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Examining the Relationship between Mother-Child Attachment Styles and Creativity*

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Abstract

This study was conducted to determine the relationship between attachment styles and creativity. The relational survey model, one of the general survey models, was used in the study. The sample of the study consists of a total of 301 children, 153 girls, and 148 boys, between the ages of 7-11, studying in four different primary schools in Konya province Selcuklu district. The Torrance Creativity Test was used to determine children's creativity and the Experiences in Close Relationships -II- Middle Childhood Scale was used to determine their attachment styles. The scales were administered to the children individually. The scores the children got from the scales were converted into standard scores. Correlation (Pearson) and Regression analysis was conducted with the obtained data using SPSS 21 package program. According to the findings, a significant negative relationship was found between Figural creativity and anxious and avoidant attachment styles, but no significant relationship was found with verbal creativity. As a result of the regression analysis, while avoidant attachment style significantly predicted the sub-scale of formal creativity, it did not significantly predict anxious attachment style.

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INTRODUCTION

The age we live in is the age of changes in the field of technology. Innovation, creativity, and problem-solving ability are among the basic skills of this age. Creativity and innovation are essential for any enterprise to continue and be successful. (Wang & Cheng, 2010). Creativity offers people the basis of happiness, a bright future, comfort, and well-being. It creates individual and social life (Moghaddami & Rashidi, 2017). Research shows that creativity will be the center of gravity of new movements in the future. It will be important to use creative thinking in different scientific and technological fields (Craft, Jeffrey, & Labeling, 2001).

Creativity is one of the most important factors that ensure the development and survival of the individual. It means the ability to bring together different ideas and make connections between these thoughts in a unique way (Richard et al., 2018). The expression of having academic ability in a certain field and showing high performance in this field, having leadership ability, having superior abilities in one of the arts or sports branches are characteristics defining creative individuals (Parke, 1989: McClellan, 1985). Creativity is defined as the process of sensing problems, trying to eliminate deficiencies, evaluating and testing existing or self-generated hypotheses, re-evaluating and re-testing, and reporting and announcing the results to the public (Laguia et al., 2019). Creativity is a cognitive process influenced by environment and culture, and creative people have a high level of understanding of new relationships and challenges (Twigg & Yates, 2019). Creative behavior is needed wherever there are problems, including interpersonal relationships (Guilford, 1968). Therefore, to explore the nature of creativity and raise creative individuals, scientists are encouraged to focus specifically on variables that have not been included in the creativity literature so far (Zhou & Hoever, 2014).

When the literature is examined, studies on the effect of attachment styles on creativity are limited (Aslan & İmamoğlu, 2009; Backes, 2000; Černe et al., 2018; Esmaeliy & Sheikholeslami, 2018; Hosseinikhah & Vahedian, 2011; Kirrane et al., 2019; Malekzadeh et al., 2020). Considering that creativity emerges as a result of interaction and relationships with others, different attachment styles may affect the nature of creativity. People with a secure attachment style tend to display more functional qualities and produce more results than other people (Jones et al., 2018).

Attachment is a term that is very effective in the development of personality and describes establishing a deep and emotional bond with certain people (Ardenghi et al., 2020). Attachment theory, first proposed by Bowlby (1980), is based on the relationships that emerge and develop between the infant and the primary caregiver. Attachment is considered to continue from birth to death and determines one's emotional experiences and relationships (Ainsworth et al., 1978; Ainsworth & Parkes, 1991; Bowlby, 1982; Shaver & Mikulincer, 2002). From infancy, the child first internalizes the attachment figure, his relationship with the primary caregiver, and then his relationship with others. (Levy, Blatt, and Shaver, 1998). Individual attachment can explain how individuals act in their job and what potential they reveal (Manning, 2003). Children's attachment styles with their mother can hinder their creativity, but can also be a source of creativity. Because the mother assumes the status of being a source of power in the lives of the children (Lawrence, 1913; Olsen, 1981; Updike, 1992). It is thought that the relationship experienced at every stage of life is driven by the desire to renew, which is the desire to regain the perfect love of the mother in infancy (Balint, 1952; Bowlby, 1973; Winnicott, 1971). This relationship can be a source or hindrance of mutual creativity throughout life. Secure attachment creates exploratory behavior in infancy; this enables them to display creative activities in adulthood. The reason for this is the comfort that secure attachment creates in children (Hazen & Shaver, 1990). Leaders with secure attachment in adulthood are trusting and empathetic towards others (Mayseless, 2010). Therefore, they encourage the personal development and commitment of their employees or the group they lead (Mikulincer & Shaver, 2010), and the productivity of the group increases with the increase of loyalty and trust of

the group (Davidovitz et al., 2007; Popper & Mayseless, 2003). This information lays the groundwork for the evaluation of the effect of insecure attachment style on the creativity of individuals (Yip et al., 2018).

