazemi Haghighi¹ & Ahmad Reza Kazemi Haghighi²

Abstract

As a new concept in the literature, the authors discuss the conception of "Economic Creativity" (EC). The authors explain psychological characteristics of "Economic Creativity": attitudes, motivation, personality traits, and abilities. They propose a design based on Emotion of Thought Theory (Kazemi, 2007) for Economic Creativity Development (ECD). This theory is an affective-cognitive approach that tries to explain creativity. Emotion of Thought involves "Poyaei" and "Bitabi" (in Persian) meaning Dynamism and Restlessness. According to this theory, ECD relates to connections between emotion and thought. The ECD includes promoting individual readiness, utilization of economic resources, attitude towards economic affairs development, enhancing the utilization of economic experiences, conducting economic activity education, development of economic thinking and development of emotion of thought.

Key Words: creativity development, economic creativity, emotion, thought

Öz

Yazarlar literatürde yeni bir kavram olan Ekonomik Yaratıcılığı (EY) tartışmışlardır. Yazarlar ekonomik yaratıcılığın psikolojik özelliklerini açıklamışlardır: tutumlar, motivasyon, kişilik özellikleri ve yetenekler. Düşünme Duygusu Teorisini (Kazemi, 2007) temel alan Ekonomik Yaratıcılığın Gelişimi için bir tasarım önermişlerdir. Bu kuram yaratıcılığı açıklayan duyuşsal-bilişsel bir yaklaşımdır. Düşünme duygusu *dinamizm ve tez canlılık* anlamlarına gelen "Poyaei" ve Bitabi" (Farsça) bileşenlerini kapsamaktadır. Bu teoriye göre Ekonomik Yaratıcılığın Gelişimi duygular ve düşünceler arasındaki bağlantılarla ilgilidir. Ekonomik Yaratıcılığın Gelişimi bireysel hazır bulunuşluluğun desteklenmesi, ekonomik kaynakların kullanımı, ekonomik gelişmenin gidişatına yönelik tutum, ekonomik tecrübelerin kullanımının artırılması, ekonomik etkinlik eğitiminin verilmesi, ekonomik düşünmenin geliştirilmesi ve düşünme duygusunun geliştirilmesini kapsamaktadır.

Anahtar Sözcükler: yaratıcılık gelişimi, ekonomi yaratıcılığı, duygu, düşünce

Introduction

The author has presented a comprehensive design for creative personality that consists fourteen categories (e.g., total motivation, openness to experience, emotional sensitivity) (Kazemi, 2007&2008) According to author, reviewing of the literature indicates that there is a "hexahedralparadigm" for creativity. Seemingly, this paradigm we consider as a new base for creativity identification and development. This "hexahedral paradigm" comprises individual readiness, resource orientation, attitude, utilization of experiences, active mobility, and special thinking. As far as the author concludes a phenomenon with affective and cognitive nature, he names this phenomenon in Persian, "Hayajan-e-Andisheh" (Emotion of Thought). Emotion of Thought involves "Poyaei" and "Bitabi" (in Persian) that mean Poyaei and Bitabi. There are

¹ PhD, Vice-president in Iranian Council Exceptional Children (I.C.E.C.), Iran; nkazemih@gmail.com

² Faculty of Management and Economics, Semnan University, Iran

also six components for any eras. "Poyaei" involves motion and movement desire, curiosity, feeling of extra ordinary power, great thought, humor and easily expression of emotions, and tendency for experience. "Bitabi" involves agitation, captivity, somatic expressions of thinking, misgiving, twirling of thought and loneliness sense.

Overall, it can be concluded that in next century, firstly understanding of creativity depends on comprehension of relationship between emotion and thinking (especially developmental-emotional examination of creativity), secondly creativity identification concerned with emotional nature of creativity , and finally creativity development relates to connection between affection and cognition (in other words, emotion and thought).

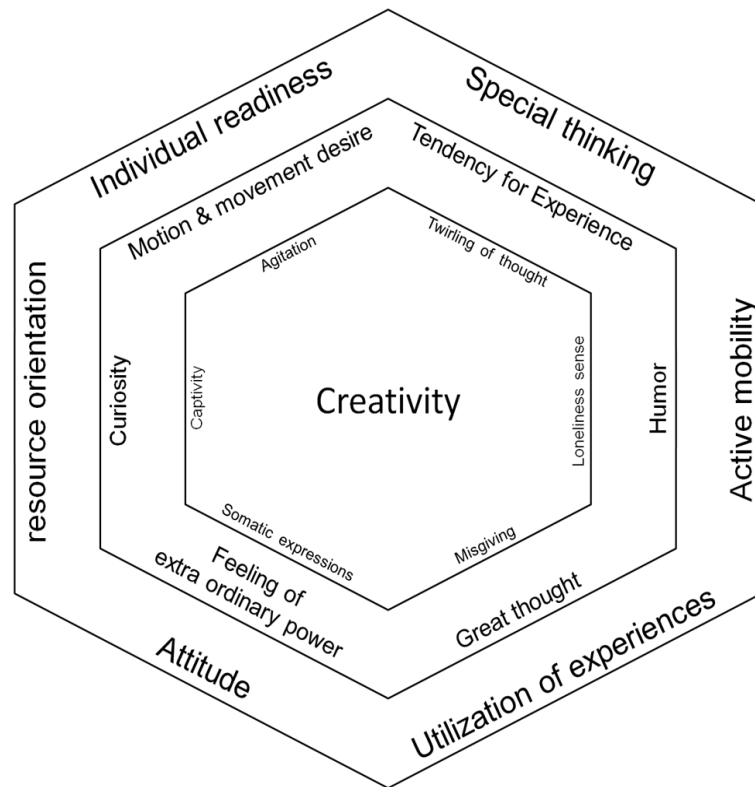


Figure 1. The Hexahedral Paradigm of Creative Personality (Kazemi, 2007)

Individual Readiness

Individual readiness refers to high ability (bio-psych readiness, high intelligence, and aptitude) and self- initiate (self-readiness, individuality, and internal incubation).

High ability. Bouchard & Hur (1998) discuss that there is a connection between genetics and personality. Heritability of the continuum of introversion (as a creative personality trait) was 60%. The creativity is a whole brain process related to Walas' four process stages of creativity and the four quadrants of the Whole-Brain Model (Herrmann, 1991). In addition, Dacey (1989) discusses basic concepts of creativity included brain physiology. Seemingly, the creative personalities are more sensitive (Bachtold & Werner 1973). Lang & Ryba (1976) also indicate that there is higher sensory acuity across sensory modalities in creative persons. Goldsmith (1984) also found that the KAI correlated positively with the sensation seeking. Besides, Parnes (1971)

discusses sensitivity characterize the thought process of highly actualized individuals (as a creative trait). On the other hand, there is connection between high intelligence and creativity (e.g., Kazemi, 1992; Maker, 1993; Runco, 1993; Sternberg & Lubart, 1993; Hunsaker & Callahan, 1995; Hoffman, 1995; Galbraith & Wentzel, 2001; Naglieri & Kaufman, 2001). In the vast majority of cases have been showed that linkage creativity and aptitude (e.g., Smith, 1970; Jensen, 1973; Gordon, 1989; Webster, 1990; Kazemi, 1997c; Clapham, 2004).

