



The Analysis of the Relationships of Attachment to Mothers and Fathers and Achievement Goal Orientation and Life Satisfaction of Adolescents

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Abstract

Attachment has been related to the many important variables including self-esteem, quality of relationship with others, well-being and depression. In recent years, a growing number of researchers turned their interest on the topic of relationship between attachment and academic variables, including achievement and motivation. Although, these studies created a rich knowledge base, scope of the majority of these studies was limited to topic of attachment to mothers, in spite of the growing awareness of the crucial role of fathers on the psychosocial development of the children. The purpose of this study is to investigate the differentiated relationship of adolescents' goal orientations and life satisfaction with attachment to mothers and fathers. The sample of the study was 377 students attending to a state high school in Aegean region. In order to collect data, Inventory Parent and Peer Attachment (IPPA), Achievement Goal Orientation Scale and Life Satisfaction Scale were used. According to the results, attachment to mother had direct effect on performance avoidance goal orientation, life satisfaction and learning goal orientation. Besides, it had an indirect effect on life satisfaction through avoidance and learning goal orientations. Attachment to father had direct effect on learning goal orientation and life satisfaction and indirect effect on life satisfaction through learning goal orientation. The findings of this study highlight the importance of father's role in addition to mothers' in understanding students' life satisfaction and motivation.

Keywords

Attachment to Mother
Attachment to Father
Goal Orientation
Life Satisfaction
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Introduction

Attachment can be defined as the belief of others' availability as a source of social support when it is needed. This belief stems from a healthy emotional bond between primary caregiver and the child within the first a couple of years after birth (Bowlby, 1969; Kerns, Klepac, & Cole, 1996). Therefore, attachment functions as a mental framework through which self-worth is formed and the relationships with others are regulated. According to Bowlby (1969, 1988), in the early years of life, infants form a mental model of themselves, others, and the relationship based on their interaction with the primary caregiver, and future experiences are shaped within this framework. Ainsworth, Blehar, Waters, and Wall (1978) distinguished 3 attachment patterns emerged through children's interactions with their primary caregivers, namely secure, avoidant, and anxious/uncertain, based on the observation of infants' behaviors in the presence of strangers to test Bowlby's attachment theory. In later years, Bartholomew and Horowitz (1991) developed a 4-factor model by adapting childhood attachment patterns to adulthood. In this model, secure attachment is defined by a positive self-image and healthy interactions built on trust relationships with others. On the other hand, other attachment styles, which are obsessive, fearful and indifferent attachment styles, could be classified as insecure attachment and defined by an internal cognitive model based on feelings of worthlessness and insecurity. Since insecure attachment patterns involve the perception that others are unreliable and rejecting, anxiety and doubts dominate the relationships with others. Although attachment is built in the early years of life, it is defined as a dynamic structure that continues throughout life (Bowlby, 1969). In this developmental process, attachment relationships become more crucial during adolescence since new attachment objects independent of the family, especially with friends, are developed (Uytun, Öztop, & Eşel, 2013). While adolescents with healthy attachment experiences able to adapt better with the stressful period of adolescence transition (Sroufe, 2005), adolescents with insecure attachment often perceive their interactions within the family as a threat to their independence and hence often have communication problems (Uytun et al., 2013). Therefore, childhood attachment experiences become a functional mental model in which adolescents regulate their relationships and coping patterns through development (Bowlby, 1969).

Secure attachment developed through healthy interactions modeled by the primary caregiver that enables the individuals to utilize positively biased mental models of themselves and others has been related to optimal beliefs and behaviors such as empathy (Amato, 1994), self-confidence (Armsden & Greenberg, 1987) and social competence (Williams & Radin, 1993). On the other hand, insecure attachment, which is marked by the lack of such positive mental models that can be utilized during the interactions with others, is associated with negative schemas for self (Bilgin & Akkapulu, 2007; Hazan & Shaver, 1987) and others (Sideridis & Kafetsios, 2008), high levels of depression (Armsden, McCauley, Greenberg, Burke, & Mitchell, 1990), loneliness (Erözkan, 2004) and low level of well-being (Ryan & Lynch, 1989).

In general, attachment as a mental model that influences psychological health and well-being through individual's expectations of relationships is also closely associated with academic behavior and performance in the development process from kindergarten to university years (MacKay, Reynolds, & Kearney, 2010). West, Mathews, and Kerns (2013) in a longitudinal study reported that attachment styles in 24 months and 36 months were predictive of academic achievement and IQ at secondary school. O'Connor and McCartney (2007) argued that the cognitive skill scores of children with ambiguous and insecure/other attachment were lower than those with secure attachment and this relationship was mediated by problems such as low communication skills, lack of attention, and difficulty in concentration on related work and relationships with teachers. Larose, Bernier, and Tarabulsy (2005) stated that high school students with secure attachment had an easier adaptation process during the transition to the university, and hence had higher achievement scores. In a meta-analysis, Mattanah, Lopez, and Govern (2011) reported that healthy attachment to parents is associated with many adaptive

behaviors that could be classified under the dimensions of academic and social competence, self-worth, stressful affects (such as depression, alcohol use, eating disorders) and developmental advances (such as autonomy, identity achievement, psychological resilience) during the university years and the relationship ranges from low to moderate as in secondary and high school students. They argued that the attachment maintained its positive effect by facilitating other adaptive behaviors and called for the further investigation of these possible mechanisms.

One such potential variable is goal orientation. Goal orientation refers to underlying psychological need regulating an individual's behavior towards learning tasks (Dweck, 1986; Dweck & Leggett, 1988). Achievement orientations have different conceptualizations in the literature, including dual model of learning and performance orientations (Elliott & Dweck, 1988) and four-factor model of learning approach, learning avoidance, performance approach and performance avoidance (Elliot & McGregor, 2001). The most common conceptualization (Bong, 2009) classifies 3 goal orientation categories; learning, performance approach and performance avoidance orientations (Elliot & Harackiewicz, 1996). Learning orientation includes a need for personal development and knowledge of the learning material at hand. The performance approach is defined by the efforts to prove the competence and superiority of the individual in the eyes of the others and this motivation to be best could overshadow the learning objective. Finally, avoidance goals are marked by the avoidance behaviors such as being contempt with just a passing grade based on the anticipation of others' low expectancy of themselves. Learning orientation has positive relations with many desired academic variables such as academic achievement, self-esteem (Albert & Dahling, 2016), self-efficacy and deep strategy use (Grant & Dweck, 2003; Wolters, 2004) and it has negative relationships with less desirable variables such as test anxiety, extrinsic motivation and surface strategy use (Deemer, Carter, & Lobrano, 2010). On the other hand, performance avoidance goals are associated with variables that may hinder success such as test anxiety and memorization (Linnenbrink-Garcia et al., 2012). It has been argued that performance approach goals are more likely to be affected by moderators such as competence beliefs (Deemer et al., 2010). Hence, the findings related to performance approach goals are less consistent and its relationships with optimal academic beliefs and behaviors were reported as positive in some studies (etc., Huang, 2011), while others reported findings at the opposite direction (etc., Karabenick, 2004).