The need to examine the relationship between attachment styles and creativity and the studies conducted in the literature for university students (Esmaeliy & Sheikholeslami, 2018; Hosseinikhah & Vahedian, 2011) or adults in working life (Černe et al., 2018; Kirrane et al., 2019; Malekzadeh et al., 2020) created the gap in evaluating the relationship between the attachment styles of younger children and their creativity. This study aims to contribute to the literature in this field by analyzing the connection between the creativity of pupils aged 7-11 and their attachment styles.

METHOD

SAMPLE

301 children between the ages of 7-11, studying in 4 different primary schools in the Selçuklu district of Konya-Türkiye, participated in the study. Participation in the study is based on the volunteering of the school and family. The study included children aged 7 (n=7), 8 (n=91), 9 (n=90), 10 (n=92), 11 (n=21). While the number of children aged 8,9,10 is almost equal, the participation rate of children aged 7 and 11 is lower. One of the reasons for this is that most of the 7-year-old children are in the first grade and are illiterate. It is because some of the 11-year-old children have passed secondary school. Since the study was conducted with primary school children, secondary school children were not included in the study. Mothers of 153 girls and 148 boys do not work in any job. While choosing the schools to take part in the study, schools with children from families with low socioeconomic status (n=93), medium socio-economic level (n=98), and high socio-economic level (n=110) were preferred. Children in the sample group are children with normal development.

DATA COLLECTION

In the study, the Torrance Creativity Test was used to survey creativity of children, and the Experiences in Close Relationships Scale-Revised (Middle Childhood) was used to measure the attachment style of the mother and child. Researchers are certified to administer and use the Torrance Creativity Test. Necessary permission was obtained for the Experiences in Close Relationships - II Middle Childhood Scale. Meetings were held with the Provincial Directorate of National Education, which provides the administrative and management of the schools affiliated to the Ministry of National Education in the region where the study is planned, and the schools that will participate in the study were determined in line with the joint decisions of the researchers and the administrative institution. In the determination of the schools, it was tried to provide the criterion of being the schools where the children of families with different socio-economic levels attend. To meet this criterion and to make school choices, non-confidential personal data obtained by the guidance service of the schools were used. The information and opinions of the Guidance and Psychological Counseling services were taken into consideration. Guidance and Psychological Counseling services were given information on how to carry out the study and planning were made in line with common opinions. Torrance Test of Creative Thinking and Experiences in Close Relationships II Middle Childhood Scale was administered to the children individually. The tests were administered in the school, in the individual room provided for the researchers, and the necessary information was given to the children and mothers before the application.

The Torrance Tests of Creativity; Torrance Creativity Test was first mentioned in the relevant literature in 1966 and revised again in 1974 (Torrance), 1984 (Torrance & Ball), 1998 (Torrance). The test has two different scale. These are the verbal and figural scales. The activities in the verbal section are as follows; The ask and guess task requires the individual first to ask questions about a

picture (questions which cannot be answered by just looking at the picture). Next, they are asked to make guesses about the possible causes of the event, and then their consequences both immediate and remote. The fourth activity is Product Improvement Task, regardless of these pictures, the fifth activity is Unusual Uses, the sixth activity is Unusual Questions, and the last activity is Assume with a picture. In the figural section; The first activity is Creating a Picture with a stain on the paper, the second activity is Completing the Picture by giving different incomplete lines, and the third activity is activities based on creating different drawings with lines called Parallel Lines. In 1984, norm-resistant criteria were developed for figural form under the headings of fluency, originality, flexibility, abstraction of titles, resistance to early closure, and enrichment. At the same time, defiance for early ending, expressiveness of titles, ability to express the story, movement or activity, enrichment, and emotional expression. Simultaneously, expression of feelings, capability of telling the story, action or activity, elaborate expression of titles, synthesis of missing shapes, coalescence of titles, uncommon visualization, inherent visualization, flexing or passing borders, abundance of imagination and phantasm were among the criteria-based criteria developed in the test. The application of the test takes 75-80 minutes. In this study, form A of the test was used.

