Sakarya Üniversitesi Eğitim Fakültesi Dergisi, 17 (Mayıs 2009), s. 38-58.

ATTACHMENT STYLES IN GIFTED CHILDREN CAN CREATIVITY BE CORRELATED?

A. Esra ASLAN[*] Seval İMAMOĞLU[**]

ABSTRACT

In this research, intelligence factor was used as a separative element and the relationship between the attachment styles and the creative skills was examined. In addition, the effects of some demographic variables concerning gender and family profile on creativity and attachment styles were tested. The subjects were 368 first grade high school students (199 girls and 169 boys), and "Relationship Scales Questionnaire", "Torrance Tests of Creative Thinking", "General Ability Test", and "Personal Information Form" were used as measurements.

Results showed that there was no relationship between attachment styles and verbal creativity scores for both gifted and non-gifted groups. Gender factor had created a meaningful difference for the benefit of the girls for secure attachment and flexibility points in the gifted group. In terms of mothers' education, there were meaningful differences for gifted students in attachment styles, and for non-gifted students in verbal creativity. Having brothers/sisters also lead to differences on originality and fluency scores for gifted group.

Keywords: Attachment styles, creativity, gifted and talented

ÖZ

Zekânın ayırıcı faktör olarak kullanıldığı bu araştırmada, bağlanma stilleri ile yaratıcılık becerileri arasındaki ilişki incelenmiştir. Ayrıca cinsiyet, aile profile gibi bazı demografik değişkenlerin bağlanma stilleri ve yaratıcılık becerilerine etkileri de araştırılmıştır. 368 lise öğrencisinin (199 kız, 169 erkek) örneklemi oluşturduğu çalışmada veri toplama araçları olarak, "İlişki Ölçekleri Anketi", "Torrance Yaratıcı Düşünce Testi", "Genel Yetenek Testi" ve "Kişisel Bilgi Formu" kullanılmıştır.

Bulgular, hem üstün yetenekli hem de üstün yetenekli olmayan grup için, bağlanma stilleri ve yaratıcılık becerileri arasında bir ilişki olmadığını göstermektedir. Demografik değişkenlerden cinsiyet faktörü, kızlar lehine olmak üzere üstün yetenekli grupta "güvenli bağlanma" ile "sözel esneklik" puan ortalamaları arasında anlamlı farklılık yaratmıştır. Anne eğitim düzeyi, üstün yetenekli grupta bağlanma stilleri açısından farklılık yaratırken; üstün yetenekli olmayan grupta da sözel yaratıcılık puanlarında farklılık oluşturmuştur. Kardeş

[*] Prof. Dr , Marmara Üniversitesi Atatürk Eğitim Fakültesi Eğitim Bilimleri Bölümü Rehberlik ve Psikolojik Danışma A. B. D, e-mail: aeaslan@hotmail. com

[**] Dr. , Marmara Üniversitesi Atatürk Eğitim Fakültesi Eğitim Bilimleri Bölümü Rehberlik ve Psikolojik Danışma A. B. D, e-mail: (severden@gmail. com)

sahibi olma ise, üstün yetenekli grupta orjinallik ve akıcılık boyutlarında farklılık yaratmıştır.

Anahtar kelimeler: Bağlanma stilleri, yaratıcılık, üstün yeteneklilik.

1. INTRODUCTION

If a person has high IQ and healthy social and emotional relationships, we can expect to hear very succesful life stories about him. Based on this expectation, we may suppose that being gifted means that a person will acquire the strength of cause and effect relations, a powerful memory, a different and creative point of view for problems and outstanding solutions, and an ability of setting social, emotional relationship which involves awareness of his/her emotional needs and the power to control social and emotional aspects of life. Do these three concepts really interact among themselves? In this research, the objective is to examine the interaction of cognitive and socio-emotional features such as the attachment style of a person.

Studying the variables more profoundly, we can find the definition of a gifted person as reported in the Educational Department of the United States (1972): A general academic ability in all fields of education; creativity, special academic ability, leadership ability, showing high performance or being successful in the performance, based arts or in one or several of the psycho-motor abilities or having this kind of potential (ERIC, 1990; Parke, 1989: McClellan, 1985).

2. Having Super Abilities

Based on his researches and studies of many years, Renzulli, Reis, (1997) reported that being gifted is formed from three concepts. These are: (1) Above Average Ability, (2) Task Commitment, and (3) Creativity. Renzulli stressed that the interaction of these concepts produces an extraordinary performance, and called his model "Three Ring Conception. " It is possible to achieve excellent outcomes by the addition of some elements to high ability standards such as patience and perseverance in the creativity and personality dimensions. We can define creativity within the informative boundaries, as follows: Emerging as an original product or not as yet a product and based on ability, creativity is a cognitive skill which contains a problem-solving process special to its own and with which a person uses intelligence elements originally and productively (Aslan, 2001).