Studies examining the relationship of attachment to academic behaviors have generally addressed either the effects of attachment to mothers or common effects of attachment to both parents combined, but studies of the effects of attachment to the father are less common. However, in parallel with the changing socio-cultural needs, including the increasing role of the mothers in the working place and father's involvement of child rearing, as well as the increasing levels of awareness about the importance of the father in the child's development, more and more researchers started to call for the need to study differentiated effects of attachment to the father and mother (etc., Bacro, 2011). In the literature, there exist three different viewpoints to the effects of attachment to father (Howes & Spieker, 2008). Within the framework of the traditional viewpoints postulated by Bowlby, the first attachment relationship with the mother, who is defined as the primary caregiver, has a special and important place in the process of development since it affects the quality of all other attachment experiences. According to the second view, experiences with different sources of interaction are synthesized to create a general mental model and later experiences are interpreted through this mental model. Finally, in more recent studies, the understanding that the mother and father have different roles in the development of the child and that the quality of the established attachment relationships will affect the behavior of the child differently depending on the functions of these roles is more widely expressed (etc., Bacro, 2011; Grossmann vd., 2002).

The interest on the developmental effects of attachment to the father is relatively new area. Therefore, existing studies are limited and sometimes have contradictory results. Paterson, Pryor, and Field (1995) argued that the functions of attachment to both parents were similar and for adolescents

the general mental model developed as a result of all attachment experiences was more important than current relationships with parents. Similarly, in their study of high school students with different ethnic backgrounds, Arbona and Power (2003) reported that adolescents' attachment levels to mother and father were not different and that secure attachment to parents, in general, was associated with higher self-esteem. On the other hand, Williams and Kelly (2005) reported that internalization problems in secondary school students were related to attachment to the mother, whereas externalization problems were related only to problems with attachment to the father. Diener, Isabella, Behunin, and Wong (2007) stated that girls have higher levels of secure attachment to their mothers and boys have more positive attachment to their fathers. Further, for both genders, academic achievement was linked to secure attachment to the father, lending further support for the importance of father involvement for both girls and boys. Similarly, Grossmann et al. (2002) found that traditional stress testing was not effective in studying the infants' relationships with the father. Researchers reported that while babies in stress turn to mothers in search of trust, they are more likely to choose fathers in stress-free situations. They concluded that mothers' role as to provide safety and trust and fathers' role as a source of fun, play and exploration seems to be more important.

In Turkey, while in the past years the disciplinary role of the father was more crucial, many researchers in recent years have pointed out the changing roles of fathers from the 'breadwinner and discipline source' to provider of nourishment and care of the children, which were considered traditionally mothers' duties (etc., Kuzucu, 2011; Ünal & Kök, 2015; Yıldırım, 2009). It is important to study the father's role in the development of the children in Turkey because of the scarcity of studies, in spite of the major paradigm change in terms of motherhood and fatherhood roles and its relatively different cultural structure from the western societies in which most of the psychology studies were conducted.

In this study, based on the widespread support for the relationships between attachment, academic motivation and achievement, the relationship between attachment to parents and goal orientation is also evaluated. Life satisfaction, which is related to both attachment and achievement orientation is also included in the study. The rapid and radical developmental changes of adolescence and the adaptation process to new academic, social and psychological tasks brought about by these changes have the potential to negatively affect life satisfaction of adolescents. In fact, Bartholomew and Horowitz (1991) stated that adolescents who have positive relations with their families and perceive high level of social support are better adapted to this transition process. In a longitudinal study, in which the participants' attachment levels with their families and their well-being were measured from the age of 12 to 24, Van Wei, Ter Bogt, and Raaijmakers (2002) concluded that attachment to parents was an important determinant of well-being.

In addition to its relationship with attachment, life satisfaction is also associated with goal orientations. For example, Sosik, Chun, and Koul (2017) examined the relationships between goal orientations and well-being of university freshmen and stated that learning orientation had a positive relationship with well-being while avoidance orientation had a negative relationship, and these relationships were more prominent in male students. Tuominen-Soini, Salmela-Aro, and Niemivirta (2012) stated that students with learning goals had more successful transition from secondary to high school compare to students with avoidance goals.

The well-being consists of three components: positive mood, negative mood and life satisfaction (Diener, 1984). However, in this study, in the light of the findings of previous studies that attachment at childhood becomes stable and forms a mental schema representing the relationship quality with parents and these perceptions of attachment are more influential than attachment behaviors (Paterson et al., 1995), the relationship with the cognitive component of well-being, that is life satisfaction, is investigated.

The aim of the present study is to analyze the relationships of adolescences' academic motivation and life satisfaction with attachment to both mothers and fathers in two separate models in the context of Turkish culture. In light of the aforementioned literature, based on the perceived distinctive roles of mother and father in raising children within Turkish families, it is expected that the relationships of attachment to mothers and fathers to the study variables will be different. It is expected that the relationship between attachment to mother and life satisfaction and goal orientation would range from moderate to strong, whereas the relationships of study variables with the attachment to the father are expected to be weaker since the primary caregiver of children in Turkey is still mothers. Moreover, based on the findings of the past studies that the father spent more time with games and fun activities with the child (Kazura, 2000) the relationship of attachment to the father and the learning orientation, which is associated with the enjoyment of doing the task at hand, is to be stronger than the relationship with the avoidance performance orientation, which emphasizes the evaluations of others. No hypothesis regarding performance goals are postulated due to previously inconsistent findings (Figure 1 and Figure 2).