While the validity study of the test was carried out, the verbal test was administered to 10.127 people and the figural test was administered to 37.814 people. In studies conducted using the Torrance Creativity Scale and available in the literature, the Kuder-Richardson 21 test value was between .89 and .94; Cronbach Alpha value has been reported as .72 and below (Ferrando et al., 2007; Torrance, 1998). The construct validity of the verbal form of the test was determined by Dixon (1979), Hocevar (1979), Krumm et al. (2014), while the construct validity of the figural form was determined by Almeida et al. (2008), Heausler & Thompson (1988), Kim (2006), Kim et al. (2006), but different structural models have been presented. The Turkish validity and reliability study of the Torrance Creativity Test was conducted by Aslan in 2001 with 922 people from kindergarten to adulthood. The Cronbach Alpha reliability coefficient was found to be between .50 and .56, and item discrimination was significant at the level of .01 for each group.

Experiences in Close Relationships Scale-II (Middle Childhood): The Experiences in Close Relationships Scale-II was developed by Fraley et al. in 2000 to measure adult attachment scales. It was adapted into Turkish by Selçuk et al. in 2005. Brenning et al. (2011) adapted this scale to include 36 items for middle childhood and early adolescence. The scale is suitable for middle childhood and early adolescence between the ages of 8-13. The original items of the Experiences in Close Relationships Scale were simplified and the item contents were arranged by the child-parent relationship. The scale created by Brennig in 2014 was adapted into Turkish by Kırımer et al. The scale has a two-factor structure as anxiety and avoidance scales. Each scale item is graded in the range of 1-7 points. Each child grades the questions in a way that suits them best. It is applied individually and takes an average of 20 minutes.

The Turkish version of the Experiences in Close Relationships Middle Childhood Scale was administered to 357 children aged 10-14 years. While the avoidance attachment dimension represented by the first factor explained 18.66% of the total variance, the anxiety dimension represented by the second factor explained 17.72% of the total variance. Cronbach's alpha coefficient was calculated as .90 for the avoidance attachment dimension and .78 for the anxiety attachment dimension.

DATA ANALYSIS

In the study, the data obtained from the Torrance Creativity Test from children aged 7-11 were scored by two specialists and turned into commonly accepted scores. The correlation between the two experts was found to be .91. Correlation (Pearson) and regression (Hierarchical Regression) analysis were done by using SPSS 21 program to explain the correlation between the data obtained from the Experiences in Close Relationships Scale-II and the Torrance Creativity Test.

FINDINGS

Table 1. *Findings Related to the Correlation Values of Children's Anxious and Avoidant Attachment Total Scores of the Experiences in Close Relationships Scale and Torrance Creativity Test Subtests*

		Anxious Attachment	*Avoidant Attachment*
Torrance Creativity Test Subtests	Verbal Fluency	-.11	-.05
		.07	.34
		301	301
	Verbal Flexibility	-.10	-.11
		.10	.07
		301	301
	Verbal Originality	-.04	.07
		.51	.25
		301	301
	Figural Fluency	-.15*	-.24**
		.01	.00
		301	301
	Figural Originality	-.11*	-.19**
		.05	.00
		301	301
	Abstraction of Titles	-.10**	-.14*
		.05	.01
		301	301
	Early Closing Resistance	-.05	-.17**
		.35	.00
		301	301
	Figural Enrichment	-.06	-.01
		.27	.80
		301	301
	Verbal Total	-.09	-.03
		.13	.59
		301	301
	Figural Total	-.15*	-.25**
		.01	.00
		301	301

**p<.01.*p<.05

When the relationship between children's Torrance Creativity Test sub-dimension scores and their sub-scales scores from the Experiences in Close Relationships Scale are studied, it is evident that pupils anxious attachment and figural fluency (r=-.15; p< .01), figural originality (r=-. 11; p<.05), the abstractness of the titles (r=-.10; p<.05) sub-scales and the figural total (r=-.15; p<0.01); with avoidant attachment sub-dimension, figural fluency (r=-.24; p<.01), figural originality (r=-.19; p<.01), the abstractness of titles (r=-.14; p<.05), early closure resistance (r=-.17; p<.01) sub-scales and figural total (r=-.25; p<0.01) were determined to be related negatively yet with statistical significance. No significant relationship was found between anxious and avoidant attachment and verbal creativity sub-scales.

