International Journal of Social Sciences(IJSS)
Vol.1, No.1, Winter 2011

Creativity in Students: Evidence from Parental Marital Satisfaction, Intelligence, and Age

Gholam Ali Afrooz[1]
Professor of Psychology, University of Tehran, Iran
Mahdi Ghodrati[2]
Assistant Professor. of Psychology, Islamic Azad University Naien Branch, Iran

Received January 2010
Accepted March 2010

Abstract: *The present study aimed to acquire more specific information concerning the prediction creativity in children from their parental marital satisfaction, intelligence quotient (IQ), and age. In order to examine research hypothesis, it was asserted that parental marital satisfaction is an important predictor on prediction of children's creativity, 330 students (164 boys, 166 girls) were selected from Tehran (Iran) schools by clustering random sampling. Raven's Progressive Matrices Test (IQ), and Torrance Test of Creative Thinking (TTCT) (figural form) were administered among students and Afrooz Marital Satisfaction Scale (AMSS) was administered among student's parents. All scales reported validity and reliability which were necessary for psychological the questionnaire. The results showed that parental marital satisfaction was the first important significant predictor on prediction of children's creativity. Also, IQ and age stood the second and third significant predictors. The last part of article has discussed about how these findings have occurred.*

Keywords: Creativity; Giftedness; Parental marital Satisfaction

Introduction

Our world has been shaped by the products of creative thinkers. All of our modern conveniences—the telephone and other modes of communication, the automobile, the airplane, computers, and so forth—have been brought about through the creative work of inventors and scientists. Our healthy existences and our ever- longer lives are the result of scientific and medical advances, which are of creative thinking on the part of scientists in many domains. Societies value greatly the products of creative thinking. Fostering children's development in the cognitive, emotional, social, physical, and language domains is the frequently stated purpose of early childhood education. Promoting the development of creativity is a purpose that is less often or at least less explicitly stated. This is particularly noteworthy, in light of evidence that the early years are very important to the development of creative potential (Lowenfeld & Lambert-Brittain, 1975), and that creative imagination peaks during preschool years and drops at kindergarten when children often begin more "formalized" schooling (Torrance, 1989).

The environments in which children work, play, and live can encourage or discourage the expression of creativity. Isenberg and Jalongo (2001) and Mayesky (1998) have asserted all young children have the potential for creativity but, as some researchers like Wright and Wright (1986) claimed, parental and teachers' attitudes and behaviors that devalue creativity will thwart its development.

So many researchers have come to the finding that the factors which influence creativity, for example, level of education (Simonton, 1988), knowing gains in schools or out of school (Sak & Maker, 2006; Weisberg, 1999), internal and external motivation (Amabile, Hennessey, & Grossman, 1986), cultural and familial factors (Niu & Sternberg, 2001, Leung & Chiu, 2008).

Marital satisfaction

Ideally, close interpersonal relationships allow people to fulfill their need to be accepted, cared for, validated and loved and the opportunity to reciprocate such attitudes and behaviors. Briefly, people need to love and to be loved (Fletcher, 2002). The term marital satisfaction has proven to be a rather elusive construct to define, often used interchangeably with the terms marital quality, and dynamic adjustment (Harper, Schallje, & Sandberg, 2000). Marital quality has been defined in terms of husband and wife's ability to accommodate each other at any

[1] Corresponding author, E-mail : Afrooz@ut.ac.ir
[2] E-mail : Ghodrati@Naeiniau.ac.ir

given time. It can also describe a single dimension such as communication or perhaps the successful functioning of a marriage (Harper et al., 2000).

Sokolski and Hendrick (1999) describe martial satisfaction as including interpersonal qualities such as love, commitment, and sexual satisfaction. Also, it includes interpersonal qualities relating to dyadic interaction such as, communication, self- disclosure, spousal support, gender roles, couple sharing and equity. Environmental factors relating to employment, finances, illness and a couple's support network, are also linked to marital satisfaction (Sokolski and Hendrick, 1999).

Creativity

Creativity involved the production of original solutions to novel, ill – defined problems of relatively high complexity (Besemer & O'Quinn, 1999; Lubart, 2001; Scott, Leritz, & Mumford, 2004). The foundation of creativity and creative problem solving is often argued to be a divergent thinking or the ability to 'think outside the box' to produce novel solutions (Vincent, Decker, & Mumford, 2002). It involves gathering information from multiple sources and recognizing unusual connections (Oldham& Cumming, 1996).