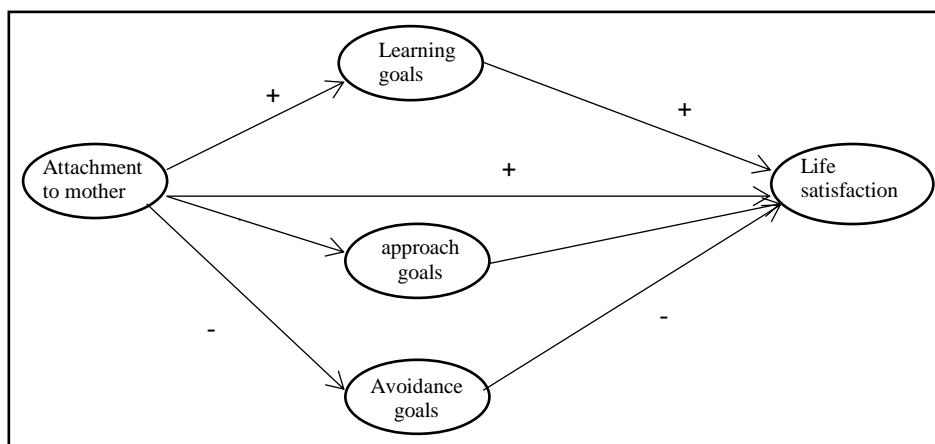


Figure 1. Proposed Model for Attachment to the Mother

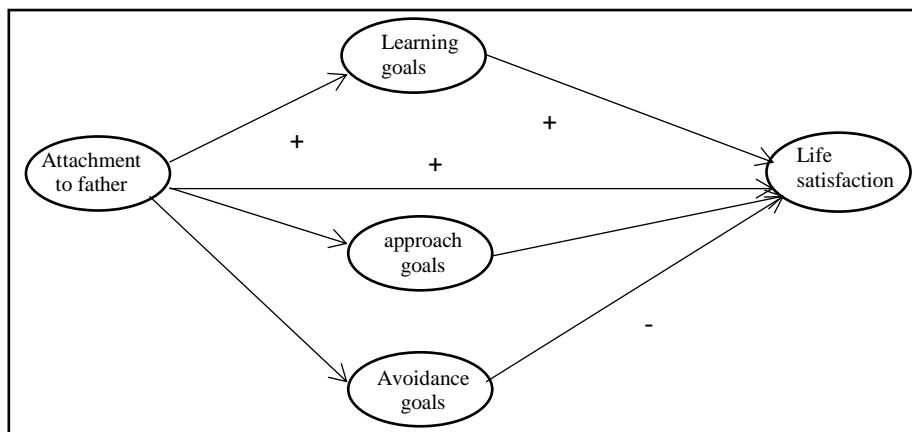


Figure 2. Proposed Model for Attachment to the Father

This study is expected to contribute to the field by providing information about the effect of father on child's behaviors, which is a largely neglected subject in our country, by examining the relationships between attachment, goal orientation and life satisfaction with the data obtained from the same sample. The results of the analysis aim to help parents, educators and researchers to increase the level of awareness about the differentiated roles of parents in increasing academic motivation and life satisfaction of adolescents. In the light of the study findings, it is expected to gain further knowledge about the family related determinants of goal orientations and to encourage development of guidance

programs that emphasize the possible differentiated role of the fathers in the academic and emotional life of the adolescent. In this study, the following hypotheses will be tested in light of the literature:

For attachment to the mother;

- a) There is a direct relationship between attachment to mother and goal orientations and life satisfaction.
- b) Learning goal is directly and positively related to life satisfaction and avoidance goal is directly and negatively related to life satisfaction
- c) Attachment to the mother has an indirect relationship with life satisfaction through goal orientations.

For attachment to the father;

- a) There is a direct relationship between attachment to father and learning goal orientation and life satisfaction.
- b) Learning goal is directly and positively related to life satisfaction and avoidance goal is directly and negatively related to life satisfaction
- c) Attachment to the father has an indirect relationship with life satisfaction through learning goal orientation.

Method

Data Analysis and Procedure

This study is a descriptive study in a relational model aimed at testing the relationships between parental attachment and learning and avoidance orientations and life satisfaction. The independent variables of the study were attachment to mother and attachment to father and dependent variables were goal orientations and life satisfaction. Structural Regression Analysis of Structural Equation Modeling (SEM) was used to explain the predictive relationships between variables. χ^2 , χ^2 / df , CFA, RMSEA, AGFI, GFI, and Standardized RMR fit indices were used to test the models. Before analyses, was tested the basic assumptions of the structural equation modeling. The analysis revealed no missing data. The skewness and kurtosis coefficients of the variables to examine the univariate normality values indicated that the second item of attachment to the mother and the second item of attachment to the father (I wish my mother/father to be someone else) exceeded the acceptable range of +2 and -2 (Byrne, 2010) (skewness -3.028 and kurtosis 9,608 for 2nd item of attachment to the mother and skewness -2,057 and kurtosis for 2nd item of attachment to father). Mahalanobis distances were calculated to determine extreme values and 7 data were deleted. As a result, final data set had 377 cases. Finally, there was no multicollinearity problem since the relationship between none of the variables was .80 and above (Çokluk, Şekercioğlu, & Büyüköztürk, 2010). Therefore, maximum likelihood method and parameter estimation are deemed appropriate since necessary assumptions are satisfied. In order to determine the significance levels of indirect effects, the bootstrapping confidence interval (CI) which is often recommended in the contemporary literature (e.g., Hayes, 2009; Preacher & Hayes, 2004) was used. According to Hayes (2009), bootstrapping is recommended for contemporary approaches since it is more robust against situations where data is not normally distributed than other methods, especially in cases where the sample size is small. The data were obtained during leisure time of the students who volunteered to participate in the study. For data analysis, correlation, t test, and structural regression analysis were used. SPSS 21 and AMOS 21 were utilized during the analysis.

Participants

The population of this study consists of high school students attending to public schools in Denizli. The sample consists of a total of 384 students (218 girls and 166 boys) studying at an Anatolian high school affiliated to the Ministry of National Education in Denizli. During the data collection, students were ensured that the confidentiality of the data would be protected and the participation in

the study was voluntary. Before the analysis, data of 7 cases with extreme values were excluded from the analysis and 377 participants' data were used. 39% (147) of the students were 9th grade, 18% (68) were 10th grade, 17% (64) were 11th grade and 26% (98) were 12th grade students. In the final sample there were 213 girl and 164 male students. Since the admission was based on students' achievement scores on a national wide achievement test rather than neighborhood at the time of data collection, students from different SED backgrounds are likely to be enrolled to the school.

Data Collection Tools

Parent and Peer Attachment Inventory (IPPA): The Parent-Peer Attachment Inventory (IPAA) was developed by Armsden and Greenberg (1987) and consisted of 3 dimensions including trust, communication, and alienation. The scale was shortened to have 4 items for each dimension by Raja, McGee, and Stanton (1992). The Turkish adaption by Günaydın, Selçuk, Sümer, and Uysal (2005) has 12 items and a single dimension. Günaydın and others reported that the scale's Cronbach's alpha level was .88 for attachment to mother and .90 for attachment to father when the 6th item (My mother/father has her/his own problems, so I don't bother her/him with mine.) with a low factor load on both mother and father attachment scales (.31 and .10) was excluded. In the current study, when the 6th item was removed, the Cronbach's alpha value for the mother's attachment scale was .88, and the Cronbach's alpha value for the father's attachment scale was .90, as in the adaptation study of Günaydın et al. (2005). Günaydın et al. (2005) conducted a factor analysis of the principal components for establishing the validity and stated that the scale items explained 43.45% of the total variance for the mother form and 46.52% for the father form. Also for establishing validity, its relationship to the self-esteem was examined and a positive significant relationship was found. Sample items of the scale are "My mother/father accepts me as I am" and "I don't get much attention from my mother/father". In the present study, two separate confirmatory factor analysis were conducted to determine the validity of the one-dimensional structure of the mother and father forms. After dropping two items (item 6 with no significant factor load and item 2 with high value of kurtosis and skewness for both attachment to mother and attachment to father) current structure of the one-dimensional scale had acceptable fit indices (For the mother form; $\chi^2(35) = 112.76$, $p < .001$, $\chi^2/df = 3.22$, CFI = .94, RMSEA = .77, AGFI = .91, GFI = .95, Standardized RMR = .044, and for father form $\chi^2(34) = 91.569$, $p < .001$, $\chi^2/df = 2.69$, CFI = .965, RMSEA = .067, AGFI = .93, GFI = .96, Standardized RMR = .043) (Çokluk et al., 2010).