Self-initiate. It is widely accepted that creativity relates to self. Creativity and self-actualization have long been associated together (Bruhn et al., 1969; Ekvall, 1972; Conti & Amabile, 1999; Runco, 1999b). Besides, Parnes (1971) discusses the three S's -sensitivity, synergy and serendipity- characterize the thought process of highly actualized individuals. The various coping behaviors used in facing new problems is especially pertinent to self-actualized persons and mental health.

The evidences show creativity and innovation relate to self-image (Smilansky & Halberstadt, 1986), self-concept (Schempp & Cheffers, 1982; Kazemi, 1997a, 1998), self-esteem (Keller & Holland, 1978; Keller, 1984; Helson, 1999), self-determination (Sheldon, 1995b) and self-sufficient (Bachtold & Werner, 1973). Therefore, Sternberg (1988) presents "Mental self government" as a theory of how things fit, and as support to the idea of matching style to task (person-environment fit). Creative processes may be seen as initiating from a general drive toward self-organization through the reduction of chaos (Sternberg & Tardif, 1989).

The evidences also show that problem solving and invention relate to field independence (Smilansky & Halberstadt, 1986). O'Hara & Sternberg (1999) also emphasize field independence. Similarity, Runco (1999a) indicates that the exceptional talents depend on independence and creativity. In addition, Feist (1999) discusses the relationship between autonomous behavior (autonomy and independence) and creative personality traits. He also explains the other related personality traits such as self-confidence, arrogance, and solitude. Likewise, the findings indicated that the committed artists demonstrated autonomy (Dudek & Royer, 1991). It is seemingly autonomous behavior requires uniqueness. Therefore, Skinner (1996) discusses that uniqueness seeking may be a result of innovativeness rather than a personality characteristic. Consequently, Tucker (1991) concentrates on assertiveness and Huitt (1992) discusses relationship between problem solving and decision-making. Furthermore, teachers identify Students' mannerism such as individuality as important indicators of creative students (Westby & Dawson, 1995).

On the other hand, the creativity requires being task-focused (Sternberg & Tardif, 1989). thus, Maddi et al (1982) emphasize upon internal orientation as factor in creativity. According to "the activation personality theory", the extent and unusualness of fantasy production will be greater in persons having both a high customary level of activation and an internal orientation than it will in persons having only one or neither of these characteristics. In the same way,

Bachtold (1980) discusses that introversion and high powers of attentiveness are specific trademarks of the creative personality. Equally, Miller (1992) emphasizes upon the introspection. Besides, Stohs (1991) found inner focused personality. It seems that internal orientation involves a period of incubation. As a result, Guilford (1979) overviewed and discussed incubation as a part of creative problem solving and cognitive thinking styles. In addition, Simonton (1999) discusses relationship between creativity and unconscious incubation. Thus, McClelland (1987) suggests characteristics of successful entrepreneurs include initiative.

Utilization of Economic Resources

Utilization of environmental resources refers to making use of persons or things that means achieving a person-environment fit. In general, Creativity relates to family, educational, ecological, cultural, and socio-economic conditions (MacKinnon, 1975; Khire, 1979; Amabile&Gryskiewicz, 1988; Amabile, 1988; Dacey, 1989; Runco& Albert, 1990; Meyer, 1991; Bull et al., 1995; Kazemi, 1994, 1996; Amabile, 1997; Powers, 1998; Dunbar, 1999; Cramond, 2001; Fonseca, 2002; Md-Yunus, 2007).

As self-determination theory describes, the relatedness need desire have been identified as being essential for social development and personal well-being (Ryan &Deci, 2000).In addition, Mudd (1986) reviewed the KAI literature produced between 1976 and 1986. He emphasizes on the environment-styles fit. Moreover, extraverts scored higher on tests measuring verbal flexibility, fluency, and originality (White, 1968). Besides, the author discusses the influences of economic advantages on creativity (Kazemi, 1996)

Instead, Jurcoviç&Zelina (1993) explored climate, which may act as barrier to becoming more creative. Besides, Bachtold& Werner (1973) found that creative female authors and artists were more aloof than the general population. Feist (1999) also discusses related personality traits to creativity such as non-conformity, associability, and antisociability. In addition, Sheldon (1999) discusses how external constraints and interpersonal climate can promote conformity, thus influencing creativity in a negative way. Sheldon (1995a) also found those personal goals could create a poor working environment and promote feelings of conflict within the group. In addition, James (1995) investigated the effect that conflict has on an individual's creativity. He found that goal conflict had a positive effect on creativity when task orientation matched up with individual orientation. Thus, the teachers define a creative personality as undesirable (Dettmer, 1981). Above all, Hinton (1971) showed the relationship between certain personality variables and resistance to the effects of frustration on creativity; and there are the combined effects of personality and emotional stress on creative productivity. He collected initially under neutral circumstances and again with a high amount of environmental frustration. Certain personality factors, which are not of primary importance in the determination of creative potential, are definitely important in their interaction with environmental variables, and that these have a significant effect on the determination of creative productivity.

On the other hand, Puccio&Chimento (2001) suggest a social bias wherein attributing creativity to personality traits and innovation is a valued cultural status; further, that innovators successfully promote themselves as highly creative. Nemiro (1997) also investigated the creative process of actors by examining different aspects of an actor's life. He found social influences that affected an actor's creativity. Results indicated that certain social influences (trust, freedom, respect) enhanced an actor's creativity while other influences (distrust, poor direction) inhibited performance. The individualistic advertising cultures differ in creative personalities, creative process, and use and type of agency philosophy compared to collective cultures (Ewing et al., 2001). The personalized 'space' can demonstrate creativity in the workplace (York, 2000). Besides, the author discusses disadvantages of the formal education for creativity and taking advantage of the creative peer environment (Kazemi, 1994). In addition, Helson" studied the literary works and personalities of women authors. She found non-neurotic relationships with parents. Then in a longitudinal study of these women (over the course of 25 years), she obtained family satisfaction and self esteem effect motivation, (Helson, 1973, 1999). Some evidences emphasize on the effect of group (Street, 1974). Similarly; some evidences focus on the synergy (Parnes, 1971; Kurtzberg&Amabile, 2001). Further, Smith & Knight (1959) showed personalized feedback improved group problem solving efficiency and under certain conditions improved self-insight. Results of researches indicate that the larger the group (up to 12), the larger total productivity in terms of quantity, quality-originality of answers and new categories. As group size increased per person, contribution tended to lessen (Renzulli et al., 1974).

Attitude to Economic Affairs Development

Attitude refers to cognition (and intuition), idea, and affection (motivation and emotion). Davis (1999) discusses the barriers to creativity and creative attitudes.

Cognition and intuition. The author discusses cognitive origins of creativity that inclusive attention, perception and thinking (Kazemi, 1994). The knowledge base contributes to the development of the creative person (Stein, 1983; Feldhusen, 1995; Sternberg & Lubart, 1995). However, knowledge can be a double-edged sword (Sternberg & Lubart, 1993). Feldhusen (1995) also describes the metacognitive processing necessary for creativity to be recognized. On the other hand, the authors emphasizes upon the intuition (Sternberg & Tardif, 1989; Miller, 1992). Besides, Sternberg & Lubart (1995) suggest that the creative person relies upon intuition to guide behaviors. Moreover, Goldsmith (1985) found that intuitive would have a positive correlation with sensation seeking. Hence, Bouchard & Hur (1998) found heritability of sensing/intuition was 40%. As Dudek & Royer (1991) state committed artists demonstrate inspiration. The author emphasizes that developing visual skills and insight can underlie discovering truths about exist and promoting creativity (kazemi, 1996).