Creativity and intelligence are both outcomes of cognitive process. Creativity is considered to be a feature special not only to the gifted children, recent studies show that in order to exhibit his/her creativity, a person should be in normal intelligence distribution or above (Diessner, 1984; Stenberg and

O'Hara, 1999). In the studies of Runco and Albert, creativity and intelligence were found to be related to each other with those having about 120 intelligence parts (Runco and Albert, 1986).

With a view to the findings and the opposing ideas given so far, separate individual tests have been used in this research to determine the superior students and to find out their creativity levels (Plucker and Renzulli, 1999). It was supposed that normal intelligence level is a required condition and that to be creative, high intelligence is not a guarantee.

It is a known fact that the gifted individuals become much more successful in academic fields or in any subject they choose in accordance with their talents. However, studies on emotional intelligence competencies in recent years emphasize that it is not enough to be just gifted in order to be successful in life.

2.2. Attachment

The attachment theory developed by Bowlby (1980) is based on the relations formed and developed between the infant and the primary care-giver who looks after the baby. Bowlby defines the attachment as "a meaningful, special and enduring emotional bond with a specific person. " It is considered to last from birth to death and determines a person's emotional experiences and relations (Bowlby, 1982; Shaver & Mikulincer, 2002). This theory also explains the reasons why people tend to set strong emotional relations with others who are essential to them.

Regarding the quality of the attachment behavior which develops through infant-primary caregiver interaction, the child develops working models including judgments and evaluations on his/her own towards other people. In the light of this information, the child develops mental scheme for "self" and "others" (Bowlby, 1982; Bretherton, 1987; Hazan and Shaver, 1987).

Starting from babyhood, the child first makes the attachment figure and later his relations with others internal. The child begins to gather information about him and the world in accordance with the responses. A dependable, agreeable and consistent relation between the mother and the child allows the child to feel self-importance that will develop "positive self". Besides, these relations lead the child to consider others available, consistent and supportive and to develop "positive others" models. On the contrary, mother's neglect or indifferent attitude towards caring may lead the child to demand for freedom prematurely and to break the concept of attachment. Using these models frequently creates a "negative self" model and develops a "negative others" model (Main, 1990; Levy, Blatt, & Shaver, 1998). According to developed self and others working models, attachment styles are shaped.

If a person has high IQ and healthy social and emotional relationships, we can expect to hear time, Ainsworth, Blehar, Waters and Wall (1978) observed the behavior of children and mothers and rated attachment styles accordingly. Later, this rating was tested again together with many other researches done by Egeland and Farber (1984), Main, Kaplan, Cassidy, (1985), Belsky (1987), Isabella, (1993), Cassidy and Berlin (1994). Similar results were obtained in all researches.

Consequently, three different kinds of attachment styles such as secure, anxious-ambivalent, and avoidant attachment were defined. Based on Bowlby's two dimensional self and others model of attachment, Bartholomew and Horowitz (1991) developed four dimensions of the model. These are the secure, fearful, dismissing and preoccupied attachment styles. In this study, the classification was used.

1. 3. Problem

The aim of this research was to study the relationship between the attachment styles and verbal creativity of gifted and non-gifted students. Besides the main aim, the effects of demographical variables such as gender, educational status of parents, numbers of brothers/ sisters, and birth order on attachment styles and the creativity scores of gifted and non-gifted students were also investigated.

2. METHOD

2. 1. Participants

The universe of the research consists of 368 first grade high school students (199 girls, 169 boys) studying in five government schools in 2003-2005 within Kadıkoy district in Istanbul. The sampling consists of students from above and below 25% of the ordered general ability test scores. There are 53 students (40 girls, 13 boys) called "gifted" in the above group and 53 students (27 girls, 26 boys) called "non-gifted" in the below group.

2. 2. Procedure

The first step in this study was to apply the General Ability Test. The tests were scored, ordered and listed (Dağlıoğlu, 1995). To define "gifted" and "non-gifted" students among the participants (N=368), the highest 25% of the ordered general ability test scores were taken and named "gifted, "and the lowest 25% of the ordered general ability test scores were taken and named "non-gifted. " The attachment style scores, Verbal creativity scores were obtained both for gifted and nongifted students and analyzed.

2. 3. Instruments

2. 3. 1. General Ability Test (GY18+)

This test has been developed by Aslan and Savran. The test includes 50 items which measure quantitative, verbal and abstract intelligence. Although the pilot studies and validity and reliability analyses have been finished, studies are still going on to obtain norm values. The test has been developed for Turkish population ages 16 years and over. It has parallel forms and is scored as 1-0. In the analysis of internal consistency, r=. 94 (n=184) for form A and r=. 94 (n=205) for form B are found. Both forms were used in this research. The intelligence scores were obtained by general ability test and creativity scores measured by Torrance Tests of Creative Thinking.

Occurance styles of intelligence tests suggest suspicion in that they might contain creative competencies. Intelligence tests measuring mental abilities, have often been criticized for not being sufficient in measuring creative skills. Because the arrangement of these tests is not suitable for a person to produce unique answers (Freeman, 1962). The only aspect of creativity in Binet's test is the several elements based on imagination. The reason for these to be included in the test is that imagination is regarded as a süper mental process. In the corrections made later these elements were not excluded but they were insufficient (Yavuzer, 1989).