Csikszentimihalyi's (1988) view, the term creative should only be used to describe a novel product which becomes creative only after it has become part of the domain. That is only after it has been positively valued by the field. If a product is rejected by the field that product is not creative whether or not it is novel.

Weisberg (2006) claimed that: "creative thinking occurs when a person intentionally produces a novel product while working on some task. Some times those novel products are valued highly by the society, and some times they are not, but all of them are creative products" (P. 70).

Family and creativity

The evidence suggests that family is a critically important influence on, and quite possibly, the major force behind, the etiology of creative behavior (Wright & Wright, 1986). Kerr and Chopp (1999) indicate that parenting style may have a significant impact on creativity. For example, a non-rigid parenting style favors expression and independence and therefore supports originality. Moreover some argue that creative individuals come from unhappy, disordered and difficult family environments (Albert, 1992) whereas others argue that a positive family environment favors creative potential (Csikszentmihalyi, 1996).

Several family related factors have been identified in the creativity research literature that seem to influence creativity including birth order, early parents loss, marginality, and the availability of mentors and role models (Simonton, 2000). A closer look at Runco, Nemiro and Walberg's research (1998) shows that creativity researches believe important factors of family background for creative achievement are openness to varied cultures, encouragement by the father and or/ mother, having many hobbies, precocity, travel, clear parental expectations, first born, born an only child, and / or was liked by siblings.

Winner (2000) noted that the families of gifted children were child-centered, meaning that they spent a lot of time and energy focusing on the need of the child. Gifted children often had more independence than normal ones in the same age.

In one study Lim and Smith (2008) had examined the nature of the relationships between children's reports of their mother's and father's parenting style, and teacher's reports of children's creative personality. By using a structured equation modeling, they reported parenting styles that reflected higher levels of leniency had no relationship with children's creative personality. In contrast, parenting styles that reflected higher levels of acceptance were associated with higher levels of creativity in their children.

Gute, Gute, Nakamura, and Csikszentmihályi (2008) in the study of a nine creative person-family framework revealed that families with an enriched environment in early lives for children were significantly utilities for children's later creativity achievement.

Research has shown that creativity in children is affected by multiple factors, such as: personality traits, productivity, process and environment. This research emphasized parental marital satisfaction as an environmental factor that had not been focused in previous studies. Indeed, parental marital satisfaction as a special predictor of creativity, IQ and age for prediction of creativity in gifted students were examined.

Method

Participants

The sample of the present study was composed of 330 students (164 boys, 166 girls) and their parents from schools of Tehran (Iran). The sample was selected by Clustering random sampling.

Procedure

Participants in this research were gifted students and their parents. In order to select our samples, the schools of Tehran city were divided to four geographical regions. Then, four schools were selected from each region, and by using The Raven's Progressive Matrices Test for measuring IQ. Students who had IQ above 120 were selected and the questionnaires of the study were administrated among these selected students and their parents.

Measures

Raven's Progressive Matrices Test: Raven's Progressive Matrices Test was developed in a fundamental research into the genetic and environmental determinants of "intelligence" by Raven in 1936. Raven tried to measure two main components of general cognitive ability (g) which was identified by Spearman in 1923. These abilities are respectively: (a) eductive ability, the ability to make meaning out of confusion, the ability to generate high–level, usually nonverbal, schemata which make it easy to handle complexity; and (b) reproductive ability–the ability to absorb, recall, and reproduce information that has been made explicit and communicated from one person to another.

The Standard Progressive Matrices (SPM) was first fully standardized by J.C. Raven on 1407 children in Ipswich, England, in 1938 (Raven, 1941). Also, this test has been widely applied in both practice and research, that means this test has sufficient level of reliability and validity, and it is one of the best tests for screening of samples by IQ level.

Torrance Test of Creative Thinking (TTCT) (figural form): The Test of Creative Thinking (TTCT, Torrance, 1990) was developed by Torrance. The TTCT- figural form consists of three tasks (Picture construction, Pictures compilation, and Circles) , each designed to find somewhat different features of creative functioning and each to be completed in less than ten minute- streamlined scoring results in five norms – referenced measures (Fluency, Originality, Elaboration, and Flexibility).