Idea. Creative individual's believes include try to think of new ideas, and commonly try to add ideas to existing idea (Masten, 1989) idea finding (Renner, & Renner, 1971), ideational

fluency (Isakson, 1977) negative correlation with the dogmatism (Goldsmith, 1984) paranormal belief (Thalbourne, 2000) and masculinity attitudes in among women authors (Helson, 1973). Treffinger (2004) proposed courage to explore ideas. A creative person moves into generating ideas or being divergent, and then ends with a convergence on a practical path or idea in which he/she develops a plan of action (Carson, 1999). Meadow & Parnes (1959) examined if adhering to the brainstorming principle would result in significant increments of quality and quantity of ideas. Results suggest that the course produced significant increments on the two measures of idea quantity and three of the five measures of idea quality.

Affection Russ (1999) examined the relationship between affect and creativity through a review of the current thinking in the field. She states an integrative model of affect and creativity, which links cognitive abilities, affective processes, and global personality traits.

Motivation Results of researches indicate a relationship between motivation and creativity (Halpin & Halpin, 1973; Hurst et al., 1991; Sternberg & Lubart, 1993, 1995; Mehr & Shaver, 1996; Gedo, 1997).

The creative motivation includes innovative orientation (Keller & Holland, 1978), questioning, curiosity (Walberg et al., 1979), preference for complexity (Renner & Renner, 1971; Nicholls, 1972), motivation for uniqueness (Skinner, 1996), and aesthetics need desire (Miller, 1992).

The creative people need to discover (Kawenski, 1991), clarity (Keller & Holland, 1978), and spontaneity in a performance (Nemiro, 1997), and enjoy the process of creation and innovation (Torrance, 1972; Keller & Holland, 1978; Goldsmith, 1984; Csikszentmihalyi, 1996).

The creative person is presenting an intrinsic motivation or intrinsic task commitment (Nicholls 1972; Sternberg & Tardif, 1989; Csikszentmihalyi, 1990; Amabile, 1997; Stafford, 1998; Conti & Amabile, 1999; Feist, 1999). Hence, Graves, et al (1967) suggests a Motivation Index is as a predictor of supportive value to the creativity score and Torrance (1971) suggests, "Creative Motivation Scale" is valid for its purpose as brief and coarse screening devices for identifying creative individuals.

Emotion. Creativity relates to emotional (sensitivity, involvement, and stress), humor, personal conflict, inner freedom, openness, and full expression.

Levy (1983) suggests that right hemisphere processes add emotional and humorous overtones important for understanding the full meaning of oral and written communication. The two hemispheres differ in their perceptual roles but both sides are involved in the creation and appreciation of art and music. According to Herr (1981), guided imagery engages the right brain processes such as imagination, emotion, creative, and intuitive activities. It has been suggested that relationship between humor and creativity. Ziv (1984) discussed relationship between humor and creativity, in terms of personality and the creation of humor, as well as the role of humor in divergent thinking and problem solving. The fact that humor can produce

intense emotional reactions demonstrates how sensitive the individual is to the fundamental meanings of humor (Levine & Redlich, 1955, 1960; Burma, 1946). In addition, Van hook and Tegano (2002) suggest that freedom of expression maybe as an important personality trait in the identification and nurturance of creative potential and problem solving in young children. Moreover, Parnes (1971) offers that a creative person posses full expression. On the other hand, Radford (2004) argues when the creative act challenges the boundaries of sense, a higher level of emotional consonance takes place. The authors emphasize on experiencing deep emotions (Sternberg & Tardif, 1989). In addition, Spotts (1972) states the "hot" divergent cognitive style was a freer, more impulsive response to stimuli involving more emotion. According to Bachtold (1980), the emotional sensitivity is a specific trademark of the creative personality. Likewise, Helson's findings indicate a correlation exists between creativity and emotional involvement (Helson, 1973). Hinton (1971) also showed the relationship between certain personality variables and resistance to the effects of frustration on creativity; and there are the combined effects of personality and emotional stress on creative productivity. Besides, Walker et al (1995) found that the creative group would score higher on the neurotic and depressive factors. In addition, Richards & Kinney (1990) attempted to make connections between creativity and bipolar mood disorders. They suggest that mood states may enhance ones creativity. Hence, the problem-solving therapy (PST) may contribute to a greater degree than problem-focused therapy (PFT), toward a significant decrease in depression (Nezu 1986). Furthermore, Schubert (1977) discusses the relationship between boredom and creativity, through intelligence, thrill-seeking personalities, identity diffusion, and the pressure and awareness for creativity. Sternberg & Tardif (1989) state the processes involved in creation requires tension. Nemiro (1997) investigated the creative process of actors by examining three different aspects of an actor's life. A tension often arose between an actor's personal and character identity. The actor achieved balance between their personal and character identities by developing an objective 'third' eye to monitor the tension. Similarly, Hinton (1971) reminds the combined effects of personality and emotional stress on creative productivity. Likewise, Smith & Carlsson (1987) discuss the ability of creative individuals to use stress and anxiety as a motivational driving factor of their creativity. Above all, the investigators found emotional overexcitability (OE) that seemed to be related to creative personality characteristics (Schiever, 1985). Moreover, Diamond (1996) insists the central role of repressed anger and rage in violence and psychopathology connect to creativity. He ascertains that constructiveness and destructiveness have the same source in personality/human potential. Further, Redfearn & Storr (1992) assert that all energy is potentially explosive as well as potentially creative. They offer an historical background of personal conflict in effort to encourage a creative outcome. Gelade (1997) also revealed that commercial creative have considerably higher levels of neuroticism. In review of creativity and disease, Sandblom (1997) discusses the relationship between illness and creativity: illness affects literature, art, and music. He also goes into the psychological side with a look at neuroses, psychosomatic disorder, and mental diseases. Therefore, Bachtold's study (1980) supports the relationship of psychoticism and creativity.

On the contrary, People with low levels of anxiety scored higher in creative thinking than those with high levels (White 1968). For this reason, Parnes (1971) offers that a creative person must be psychologically healthy. A person realizes higher potential for feeling, inner freedom, openness, full expression, and sensitivity. Therefore, it is not surprising that Csikszentmihalyi (1996) lists 10 pairs of opposite traits that creative people possess.

Enhancing the Utilization of Economic Experiences

Curious individuals need to experience their curiosity. Furthermore, utilization of experiences involves openness to experience, sensation seeking, tolerance to ambiguity, and risk taking.

Child (1965) found that Variables of art background correlates with esthetic judgment and preference. The authors emphasize on being open to new experiences (Sternberg & Tardif, 1989). Gelade (1997) conducted a study to determine the personality of the commercial creative. The results revealed that commercially creative people had considerably higher levels of openness to experience than the non-creative did. Similarly, the committed artists demonstrate ability to experiment (Dudek & Royer, 1991). Likewise, Knox & Glover (1978) present a study of the effects of preschool experience on creativity among 60 black and 60 white first grade boys and girls in a rural area. Goldsmith (1985) obtained that intuitive would have a positive correlation with sensation seeking. In addition, Yuk & Cramond (2006) present a Program for Enlightened and Productive Creativity (PEPC). The PEPC describes stages through which a student is guided to solve a problem using increasingly complex observation, inquiry, and experimentation. Moreover, measures of creativity, openness to experience, and sensation seeking intercorrelate among female and male college students. Male creativity correlated most strongly with openness to theoretical and aesthetic experiences and creative thoughts. For females, creativity, openness to inner experiences, and sensation seeking moderately intercorrelate (Schaeffer et al 1976). Above all, Sandblom (1997) discusses how the theme of art depends on experience and one cannot create from nothing.