2. 3. 2. Relationship Scales Questionnaire (RSQ)

The Scales developed by Griffin and Bartholomew (1994) consists of 30 items showing four different attachment styles as "secure, fearful, dismissing and preoccupied. " Cronbach alpha level of subscales is between . 41 and . 71. Test-retest value for women is . 53, while for men, the value is . 49.

The Turkish validity and reliability studies of this scale have been done by Sumer and Gungor (1997, 1999). Two different reliability analyses were done, namely: internal consistency coefficent and test- retest analyses. In the analysis, the Cronbach alpha values of internal consistency coefficient were between . 27 and . 61. Test-retest value were between . 54 and . 78. In order to analyse the criterion validity, the relationships between Relationship Scales Questionnaire and State Anxiety Scale, Rosenberg Self-Esteem Scale were investigated. The obtained results were statistically satisfactory (Sumer and Gungor, 1999).

2. 3. 3. Torrance Tests of Creative Thinking

The Torrance Tests of Creative Thinking, which assess verbal and figural creativity, were first published by E. Paul Torrance in 1966 (Torrance 1974; Zarnegar and Hocevar, 1988). As a means of assessing the creative thinking directly, the test has parallel forms. It has seven sub-tests in its verbal section. These are on Asking, Guessing Causes, Guessing Consequences, Product Improvement, Unusual Uses, Unusual Questions, and Just Suppose. For all verbal sub tests, fluency, flexibility, originality scores are obtained. "Asking, Guessing

Causes, Guessing Consequences" scores of Torrance Tests of Creative Thinking were used in this study.

For language equivalence, validity and reliability, A and B forms of the test were made by Aslan (1999) for kindergarten, primary, high school and adult groups. The language equivalencies for verbal test application between English and Turkish forms were (. 64) and (. 86): Meaningful correlation values at p<. 01 levels were obtained for English and Turkish forms for the same subjects (Aslan and Paccio, 2006).

Within reliability study framework, test-retest and internal consistency calculations were made. Cronbach alpha correlation coefficients scores were found between (. 62) and (. 71) for the high school subjects (Aslan, 1999; Aslan, 2001; Aslan and Puccio, 2006).

As criterion validity studies, comparisons were made with Wonderlic and WAIS tests. A relation of r=. 66 between the similarities sub test of WAIS and the Verbal Originality test scores of TTCT and statistically negative relation were found between the Reasoning Ability and Figural Originality (r=-. 67, p<. 05) (Aslan, 2001b).

The Torrance Tests of Creative Thinking and Adjective Check List scores were also compared in the criterion validity. The results showed that Being Ready for Consulting and Originality were negatively correlated (r=-. 34, p<. 05); a negative correlation was found between the Fluency and Order sub scale scores (r=-. 34, p<. 05) (Aslan, 2001b).

2. 3. 4 Personal Information Form

This instrument included five questions which are about gender, maternal education level, the number of siblings/brothers, and birth sequence of the participants. The questions were close-ended.

3. FINDINGS

Table 1 presents the descriptive statistics for the participants who completed both the original forms of Relationship Scales Questionnaire (RSQ) and the verbal part of Torrance Tests of Creative Thinking.

Table 1

Means and Standart Deviations of Relationship Questionnaire and Torrance Tests of Creative Thinking

	Gifted Students (n=53)		Nongifted Students (n=53)	
	μ	SD	μ	SD
Attachment Styles				
Secure	4. 19	0. 95	3. 98	0. 83
Fearfull	3. 63	1. 24	3. 65	1. 01

Dismissing	4. 48	1. 08	4. 24	0. 97
Preoccupied	4. 39	1. 10	4. 21	0. 86
Creativity Scores				
Fluency	25. 75	8. 58	24. 72	7. 42
Flexibility	15. 21	4. 42	14. 25	4. 14
Orijinalty	15. 30	7. 71	14. 87	8. 66

The first problem was to find whether there is a correlation between the gifted and non-gifted students' attachment styles and creativity scores. The existence of a relation between the attachment styles and the creativity scores of the students was tested with the Pearson Moments Correlation Techniques. As seen in Table 2, there is not any correlation between the attachment styles and the verbal creativity scores for gifted and non-gifted students.

Table 2

Pearson Moments Correlation Between Attachment Styles and Creativity Score Types for Gifted and Nongifted Students

Subscale	Fluency	Flexibility	Orijinalty
	Gifted Students (n= 53)		
Secure	0. 13	0. 26	0. 10
Fearfull	-0. 15	-0. 12	0. 10
Dismissing	-0. 02	0. 10	0. 12
Preoccupied	0. 00	-0. 08	-0. 24
	Nongifted Students (n= 53)		
Secure	0. 08	0. 06	-0. 11
Fearfull	-0. 09	-0. 11	0. 19
Dismissing	0. 08	0. 04	0. 04
Preoccupied	0. 22	0. 27	0. 07

* p<. 05, ** p<. 01, ***p<. 001

The second sub problem was to examine the effect of gender on attachment styles and the creativity scores of gifted and non-gifted students. Results are shown in Table 3.