Goal Orientation Scale: Students' goal orientation were measured by the scale developed by Midgley et al. (1998) and adapted to Turkish by Akin and Çetin (2007). The 5-point Likert-type scale consists of 3 sub-scales and 17 items, including learning orientation, performance-approach orientation, and performance-avoidance orientation. It is defined as a valid and reliable measurement tool used in many studies. Sample items include "I like school work that I'll learn from, even if I make a lot of mistakes" for learning orientation, "Doing better than other students in school is important to me " for approach goals and "It's very important to me that I don't look stupid in my classes" for avoidance orientation. For this study, Cronbach's alpha reliability coefficients for learning, performance-approach, and performance-avoidance orientation subscales were .91, .84 and .80, respectively. Despite the strong structure of the scale, although findings regarding the learning and avoidance goals are consistent across studies, the relationship between the performance approach and other variables is less consistent as it tends to change depending on the effects of other moderator variables such as competence beliefs (Deemer et al., 2010). In this study, performance approach was not used in the analysis of structural equation model. The exclusion of performance approach goal orientation in the structural analysis was warranted since (a) inconsistent findings obtained in the past research does not allow to draw theoretically meaningful assumptions, (b) with the exception of avoidance goals, its relationships with none of the variables in the current study are significant and (c) the measurement model reported a severe multicollinearity problem when the analysis included the scale. The confirmatory factor analysis conducted to determine whether the two-dimensional structure of the scale used in this study had acceptable fit indices. According to the results, after the modification by adding a covariance between the two error terms of the learning approach, fit indices were within acceptable limits ($\chi^2(42) = 90.746$, $p < .001$, $\chi^2/df = 2.16$, CFI = .98, RMSEA = .056, AGFI = .93, GFI = .96 and Standardized RMR = .037).

Life Satisfaction Scale: The Life Satisfaction Scale, developed by Diener, Emmons, Larsen, and Griffin (1985) adapted to Turkish by Köker (1991) has five items (1: not appropriate - 7: very suitable) and is a Likert type scale. Köker (1991) reported that life satisfaction scores were higher in healthy adolescents than adolescents diagnosed with mental problems or neuroticism. In the adaptation study, Köker stated that the test-retest reliability coefficient was .85. In this study, the Cronbach alpha value of the scale was .84. Sample items include “I am satisfied with my life” and “My life is close to ideal in many ways”. The results of the confirmatory factor analysis conducted to test the one-dimensional structure of the scale for the present study showed that the current structure of the scale had acceptable fit indices ($\chi^2(5) = 8.96$, $p < .111$, $\chi^2/df = 1.79$, CFI = .99, RMSEA = .024, AGFI = .97, GFI = .99, Standardized RMR = .019) (Çokluk et al., 2010).

Results

The Pearson correlation coefficients, means, standard deviation and minimum and maximum values of the study variables are listed at Table 1.

Table 1. Means, Standard Deviations, Min. and Max. Values of the Study Variables

	N	Min.	Max.	Mean	Std. Deviation
Learning Goal Orientation	377	1.0	5.0	3.18	1.11
Performance Approach Goal Orientation	377	1.0	5.0	3.89	1.05
Performance Avoidance Goal Orientation	377	1.0	5.0	2.14	.98
Attachment to Mother	377	1.0	5.0	4.01	.76
Attachment to Father	377	1.0	5.0	3.74	.91
Life Satisfaction	377	1.2	7.0	4.85	1.28

Although, students’ mean scores for both attachment to mother and father was somehow high; the mean score of attachment to mother was higher than mean score of attachment to fathers. In order to determine if this difference was statistically significant, a paired t test analysis was run. The analysis confirmed that mean score of attachment to mother was significantly higher than mean score of attachment to father $t(376) = 6.16$ $p = .001$. Besides, this difference was more evident for girls (for girls $\bar{x}_{\text{attachment to mother}} = 3.97$, $\bar{x}_{\text{attachment to father}} = 3.65$, $t(212) = 4.90$; for boys $\bar{x}_{\text{attachment to mother}} = 4.06$, $\bar{x}_{\text{attachment to father}} = 3.85$, $t(164) = 3.77$). According to independent t test, there was no gender difference for attachment to mothers. For attachment to father, boys had higher scores than girls.

The correlation coefficients between the variables were calculated and presented in Table 2.

Table 2. Correlations Among Study Variables

	1	2	3	4	5	6
Learning Goal Orientation (1)	1	,23**	,04	,12*	,12*	,18**
Performance Approach Goal Orientation (2)		1	,29**	,014	,07	,041
Performance Avoidance Goal Orientation (3)			1	-,13**	-,07	-,19**
Attachment to mother (4)				1	,47**	,45**
Attachment to father (5)					1	,46**
Life Satisfaction (6)						1

* $p < .05$, ** $p < .01$

According to the correlation coefficients, life satisfaction had a positive relationship with learning orientation ($r(377) = .18$, $p < .001$, attachment to mother ($r(377) = .45$, $p < .001$) and father ($r(377) = .46$, $p < .001$), and a negative correlation with performance avoidance orientation ($r(377) = -.19$, $p < .001$). While learning goal orientation had positive correlations with attachment to both mother ($r(377) = .12$, $p < .018$) and father ($r(377) = .12$, $p < .025$), performance avoidance goal orientation had negative correlation with the attachment to mother ($r(377) = -.13$, $p < .005$).

Structural Regression Analysis for the Relationship of Attachment to Parents and Life Satisfaction and Goal Orientations

In order to compare the effect of attachment to mother and father two separate structural equations were run. The first step of the analysis indicated a high level of multicollinearity (Mahanabolis>20). Analysis indicated that exclusion of performance approach goals significantly reduced multicollinearity and performance approach orientation had no significant correlations with any of the study variables excluding avoidance goal orientation; hence, it had no meaningful contribution to the model. Therefore, in light of parsimony principle, the model was redefined without performance goals. Below, because of space considerations, only analyses without performance goal orientation were given.

1) Structural Regression Analysis for the Relationship of Attachment to Mother and Life Satisfaction and Goal Orientations

In the first step of the analysis, the measurement model was tested to determine whether the data confirmed the factorial structure of the proposed variables and the results are given in Figure 3.