The Fluency score is the number of interpretable, meaningful, and relevant responses the test taker's ability to produce a large number of figural images. The Originality score represents the ability to produce responses which are unexpected, unusual, or statically rare. Elaboration reflects subject's ability to develop, embellish, embroider, or otherwise elaborate ideas. Flexibility is based on the conclusion that creative behavior requires a person to keep an open mind while processing information (Torrance, 1990).

Scoring reliability studies indicate that it is possible to keep the scoring reliability above the 0.90 level (Torrance, 1990). Reliability coefficients for the five norm- referenced measures of the figural form obtained in five studies at different grade levels ranged between 0.78 and 1.00 (Torrance & Ball, 1984). The content and construct validity has been explored in factor analytic, comparative and developmental studies and these studies yielded evidence of content validity (Torrance & Ball, 1984). Predictive validity studies have shown that TTCT scores correlate significantly with creative achievement in longitudinal studies of 12, 22 and 40 years (e.g. Torrance, 1972, 1981, 2002). Plucker (1999) re-analyzed the data from Torrance's longitudinal study of elementary school students (Torrance, 1972), obtaining results that support the ability of TTCT scores to predict creative achievement. Studies conducted in other countries such as Brazil (Wechsler, 2006) have also found evidence of the validity of the TTCT.

Afrooz Marital Satisfaction Scale (AMSS): It has been developed by G.A. Afrooz and M. Ghodrati (In press).It includes 51 items in ten subscales by using four points Likert Scale. All of subscales include: Emotional (Feeling) satisfaction,Interaction satisfaction,Attitude satisfaction, Behavioral satisfaction, Supportive – Social satisfaction,Empathy satisfaction,Problem Solving satisfaction,Personality satisfaction, Parenting satisfaction, and Positive–thinking satisfaction.For example,the spouses have been asked by these items:"My spouse believes that we have got married for finding calmness"or"My spouse always behaves respectfully and lovely with me (in private and social situations)".The authors have reported sufficient levels of reliability (internal consistency) (0.7-0.95) for the subscales and the total scale. Evaluation and Nurturing Relationship Issues Communication and Happiness (ENRICH) scale for assessing marital satisfaction developed by Olsen,Russell,& Sprenkle (1989) was used as a convergent validity of scale. The sufficient level of correlation ($r = 0.431$ & $P < 0.001$) has been reported by authors.

Results

As shown in table 1, in all samples, parental marital satisfaction ($\beta = 0.58$, $P < 0.01$) was first a positive significant predictor of creativity. Also, IQ ($\beta = 0.14$, $P < 0.01$) was the second positive significant predictor. Age ($\beta = -0.09$, $P < 0.05$) was the third negative significant predictors, respectively. Also the results showed that

significant predictors have explained 39 percent of the variance of creativity in gifted students. For boys and girls independently, results revealed that age can not be a predictive creativity significantly.

Table1. Model summary and coefficients of regression analysis of creativity on Parental Marital Satisfaction, IQ, and age among total, boy and girl students

Samples	Dependent variable	Independent variables	β	t	Overall R^2	F
Total	Creativity	Parental marital satisfaction	0.58	13.39**	0.39	69.77**
		IQ	0.14	3.17**		
		Age	-0.09	-2.06*		
Girls	Creativity	Parental marital satisfaction	0.54	8.34**	0.32	38.04**
		IQ	0.13	2.08*		
Boys	creativity	Parental marital satisfaction	0.66	11.36**	0.46	69.43**
		IQ	0.14	2.51*		

Note. * P < 0.05; ** P < 0.01.

Table 2. Descriptive statistics of Creativity and its subscales with consideration of the level of Parental Marital Satisfaction (PMS) and Students' level of IQ