Table 2. *Comparative Values for Hierarchical Modeling: Avoidant Attachment*

Model[b]	*R*	R^2	*N.* R^2	*SH*	R^2 *Change*	*F*	*p*	*Durbin-Watson*
1	.26[a]	.07	.05	20	.07	4.22	.00**	2.15

a. Predictors: Torrance Test of Creativity, figural Fluency, Figural Originality, Abstraction of Titles, Early Closure Resistance Sub-scales
b. Dependent variable: Avoidant Attachment
**p<.01

As seen in Table 2, it was determined that the model created by the children's creativity figural creativity sub-scales, which had a significant relationship with the scores of the Children's Experiences in Close Relationships Scale, avoidant attachment sub-dimension, was statistically significant [F (5.30)=4.22; p<.01]. The explanatory rate of proposed model was defined to be 7% (R2=.07). The multiple regression analysis for predictiveness is as follows:

Table 3. *Multiple Regression Analysis Findings Regarding the Prediction of Torrance Creativity Test Figural Form Sub-Scales on the Avoidant Attachment Sub-dimension*

Independent Variables	*B*	*SH*	*β*	*t*	*p*
(Fixed)					
Figural Originality	-.83	.25	-.19	-3.32	.00**
Abstractness of Titles	-.86	.34	-.14	-2.49	.01*
Resistance to early closure	-1.13	.39	-.17	-2.89	.00**
Figural Fluency	-1.04	.25	-.24	-4.12	.00**

Dependent Variable: Avoidance Attachment
**p<.01, *p<.05

When the predictors of the children's Experiences in Close Relationships Scale avoidant attachment sub-dimension scores were examined, figural originality (β=-.19; p<.01), figural fluency (β=-.24; p<.01), The abstractness of the titles (β=-.14; p<.05), resistance to early closure (β=-.17; p<.01) sub-scale predict the avoidant attachment sub-scale positively and significantly. According to these outcomes, high scores of the pupils in the sub-scale of figural originality, figural fluency, the abstractness of titles, and resistance to early closure predict the decrease in the scores of the avoidant attachment sub-dimension.

Table 4. *Comparison Values for Hierarchical Modeling: Anxious Attachment*

Model[b]	*R*	R^2	*N.* R^2	*SH*	R^2 *Change*	*F*	*p*	*Durbin-Watson*
1	.17[a]	.02	.01	20.45	.02	2.03	.09	1.92

a. Predictors: Children's Torrance Test of Creativity, Figural Fluency, Figural Originality, Abstraction of Titles, Resistance to Early Closure Sub-scales
b. Dependent variable: Anxious Attachment

As seen in Table 4, it was found that the model created by the children's creativity and figural creativity sub-scale, which had a significant relationship with the scores of Experiences in Close Relationships Scale, the anxious attachment sub-dimension, was not statistically significant.

DISCUSSION, CONCLUSION AND IMPLICATIONS

In the study, a negative significant relationship was found between Experiences in Close Relationships Scale, Anxious and Avoidant Attachment, and Torrance Creativity Test Figural Form

