# RELATIONSHIP BETWEEN EARLY SEPARATION ANXIETY AND DEPRESSIVE SYMPTOMS: THE MEDIATING ROLE OF LOCUS OF CONTROL AND PROBLEM SOLVING SKILLS

#### Aydoğan A. Ceyhan & Esra Ceyhan Anadolu University, Eskişehir, Turkey

This study was aimed to determine direct and indirect relationships among early separation anxiety symptoms, locus of control, perceived problem solving skills and depression. For this purpose, the appropriateness of a model including the relationship among these four variables was investigated. The model hypothesized that early separation anxiety symptoms have a direct effect on depression and early separation anxiety has an indirect effect on depression through mediating role of locus of control and problem solving skills. The study was conducted with 215 Turkish university students. Data were collected with Separation Anxiety Symptom Scale (Ceyhan, 2000), Beck Depression Inventory (Hisli, 1988), Rotter's Internal-External Locus of Control Scale (Dağ, 1992), and Heppner and Petersen's Problem Solving Inventory-Form A (Sahin, Şahin, & Heppner, 1993). For analyses, path analysis was done. Findings indicated that individuals experiencing severe early separation anxiety have external locus of control and perceive themselves as inadequate in terms of problem solving skills. Results further revealed that early separation anxiety does not have a direct relationship with depression, but has a direct relationship with locus of control and problem solving skills, supporting the hypothesis.

Key words: separation anxiety, depression, locus of control, problem solving skills

Initial years of human life are rather important with regard to the relationships between children and their parents and other family members. Bowlby's attachment theory (1973) claims that the nature of the attachments established between the children and parents or care-takers in the first years of life is a determinative factor for their future relationships.

According to the theory, this bonding also continues in adulthood and plays a significant role in individual's psychological adjustment. For instance, negative events such as separations and losses experienced during this early bonding relationship might have long-term damaging effects on the development of an individual (Scharf, 2001) and might obstruct psychological adjustment across the life span (Brown & Wright, 2003). Moreover, personality disorders are thought to stem from the relationships in early years (Fonagy, 1998). Adult psychological disorders are also considered to be linked with weak relationships or bonds between children

Correspondence concerning this article should be addressed to Dr. Aydoğan A. Ceyhan, Associate Professor & Dr. Esra Ceyhan, Associate Professor, Division of Psychological Counseling and Guidance, Educational Faculty, Anadolu University, Yunus Emre Campus 26470 Eskişehir, Turkey. E-mail: aceyhan@anadolu.edu.tr, eceyhan@anadolu. edu.tr

and their parents (Grenyer, 2002 as cited in Kirsten, Grenyer, Wagner, & Manicavasagar, 2008). In this context, Ağargün and Kara (1995) stated that the relationship between traumatic life experiences in child-hood and anxiety disorders in adulthood has been increasingly confirmed.

One of the negative events experienced by children in their early years is separation anxiety, also known as separation anxiety disorder (Scott & Cully, 1995; Silove, Manicavasa gar, O'Connell, Blaszczynski, Wagner, & Henry, 1993). Separation anxiety disorder is expressed as intense anxiety, an undesirable state for the growth of children, which occurs when children leave home or are separated from the people they are connected to (DSM-IV-TR, 2000).

Bowlby (1973) argues that separation anxiety is related with negative experiences between parent and children. It is also claimed that the extent of the care parents take of their children not only constitutes the source of separation anxiety but also relates to the intensity of anxiety (Lutz & Hock, 1995). It is quite common to witness separation anxiety in childhood, yet the intensity of anxiety differs according to individuals. Most people experience separation anxiety generally in early ages, and it disappears in later years. In this context, separation anxiety experiences become intense at 9-13 months, but the intensity of it greatly reduces within the first three years (Marks, 1987 cited in Kirsten et al., 2008). On the other hand, some children tend to experience intense separation anxiety. DSM-IV-TR (2000), mentioning certain symptoms of separation anxiety, states that it is

called separation anxiety disorder if three or more of these symptoms exist. Separation anxiety disorder may exist during pre-school years, and, in some cases, it may continue till adolescence. Sometimes, separation anxiety disorder may start before the age of eighteen and is likely to continue for years (DSM-IV-TR, 2000).