Subscale(s)	Level of IQ	Level of PMS	M	SD	N
		Dissatisfied	40.40	14.22	43
	120-130	Moderate Satisfied	64.74	22.61	147
		Satisfied	85.59	23.21	39
Elaboration		Dissatisfied	56.08	20.34	13
	> 130	Moderate Satisfied	79.24	23.96	67
		Satisfied	76.33	21.44	21
		Dissatisfied	6.44	3.69	43
	120-130	Moderate Satisfied	11.30	5.28	147
		Satisfied	17.44	5.47	39
Originality		Dissatisfied	8.77	4.71	13
	> 130	Moderate Satisfied	13.70	6.16	67
		Satisfied	17.24	5.58	21
		Dissatisfied	9.51	2.85	43
	120-130	Moderate Satisfied	13.64	4.82	147
		Satisfied	17.18	4.73	39
Flexibility		Dissatisfied	10.54	3.07	13
	> 130	Moderate Satisfied	14.73	4.40	67
		Satisfied	15.14	3.82	21
		Dissatisfied	11.53	4.04	43
	120-130	Moderate Satisfied	17.46	5.77	147
		Satisfied	22.41	5.78	39
Fluency		Dissatisfied	13.00	3.89	13
	> 130	Moderate Satisfied	19.24	5.92	67
		Satisfied	19.19	4.17	21
		Dissatisfied	67.88	21.44	43
	120-130	Moderate Satisfied	107.14	32.67	147
		Satisfied	142.62	30.93	39
Creativity		Dissatisfied	88.38	27.91	13
	> 130	Moderate Satisfied	126.91	34.76	67
		Satisfied	127.90	29.25	21

Table 3. ANOVA results of students' creativity and its subscales with consideration of level of IQ and Parental Marital Satisfaction (PMS)

Factor(s)	Elaboration F(1,324)	Originality F(1,324)	Flexibility F(1,324)	Fluency F(1,324)	Creativity F(1,324)
IQ	4.668*	3.716	0.002	0.000	3.413
PMS	27.230**	39.144**	25.464**	29.551**	39.484**
IQ×PMS	6.571**	1.297	3.045*	4.505*	6.705**

Note: * $P < 0.05$; ** $P < 0.01$.

As seen, because of ($F = 4.668$ & $P < 0.05$), there is a significant difference between the mean score of Elaboration with consideration of level of IQ. That is the students who are categorized in the higher level of IQ group (greater than 130) have reported higher score on Elaboration that is one subscale of creativity. Also, because of ($F = 27.230$ & $P< 0.01$), there is a significant difference between the mean score of Elaboration with consideration of level of parental marital satisfaction. The results of Post Hoc test have shown that students with satisfied parents have reported significantly greater scores on Elaboration in comparison to their counterparts of moderate satisfied and dissatisfied groups.Also, students who have moderate satisfied parents have reported significantly greater score on Elaboration in comparison of their counterparts of dissatisfied parents group.

As seen ($F = 6.571$ & $P < 0.01$), there is a significant interaction effect of level of IQ and level of parental marital satisfaction on Elaboration. The results of Post Hoc show that students in the first category of IQ (120-130) and satisfied parents have reported significantly greater score on Elaboration in comparison of students with IQ (120-130) and moderate satisfied parents, IQ (120-130) and dissatisfied parents, also students with IQ (above 130) and dissatisfied parents. The students in the first category of IQ (120-130) and moderate satisfied parents have reported significantly greater score on Elaboration in comparison to students of IQ (120-130) and dissatisfied parents.

Moreover, students with IQ (above 130) and moderate satisfied parents have reported significantly greater score on Elaboration in comparison to students with IQ (120-130) and dissatisfied parents, moderate satisfied parents, and students with IQ (above 130) and dissatisfied parents. Students with IQ (120-130) and satisfied parents have reported greater score on Elaboration in comparison to students with IQ (120-130) and dissatisfied parents.

On Originality, as seen, because of ($F = 39.144$ & $P < 0.01$), there is a significant difference between the mean score of Originality with consideration of level of parental marital satisfaction. The results of Post Hoc indicated that children who were categorized in the group of satisfied parents show significantly greater score on Originality in comparison to children who were categorized in groups with dissatisfied parents and moderate satisfied parents. Furthermore, students with moderate satisfied parent reported significantly greater score on Originality in comparison to their counterparts in dissatisfied parent group.

On Flexibility, because of $F = 25.464$ & $P < 0.01$, there is a significant difference between the mean score of Flexibility with consideration of level of Parental marital satisfaction. The results of Post Hoc indicate that students with satisfied parents report greater score on Flexibility in comparison of their counterparts in moderate satisfied and dissatisfied parent groups. In addition, students with moderate satisfied parents report greater scores on Flexibility in comparison to their counterparts in dissatisfied parents group.