Table 3

Gifted Students Mann Whitney-U Test Results According To Gender Variables between Attachment Styles and Creativity Scores

Score types	Gender	N	Mean rank	Sum of rank	U

Secure	Girl	40	30. 34	1213. 50	126. 50**
	Boy	13	16. 73	217. 50	
Fearfull	Girl	40	26. 24	1049. 50	229. 50
	Boy	13	29. 35	381. 50	
Dismissing	Girl	40	27. 63	1105. 00	235. 00
	Boy	13	25. 08	326. 00	
Preoccupied	Girl	40	27. 42	1097. 00	243. 00
	Boy	13	25. 69	334. 00	
Fluency	Girl	40	29. 34	1173. 50	166. 50
	Boy	13	19. 81	257. 50	
Flexibility	Girl	40	30. 42	1217. 00	123. 00**
	Boy	13	16. 46	214. 00	
Originality	Girl	40	28. 15	1126. 00	214. 000
	Boy	13	23. 46	305. 00	

* p<0. 05, ** p<0. 01, ***p<0. 001

According to applied non-parametric Mann Whitney-U test, the meaningful results in the gifted group were obtained for secure attachment scores (U=126. 50, p<. 01) and flexibility scores (U=123. 00, p<. 01) in favor of gifted girls. In terms of non-gifted group, gender did not yield any differences on attachment and creativity scores.

The third problem of the research was about analysis of attachment styles and verbal creativity scores of gifted and non-gifted students according to mothers' educational level. Non parametric Kruskal Wallis-H test was used to analyze the variables. (See table 4)

Table 4

Gifted Students' Kruskal Wallis-H results between Attachment Styles and Creativity Scores According To Mother Education Level

Score types	Mother education level	N	Mean rank	Sd	χ^2
Secure	Primary	19	25. 45	2	0. 32
	High School	18	27. 53		
	Univ. and above	16	28. 25		
	Total	53			
Fearfull	Primary	19	33. 76	2	**7. 93***
	High School	18	19. 50		
	Univ. and above	16	27. 41		
	Total	53			
Dismissing	Primary	19	29. 79	2	0. 99

	High School	18	25. 11		
	Univ. and above	16	25. 81		
	Total	53			
Preoccupied	Primary	19	25. 76		
	High School	18	30. 39	2	1. 36
	Univ. and above	16	24. 66		
	Total	53			
Fluency	Primary	19	27. 50		
	High School	18	31. 72	2	4. 05
	Univ. and above	16	21. 09		
	Total	53			
Flexibility	Primary	19	26. 97		
	High School	18	31. 00	2	2. 57
	Univ. and above	16	22. 53		
	Total	53			
Originality	Primary	19	29. 82		
	High School	18	24. 86	2	1. 05
	Univ. and above	16	26. 06		
	Total	53			

* p<0. 05, ** p<0. 01, ***p<0. 001

In the gifted group, the mothers' education level had an effect only on fearful attachment styles' scores ($\chi 2$=7. 93 p<. 05), whereas it had no effect on creativity scores. To find the sources of differences among groups, non-parametric Mann Witney-U test was used as a post hoc test. The results showed that differences occurred between mothers with high school education and those with primary school education (U=81. 00, p<. 01) in favor of mothers who graduated from primary school (See table 5).

Table 5

Gifted Students' Mann Witney U Test Results for Fearfull Attachment Style According To Mother Education Level

Mother education level	N	Mean Rank	Sum of rank	U
Primary	19	23. 74	451. 00	81. 00**
High School	18	14. 00	252. 00	
Total	37			
Primary	19	20. 03	380. 50	113. 50
Univ. and above	16	15. 59	249. 50	
Total	35			
High School	18	15. 00	270. 00	99. 00

Univ. and above	16	20. 31	325. 00	
Total	34			

* p<0. 05, ** p<0. 01, ***p<0. 001

On the other hand, as seeing Table 6, for the non-gifted group, results indicated that mothers' education level had an effect on flexibility (χ2=9. 80, p<. 01) and originality (χ2=9. 12, p<. 05) scores but it had no effect on attachment styles scores.