On the other hands, Keller (1984) found high performance in research and development organization concentrate with a tolerance for ambiguity. It is agreed upon, as important to creative giftedness is tolerance of ambiguity (Sternberg & Lubart, 1993; Kazemi, 1997b).

Experience often involves risk taking (Sternberg & Tardif, 1989; Sternberg & Lubart, 1993), which relates to special type of personality. Goldsmith (1984) found Kirton Adaption-Innovation Inventory (KAI) correlated positively with the risk taking.

Conducting Economic Activity Education

Active mobility refers to movement, motor, physical skills, impulsiveness, hard work, high activation, and perseverance.

Niaz et al (2000) found that the mobility-fixity dimension was the most consistent predictor of academic performance with creativity scores. Niaz et al (1991) also indicated that the most

mobile students performed best on creativity tests. Moreover, Bloomberg (1971) suggests that horizontal mobility may be essential in creativity.

Some of the evidences show that as increase positive attitude toward human movement and motor skill enhance creative thinking. Encouraging children to participate in meaningful decision making will increase positive attitudes toward human movement, enhance creative thinking and self- concept, and improve motor skills (Schempp&Cheffers, 1982). It has been suggested that relationship between movement and creativity (Dodds, 1978; Gowan, 1978; MacKinnon , 1985; Brockmeyer, 1987). Ewing et al (1975) indicated correlation between perceived movement and Creative Thinking. It would appear that improving creativity often caused by movement, motor skills, or hard work. Zachopoulou et al (2006) showed that physical education promotes preschool children's creativity in the early years. Physical education lessons in order to provide children with opportunities to develop their creative thinking using movement elements, motor skills, and movement exploration. The children improved their creative fluency and imagination. Besides, Waelsch (1994) discussed the notion that adversity and hard work might assist a person in achieving acts of creativity. She insisted other people who have had similar experiences where adversity nurtured their creativity.

Cramond (1994b) describes the similarities between the behavioral manifestations of ADHD and creativity, some speculations about their common etiology, and some illustrative case studies. In addition, Cramond (1994a) examined the incidence of ADHD among individuals who are highly creative. Besides, Cramond (1995) examines the fact that the defining characteristics of ADHD are also key descriptors in biographies of highly creative individuals.

It seems that high activation and perseverance are specific trademarks of the creative person (Sternberg & Tardif, 1989). Bachtold (1980) examined the biographies of women who were eminent in the arts and sciences. Specific trademarks of the creative personality were high activity levels and perseverance. Stokes (1999) obtained in her empirical study to link perseverance with effective creative behavior. Therefore, teachers as important indicators of creative students identify students' mannerisms such as spontaneity and impulsiveness (Westby & Dawson, 1995). Consequently, Maddi et al (1982) emphasize upon high activation and internal orientation as factors in creativity. Hence, Torrance has provided "Thinking Creatively in Action and Movement scale."

On the other hand, some investigators concentrate on "motor creativity"(Lubin & Sherrill; 1980).The motor creativity is often due to creative movement. Wang (2003) investigated the effects of a creative movement program on the motor creativity of Taiwanese preschool children using Torrance's Thinking Creatively in Action and Movement scale. Results indicated that the experimental group had significantly higher levels of motor creativity than did the control group, suggesting that the creative movement program was essential to the development of the total child.

Development of Economic Thinking

Special thinking consists firstly problem examination, secondly internal freedom to cognitive style and imagination, thirdly inner verbal spontaneity, fourthly divergent thinking, and finally ability to regress more deeply and a greater facility to return to secondary process thought with ease.

The author discusses the relationship between problem examination and creativity. Creating and developing of the “problemology” is unavoidable for promoting creativity (Kazemi, 1996). In addition, Reiter-Palmon, et al. (1998) investigated whether problem construction plays a role in how individuals interpret ill-defined, ambiguous problems in a way that fits their personality. Results suggest a positive relationship between problem construction ability and fit of the solution to personality type.

Parnes (1971) offers that a creative person possesses inner freedom and openness. Treffinger (2004) proposed openness and courage to explore ideas. The innovation correlates negatively with the dogmatism (Goldsmith 1984). Forisha (1978, 1983) studied and reviewed the research in creativity, imagery, cognitive styles and their inter relationship. She concludes that imagery and creativity are interrelated with other personality factors and that the relationship between creativity and imagery is central to some subjects and not to others. In addition, relationship between scientific field and imagery has been emphasized (Roe, 1951; Kazemi, 1996).

Gough (1976) focuses on word association. In addition, the author emphasizes on word fluency, verbal capacity, and writing skill. According to the author, the “problemology” relates to word conceptualization (Kazemi, 1995, 1996). Renner & Renner (1971) found that creativity-training programs increase verbal fluency and flexibility should influence a person's cognitive style preferences toward complexity. Thurston & Runco (1999) focuses on the importance of flexibility in four areas. Flexibility as a cognitive processes described using divergent thinking models. Flexibility in insight problems shows the importance of not having mental blocks in problem solving. Flexibility in personality theories shows how important it is to flex in being a productive citizen, which leads to the fourth area- the importance of flexibility and human development.

Thinking styles is included one of resources that support creativity (Gautschi, 2001). The investigators emphasize upon relationship between divergent thinking and creativity (White, 1968; Nicholls, 1972; Ziv, 1984; Davis, 1989; Kabanoff & Bottger, 1991; Kazemi, 1994, 1997c; Thurston & Runco, 1999; Carson, 1999). It is seemingly that the convergent thinking, abstraction, and deduction jointly can lead to creative thinking (Kazemi, 1994). The special thinking involves mannerisms such as spontaneity. Furthermore, the teachers identify spontaneity as important indicator of creative students (Westby & Dawson, 1995). Creative actors place an enormous value on spontaneity in performance (Nemiro, 1997). Treffinger (2004) proposed listening to one's inner voice. As the author describes it, there is an inner verbal spontaneity.

A creative person moves into generating ideas, digging into ideas or being divergent, and then ends with a convergence on a practical path or idea in which he/she develops a plan of action (Carson, 1999; Treffinger, 2004). Furthermore, Dudek & Chamberland-Bouhadana, (1984) suggests that mature artists have a greater ability to produce a better creative product because of the greater ability to regress more deeply and a greater facility to return to secondary process thought with ease. Similarly, Sternberg & Lubart (1995) present the creative process from the perspective of the creative person who develops unusual or initially misunderstood solutions to problems. The creative processes involve an active search for gaps in knowledge, problem finding, consciously attempting to break through the existing boundaries and limitations in one's field (Sternberg & Tardif, 1989).

Development of Emotion of Thought

On his long experiences, the author made an instrument. Analyzing the instrument indicated that there is an integrative paradigm that involves affective and cognitive domains. As far as the author concludes, he names this phenomenon in Persian, "Hayajan-e-Andisheh" (Emotion of Thought). Emotion of Thought involves "Poyaei" and "Bitabi" (in Persian) There are also six components for any eras.

Generally, thinking relates to emotion. Lagattuta et al (1997) and Lagattuta & Wellman (2001) found that even 3-year-olds demonstrated knowledge about connections between past events and present emotions. In addition, 4 and 6 years-olds understand the influence of mental activity on emotions. In addition, Gratton (2001) proposes one way of partly meeting them: the application of critical thinking skills to beliefs responsible for emotions.