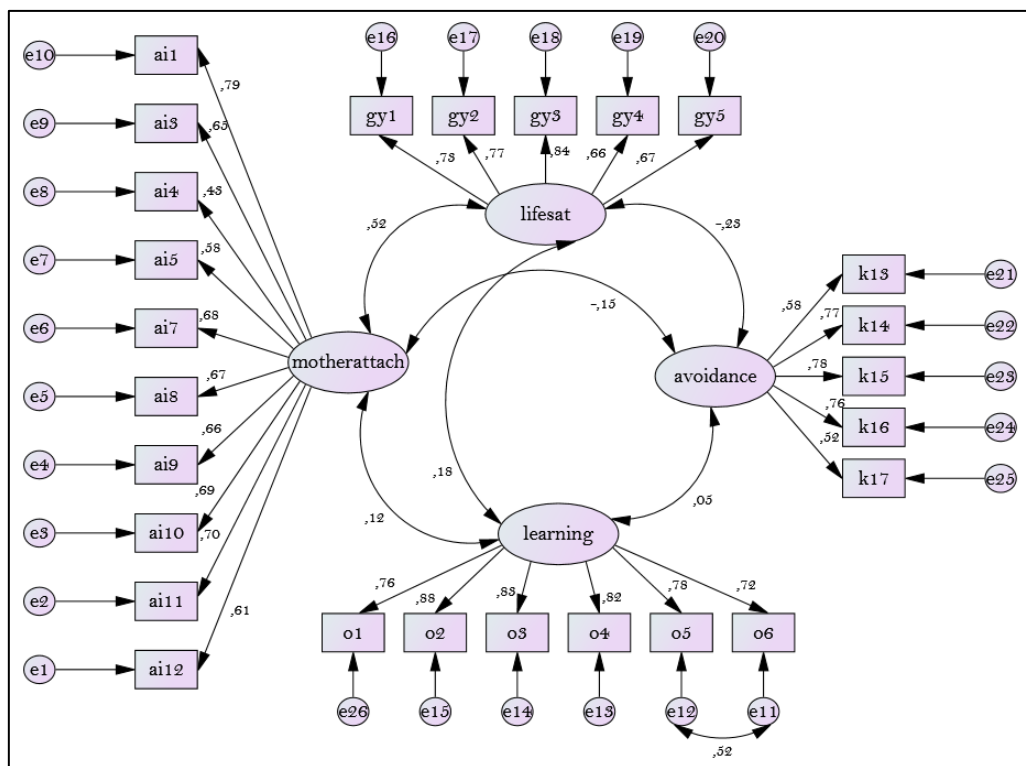


Figure 3. Measurement Model for The Relationship Between Attachment to Mother and Life Satisfaction and Performance Goal Orientation

According to the fit indices, the model was open to improvement ($\chi^2(343) = 671.86$, $p < .001$, $\chi^2/df = 1.96$, CFI = .93, RMSEA = .050, AGFI = .86, GFI = .89, Standardized RMR = .056). One of the indicators of the attachment to the mother (6. item) was not significant; therefore this item was removed from the further analyses. Also, 2nd item (I wish my mother to be someone else) was removed from the analyses since it caused a serious violation of the normality assumption and its factor load was relatively low (.4). Analysis indicated one more modifications after the elimination of these two items. Suggested modifications involved adding a covariance between two error terms under learning goal orientation. The modification was warranted since the suggested covariance belonged to the same construct. Final analysis indicated an acceptable fit for the measurement model ($\chi^2(292) = 550.74$, $p < .001$, $\chi^2/df = 1.89$, CFI = .94, $p < .001$, RMSEA = .049, AGFI = .89, GFI = .91, Standardized RMR = .053).

In the second step of the analysis, the structural equation model was tested (Figure 4).

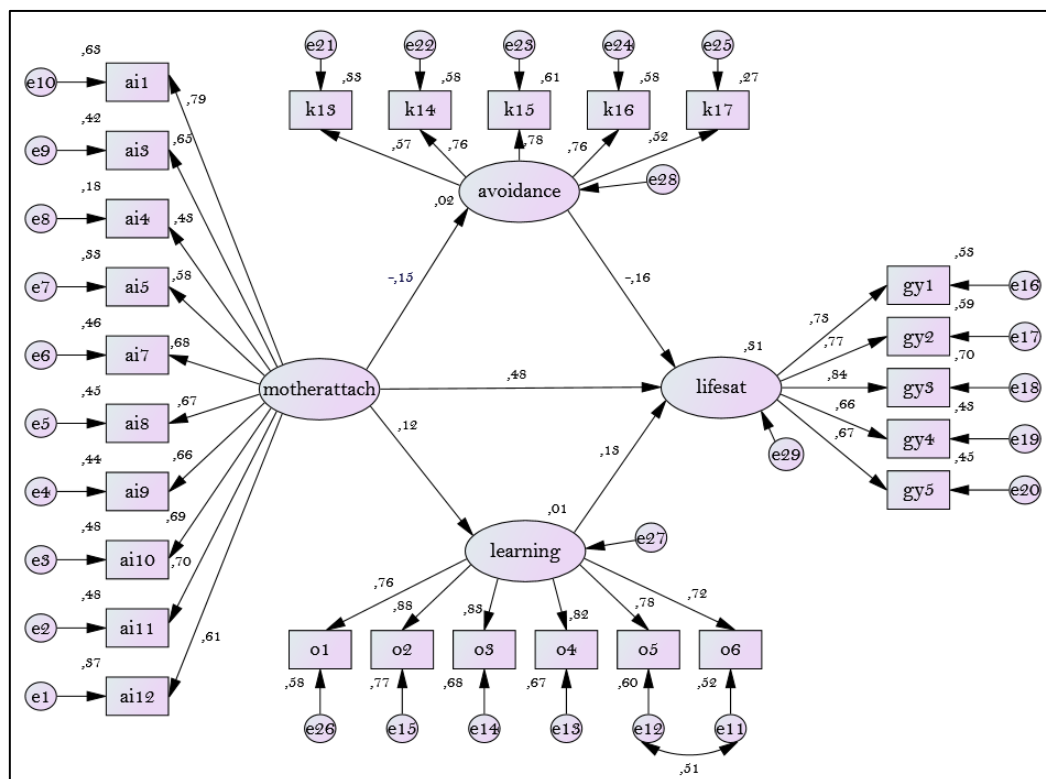


Figure 4. Structural Regression Analysis for the Relationship of Attachment to Mother and Goal Orientation and Life Satisfaction

According to the AMOS results, the model's fit statistics confirmed that the model was acceptable ($\chi^2(293) = 552.27$, $p < .001$, $\chi^2/df = 1.89$, CFI = .94, RMSEA = .049, AGFI = .88, GFI = .90, Standardized RMR = .054). The relationships of attachment to the mother and avoidance goal orientation ($\beta = -.15$, $p < 0.012$), learning goal orientation ($\beta = .12$, $p < 0.039$) and life satisfaction ($\beta = .48$, $p < 0.001$) were meaningful. While the avoidance has a direct negative impact on life satisfaction ($\beta = -.16$, $p < 0.04$), the effect of learning orientation on life satisfaction is positive ($\beta = .13$, $p < 0.011$). Finally, bootstrapping procedure indicated that attachment to mother has an indirect effect on life satisfaction through the avoidance and learning goal orientations ($\beta = -.04$, %95 BCA CCI [.010, .081]). Table 3 presents the direct, indirect and total effects of the model for attachment to the mother.