Table 6

Nongifted Students' Kruskal Wallis-H Results between Attachment Styles and Creativity Scores According To Mother Education Level

Score types	Mother education level	N	Mean rank	sd	χ^2
Secure	Primary	21	24. 86	2	0. 94
	High School	18	27. 17		
	Univ. and above	14	30. 00		
	Total	53			
Fearfull	Primary	21	25. 98	2	1. 03
	High School	18	29. 92		
	Univ. and above	14	24. 79		
	Total	53			
Dismissing	Primary	21	23. 86	2	1. 45
	High School	18	29. 06		
	Univ. and above	14	29. 07		
	Total	53			
Preoccupied	Primary	21	25. 98	2	1. 45
	High School	18	24. 94		
	Univ. and above	14	31. 18		
	Total	53			
Fluency	Primary	21	24. 45	2	3. 54
	High School	18	24. 81		
	Univ. and above	14	33. 64		
	Total	53			
Flexibility	Primary	21	21. 98	2	9. 80**
	High School	18	24. 42		
	Univ. and above	14	37. 86		
	Total	53			
Originality	Primary	21	22. 64	2	9. 12*
	High School	18	23. 81		
	Univ. and above	14	37. 64		
	Total	53			

* p<0. 05, ** p<0. 01, ***p<0. 001

The Mann Whitney-U test was used as a post hoc test for non-gifted students' flexibility scores. It showed that differences were obtained between mothers who graduated from primary school and those who graduated from the university or above (U= 58. 50, p<. 01). Also, differences were obtained between mothers who graduated from high school and those from the university or above (U= 62. 50, p<. 01). The differences in both results were in favor of the students whose mothers have university education level or above (See Table 7).

Table 7

Nongifted Students' Mann Witney U Test Results for Flexibility Scores According to Mother Education Level

Mother education level	N	Mean Rank	Sum of rank	U
Primary	21	19. 19	403. 00	172. 00
High School	18	20. 94	377. 00	
Total	39			
Primary	21	13. 79	289. 50	58. 50**
Univ. and above	14	24. 32	340. 50	
Total	35			
High School	18	12. 97	233. 50	62. 50*
Univ. and above	14	21. 04	294. 50	
Total	32			

* p<0. 05, ** p<0. 01, ***p<0. 001

In the non-gifted group, mothers' education level had also created differences among originality scores (χ^2=9. 12, p<. 05). Non-parametric Mann Witney-U tests showed differences between mothers who graduated from university or above and those from primary school (U=63. 50, p<. 01). A meaningful difference was also gained between mothers who graduated from university or above and those from high school (U=60. 50, p<. 05). Both results for originality scores were observed in favor of mothers with higher education (see Table 8).

Table 8

Nongifted Students' Mann Witney U Test Results for Originality Scores According to Mother Education Level

Mother Education Level	N	Mean Rank	Sum of rank	U
Primary	21	19. 62	412. 00	181. 00
High School	18	20. 44	368. 00	
Total	39			

Primary	21	14. 02	294. 50	63. 50**
Univ. and above	14	23. 96	335. 50	
Total	35			
High School	18	12. 86	231. 50	60. 50*
Univ. and above	14	21. 18	296. 50	
Total	32			

* p<0. 05, ** p<0. 01, ***p<0. 001

The analysis of differences among the attachment styles and creativity scores in terms of fathers' education level of the gifted and non-gifted students was done. The Kruskall Wallis-H technique was used as a statistical technique. It was determined that the education level of the father did not create any difference in all types of attachment styles and verbal creativity sub scores both in the gifted and non-gifted students.

The fifth sub-problem of the research was about the differences among attachments styles and verbal creativity scores in terms of the number of brothers and sisters. Significant differences were found for the fluency (χ^2=6. 31 p<. 05) and originality (χ^2=7. 65, p<. 05) scores of gifted students, whereas the number of brothers and sisters did not create any difference in the attachment scores for non-gifted students (See Table 9).

Table 9

Gifted Students' Kruskal Wallis-H Test Results between Attachment Styles and Creativity Scores According to Siblings/Brothers Number

Score types	Number of children	N	Mean Rank	Sd	χ^2
Secure	One	6	22. 33	2	3. 77
	Two	30	30. 60		
	Three and above	17	22. 29		
Fearfull	One	6	29. 42	2	1. 05
	Two	30	25. 10		
	Three and above	17	29. 50		
Dismissing	one	6	27. 58	2	0. 45
	Two	30	25. 80		
	Three and above	17	28. 91		
Preoccupied	One	6	29. 08	2	0. 15
	Two	30	26. 98		
	Three and above	17	26. 29		
Fluency	One	6	30. 83	2	6. 31*
	Two	30	22. 40		
	Three and above	17	33. 76		
Flexibility	One	6	28. 67	2	0. 68

	Two	30	25. 48		
	Three and above	17	29. 09		
Originality	One	6	29. 50	2	7. 65*
	Two	30	22. 07		
	Three and above	17	34. 82		

* p<0. 05, ** p<0. 01, ***p<0. 001

Non-parametric Mann Whitney-U test was used as post hoc analysis. As seeing in Table 10, the difference revealed fluency scores between students with two brothers/sisters and with three and more for gifted students (U= 143, 00, p<. 01) in favor of students with two sisters /brothers. However, no meaningful result was achieved on attachment styles of gifted students.