On the other hands, Kuo & Paschal (1974) explore the relationship between emotional disturbance in children and the creative thinking factors suggested by the Torrance Tests of Creative Thinking. Findings suggest that emotionally disturbed children do not use their creative energy to produce a large number of ideas with words. Besides, Elder (1997) states that we must be understand the relationships between the cognitive function and the affective dimension. Developing critical-thinking skills relates to this understanding. In this regard, Cole & Sarnoff (1980) emphasize the balance between thought and emotion is important for personal effectiveness as well as for creative productivity. Therefore, Vernon (1989) presents a comprehensive curriculum to help youngsters learn positive mental health concepts that contains activities are grouped into five topic areas: (1) self-acceptance; (2) feelings; (3) beliefs and behavior; (4) problem solving and decision-making; and (5) interpersonal relationships.

According to "hexahedral paradigm," the creativity relates to individual readiness, resource orientation, attitude, utilization of experiences, active mobility, and special thinking. "Emotion of thought" gradually integrates the factors. Therefore, emotion of thought is seventh factor to create creativity. In other words, creation of the creativity depends on emotion of thought.

Encouraging the Poyaei "Poyaei" involves motion and movement desire, curiosity, feeling of extra ordinary power, great thought, humor and easily expression of emotions, and tendency for experience

Promotion motion and movement desire means adventurously emotive and thrill motion desire.

Encouraging curiosity

It refers to: (1) stimulating any ambiguous problem to exploration, (2) pertinacity for adventure risk taking, and (3) inconvenience curiosity thinking.

Giving confidence feeling of extra ordinary power

Supporting great thought

It means thinking about a significant and original action for truth discovery conjugate to express emotion easily.

Preparing conditions for humor and easily expression of emotions

Encouraging tendency for experience

It means sensible disquiet for experiencing information and knowledge.

Programming for counseling interventions for Bitabi

"Bitabi" involves agitation, captivity, somatic expressions of thinking, misgiving, twirling of thought and loneliness sense. *Agitation* refers to erosive agitation, continuous worry, body tremor, and less activity. *Captivity* refers to continuous mental involvement, to be worry about of problem solving, and inner rigorous speech. *Somatic expressions of thinking* mean thirst and hunger sense, headache, heartthrob, and thirsty sense in mouth. *Misgiving* means forgetfulness, amazement, and exhaustion. *Twirling of thought* (and body tremor). *Loneliness sense* refers to worrying, uneasiness, and feeling of pressure for activity (Kazemi, 2007, 2008).

References

- Amabile, T. M. (1988). From individual creativity to organizational innovation. In KjellGronhaug [KjellGrnhaug]; Geir Kaufmann (Eds.), *Innovation: A cross-disciplinary perspective* (pp.136-166). Oslo, Norway: Norwegian University Press.
- Amabile, T. M. (1997). Entrepreneurial creativity through motivational synergy. *Journal of Creative Behavior*, 31(1), 18-26.
- Amabile, T. M., & Gryskiewicz, S. S. (1988). Creative resources in the R&D laboratory: How environment and personality affect innovation. In R. L. Kuhn (Ed.), *Handbook for creative and innovative managers* (pp. 501-524). New York: McGraw-Hill Book Company.
- Bachtold, L M. (1980). Psychoticism and creativity. *Journal of Creative Behavior*, 14(4), 242-248.
- Bachtold, L. M., & Werner, E. (1973). Personality characteristics of creative woman. *Perceptual*

- and Motor Skills*, 36, 311-319.
- Bloomberg, M. (1971). Creativity as related to field independence and mobility, *Journal of Genetic Psychology*, 118(1), 3-12.
- Bouchard, T. J., & Hur, Y. M. (1998). Genetic and environmental influences on the continuous scales of the Myers-Briggs Type Indicator: An analysis of twins reared apart. *Journal of Personality*, 66(2), 135-149.
- Brockmeyer, G. A. (1987). Creativity in Movement. *Journal of Teaching in Physical Education*, 6(3), 310-19.
- Bruhn, J. G., Bunce, H., & Greaser, R. C. (1969). A comparison of 'real' vs 'ideal' self with a self-actualization inventory. *Journal of Psychology*, 53(3), 159-164.
- Bull, K. S., Montgomery, D., & Baloch, L. (1995). Teaching creativity at the college level: A synthesis of curricular components perceived as important by instructors. *Creativity Research Journal*, 8(1), 83-89.
- Burma, J. H. (1946). Humor as a technique in race conflict. *American Sociological Review*, 11, 710-715.
- Carson, D. K. (1999). Counseling. In M. A. Runco & S. R. Pritzker (Eds.), *Encyclopedia of creativity* (pp. 395-402). San Diego, CA: Academic Press.
- Child, I. L. (1965). Personality correlates of esthetic judgment in college students. *Journal of Personality*, 33, 476-511.
- Clapham, M. M. (2004). The convergent validity of the Torrance Tests of Creative Thinking and Creativity Interest Inventories. *Educational and Psychological Measurement*, 64(5), 828-841.
- Cole, H. P., & Sarnoff, D. (1980). Creativity and counseling. *Personnel and Guidance Journal*, 59(3), 140-46.
- Conti, R., & Amabile, T. (1999). Motivation/Drive. In M. A. Runco & S. R. Pritzker (Eds.), *Encyclopedia of creativity* (pp. 251-259). San Diego, CA: Academic Press.
- Cramond, B. (1994a) *The relationship between attention-deficit hyperactivity disorder and creativity*.
- Cramond, B. (1994b) Attention-Deficit Hyperactivity Disorder and Creativity--What Is the Connection? *Journal of Creative Behavior*, 28(3), 193-210.
- Cramond, Bonnie (1995) The coincidence of attention deficit hyperactivity disorder and creativity. Attention Deficit Disorder Research-Based Decision Making Series.
- Cramond, B. (2001). Interview with E .Paul Torrance on creativity in the last and next millennia. *Journal of Secondary Gifted Education*, 12(3), 116.
- 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 Incorporated.
- Csikszentmihalyi, M. (1996). The creative personality. *Psychology Today*, 29(4), 36 - 41.
- Dacey, J. S. (1989). *Fundamentals of creative thinking*. Lexington, MA: Lexington Books.
- Davis, Gary A. (1989). Testing for creative potential. *Contemporary Educational Psychology*, 14, 257-274.
- Davis, Gary A. (1999). Barriers to creativity and creative attitudes. In M. A. Runco, & S. R. Pritzker (Eds.), *Encyclopedia of creativity* (pp. 165-174). San Diego, CA: Academic Press.
- Dettmer, Peggy. (1981). Improving teacher attitudes toward characteristics of the creatively gifted. *Gifted Child Quarterly*, 25(1), 11-16.
- Diamond, S. A. (1996). Anger, madness, and the demonic: The psychological genesis of violence, evil, and creativity. Albany, NY: State University of New York Press.
- Dodds, P. (1978). Creativity in movement: Models for analysis. *Journal of Creative Behavior*, 12(4), 265-73.