Table 3. Total, Direct and Indirect Effects of the Structural Model of Attachment to the Mother

Dependent	Independent	Standardized Effects		
		Total	Direct	Indirect
LO	MA	-.15	-.15	-
PAV	MA	.12	.12	-
LS	MA	.52	.48	.04
LS	LO	.13	.13	-
LS	PAV	-.16	-.16	-

** p <.05; ** p <.01; LO: Learning Orientation, PAV: Performance Avoidance Orientation, MA: Mother Attachment, LS: Life Satisfaction

2) The Result of Structural Regression Analysis for The Relationship of Attachment to Father and Goal Orientation and Life Satisfaction

In the first stage of the analysis, the measurement model was tested to determine whether the data confirms the factorial structure of the variables (Figure 5).

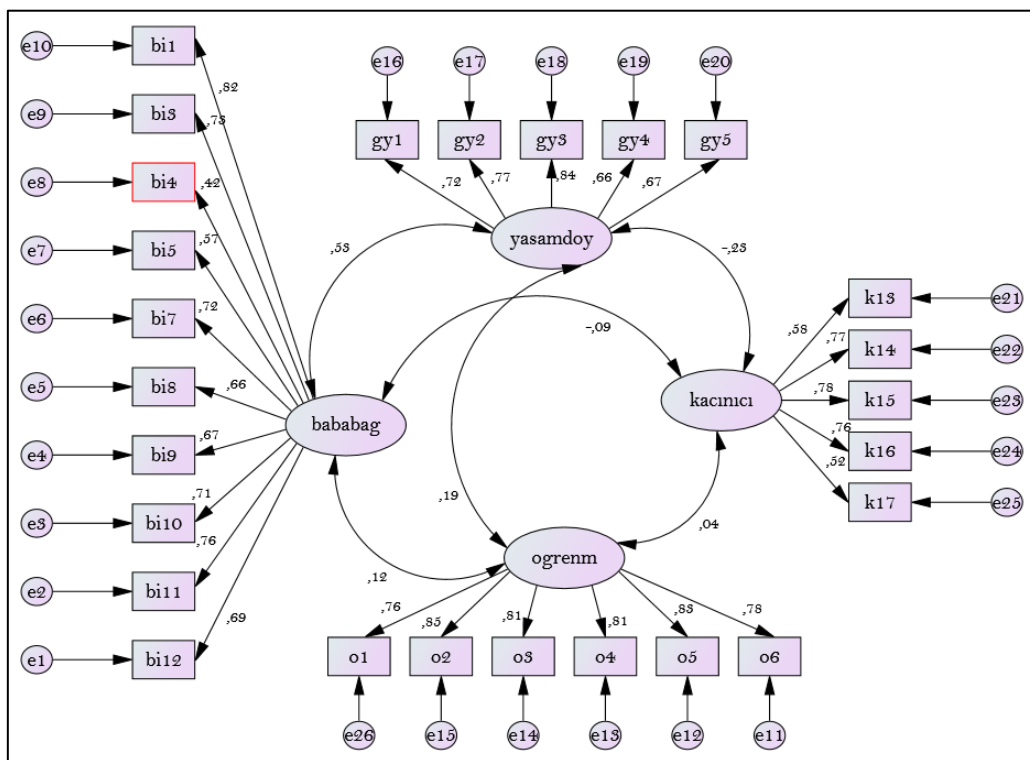


Figure 5. The Measurement Model for the Relationship of Attachment to Father and Goal Orientation and Life Satisfaction

The fit indices examined to determine the appropriateness of the measurement model indicated that similar to attachment to mother, model was open to improvement ($\chi^2(344) = 742.68$, $\chi^2/df = 2.16$, CFI = .92, RMSEA = .056, AGFI = .85, GFI = .87, Standardized RMR = .052). Since 6th Indicator was not significant and the second item caused violation of the normality, these two items were dropped. Also, the output indicated that there were large positive standardized residuals for two items under learning goal orientation. These correlations were theoretically sensible since they belonged to same factor. The values of the measurement model was at acceptable level as a result of the proposed modifications ($\chi^2(292) = 526.99$, $p < .001$, $\chi^2/df = 1.8$, CFI = .95, RMSEA = .046, AGFI = .89, GFI = .90, Standardized RMR = .049).

In order to determine the relationships between attachment to father and other variables of the study, the structural model was tested in the second stage of the analysis (Figure 6).

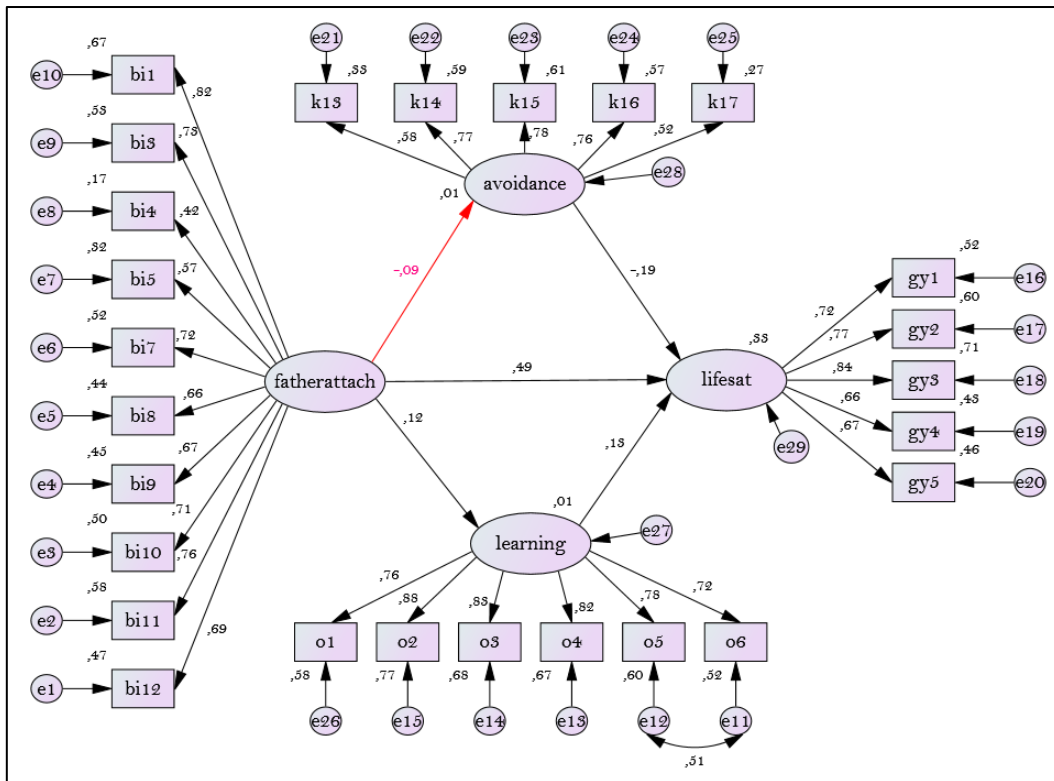


Figure 6. Structural Equation Analysis for the Relationship of Attachment to Father and Goal Orientation and Life Satisfaction