Table 10

Gifted Students' Mann Witney U Test Results for Fluency Scores According to Siblings/Brothers Number

Number of Siblings/brothers	N	Mean Rank	Sum of rank	U
One	6	22. 83	137. 00	64. 00
Two	30	17. 63	529. 00	
Total	36			
One	6	11. 50	69. 00	48. 00
Three and above	17	12. 18	207. 00	
Total	23			
Two	30	20. 27	608. 00	143. 00*
Three and above	17	30. 59	520. 00	
Total	47			

* p<0. 05, ** p<0. 01, ***p<0. 001

Non-parametric Mann Whitney-U test was used as post hoc analysis. The difference revealed originality scores between students with two brothers/sisters and those with three and more brothers/sisters for gifted students (U= 128, 50, p<. 01) in favor of students with three and more brothers/sisters. However, no meaningful result was achieved on attachment styles of gifted students (See Table 11).

Table 11

Gifted Students' Mann Witney U Test Results for Originality Scores According to Siblings/Brothers Number

Number of Siblings/brothers	N	Mean Rank	Sum of rank	U
One	6	22. 08	132. 50	68. 50
Two	30	17. 78	533. 50	

Total	36			
One	6	10. 92	12. 38	44. 50
Three and above	17	65. 50	210. 50	
Total	23			
Two	30	19. 78	593. 50	128.
Three and above	17	31. 44	534. 50	50**
Total	47			

* p<0. 05, ** p<0. 01, ***p<0. 001

The attachment styles and the creativity scores of the gifted and non-gifted students were also tested. This analysis revealed no significant differences on attachment styles and verbal creativity scores for both gifted and non-gifted students.

4. DISCUSSION

The purpose of this study was two-fold. The first goal was to examine whether there is any relationship between attachment styles and verbal creativity of the gifted and non-gifted subjects. The subsequent goal was to observe whether some demographic variables create any differences on attachment styles and creativity scores of the gifted and non-gifted participants.

To establish gifted and non-gifted subjects among participants (N=368), the General Ability Test was used. After scoring the General Ability Test, the list was ordered and the highest 25% of the scores were taken and named "gifted" (n=53), while the lowest 25% of the subjects were taken and named as "non-gifted" (n=53). Due to main problem was to examine whether there is any relationship between attachment styles and verbal creativity of the gifted and non-gifted subjects, the correlation did not tested between intelligence and creativity. Creativity and intelligence are two concepts which are mixed in many ways. Although a little relation was observed between an ordinary intelligence test and creativity, a positive relation was seen between creativity and intelligence when California Achievement test was used (Runco and Albert, 1986; Davaslıgil, 1995). The relationship of creativity and intelligence can be problem for another research.

It has been found that there is no relationship between attachment styles and verbal creativity scores in our research. It is supposed that the problem-solving ability of a person is not measured directly in this study, and creative thinking ability may lead to problem-solving ability. The existence of a relation between the ability of producing original ideas and secure attachment is compatible with literature. As in the study of Kobak, Cole, Ferenze-Gilles, Fleming & Gamble (1993), negative emotions are thought to have inhibitive role

in producing original ideas/solutions. In other words, we see that s/he can have risks in trying the untried ideas and solutions. However, these results require that problem-solving ability, attachment styles and creative thinking variables should be studied in further researches.

In a research in which Mikulincer and Sheffi (2000) studied the effect of the adult attachment styles, cognitive processes of positive emotions in three different experiment settings. Those who securely attached in all experimental settings made higher ratings (cognitive processes) with positive emotions and displayed better performance in creative problem-solving tasks. In another research, Kobak, et al. (1993) examined the relation among the attachment styles of 20-30 years old subjects, their negative emotions, and their problem-solving abilities. They concluded that those with secure attachment styles reacted with less anger and developed more constructive and moderate behavior focusing on the problem and tried to find solutions by discussing with others. It was also found that those who developed insecure attachment had more restricted and less constructive relations with their mothers and conceived their mothers' approach as an attack and considered their discussions with their mothers an opportunity to attack them.

Some characteristics like producing many ideas, looking at the facts in various ways, and some other distinguished cognitive abilities are included in creative thinking. Relationship between verbal creativity and attachment styles was not observed in this study. This may be explained by the nature of the sample and by the fact that the participants have not come across the real problem situation

There is another point that child-raising styles are not parallel with Western countries. It is thought that the style of family behavior has an effect on problem-solving behavior of children. This question comes to our mind: Is it possible to measure the effect of real family-child interaction on problem-solving using the standard data collection instrument developed abroad? It is suggested to examine the variables in further studies.

When gender are taken into consideration, it is observed that gifted girls exhibited more secure attachment styles than the boys, and approached the matters and the phenomena through more than one dimension (flexibity).

Hanson (1997) studied creativity among 140 ninth grade adolescents and its relationship to their ego development and parental representation. No relationship was found between creativity and ego development, for the total sample. However, when the girls and boys were separately analyzed, a relation between creativity and ego development for males was discovered.

In another study done by Xiaoxia (1999), creativity and academic achievement were examined in terms of the sex variable. Creativity was tested by Torrance Test of Creative Thinking and while the boys were found getting higher scores in flexibility and originality than the girls, the girls got higher scores in enrichment. The term fluency defines the ability of producing many ideas when faced a problem; flexibility is the ability of thinking and idea producing in more than one dimensions and enrichment defines the ability of going into the details of an idea and applying it.