A number of studies carried out in the field of mental health reveal that early separation anxiety plays a significant role for adult anxiety disorder (Silove et al., 1995). Supporting this view, in literature it is also reported that there is a relationship between childhood separation anxiety and adulthood panic disorder (Ağargün & Kara, 1995; Ellis, 1990, Silove et al., 1995).

On the other hand, it is mentioned in some studies that early separation anxiety in childhood should not be associated only with panic disorder or agoraphobia, but it is also a general risk factor for depression and for other adulthood anxiety disorders (Ağargün & Kara, 1995; Bandelow, Charimo, Wedekind, Broocks, Hajak, & Eckart, 2004; Bifulco, Kwon, Jacobs, Moran, Bunn, & Beer, 2006; Giotakos, 2002; Kirsten et al., 2008; Lewinsohn, Holm-Denoma, Small, Seeley, & Joiner, 2008; Lipsitz et al., 1994; Manicavasager, Silove, & Hadzi-Pavlovic, 1998; Manicavasagar, Silove, Wagner, & Hadzi-Pavlovic, 1999).

In line with the above explanations, it can be stated that the quality of relationships with parents at early ages is a significant factor in terms of childhood separation anxiety, that childhood separation anxiety might be an important predictor of other anxiety disorders in adulthood. This implies that severe separation anxiety levels in childhood and adolescence are likely to influence certain future behaviors and personality traits of individuals.

In accordance with this opinion, research findings reveal that separation anxiety symptoms experienced in the past by university students have a negative relationship with learned resourcefulness, but also a positive relationships with trait anxiety, state anxiety and psychological symptoms (Ceyhan, 2006). These findings indicate that the intensity of the symptoms of separation anxiety experienced in the early ages of life could be a significant predictor for the behavior of adult individuals.

Many researchers hold the belief that the separation experiences between parent and child can be a main factor on the life-long psycho-social development of that child (Hock, Eberly, Bartle-Haring, Ellwanger, & Widaman, 2001). Ağargün and Kara (1995) stated that studies investigating the relationship between the childhood experiences causing anxiety and the psychiatric disorders that occur in adulthood will contribute to the present discussion (of whether there is a causal relationship between panic disorder and depression). It can be investigated whether early separation anxiety could be an important factor for some psychological characteristics such as depression, locus of control and problem solving skills, and whether problem solving skills and locus of control play a mediating role in the relation between early separation anxiety and depression.

Depression leads to a decline in the quality of life. Research literature, examining the factors related to depression has gained increased attention. Many studies have investigated the nature of depression, and the relationships between depression and other variables.

In this context, the associations between depression and separation anxiety were also examined. Lewinsohn et al. (2008) report the findings of some researches including that the relations between childhood separation anxiety disorder and later major depressive disorder. The findings suggest that juvenile separation anxiety leads to an increase in the severity of symptoms of depression (Kirsten et al., 2008) and there is a close relationship between adjustment disorder and early separation anxiety (Giotakos, 2002).

Naturally, some mediating factors may contribute to the relationship between early separation anxiety and depression symptoms. Likewise, Bifulco et al. (2006) indicated that studying the role of mediating factors to describe the development of adult psychiatric disorder better is needed. Therefore, to examine the relationships between early separation anxiety and depression, the variables related to the depression can be taken into consideration as the mediating factors.

One of these variables is problem solving skill. Problem solving skills begin to be gained since the first years of life. Individuals who have the deficiencies or inadequacies in terms of these skills can experience various psychological problems and cannot cope with their problems effectively. The available evidence shows that problem solving skill plays a diminishing role on depression (Nezu & Ronan, 1988; Pretorius & Diedricks, 1994) and also that problem solving skill is a powerful factor in decreasing depression (Ceyhan, Ceyhan, & Kurtyılmaz, 2005).