- Dudek, S. Z., & Chamberland-Bouhadana, G. (1984). Primary process in creative persons. *Journal of Personality Assessment*, 46(3), 239-247.
- Dudek, S. Z., & Royer, S. (1991). Personality determinants of the commitment to the profession of art. *Creativity Research Journal*, 4(4), 367-389.
- Dunbar, K. (1999). Science. In M. A. Runco & S. R. Pritzker (Eds.), *Encyclopedia of creativity* (pp. 525-532). San Diego, CA: Academic Press.
- Ekvall, G. (1972). *A study of two creativity tests*. Stockholm, Sweden: Swedish Council for Personnel Administration.
- Elder, Linda. (1997). Critical thinking: The key to emotional intelligence. *Journal of Developmental Education*, 21(1), 40-41.
- Ewing, J. H., Gillis, C. A., Ebert, J. N., & Mathews, H. M. (1975). Profile of perceptual-cognitive traits and personality style of possible relevance to creative productivity. *Perceptual and Motor Skills*, 40(3), 711-718.
- Ewing, M. T., Napoli, J., & West, D. C. (2000). Creative personalities, processes, and agency philosophies: Implications for global advertisers. *Creativity Research Journal*, 13(2), 161-170.
- Feist, G. J. (1999). Autonomy and independence. In M. A. Runco & S. R. Pritzker (Eds.), *Encyclopedia of creativity* (pp. 157-163). San Diego, CA: Academic Press.
- Feldhusen, J. F. (1995). Creativity: A knowledge base, metacognitive skills, and personality factors. *Journal of Creative Behavior*, 29(4), 255-268.
- Fonseca, J. (2002). A study of Mother Teresa's creative problem solving process for social change in the Indian setting. Unpublished masters project, State University of New York College at Buffalo; International Center for Studies in Creativity, Buffalo, NY.
- Forisha, Barbara L. (1978). Mental imagery and creativity: Review and speculations. *Journal of Mental Imagery*, 2(2), 209-238.
- Forisha, Barbara L. (1983). Relationship between creativity and mental imagery: A question of cognitive style? In S. Annes (Ed.), *Imagery: Current theory, research, and application* (pp. 310-339). New York: John Wiley & Sons.
- Galbraith, J., & Wentzel, K. (2001). Sailing on the winds of creativity: Recognizing and supporting social/emotional needs of creatively gifted children. *Understanding Our Gifted*, 13(4), 3-6.
- Gautschi, T. (2001). Invest in creativity. *Design News*, 56(12), 135.
- Gedo, J. E. (1997). Psychoanalytic theories of creativity. In M. A. Runco (Ed.). *The creativity research handbook*, 1, 29-40. Cresskill, NJ: Hampton Press.
- Gelade, G. (1997). Creativity in conflict: The personality of the commercial creative. *Journal of Genetic Psychology*, 158(1), pp. 67-78.
- Goldsmith, R. E. (1984). Personality characteristics associated with adaption-innovation. *Journal of Psychology*, 117, 159-165.
- Goldsmith, R. E. (1985). Sensation seeking and the sensing-intuition scale of the Myers-Briggs Type Indicator. *Psychological Reports*, 56(2), 581-582.
- Gordon, E. E. (1989). Audition, Music learning theory, music aptitude, and creativity. *Suncoast Music Education Forum on Creativity*, 75-81.
- Gough, H. G. (1976). Studying creativity by means of word association tests. *Journal of Applied Psychology*, 61(3), pp. 348-353.
- Gowan, J. C. (1978). Creativity and gifted child movement. *Journal of Creative Behavior*, 12(1), 1-13.
- Gratton, Claude. (2001). Critical thinking and emotional well-being. *Inquiry: Critical Thinking*

- across the Disciplines*, 20(3) p39-51.
- Graves, Grant O.; Ingersoll, Ralph W.; Evans, Lloyd R. (1967). The creative medical student: A descriptive study. *Journal of Creative Behavior*, 1(4), 371-382.
- Guilford, J. P. (1979). Some incubated thoughts on incubation. *Journal of Creative Behavior*, 13(1), pp. 11-8.
- Halpin, G., & Halpin, G. (1973). The effect of motivation on creative thinking abilities. *Journal of Creative Behavior*, 7(1), 51-53.
- Helson, R. (1973). Heroic and tender modes in women authors of fantasy. *Journal of Personality*, 41(4), 493-512.
- Helson, R. (1999). A longitudinal study of creative personality in women [Special issue: Longitudinal studies of creativity]. *Creativity Research Journal*, 12(2), 89-101.
- Herr, K. U. (1981). *Guided imagery in the classroom: An enhancement to learning*.
- Herrmann, N. (1991). The creative brain. *Journal of Creative Behavior*, 25(4), 275-295
- Hinton, B. L. (1971). Personality factors and resistance to the effects of frustrations on creative problem-solving performance. *Journal of Creative Behavior*, 5(4), 267-269.
- Hoffman, W. C. (1995). The dialectics of giftedness: Gifted intellect and creativity. *Roeper Review*, 17(3), 201-06.
- Huitt, W. G. (1992). Problem solving and decision making: Consideration of individual differences using the Myers-Briggs Type Indicator. *Journal of Psychological Type*, 24, 33-44.
- Hunsaker, S. L., & Callahan, C. M. (1995). Creativity and giftedness: Published instrument uses and abuses. *Gifted Child Quarterly*, 39(2), 110-14.
- Hurst, D. K., Rush, J. C., & White, R. E. (1991). Top management teams and organizational renewal. In Henry, Jane (Ed.), *Creative management* (pp.232-253). Newbury Park, CA: SAGE Publications.
- Isaksen, S. G. (1977). The degree of relatedness of four creative personality factors with ideational fluency of intermediate grade children. Unpublished masters thesis, State University College at Buffalo; Interdisciplinary Center for Creative Studies, Buffalo, NY
- James, K. (1995). Goal conflict and originality of thinking. *Creativity Research Journal*, 8, 285-290.
- Jensen, L. R. (1973). The relationships among mathematical creativity, Numerical Aptitude and Mathematical Achievement.
- Jurcovič, M., & Zelina, M. (1993). Barriers of personality creativization. *Studia Psychologica: The Journal of Basic Research in Psychological Sciences*, 35(1), 33-40.
- Kabanoff, B., & Bottger, P. (1991). Effectiveness of creativity training and its relation to selected personality factors. *Journal of Organizational Behaviour*, 12, 235-248.
- Kawenski, M. (1991). Encouraging creativity in design. *Journal of Creative Behavior*, 25(4), 263-266.
- Kazemi Haghighi, N. (1992). Gifted psychology: an introduction. *Exceptional talent*, 1(1), 55-85. (Persian)
- Kazemi Haghighi, N. (1994). Cognitive and environmental origins of creativity. *Exceptional talent*, 3(2), 119-140. (Persian)
- Kazemi Haghighi, N. (1995). Influence of learning and self-concept on talent development. *Exceptional talent*, 4(3), 231-246. (Persian)
- Kazemi Haghighi, N. (1996). Insight and creativity. *Exceptional talent*, 5(1), 47-74. (Persian)
- Kazemi Haghighi, N. (1997a). *The gifted psychology and special educational strategies* (pp. 39-41). Tehran, Sayehnama Press. (Persian)
- Kazemi Haghighi, N. (1997b). Talented adolescent: Personality traits. *Exceptional talent*, 6(1),

32-41. (Persian)