Relations between emotional development features like attachment style, ego development and cognitive features like creativity have indicated the need for deeper analysis of both development faces. However, there is no compromise in the research results concerning the effects for gender factor on creativity. The question of whether gender factor creates any difference for creative thinking ability has been studied in more than one research and different results have been observed. For example, in one study, Ozben and Argun (2002) gathered data from 161 students of social sciences, sciences and fine arts. Results indicated that girls were meaningfully different from boys in fluency and flexibility score types.

In Aslan and Puccio (2006)'s Torrance Tests of Creative Thinking Turkish form development study, a meaningful result was obtained in verbal fluency and flexibility scores between males and females (Ngirls =266, Nboys =195) in Form B, but it was not repeated in Form A.

The research findings given so far point out the fact that the gender can cause differences in different cultures and even in the same culture and these differences sometimes benefit the girls, sometimes the boys. These controversial results bring to mind that creative thinking ability is affected by a number of factors, such as the role of gender, child-rearing styles of families, socio-cultural level, and the value of a child in the community.

In our study, we examined the effect of parents' education level on attachment and verbal creativity scores. The meaningful results were obtained between gifted students whose mothers graduated from high school and thosefrom primary school in fearful attachment scores. The difference was in favor of gifted students whose mothers graduated from primary school.

Ertem&Yazıcı (2006) examined psycho-social problems and frequency of depression among second grade high school students. The results showed that adolescents have problems mostly with their mothers. Also, the low level educated mothers had more coercive attitudes towards their children.

Crowell & Feldman (1988) studied the attachment styles and tool handling abilities of pre-school children and behavior of mothers. The mothers of the securely attached children were found to be more supportive, demonstrative and helpful; and the mothers of avoidantly attached children were less helpful, colder, more controlling and helpful only when the task was done. The mothers of anxiously/ambivalently attached children were observed to be moderate and kind but sometimes coercive and inconsistent, giving unpredictable reactions. It was observed that the mothers of preoccupied attached children were more cowardly in their behavior and they clicked to their mothers. In their adulthood, they became anxious and dependent individuals.

Another finding of our study was the significant relationship between flexibility and originality scores for verbal creativity of non-gifted students whose mothers have university and above education level. The highly educated mothers appeared to be more tolerant than those with low education level on their childrens' unique and unusual ideas (flexibility and originality).

On the other hand, the fathers' education level had no effect on their childrens' attachment style and verbal creativity scores indicating that mothers have more active role in child-rearing process in our culture.

Another meaningful result was found between gifted students who have two brothers/siblings and those who have three and more brothers/siblings in fluency and originality scores. The meaningful result was in favor of gifted students who have two brothers/siblings. It can be thought that having one sister/brother in childhood can create more competition and limit the freedom to use facilities, encouraging more creative ideas and development of high IQ among children.

REFERENCES

AİNSWORTH, M. ; BLEHAR, M. ; WATRES, E. , & WALL, S. (1978). Patterns of attachment: A psychological study of the strange situation. Hillsdale, NJ: Erlbaum.

ASLAN, E. A. (1999). Adaptation of Torrance Test of Creative Thinking, International Conference on Test Adaptation Proceedings. Geoerge Town University, Washington D. C.

ASLAN, E. A. (2001a). Kavram boyutunda yaratıcılık. [Conceptual dimensions of creativity], Ankara: Turk Psikolojik Danısma ve Rehberlik Dergisi. 16(2), 15-22.

ASLAN, E. A. (2001b). Torrance Yaratıcı Düşünce Testi Türkçe Versiyonu. [Turkish Version of Torrrance Tests of Creative Thinking]. Istanbul: M. U. Ataturk Egitim Fakultesi Eğitim Bilimleri Dergisi. 14, 19-40.

ASLAN, E. A. (2002). Yaratıcı problem çözme. İçn. Örgütte kisisel gelişim [Creative problem solving. In personal development at organization] Esra A. Aslan (Ed.) Ankara: Nobel Yayınları**.**

ASLAN, E. A. & PUCCİO, G. (2006). Developing and testing A turkish version of Torrance Tests of Creative Thinking: A study of adults. Masseachusetts: Journal of Creative Behavior. 40(3) Thirds Quarter, 163-178.

BELSKY, J. (1987). Modern evolutionary theory and patterns of attachment. Child Development, 62, 141-161.

BOWLBY, J. (1977). The Making and Breaking of Affectional Bonds: Aeitology and Psychopathology in The Light of Attachment Theory. British Journal of Psychiatry. 130: 201-210.

BOWLBY, J. (1980). Attachment and loss. Volume III: Loss, sadness and depression. New York: Basic Books.

BOWLBY, J. (1982). Attachment and loss. Volume I. Attachment. (2nd ed.). New York: Basic Books.

BOWLBY, J. (1988). A Secure Base: Parent-Child Attachment and Human Development. New York: Basic Books**.**

BRETHERTON, I. (1987). New perspective on attachment relations: Security, communication, and internal working models. In J. Osofsky (Ed.). Handbook of Infant Development. New York: Wiley.