Another variable related with depression is locus of control. In developmental process from the beginning of childhood, individuals develop expectations or beliefs that their behaviors outcomes result from themselves or external forces (Yeşilyaprak, 1990).

Rotter (1966) states the two different attributions related to the locus of control such as internal and external locus of control. Internal locus of control refers to that the individuals consider themselves as responsible for the events they experience mostly. However, external locus of control refers to that the individuals think other persons or other factors like chance responsible for the events they experience mostly (Kennedy, Lynch, & Schwab, 1998; Yeşilyaprak, 1990). Therefore, internal locus of control is a positive personality characteristic and external locus of control is an obstacle to individual adjustment (Yesilvaprak, 1990).

Many researchers have demonstrated that external locus of control is related with majority of personality disorders and antisocial personality disorder (Watson, 1998) exhibiting psychological symptoms (Dağ, 1992) and depression (Presson & Benassi, 1996). It was also found that there is a relationship between external locus of control and neuroticism, low subjective well being, low conscientiousness, and low agreeableness (Morrison, 1997). It has also been reported that individuals with external locus of control are more anxious, aggressive, dogmatic, and suspicious towards others, being deprived of self-confidence and insight than those with internal locus of control (Çakıl, 1992), and various studies found important relationships between external control and anxiety and depression (Marks, 1998).

As a result of such studies, childhood separation anxiety can be investigated as a significant factor for the anxiety experienced in adulthood. It may also lead to psychological problems or disorders in adulthood and separation anxiety symptoms may be experienced in adulthood. This implies that intense early separation anxiety symptoms could have negative impacts on some behaviors and personality characteristics of individuals in later years (Ceyhan, 2006).

In this respect, attachment theory explains the links between early childhood experiences and affective disorders (Bifulco et al., 2006). For example, fearful and angry dismissive styles were found to partially mediate the relationship between childhood negative experiences and depression or anxiety (Bifulco et al., 2006). Thus, considering that the negative experiences in childhood and adolescence years lead to negative results later in life, the relationship between early separation anxiety and future psychopathology would not be unreasonable. Moreover, understanding the long term effects of separation anxiety disorder is needed because information about possible role of it on future psychopathology is a little (Lewinsohn et al., 2008).

In this respect, investigating the relationship between childhood and adulthood separation anxiety experiences of individuals and various personality traits in adulthood could be beneficial for those studying in the field of mental health (Ceyhan, 2006). Information about the relationships between later psychological problems and separation anxiety can contribute to the development of preventive programs toward separation anxiety disorder (Lewinsohn et al., 2008).

For instance, the early intense separation anxiety experienced in childhood and adolescence can be thought to be an important factor for the formation of individuals' locus of control, for the development of their problem solving skills and for their predisposition towards depression symptoms. There is a clear need for studies that focus on whether childhood separation anxiety experiences can be associated with depression in adulthood.

This study aims at determining the direct effects of the early separation anxiety experienced by university students in the past and its indirect effects through the mediation of locus of control or problem solving skills on the depression level. For this purpose, a hypothetical model comprising the relationships among early separation anxiety symptoms, locus of control, problem solving skills and depression is investigated in the present study. The model suggested is shown in Figure 1.

As can be seen in Figure 1, the hypothetical model includes five paths that show the direct and indirect relationships among early separation anxiety symptoms, locus of control, perceived problem solving skill and depression. The following hypotheses are put forward:

- 1. Early separation anxiety symptoms would have a direct effect on depression.
- 2. Early separation anxiety symptoms would have indirect effects on depression mediated by locus of control and problem solving skills.

The study seeks answers to these hypotheses related to the hypothetical model and attempts to explore the best model that explains the relationships among these variables.

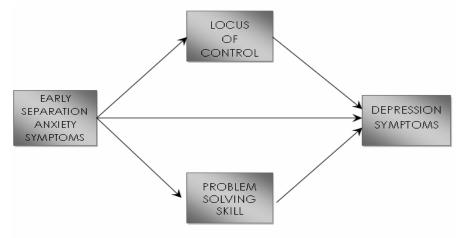


Figure 1. The hypothetical model suggested in the current study.