- Kazemi Haghghi, N. (1997c). *Mathematical talent: Identification and development* (pp. 16-17). Tehran, Sayehnama Press. (Persian)
- Kazemi Haghghi, N. (1998). Self-concept and talent. *Exceptional talent*, 6(4), 396-403. (Persian)
- Kazemi Haghghi, N. (2007). The hexahedral paradigm of creative personality: A review of sixty years of literature for the 21st century. *World Council for Gifted and Talented Children, 17th Biennial World Conference*.
- Kazemi Haghghi, N. (2008). Educational directions in the hexahedral paradigm of creativity. The International Centre for Innovation in Education (ICIE): Future Minds and Creativity. 250-268.
- Keller, R. T., & Holland, W. E. (1978). Individual characteristics of innovativeness and communication in research and development organizations. *Journal of Applied Psychology*, 63(6), 759-762.
- Keller, R. T. (1984). A cross-national validation study toward the development of a selection battery for research and development professional employees. *IEEE Transactions on Engineering Management*, 31(4), 162 - 165.
- Khire, U. (1979). The three gifted Case studies. *Research Bulletin*, 9, 31- 39.
- Knox, B. J., & Glover, J. A. (1978). A note on preschool experience effects on achievement, readiness, and creativity. *Journal of Genetic Psychology*, 132, 151-2.
- Kuo, Y., & Paschal, B. J. (1974). Emotional factors in fluent and elaborative thinking child study. *Journal Monographs*, 1,2,3,4,5,&6, 68-75.
- Kurtzberg, T. R., & Amabile, T. M. (2001). From Guilford to creative synergy: Opening the black box of team-level creativity. *Creativity Research Journal*, 13, 285-294.
- Lagattuta, K. H., & Wellman, H. M. (2001). Thinking about the Past: Early knowledge about links between prior experience, thinking, and emotion. *Child Development*, 72, 82-102.
- Lagattuta, K. H., Wellman, H. M., & Flavell, J. H. (1997). Preschoolers' Understanding of the Link between Thinking and Feeling: Cognitive Cuing and Emotional Change. *Child Development*, 68, 1081-1104
- Lang, R. J., & Ryba, K. A. (1976). The identification of some creative thinking parameters common to the artistic and musical personality. *British Journal of Educational Psychology*, 46, 267-279.
- Levine, J., & Redlich, F. C. (1955). Failure to understand humor. *Psychoanalytic Quarterly*, 24, 560-572.
- Levine, J., & Redlich, F. C. (1960). Intellectual and emotional factors in appreciation of humor. *Journal of psychology*, 62, 25-35.
- Levy, J. (1983). Highlights of research on right and left hemispheres of the brain. *Educational Leadership*, 40, 68.
- Lubin, E., & Sherrill, C. (1980). Motor creativity of preschool deaf children. *American Annals of the Deaf*, 125(4), 460-66.
- MacKinnon, D. W. (1975). IPAR's contribution to the conceptualization and study of creativity. In Irving A. Taylor, & J. W. Getzels (Eds.), *Perspectives in creativity* (pp. 60-89). Chicago, IL: Aldine Pub. Co.
- Maddi, S. R., Hoover, M., & Kobasa, S. C. (1982). High activation and internal orientation as factors in creativity. *Journal of Creative Behavior*, 16, 250-255.
- Maker, C. J. (1993). Creativity, intelligence, and problem solving: A definition and design for cross-cultural research and measurement related to giftedness. *Gifted Education International*, 9, 68-77.

- Masten, W. G. (1989). Creative self-perceptions of Mexican American children. *Psychological Reports, 64*(2), 556-558.
- McClelland, D. C. (1987). Characteristics of successful entrepreneurs. *Journal of Creative Behavior, 21*(3), 219-233.
- Md-Yunus, S. (2007). How Parents Can Encourage Creativity in Children. *Childhood Education, 83*(4), 236.
- Meadow, A., & Parnes, S. J. (1959). Evaluation of training in creative problem solving. *Journal of Applied Psychology, 43*(3), 189-194.
- Mehr, D. G., & Shaver, P. R. (1996). Goal structures in creative motivation. *Journal of Creative Behavior, 30*(2), 77-104.
- Meyer, A. (1991). Strategies for stimulating innovation in your organization. In T. Rickards, P. Colemont, P. Groholt, M. Parker, & H. Smeekes (Eds.), *Creativity and innovation: Learning from practice* (pp. 15-20). Delft, The Netherlands: Innovation Consulting Group TNO.
- Miller, A. I. (1992). Scientific creativity: A comprehensive study of Henri Poincarand Albert Einstein. *Creativity Research Journal, 5*(4), 385-418.
- Mudd, S. (1986). Analytic review of research on Kirton Adaption-Innovation Inventory (KAI) [MS no .2775]. *Social and Behavioral Sciences Documents, 16*(2).
- Naglieri, J. A., & Kaufman, J. C. (2001). Understanding intelligence, giftedness and creativity using the PASS theory. *Roeper Review, 23*, 151-56
- Nemiro, J. (1997). Interpretive artists: A qualitative exploration of the creative process of actors [Special issue: Creativity, art, and artists]. *Creativity Research Journal, 10*(2 & 3), 229-239.
- Nezu, A. M. (1986). Efficacy of a social problem-solving therapy approach for unipolar depression. *Journal of Consulting and Clinical Psychology, 54*(2), 196-202.
- Niaz, M., & De Nunez, G. S. (1991) The relationship of mobility-fixity to creativity, formal reasoning and intelligence. *Journal of Creative Behavior, 25*, 205-17.
- Niaz, M., De Nunez, G. S., & De Pineda, I. R. (2000). Academic performance of high school students as a function of mental capacity, cognitive style, mobility-fixity dimension, and creativity. *Journal of Creative Behavior, 34*, 18-29.
- Nicholls, J. G. (1972). Creativity in the person who will never produce anything original and useful: The concept of creativity as a normally distributed trait. *American Psychologist, 27*(8), 717-727.
- OHara, L. A., & Sternberg, R. J. (1999). Learning styles. In M. A. Runco; S. R. Pritzker (Eds.), *Encyclopedia of creativity* (pp. 147-153). San Diego, CA: Academic Press.
- Parnes, S. J. (1971). Creativity: Developing human potential. *Journal of Creative Behavior, 5*(1), 19-35.
- Powers, R. (1998). Psychology, pedagogy, and creative expression in a course on evil [Special Issue: Interdisciplinarity, the psychology of art, and creativity]. *Creativity Research Journal, 11*, 61-68.
- Puccio, G. J., & Chimento, M. D. (2001). Implicit theories of creativity: Laypersons' perceptions of the creativity of adaptors and innovators. *Perceptual and Motor Skills, 92*(3), 675-681.
- Radford, M. (2004). Emotion and Creativity. *Journal of Aesthetic Education, 38*, 53-64.
- Redfearn, J., & Storr, A. (1992). *The exploding self: the creative and destructive nucleus of the personality*. Wilmette, Illinois: Chiron Publications.
- Reiter-Palmon, R., Mumford, M., & Threlfall, K. V. (1998). Solving everyday problems creatively: The role of problem construction and personality type. *Creativity Research Journal, 11*(3), 187-197.