CASSİDY, J. & BERLİN, L, J. (1994). The insecure/ambivalent pattern of attachment: Theory and research. Child Development, 65, 971-991.

CROWELL, J. A. , & FELDMAN, S. (1988). Mothers' internal models of relationships and children's behavioral and developmental status: A study of mother-child interaction. Child Development, 59, 1273-1285.

DAĞLIOĞLU, E. (1995). İlkokul ikinci sınıflara devam eden çocuklar arasından üstün yetenekli olanların belirlenmesi. [Determining gifted and talented students among second grade students at elementary school]. (Unpublished Doctorate Thesis). Ankara: Hacettepe Universitesi Sosyal Bilimler Enstitusu.

DAVASLIGİL, U. (1995). Üstün Zekâlı Cocukların Eğitimi. [Education of gifted and talented Children]. Yasadıkça Eğitim. İstanbul: Sayı 43. (Kasım-Aralık):21-27.

DİESSNER, R. (1984). Correlation of the Khatena-Torrance Creative Perception Inventory and The Wechsler Adult Intelligence Scale. The Creative Child and Adult Quartely, 9(1), 19-30.

ERTEM, U. & YAZICI, S. (2006). Ergenlik döneminde psiko-sosyal sorunlar ve depresyon. [Psycho-social problems at adolescent period]. Aile ve Toplum, 8(3), 7-13.

HANSON, L. (1997). A study of creativity in adolescence as related to ego development and parental attachment. New York: Unpublished Doctorate Thesis. Department of Psychology at Pace University.

HAZAN, C. , & SHAVER, P. R. (1987). Romantic love conceptualizing as an attachment process. Journal of Personality and Social Psychology, 52(3), 511-524.

ISABELLA, R. A. (1993). Origins of attachment: Maternal Interactive behavior across the first year. Child Development, 64, 605-621.

KOBAK, R. R. ; COLE, H. E. ; FRENZ-GİLLİES, R. ; FLEMİNG, W. S. , & GAMBLE, W. (1993). Attachment and emotion regulation during mother-teen problem solving: A control theory analysis. Child Development, 64, 231-245.

LEVY, K. N. ; BLATT, S. J. , & SHAVER, P. R. (1998). Attachment styles and parental representations. Journal of Personality and Social Psychology, 74(2), 407-419.

MAİN, M. (1990). Cross-cultural studies of attachment organization: Recent studies, chancing methodologies and the **concept of conditional** strategies. Human Development, 33, 48-61.

MAİN, M. , KAPLAN, N. , CASSİDY, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I. Bretherton, Waters (Eds.), Growing Points of Attachment Theory and Research. Monograph of the Society for Research in Child Development, 209 (1–2), 66–104.

MCCLELLAN, E. , (1985). Defining giftedness? ERIC Clearinghouse on Handicapped and Gifted Children, Eric no, ED262519.

MİKULİNCER, M. & SHEFFİ, E. (2000). Adult attachment style and cognitive reactions to positive affect: A Test of mental categorization and creative problem solving. Motivation and Emotion, 24(3), 149-174.

ÖZBEN, S. , & ARGUN, Y. (2002). Sosyo demografik özelliklere göre üniversite öğrencilerinin yaratıcılık düzeylerinin incelenmesi. Dokuz Eylul Universitesi Buca Eğitim Fakültesi Dergisi, 14, 8-17.

PARKE, B. N. (1989). Gifted students in regular classrooms. Massachusetts: Allyn and Bacon.

PLUCKER, J. A. and RENZULLİ, J. S. (1999). Psychometric approaches to the study of human creativity. Handbook of Creativity içinde. Cambridge: Cambridge University Press:: 35-61.

RENZULLİ, J. S. & REİS, S. M. (1997). The schoolwide enrichment model. how to guide for educational excellence. 2nd Ed. Connecticut. Creative Learning Press.

RUNCO, M. A. ; ALBERT, R. S. (1986). "The Threshold Theory Regarding Creativity and Intelligence" The Creative Child and Adult Quartely. Vol:11 (4):212-218.

SHAVER, P. R. , & MİKULİNCER, M. (2002). Attachment-related psychodynamics. Attachment and Human Development, 4, 133–161.

STENBERG R. J. and O'HARA, L. (1999). Creativity and Inteligence. Handbook of Creativity içinde. Cambridge: Cambridge University Press: 251-272.

TORRANCE, E. PAUL (1974). Torrance Test of Creative Thinking, Norms–Technical Manual, Bensenville, I. U. :Scholasting Testing Service, İnc.

XİAOXİA, A. (1999). Creativity and academic achivement: An investigation of gender differences. Creativity Research Journal. 12(4):329-338.

YAVUZER, H. (1989). Yaratıcılık. İstanbul: Boğaziçi Üniversitesi Yayınları.

ZARNEGAR, Z. and HOCEVAR, D. (1988). Components of Original Thinking in Gifted Children. Educational and Psychological Measurement, 1, 5-14.