# Method

# **Participants**

The study was conducted with 215 volunteer university students attending various teaching programs (English Language Teaching, Primary School Mathematics Teaching, Primary School Education, Preschool Education, Computer Education and Instructional Technology) at Anadolu University, Turkey, in the academic year 2006-2007. Of these students, 117 (54.4%) were female and 98 (45.6%) were male. The ages of the students ranged between 18 and 25 with M(SD) = 21.34(1.91). The grade levels of the participants were as follows: 54 were sophomore (25.20%), 73 were junior (33.90%), and 88 were senior (40.90%). The mean of their cumulative GPAs was 2.84 out of 4.

## Instruments

# 1. Separation Anxiety Symptom Scale (SASS; Ceyhan, 2000)

SASS is an instrument that aims at determining adults' early separation anxiety symptom levels experienced before 18 years of age. The scale was developed by Ceyhan (2000) with a dimensional approach considering the explanations in literature related to DSM-IV, the Separation Anxiety Symptoms Inventory (SASI) developed by Silove et al. (1993) and the expert suggestions. SASS used in the current study includes 34 items responded through four-point scale ranging from "always" to "never". The scores to be obtained from the scale range from 0 to 102. The higher the scores, the higher the levels of separation anxiety symptoms experienced in the past (Ceyhan, 2000).

Validity and reliability studies of SASS were carried out by Ceyhan (2000). The factorial structure of the scale revealed that the scale was composed of three sub-factors: "the feeling of uneasiness and anxiety for possible troubles to be experienced by family members in case of separation", "school phobia", and "the anxiety experienced as a result of loneliness".

The sub-factors consisted of 15 items, 10 items and 9 items, respectively, and accounted for 46% of variance together, including the first factor alone accounting for 26.80%, the second factor alone accounting for 10.90%, and the third factor alone accounting for 8.30% of total variance, respectively. The factor loadings related to the items ranged from .42 to .83. As for the criterion-related validity of the scale, correlation coefficients between SASS and Spielberger State and Trait Anxiety Inventory, and Beck Anxiety Inventory were computed as r = .51 (p < .001), r = .67 (p< .001), and r = .62 (p < .02), respectively (Ceyhan, 2000).

According to the reliability studies, Cronbach  $\alpha$  coefficient concerning the internal consistency was found as .91 for the total SASS and as .91, .83, .87 for the sub-scales, respectively (Ceyhan, 2000). The average correlations between each item and the total score were calculated as .46 for the total SASS, and as .60, .53, and .61 for the sub-scales respectively. The test-retest correlation coefficient obtained with a four week interval was obtained as .77, (p < .0001). Based on validity and reliability studies, the SASS is a valid and reliable instrument which can be used to determine early separation anxiety level experienced before the age of 18, but not for the diagnosis (Ceyhan, 2000).

# 2. Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961)

BDI developed by Beck, Ward, Mendelson, Mock, and Erbaugh (1961) aims at determining the levels of depressive symptom by measuring emotional, somatic, cognitive and motivational symptoms of depression. BDI is composed of 21 items with four alternative statements for each. The points obtained from the scale range from 0 to 63. The higher the points obtained, the higher the level and severity of depression (Savaşır & Sahin, 1997). The 1961 and 1978 versions of BDI have been adapted for Turkish population. In this research, 1978 version (Hisli, 1988) was used.

The studies related to the adaptation of BDI-78 to Turkish population demonstrated that the scale was composed of four dimensions, i.e., impairment in performance, negative feelings about oneself, somatic discomforts and feelings of guilt (Savasır & Şahin, 1997). The correlation of the scale with the MMPI-D scale was computed as .50. BDI was found to be significantly able to distinguish psychiatric patients from university students (Savaşır & Sahin, 1997). The inventory is prevalently used in Turkey to measure depression levels of individuals (Ceyhan et al., 2005).