- Renner, V., & Renner, J. C. (1971). Effects of a creativity training program on stimulus preferences. *Perceptual and Motor Skills*, 33, 872-874.
- Renzulli, J. S., Owen, S. V., & Callahan, C. M. (1974). Fluency, flexibility, and originality as a function of group size. *Journal of Creative Behavior*, 8, 107-113.
- Richards, R., & Kinney, D. K. (1990). Mood swings and creativity. *Creativity Research Journal*, 3(3), 202-217.
- Roe, A. (1951). A study of imagery in research scientists. *Journal of Personality*, 19, 459-470.
- Runco, M. A. (1993). Divergent thinking, creativity, and giftedness. *Gifted Child Quarterly*, 37, 16-22.
- Runco, M. A. (1999a). A longitudinal study of exceptional giftedness and creativity [Special issue: Longitudinal studies of creativity]. *Creativity Research Journal*, 12, 161-164.
- Runco, M. A. (1999b). Self-Actualization. In M. A. Runco, S. R. Pritzker (Eds.), *Encyclopedia of creativity* (pp. 533-536). San Diego, CA: Academic Press.
- Runco, M. A., & Albert, R. S. (1990). *Theories of creativity*. Newbury Park, CA: Sage.
- Russ, S. W. (1999). Emotion/Affect. In M. A. Runco, & S. R. Pritzker (Eds.), *Encyclopedia of creativity* (pp. 659-668). San Diego, CA: Academic Press.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.
- Sandblom, P. (1997). *Creativity and disease: How illness affects literature, art and music*. New York: Marionboyars Publishers.
- Schaeffer, C. E., And Others. (1976). Intercorrelations among measures of creativity, openness to experience and sensation seeking in a college sample. *College Student Journal*, 10(4), 332-339.
- Schempp, P. G., & Cheffers, J. T. F. (1982). Influence of decision-making by elementary children on attitudes, creativity, motor skills, and self-concept. *ERIC*
- Schiever, S. W. (1985). Creative personality characteristics and dimensions of mental functioning in gifted adolescents. *Roeper Review*, 7(1), 223-226.
- Schubert, D. S. P. (1977). Boredom as an antagonist of creativity. *Journal of Creative Behavior*, 11(4), 233-240.
- Sheldon, K. M. (1995a). Creativity and goal conflict. *Creativity Research Journal*, 8(3), 299-306.
- Sheldon, K. M. (1995b). Creativity and self-determination in personality. *Creativity Research Journal*, 8(1), 25-36.
- Sheldon, K. M. (1999). Conformity. In M. A. Runco & S. R. Pritzker (Eds.), *Encyclopedia of creativity* (pp. 341-346). San Diego, CA: Academic Press
- Simonton, D. K. (1999). *Origins of genius: Darwinian perspectives on creativity*. New York: Oxford University Press.
- Skinner, N. F. (1996). Behavioral implications of adaption-innovation: II .Adaption-innovation and motivation for uniqueness. *Social Behavior and Personality*, 24(3), 231-234.
- Smilansky, J., & Halberstadt, N. (1986). Inventors versus problem solvers: An empirical investigation. *Journal of Creative Behavior*, 20(3), 183-201.
- Smith, E. E., & Knight, S. S. (1959). Effects of feedback on insight and problem solving efficiency in training groups. *Journal of Applied Psychology*, 43(3), 209-211.
- Smith, G. J. W., & Carlsson, I. (1987). A new creativity test. *Journal of Creative Behavior*, 21(1), 7-14.
- Smith, I. L. (1970). Associational achievement, aptitude, and creativity. *Educational and Psychological Measurement*, 30, 4, 999-1000.
- Spotts, N. R. (1972). Divergent Cognitive Styles in Academic Overachievers. (ED079645)

- Stafford, S.P. (1998). Capitalizing on Careabouts to facilitate creativity. *Creativity and Innovation Management*, 7(3), 159-167.
- Stein, M. I. (1983). The creative process and the synthesis and dissemination of knowledge. In S. A. Ward, L. J. Reed (Eds.), *Knowledge, structure and use: Implications for synthesis and interpretation* (pp. 365-396). Philadelphia, PA: Temple University Press.
- Sternberg, R. J. (1988). Mental self-government: A theory of intellectual styles and their development. *Human Development*, 3(4), 197-221.
- Sternberg, R. J., & Lubart, T. I. (1993). Creative Giftedness: A multivariate investment approach. In D. J. Treffinger (Ed), *Creativity and Giftedness* (pp 141-155). Thousand Oaks, California: Corwin Press.
- Sternberg, R. J., & Lubart, T. I. (1995). *Defying the crowd: Cultivating creativity in a culture of conformity*. New York: Free Press.
- Sternberg, R. J., & Tardif, T. Z. (1989). What do we know about creativity? In R. J. Sternberg (Ed) *The nature of creativity* (pp. 429-440). Cambridge University Press.
- Stohs, J. M. (1991). Young adult predictors and midlife outcomes of "starving artists" career: A longitudinal study of male fine artists. *Journal of Creative Behavior*, 25(2), 92-105.
- Stokes, P. D. (1999). Learned variability levels: Implications for creativity [Special issue: Creativity and deviance]. *Creativity Research Journal*, 12(1), 37-45.
- Street, W. R. (1974). Brainstorming by individuals, co-acting and interacting groups. *Journal of Applied Psychology*, 59(4), 433-436.
- Thalbourne, M. A. (2000). Transliminality and creativity. *Journal of Creative Behavior*, 34(3), 193-202.
- Thurston, B. J., & Runco, M. A. (1999). Flexibility. In M. A. Runco and S. R. Pritzker (Eds.), *Encyclopedia of creativity* (pp. 729-731). San Diego, CA: Academic Press.
- Torrance, E. P. (1971). Some validity studies of two brief screening devices for studying the creative personality. *Journal of Creative Behavior*, 5(2), 94-103.
- Torrance, E. P. (1972). Tendency to produce unusual visual perspective as a predictor of creative achievement. *Perceptual and Motor Skills*, 34(3), 911-915.
- Treffinger, D. J (2004) *Creativity and Giftedness*. Thousand Oaks, California: Corwin Press.
- Tucker, I. F. (1991). Predicting scores on the Rathus Assertiveness Schedule from the Myers-Briggs Type Indicator categories. *Psychological Reports*, 69(2), 571-576.
- Van Hook, C. W., & Tegano, D. W. (2002). The relationship between creativity and conformity among preschool children. *Journal of Creative Behavior*, 36(1), 1-16.
- Vernon, A. (1998). *Thinking, feeling, behaving: An emotional education curriculum for adolescents; Grades 7-12*.
- Waelsch, S. G. (1994). The development of creativity [Special issue: Creativity and discovery in biomedical sciences]. *Creativity Research Journal*, 7(3 & 4), 249-264.
- Walberg, H. J., Rasher, S. P., & Parkerson, J. (1979). Childhood and eminence. *Journal of Creative Behavior*, 13(4), 225-231.
- Walker, A. M., Koestner, R., & Hum, A. (1995). Personality correlates of depressive style in autobiographies of creative achievers. *Journal of Creative Behavior*, 29(2), 75-94.
- Wang, J. H. (2003). *The effects of a creative movement program on motor creativity of children ages three to five*.
- Webster, P. R. (1990). Creativity as creative thinking. *Music Educators Journal*, 76(9), 22-28.
- Westby, E. L., & Dawson, V.L. (1995). Creativity: Asset or burden in the classroom? *Creativity Research Journal*, 8(1), pp. 1-10.
- White, K. (1968). Anxiety, extraversion-introversion, and divergent thinking ability. *Journal of*

Creative Behavior, 2(2), 119-127.

York, P. (2000). Space for creativity, *Management Today*, September, 103.

Yuk, K., & Cramond, B. (2006). Program for enlightened and productive creativity illustrated with a moire patterns lesson. *Journal of Secondary Gifted Education*, 17(4), 272-283.

Zachopoulou, E., Trevas, E., & Konstadinidou, E. (2006). The design and implementation of a physical education program to promote children's creativity in the early years. *International Journal of Early Years Education*, 14(3), 279-294.

Ziv, A. (1984). *Personality and a sense of humor*, New York: Springer Publishing.