In the meantime, because of $F = 3.045$ & $P < 0.05$, there is a significant interaction effect of IQ and Parent marital satisfaction on Flexibility that is students with IQ (120-130) and satisfied parents report significantly greater scores on Flexibility in comparison to their counterparts n IQ (120-130) and dissatisfied parents, IQ (120-130) and moderate satisfied parents, IQ (above of 130) and dissatisfied parents.

Besides, students with IQ above 130 and moderate satisfied parents report significantly greater scores on Flexibility in comparison to their counterparts with IQ of 120-130 and dissatisfied parents. And students with IQ (above of 130) and satisfied parents have reported greater score on Flexibility in comparison of their counterparts in IQ (120-130) and dissatisfied parents; and IQ above 130 and dissatisfied parents.

On Fluency, because of $F = 29.551$ & $P < 0.01$, there is a significant difference between the mean score of Fluency with consideration of level of Parental marital satisfaction. The results of Post Hoc show that students with satisfied parents report greater scores on Fluency in comparison to their counterparts in moderate satisfied and dissatisfied parents groups. Also, students with moderate satisfied parents report greater scores on Fluency in comparison to their counterparts in dissatisfied parents group.

In the interim, because of F = 4.505 & P < 0.05, there is a significant interaction effect of IQ and Parental marital satisfaction on Fluency, that is students with IQ of 120-130 and satisfied parents report significantly greater score on Fluency in comparison to their counterparts with IQ of 120-130 and dissatisfied parents; and IQ of 120-130 and moderate satisfied parents, IQ above 130 and dissatisfied parents.

Also, students with IQ above 130 and moderate satisfied parents report significantly greater scores on Fluency in comparison to students with IQ of 120-130 & IQ above 130 and dissatisfied parents. Moreover, students with IQ of 120-130 and satisfied parents report significantly greater scores in comparison to IQ 120-130 & IQ above 130 subjects and dissatisfied parents. And finally, students with IQ of 120-130 and moderate satisfied parents have shown greater scores in comparison to students with the same level of IQ and dissatisfied parents.

On Creativity, because of F = 39.484 & P < 0.01 there is significant difference between the mean score of Creativity with consideration of level of Parental marital satisfaction. The results of Post Hoc show that students with satisfied parents report greater scores on Creativity in comparison to their counterparts in moderate satisfied and dissatisfied parent groups. Also, students with moderate satisfied parents report higher scores on Creativity in comparison to their counterparts in dissatisfied parents group.

In the meantime, because of F = 6.705 & P< 0.01 there is a significant interaction effect of IQ and Parent marital satisfaction on Creativity, that is students with IQ of 120-130 and satisfied parents report significantly higher score on Creativity in comparison to IQ of 120-130 & IQ above 130 subjects and dissatisfied parents, also students with IQ of 120-130 and moderate parents. In addition, students with IQ above 130 and moderate satisfied parents report significantly higher score on Creativity in comparison to students with IQ of 120-130 and dissatisfied & moderate satisfied parents, also students with IQ above of 130 and dissatisfied parents. Finally, students with IQ above 130 report significantly higher score on Creativity in comparison to students with IQ of 120-130 & IQ above 130 and dissatisfied parents.

Discussion

The results showed that parental marital satisfaction was the most important predictor on prediction of children's creativity. That is affective family climate could be the most important predictor on prediction of children' creativity. It is expected that when parental marital satisfaction is going up, the family environment is more proper for having a creative child.

Other researchers in different studies have shown that marital conflict has had some effects on children's interaction with peers, emergence of maladaptive behaviors, stress, and aggression (Forehand, Brody, & Smith, 1986; Poag, Cohen, Henggeler, Summerville, & Ray, 1992; Medora, Wilson, & Larson, 2001; Lucas-Thompson, & Clarke- Stewart, 2007). Also, many researches have shown that parenting styles have affected children's creativity (Csikszentmihalyi, 1996; Kerr & Chopp, 1999; Lim & Smith, 2008). That is parents who behave without severe strictness, give their children more opportunity for self-assertiveness, independence, which can lead to having more creative and innovator children. Researches have shown authoritative parenting style with children's acceptance can produce a more creative child. Also, happy family and positive environment can cause creative abilities. The conducted researches of family environment have identified a few effective factors on creativity namely: openness to varied cultures, encouragement by the father and / or mother, having many hobbies, precocity, travel, clear parental expectations, being first born, being born as the only child, and being liked by siblings (Runco, et al. 1998). It seems that a calm environment which is filled with love, acceptance, empathy, respect, humor, and an appropriate discipline can lead to the growing of children' creativity. Moreover, the results shown in intelligence have entered to the regression as the second significant predictor. IQ ($\beta = 0.14$) is a significant predictor on prediction of creativity, but its contribution is much lower than parental marital satisfaction ($\beta = 0.58$).