# 3. Rotter's Internal-External Locus of Control Scale (LOC; Rotter, 1966)

LOC was developed by Rotter and adapted to Turkish population by Dağ (1991), and aims at measuring the individual's state with regard to the dimension of internal-external locus of control. Thus, LOC determines individuals' belief or generalized expectancy about the outcomes of their behaviors more under self personal control or more under the control of external forces. LOC consists of 23 forced-choice pair items. The higher scores are indicators of externality, and the lower scores are indicators of internality on the internal-external scale.

Adaptation studies revealed that the scale consisted of seven factors that could explain 47.7% of the total variance. These factors are the lack of control of luck, external control in political events, control of luck, the lack of control of success at school. the lack of control in interpersonal relations, fatalism, and the lack of control in political events. The correlation coefficient between the external locus of control and SCL-90 is found significant as .21. Cronbach's  $\alpha$  coefficient concerning the internal consistency is calculated as .71. In the testretest method, the correlation coefficient is computed as .83. Thus, the results revealed that the original and Turkish versions of this scale are similar to each other (Savaşır & Şahin, 1997).

4. Heppner and Petersen's Problem Solving Inventory, Form A (PSI-A; Heppner & Petersen, 1982)

The problem solving inventory

developed by Heppner and Petersen (1982) aims at determining the individuals' self-confidence in problem solving, their feelings of personal control, and their personal approaches to a problem. PSI-A, which is a self-report instrument, identifies individuals' self perceptions about their problem solving skills.

PSI-A comprises 35 items rated on a 6-point Likert- type scale, and the total scores range between 32 and 192. Higher scores show that individuals perceive themselves as a relatively ineffective problem solver. According to the reliability and validity studies, the results indicated that the scale consisted of 3 factors such as the personal control, the approach-avoidance style, and the problem solving confidence factor. In addition, Cronbach alpha coefficient was computed as .90. and the test-retest reliability of the sub-scales ranged from .83 to .89 (Savaşır & Şahin, 1997).

In this research, PSI-A, which was adapted to Turkish population by Sahin, Şahin and Heppner (1993) was employed. In the adaptation process, the results of the factor analyses of the scale revealed that the scale included six factors. These factors were made of such sub-factors as precipitant approach, thinking approach, avoidance approach, evaluative approach, selfconfidence approach, and planned approach. The Cronbach alpha coefficient was found as .88. Adaptation studies revealed that the original and Turkish versions of PSI-A were significantly similar to each other (Savasır & Sahin, 1997). Many researchers have used the Turkish version of PSI-A in their studies in Turkey (Ceyhan

#### Procedure

The instruments were administered to university students attending various undergraduate programs at Educational Faculty, Anadolu University, Turkey in 2006–2007. The purpose of the study was explained verbally and by written instruction to the students participating in the study. In this framework, the researchers expressed to all the participants that this study was a scientific research, the participation in the study was voluntary, and answering to the measures of the study truly was important in terms of the reliability of the study.

Students were told that there was no obligation to take part in the research and, as a result, all respondents participated in the research voluntarily. They completed the data set in about 35 minutes. Data were collected during classes in May 2007.

## Results

The data were analyzed by path analysis with observed variable with the help of LISREL 8.5 software. The significance level was taken as p < .05. First of all, the model suggested in Figure 1 was tested through path analysis.

The results of the analysis demonstrated that there was no direct relationship between early separation anxiety symptom level and depression, t = 1.72, p = ns., whereas early separation anxiety symptoms was found to be significantly related to locus of control, t = 2.07, p < .05, and problem solving skill, t = 3.47, p < .05. Moreover, both locus of control and problem solving skill were found to be significantly related to depression symptoms, t = 3.23, p < .05 and t = 4.16, p < .05, respectively. After the insignificant path was removed from the suggested model, the model was tested again.