sub-scale, while no significant relationship was found between Verbal Form sub-scale. Betty (2011) and Mikulincer & Shaver (2007) showed in their studies that there is a harmonious relationship between secure attachment style and creativity. People with secure attachments have higher courage and flexibility, so exploration, experimentation, and learning increase. These also bring production and problem solving (Esmaeliy & Sheikholeslami, 2018). These features are characteristic of creative individuals and enable the prediction of the effect of secure attachment on creativity. Simmon et al. (2009) predicted in their study that securely attached leaders activate the productive capacity of their employees, while Škerlavaj Černe, and Dysvik (2014) predicted that securely attached people enable them to generate ideas at a higher level. Hassanvand et al. (2013) found a significant positive relationship between secure attachment style and creativity, and a significant negative correlation between insecure attachment and creativity in that research with university students. Crowell and Feldman (1988) examined preschool children's attachment styles and driving skills, and their mothers' behaviors. Mothers of securely attached children were more supportive, demonstrative, and helpful while driving; and mothers of avoidant attachment children were cold, controlling, mothers of children with anxious/ambivalent attachment were mild and gentle, but sometimes compelling and inconsistent, giving unpredictable reactions when their children could only do the task. This is thought to affect children's driving skills, exploration, and curiosity. By examining the relationship between attachment styles and creativity, Dirtu and Soponaru (2016) concluded that secure and insecure attachment make a significant difference between creative people. Kirrane et al. in their study with 192 employees in 12 engineering organizations, revealed that secure relationships were positively associated with creativity, while insecure attachment styles had negative effects on employee relationships, leading to lower creativity. The literature results reveal the negative effect of adult and kindergarten children's insecure attachment styles on creativity and the positive effect of secure attachment. The relationship of insecure attachment styles of middle childhood children with creativity obtained in this study is consistent with the studies of kindergarten children and adults in the literature.

The relationship between the figural part of creativity and attachment was not observed between the verbal part of creativity and attachment. In the study of Zarea et al. (2016) with twins, the environment has a great role in the emergence of verbal creativity, and in the study of Miller and Gerard (1979), social classes in society are positively related to the verbal creativity of children. Findings suggest that environmental factors and social development are more effective in the emergence of verbal creativity. Vernon (1989) determined that generally the artistic creativity of the ancestors, that is, applied arts, is transferred within the family and this is more an example of figural creativity. Rholes et al. (1995) stated that adults with an avoidant attachment style also approach their children in this way. Considering that attachment styles are also transmitted from generation to generation, it makes us think that figural creativity may also be related to family relations. In addition, the data related to verbal and figural creativity obtained from the literature and this study predicts the conclusion that attachment can play the role of a mediator variable between creativity and hereditary transmission of creativity. Aslan and İmamoğlu (2009) found that there was no relationship between attachment styles and verbal creativity scores in their study with gifted children. This study supports the result obtained about verbal creativity.

Another result obtained from this study was that while figural creativity sub-scale significantly and negatively predicted the avoidant attachment sub-dimension, they did not significantly predict the anxious attachment sub-dimension. Hosseinikhah, & Vahedian, (2011) found that avoidant attachment predicted creativity in their study, while Esmaeliy & Sheikholeslami (2018) determined that anxious attachment predicted creativity. While one of the two studies supports the results obtained in this study, the other study does not. However, two studies were conducted on university students and in a single university which means that the sample groups are limited.

The anxious attachment uses high activation strategies, while avoidant attachment uses low activation strategies (Main, 1990). Anxiously attached individuals are hypersensitive to the proximity of the attachment figure and threatening cues. They make an effort to maintain intimacy with the attachment figure. On the other hand, in individuals with avoidant attachment, the attachment system is disabled. They do not seek intimacy with the attachment figure, avoidant people try to stay away from others and suppress their emotions (Shaver & Mikulincer, 2002). Although people with an anxious attachment may have more negative experiences in their relationships due to insecurity, they may have relatively more positive experiences than people with avoidant attachment (Mikulincer et al., 2003; Shaver & Mikulincer, 2002). Considering that negative emotions have an inhibitory role on creativity, as in the study of Kobak et al. (1993), it is thought that avoidant attachment may affect creativity more negatively than anxious attachment. However, there is a need to study with large sample sizes for the effect of avoidant attachment and anxious attachment on creativity.

LIMITATIONS

The first limitation of the study was that it had a cross-sectional design and therefore causality could not be established. The second limitation was the lack of structured psychiatric evaluation for the participants. Another limitation was that the psychopathology of the parents were not screened. More longitudinal studies are needed to elucidate the relationship between creativity and attachment styles.

AUTHOR CONTRIBUTION

First author: Conception, Design, Materials, Data Collection and/or Processing, Analysis and/or Interpretation, Literature Review, Writing.

The second author: Conception, Design, Materials, Data Collection and/or Processing, Analysis and/ or Interpretation, Literature Review, Writing

The third author: Conception, Design, Materials, Data Collection and/or Processing, Analysis and/ or Interpretation, Literature Review, Writing

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