That means home environment is very important in order to have a creative child (environmental factor) and IQ (hereditary factor) is a threshold factor. If a baby has the sufficient level of intelligence, and family environment which is affected by parental marital satisfaction, she/he can be a creative child. Therefore, many children with sufficient level of intelligence could not be creative because they have not experienced a family environment which is filled with love, acceptance, supporting, and problem solving orientation in life, humor, and discipline.

Confirmatory results showed only on elaboration there was a significant difference with consideration of IQ level. On other subscales (originality, flexibility, fluency, and creativity total scale), IQ level is not important. But on all subscales and total scale of creativity, there were significant differences with consideration of parental

marital satisfaction. The children who fostered in family environment which has a high level of parental marital satisfaction have obtained greater scores on creativity (all subscales and total scale).

Also, the results have shown that age is the third negative significant predictor on prediction of creativity. That is, in lower ages children are more prone to be creative in comparison to higher ages. It is expected that along with children's growth the schema and patterns in behaviors and kinds of experiences will change and the child can not behave and experience regardless of these frames.

References

Afrooz, G. A., & Ghodrati, M. (In press). Construction and normalization of Afrooz Marital Satisfaction Scale. *Journal of Psychology and Educational Science*, University of Tehran.

Albert, R. (1992). *Genius and eminence*. New York: Pergamon.

Amabile, T. M., Hennessy, B. A., & Grossman, B. (1986). Social influences on creativity: The effects of contracted-for reward. *Journal of Personality and Social Psychology*, 50, 14-23.

Besemer, S.P., & O'Quinn, K. (1999). Confirming the three factor creative product analyses matrix model in an American sample. *Creativity Research Journal*, 12,287- 296.

Csikszentmihalyi, M. (1988). Society, culture, and person: A system view of Creativity. In R. J. Sternberg (Ed.), *The nature of creativity: Current psychological perspectives* (pp. 325-339). Cambridge: Cambridge University Press.

Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention.* New York: Harper Collins.

Fletcher, G. (2002). *The new science of intimate relationship.* Oxford: Blackwell Publishers Ltd.

Forehand, R., Brody, G., & Smith, K. (1986). Contributions of child behavior and marital dissatisfaction to marital perceptions of child maladjustment. *Behavioral Research Therapy*, *24*, 43-48.

Gute, S., Gute, D., Nakamura, J., & Csikszentmihalyi, M. (2008). The early lives of highly creative person: the influence of the complex family. *Creative Research Journal, 20*, 343-352.

Harper, J. M., Schaalje, B. J., & Sandberg, J. G. (2000). Daily hassles, intimacy, and marital quality in later life marriages. *The American Journal of Family Therapy*, *28*, 1-18.

Isenberg, J. P. & Jalongo, M. R. (2001). *Creative expression and play in early childhood* (3rd ed.). NJ: Prentice Hall.

Kerr, B. & Chopp, C. (1999). Families and creativity. In M. A. Runco, & S. R. Pritzker (Eds.), *Encyclopedia of creativity* (pp. 709-715). New York: Academic Press.

Leung, A., & Chiu. C. Y. (2008). Interactive effects of multicultural experiences and openness to experience on creative potential. *Creativity Research Journal*, *20*, 376- 388.

Lim, S., & Smith, J. (2008). The structural relationship of parenting style, creative personality, and loneliness. *Creative Research Journal, 20*, 412-421.

Lowenfeld, V., & Lambert-Brittain, W. (1975). *Creative and mental growth* (6th ed.). New York: Macmillan.

Lubart, T. I. (2001). Models of the creative process: Past, present, and future. *Creativity Research Journal*, *13*, 295-308.

Lucas- Thompson, R., & Clarke- Stewart, S. K. (2007). Forecasting friendship: how marital quality, maternal mood, and attachment security are linked to children's peer relationships. *Journal of Applied Developmental Psychology*, *28*, 499-514.