According to the AMOS results, fit statistics of the model was acceptable ($\chi^2(293) = 528.23, p < .001, \chi^2/df = 1.80, CFI = .95, RMSEA = .046, AGFI = .89, GFI = .90, Standardized RMR = .05$). Attachment to father had significant positive effects on learning orientation ($\beta = .12, p < 0.05$) and life satisfaction ($\beta = .49, p < .001$). In addition, both avoidance orientation ($\beta = -.19, p < 0.01$) and learning orientation had significant relationships with life satisfaction ($\beta = .13, p < 0.05$). Attachment to father, learning and performance avoidance orientation explain 33% of the variance in life satisfaction. Finally, the indirect effect of attachment to the father on life satisfaction through learning orientation tested by bootstrapping was significant ($\beta = -.033, 95\% \text{ BCA CCI } [.008, .077] p < 0.07$). The direct, indirect and total effects of the model for the father attachment are given in Table 4.

Table 4. Total, Direct and Indirect Effects of the Structural Model of Attachment to the Father

Dependent	Independent	Standardized Effects		
		Total	Direct	Indirect
LO	FA	.12	.12	-
PAV	FA	-.09	-.09	-
LS	FA	.53	.49	-
LS	LO	.13	.13	-.033
LS	PAV	-.19	-.19	-

** p < .05; *** p < .01; LO: Learning Orientation, PAV: Performance Avoidance Orientation, FA: Father Attachment, LS: Life Satisfaction

Discussion, Conclusion and Suggestions

The aim of this study is to analyze the effects of attachment to mother and father on life satisfaction and goal orientations in adolescents with the same sample in order to determine their separate effects. According to the findings, adolescents' attachment levels to mothers were higher than their attachment levels to fathers. The opposite was true for attachment to fathers in that male students had higher levels of attachment to fathers. In the literature, where majority of studies were conducted with Western samples, studies showing mother and father attachment levels are similar in secondary school (Williams & Kelly, 2005) and high school students (Arbona & Power, 2003), as well as studies showing attachment to mother is stronger exist (Forbes & Adams-Curtis, 2000; Freeman & Brown, 2001). In our country, with the exception of a few, (Kapçı & Küçükler, 2006; Özdemir & Koruklu, 2013), the majority of the studies of attachment to the father have been published in the last few years and their scopes are usually limited to investigation of demographic variables (etc., Doğan, 2017). These studies, as the findings obtained within western cultures, have documented higher attachment levels to mothers (etc., Kapçı & Küçükler, 2006) as well as the similar attachment levels to mothers and fathers (etc., Sunbas & Sezer, 2017; Kaya, 2017). In one comprehensive study conducted on the topic, Doğan (2017) concludes that, although in Turkey, in general, the attachment levels to both parents are similar, differences according to regions and gender of the offspring are also evident. According to Doğan's study, in the Aegean region, where the data of the present study were also obtained, attachment to mother ($M = 3.945$, $SS = .591$) is higher than the attachment to the father ($M = 3.776$, $SS = .847$). Buist, Dekovic, Meeus, and van Aken (2002), in a longitudinal study stated that although participants had higher levels of attachment to the mother, the patterns of attachment to the mother and father changed according to age and gender. Besides, attachment to the parent with the same gender was higher. In the present study, female students had higher attachment scores to mothers and male students had higher attachment scores to father, too. These findings support Diener et al.'s (2007) argument that parents and children of the same sex could be more easily connected through common life and expectations.

Although adolescents' attachment level to same gender parent is higher, attachment to both mother and father is related to life satisfaction. The findings regarding the positive effects of attachment to parents for both female and male students on life satisfaction are consistent with past studies conducted in western cultures (etc., Jiang, Huebner, & Hills, 2013; Ma & Huebner, 2008) and the studies conducted in Turkey about the relationship between attachment and life satisfaction (Özdemir & Koruklu, 2013) and subjective well-being (Akbağ & Ümmet, 2018) as well as attachment and self-esteem, loneliness and anxiety (Kaya, 2017; Sümer & Anafarta Şendağ, 2009).

The findings of this study support the increasing awareness of the importance of the father's positive role in children's psychosocial development and health in the literature. An important contribution of this study to the literature is that it provides a differentiated analyses of the relationship between attachment to parents and life satisfaction and goal orientation with the same sample. The results show that attachments to the both parents have direct effects on life satisfaction and indirect effects through goal orientations. Goal orientations have been associated with life satisfaction in earlier studies (Özgüngör, Oral, & Karababa, 2015; Travers, Bohnert, & Randall, 2013). The present study reveals that attachment to parents contributes to life satisfaction by supporting endorsement of goal orientations. While attachment to mothers has indirect effect on life satisfaction through both learning and avoidance goals, attachment to father has an indirect effect on life satisfaction through only learning goal. Kazura (2000) stated that while fathers are more important in encouraging independence, and their relationships with the children are more play-based, mothers' role is more critical in the development of social interaction. Similarly, Grossmann et al. (2002) argue that the father is more

supportive of play and discovery and that the mother is the source of trust in time of threat or danger. The findings of this study support the work of Kazura and Grossman et al., and lend further support for the past findings that attachment to fathers has additional benefits, although healthy relationships established with both parents are important. Attachment to the father is an important predictor of learning goal orientation for adolescents, whereas attachment to the mother is both positively correlated to learning orientation and is negatively related to the avoidance orientation that individuals tend to adopt when they feel more at risk academically. Learning orientation involves an intrinsic curiosity and motivation related to the task, and is positively associated with the preference of challenging tasks and less engagement of avoidance behaviors even there exists the possibility of failure and the risk of being negatively evaluated by others (Elliot & Church, 1997). Sideridis and Kafetsios (2008) stated that secure attachment is negatively associated with fear of failure and that this relationship is stronger for attachment to the father. Bacro (2011) found that attachment to father is associated with academic self-esteem, which has strong relationships with learning orientation. The findings of this study suggesting that attachment to the father is related to learning orientation whereas attachment to mother is related to both learning and the avoidance goal orientation are also consistent with Jacobsen and Hoffman's (1997) findings that attachment is positively linked to the feeling of safety at school and academic achievement. Similarly, these findings are consistent with Diener et al.'s (2007) findings regarding perception of competence is especially related to attachment to the mother and academic competence assessed by teacher is predicted best by attachment to mother. Bartholomew (1990) states that the fear of being rejected and avoidant behaviors towards self-protection against these kinds of experiences are abundant in insecurely attached individuals as a result of an internal model based on interpersonal insecurity. The findings of this study indicate that students who lack healthy attachment relationships with their primary caregiver, mother, develop hypersensitivity to approval by others, and as part of this sensitivity, they also display avoidant behaviors in academic life.