As a result of the analysis, all the relationships were found to be statistically significant. It was also revealed that the goodness of fit statistics related to the model was not within the acceptable limits,  $\chi^2(2) = 33.67$ , p =0.00; RMSEA = 0.27, SRMR = 0.13, NFI = 0.67, NNFI = 0.012, CFI =0.67, IFI = 0.68, RFI = 0.012, GFI =0.93, AGFI = 0.64. For a model to be accepted as a whole, the goodness of fit statistics, which indicates the consistency degree of the relationships in the model, must be within the acceptable limits (Simsek, 2007). For this reason, the modifications suggested for the model were examined. Consequently, it was seen that the addition of a path into the model from locus of control towards problem solving would most contribute to the fit statistics of the model (a decrease of 30.5 in the value of  $\chi^2$ ). As a result of the addition of this relationship to the model, the model was tested again, and the new model is as shown in Figure 2.

As a result of the analysis, the final model shown in Figure 2 was now seen to reach the acceptable values of the goodness of fit statistics. Most of the goodness of fit values of the model were found to be within the acceptable limits and to have high values,  $\chi^2(1) =$ 2.99, p = 0.08; RMSEA = 0.09, SRMR = 0.033, NFI = 0.97, NNFI =0.88, CFI = 0.98, IFI = 0.98, RFI = 0.83, GFI = 0.99, AGFI = 0.93; AIC = 20.00, independent AIC = 117.50 and saturated AIC = 20.99; CAIC = 60.33, independent CAIC = 134.99 and saturated CAIC = 63.71. As a result, the model demonstrated in Figure 2 was found to be the best one that shows relationships variables. between

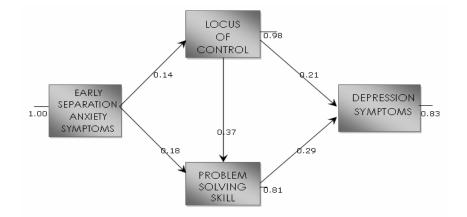


Figure 2. The final version of the structural model as a result of studies. The figure shows the standardized coefficients and the t values range from 2.07 to 4.24, all of which are significant at the level of .05.

#### Discussion

Research findings supported the hypothetical model in Figure 1 to a large extent. According to these results, the first research hypothesis that early separation anxiety symptoms are likely to have direct effects on depression was not supported; however, the second hypothesis that early separation anxiety symptoms are likely to have indirect effects on depression through the mediating locus of control and problem solving skills was supported.

When the relationships between variables were examined, it was found that early separation anxiety has a significantly positive relationship both with locus of control and problem solving skills and has a minor direct effect as well (.14 and .18); however, early separation anxiety was found to have no significant relationship with depression and had no direct effect on it. Thus, early separation anxiety was observed to have an indirect effect on depression, and the variables mediating this effect were found to be locus of control and perceived problem solving skills.

Locus of control had a significantly positive relationship with problem solving and depression and an average direct effect (.37 and .21). Perceived problem solving skill had a significantly positive relationship with depression and an average direct effect (.29). Moreover, perceived problem solving skill was also found to act as a mediating variable that contributed to the effects of early separation anxiety and to the effects of locus of control on depression. The model that revealed these relationships was supported with acceptable fit values.

The relationship found between locus of control and depression is consistent with the findings that external locus of control has a positive relationship with depression (Presson & Benassi, 1996), some personality disorders (Morrison, 1997; Watson, 1998), psychological symptoms (Dağ, 1992), social adjustment problems and low self respect (as cited in Çakıl, 1992), aggressive tendencies (Köksal, 1991), and depressive characteristics (Bolel, 1993) and has a negative relationship with adjustment (Kıran, 1993).

Furthermore, the relationship found in the study between perceived problem solving skills and depression is consistent with the finding that problem solving skills have a role of decreasing the risk of depression (Nezu & Ronan, 1988; Pretorius & Diedricks, 1994) as well as with the finding that lack of problem solving is an important indicator of depression (Ceyhan et al., 2005).