Mayesky, M. (1998). *Creative activities for young children*. New York: Delmar.

Medora, N. P., Wilson, S., & Larson, J. H. (2001). Attitudes toward parenting strategies, potential for child abuse, and parental satisfaction of ethically diverse low- income U.S. mothers. *Journal of Social Psychology*, *141,* 335-348.

Niu, W., & Sternberg R. J. (2001). Cultural influences on artistic creativity and its evaluation. *International Journal of Psychology*, *36,* 269-288.

Oldham, G. R., & Cumming, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, *39*, 607-634.

Olsen, D., Russell, C., & Sprenkle, D. (1989). *Circumplex model: Systematic assessment and treatment of families.* New York: Haworth Press.

Poag, C. K., Cohen, R., Henggeler, S. W., Summerville, M. B., & Ray, G. E. (1992). Marital satisfaction and family stress as predictors of classroom behaviors. *Journal of Child and Family Studies*, *1*, 287-303.

Plucker, J. A. (1999). Is the proof in the pudding? Re-analysis of Torrance's (1958 to present) longitudinal study data. *Creativity Research Journal*, *12,* 103-114.

Reven, C. J. (1936). Mental tests used in genetic studies: the performances of related individuals in tests mainly eductive and main reproductive. Unpublished Master's thesis, university of London.

Reven, C.J. (1941). Standardisation of Progressive Matrices. In J. Raven (2000), the Raven's progressive matrices: change and stability over culture and time. *Cognitive Psychology*, *41,* PP. 1-48.

Runco, M. A., Nemiro, J., & Walberg (1998). Personal explicit theories of creativity. *Journal of Creative Behavior*, *32,* 1-17.

Sak, U. & Maker, C. J. (2006). Developmental variation in children's creative mathematical thinking as function of schooling, age, and knowledge. *Creativity Research Journal*, *18,* 279-291.

Scott, G., Leritz, L. E, & Mumford, M. D. (2004). The effectiveness of creativity training: A quantitative review. *Creativity Research Journal*, *1*, 361-388.

Simonton, D. K. (2000).Creativity:cognitive,personal,developmental,and social aspects.*American Psychologist*, *55*, 151-158.

Simonton, D. K. (1988). *Scientific genius: A psychology of science*. Cambridge: Cambridge University Press.

Sokolski, D. M., & Hendrick, S. (1999). Fostering marital satisfaction. *Family Therapy, 26*, 39-49.

Torrance, P. (1972). Predictive validity of the Torrance Test of Creative Thinking. *Journal of Creative Behavior*, *6*, 236 – 252.

Torrance, P. (1981). Empirical validation of criterion – referenced indicators of creative ability through a longitudinal study. *The creative Child and Adult Quarterly*, *3*, 136 – 140.

Torrance, P. & Ball, E. (1984).Torrance Test of Creative Thinking. Streamlined (revised) manual. Figural A and B. Benseville, II: Scholastic Testing Service Inc.

Torrance, P. (1989). Can we teach children to think creativity? *Journal of Creative Behavior*, 6, 114-143.

Torrance, P. (1990). Torrance Test of Creative Thinking. Norms – technical manual Figural (streamlined) Form A and B. Benseville, II: Scholastic Testing Service Inc.

Torrance, P. (2002). *The manifesto: A guide to developing a creative career*. West Westport: Ablex.

Vincent, A. H., Decker, B. P., & Mumford, M. D. (2002). Divergent thinking, intelligence, and expertise: A test of alternative models. *Creativity Research Journal*, *14,* 163-178.

Wechsler, S. (2006). Validity of the Torrance Test of Creativity Thinking to the Brazilian Culture. *Creativity Research Journal*, *18,* 15-25.

Weisberg, R. W. (2006). *Creativity: Understanding innovation in problem solving, science, invention, and the arts*. New Jersey: John Wiley & Sons, Inc.

Weisberg, R. W. (1999). Creativity and Knowledge: A challenge to theories. In R. J. Sternberg (Ed.), *Handbook of Creativity* (pp. 226-250). Cambridge: Cambridge University Press.

Winner, E. (2000). The origins and ends of giftedness. *American Psychologist*, *55*, 159-169.

Wright, C. & Wright, S. (1986). A conceptual framework for examining the family's influences on creativity. *Family Perspective*, *20*, 127-136.