The findings of this study show that while attachment to mother and father share some common effects on developing child, they also have also complementary functions in that fathers' role is critical in the development of learning orientation which is an important determinant of academic intrinsic motivation. In the process of development of intrinsic motivation, the child, protected from the negative effects of avoidance behaviors through the healthy attachment established with the mother, may develop curiosity and love of learning through the risks taking and fun activities modeled and encouraged by close relationship with father. Such positive effects on academic motivation are particularly important during adolescence, where self-consciousness and evaluation concerns by others are developmentally prompted (Elkind, 1967) and perceptions of self, including in areas related to achievement and competence, are constructed through comparison with others (Byrne, 1988). Future studies will be useful in determining the nature of this relationship and related mechanisms. In particular, longitudinal studies are needed to gain information on the development of this relationship.

The findings of this study lend further support to Maltais, Duchesne, Ratelle, and Feng's study (2015), which is one of the limited numbers of studies on the relationship between attachment and goal orientations. They demonstrate that attachment level to mothers at the end of primary school was related to learning orientation during the first year of secondary school. In addition, in the study of Maltais et al., attachment to the mother was positively associated with learning orientations, negatively related to avoidance orientation and was not related to performance approach orientation. The present study contributed to the field by extending Maltais and his colleagues' study by testing the effect of father and mother attachment in the same context. On the other hand, these findings are not in line with Bal and Baruss's (2011) study where there was no relationship between attachment and goal orientations. A possible source of this contradiction may be due to the differences in the development

levels of participants. While the current study was conducted with high school students, the study of Bal and Baruss was conducted with university students. Because they are developmentally more mature and academically more successful individuals compared to general public, university students may have more motivational strategies and self-regulation skills, hence, may be less vulnerable to the negative effects of attachment-related problems. Similar results with Maltais et al.'s study with adolescents lend further support for the assumption that the observed difference is more likely to stem from the developmental levels of the samples. Future studies may shed light on this issue.

These findings have important implications for parents, too. In our country, fathers generally assume the role of authority figure who solves the problems for everyone in disciplinary issues. Problems related to adolescent motivation are tried to be solved through this image of authority, too. The findings of this study suggest a better role; a healthy psychological bond between father and adolescent promotes learning orientation, which is an important source of intrinsic motivation and has a negative relationship with authoritarian parental attitudes (Kösterelioğlu, 2018).

In this study, the relationships of attachment to mother and father with both goal orientations and life satisfaction are significant. However, the total variance explained by these variables is only about thirty percent. Since life satisfaction is generally a perception of the adequacy of quality of life, it depends on the individual characteristics and resources as well as on the macro-level economic, cultural and social possibilities and limitations that affect the quality of life. In Suldo, Frank, Chappel, Albers, and Bateman (2014) study, when they were asked about the factors that affect life satisfaction, American high school students mentioned the sources of stress, including future economic concerns. Erol and Kaba (2018) reported that the perceived economic situation and the living area were among the factors predicting the life satisfaction of university students. However, academic achievement is one of the most important variables determining student life satisfaction (Çivitci, 2009; Gilman & Huebner, 2006; Sunbas & Sezer, 2017). Academic motivational resources such as goal orientations or attachment to parents may not be as effective as it is expected on life satisfaction as long as these variables do not help a sense of achievement perception due to standardized exam system or concern about the future.

Besides the contributions of this study to the field, there are some limitations. Doğan's (2017) study shows that the level of attachment to the mother and father varies by region. Within the framework of the unique differences of the regions, it is expected that the effects of attachment to fathers should vary within the different family structures such as traditional family structures where the father's main role is regarded as breadwinners of the household, the fathers are the sole source of disciplines or both mother and father work and share the responsibilities of raising children. However, in this study, family structures are not considered. Similarly, it would be useful to study the differentiated effects of changes in attachment styles to mother and father (secure attachment to mother, secure attachment to both parents or insecure attachment to both parents) in the same context. Questions to be explored in the future include whether or not and to what extent a secure attachment to father can compensate for the negative effects of an insecure attachment to the mother (or vice versa) and whether these effects will vary by gender and developmental stage of the children, if so how.

Another limitation of this study is that it is based on single, relational measurement. Analysis through longitudinal data will provide more reliable results on the potential effects of individual changes. In Turkey, research regarding the effects of relationships with the father on adolescents is still in their early years and these studies usually focus on life satisfaction. However, Lamb (1975), who is famous for his pioneering work on fathers role on child development, states that an important role of the father is to open the doors of the world to the child. In this framework, the differentiated potential effects of attachment and closeness to mothers and fathers on the child's development may be more

prominent in areas such as leadership and problem-solving, which could be tested in the future studies. As a matter of fact, there are some studies in the literature showing a relationship between attachment and leadership behaviors (e.g., Berson, Dan, & Yammarino, 2006), but these studies do not differentiate the effects of attachment to parents. Popper and Amit (2009) indicated that self-efficacy, openness to experience and risk-taking behaviors are the prerequisites for leadership. In this context, healthy attachment to the father positively correlated with learning orientation in this study may have positive effects on the development of such behaviors in contribution or beyond to the benefits of attachment to the mother. Similarly, the positive effects of attachment to the father may support academic achievement through their protective features against peer pressure risk behaviors, especially for adolescents more susceptible to the negative effects of risk behaviors (Steinberg, 2008).

The findings of this study suggest that the role of the father should be taken into consideration within the scope of preventive guidance services developed to support the academic achievement and motivation of students in schools. Therefore, it is hoped that this study will accelerate the studies that will support the crucial role of fathers in the children's development of a sense of fun and risk-taking as oppose to traditionally accepted disciplinary role in our country. Also, it is expected to guide the psycho-education programs to be developed where more emphasis are given to fathers in development of motivation and life satisfaction of their children.

In summary, this study indicates that while attachments to both parents are crucial for life satisfaction and endorsement of goal orientations, the father seems to be crucial in the development of academic motivation for learning and mothers seem to protect against the development of avoidance behaviors of adolescents and foster endorsement of learning goals. The study emphasizes the importance of healthy attachment relations with the father for adolescents' psychological development.

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