In the study, a significant relationship was also found between locus of control and problem solving skill. This result is consistent with the findings in literature that external locus of control has a negative relationship with coping with stress through problem solving (Demir, 1998)

In the study, an indirect relationship mediated by locus of control and problem solving skill was found between early separation anxiety and depression. It is stated in literature that early separation anxiety in childhood is a risk factor for depression and adulthood anxiety disorders (Ağargün & Kara, 1995; Bandelow et al., 2004;

Bifulco et al., 2006; Giotakos, 2002; Kirsten et al., 2008; Lewinsohn et al, 2008: Lipsitz et al., 1994: Manicavasagar et al., 1998; Manicavasagar et al., 1999; Silove et al., 1993; Silove et al., 1995). The findings of the study support these explanations in an indirect way. Thus, it can be suggested that intense early separation anxiety symptoms experienced in childhood and adolescence could affect an individual's locus of control, which is one of the personality traits, to become rather externally controlled and could lead to ineffective development of problem solving skills.

It is also reported in literature that as a result of this, individuals are vulnerable to experiencing depression in later years, like in adulthood. It was found that early separation anxiety symptom level has a negative relationship with learned resourcefulness, but also a positive relationships with trait anxiety, state anxiety and psychological symptoms (Ceyhan, 2006).

Consequently, in line with the research findings, it can be stated that the intensity of early separation anxiety experiences in childhood and adolescence is likely to result into the development of external locus of control and to acquisition of inefficient problem solving skills and that it could hence be a negative risk factor for the characteristics of individuals and their behaviors in adulthood.

The current results indicate how important is the nature of the relationships between children and their parents or caregiver and these relationships could lead to important psychological problems and inadequacies in later years of life.

#### Limitations and Suggestions

The findings of this study revealed the relationship between early separation anxiety and depression mediated by locus of control and problem solving skills, yet the study has certain limitations.

An important limitation of the study is that the relationship between early separation anxiety and depression was only investigated based on two mediating variables such as locus of control and problem solving skills. Therefore, the current study does not present the suggested model as a definitive answer to the problem of depression because there are a large number of possibilities related to the problem of depression, but the findings of the study indicate the relationships among the variables considered.

Another important limitation of the study, which is related to the method, was that early separation anxiety symptoms experienced by young adults in childhood and adolescence were determined through a retrospective measurement tool; therefore, the data were based on retrospective responses. In literature, while early separation anxiety in the past was found to be in relation with some disorders experienced in adulthood, there were methodological difficulties in measuring childhood separation anxiety (Silove et al., 1993).

In almost all the related studies, it is reported that there are some methodological limitations and that starting with traumatic life experiences in childhood will be an inconclusive but objective step (Ağargün & Kara, 1995). For this purpose, more particular data can be obtained if adults' separation anxiety is measured by valid and reliable scales which measure with a dimensional approach (Silove et al., 1993; Silove et al., 1995). Thus, the scale used in this study (SASS) is a dimensional one and aims to determine the intensity level of individuals' early separation anxiety, yet it is not a diagnostic scale.

Moreover, it is also stated that there is evidence related to the psychometric strength of the tool measuring early separation anxiety in the past and that bias-related problems can not be completely avoided (Silove et al., 1995).

Another limitation of the study is that it was carried out on a small group of young adults. Therefore, the findings and the related interpretations should be evaluated considering the limitations of the study.

This study should be considered as a starting point and be replicated on varying ages of adult groups. In this way, the precision of the findings will be increased. Despite the limitations of the study, it may be stated that the findings of the present study have produced information about the impact of early separation anxiety experienced in childhood and adolescence and its relationship with depression in adults.

#### References

Ağargün, M. Y., & Kara, H. (1995). Panik bozukluğu olan hastalarda çocukluk dönemi separasyon öyküsü: Depresyon ve normal kontrollerle karşılaştırmalı bir çalışma [Separation history of child stage on the patients who have panic disorder: A comparative study with depressive and normal subjects]. *IV. Anadolu Psikiyatri Günleri Bilimsel Çalışmaları Kitabı* (s. 237–241), Konya: Selçuk Üniversitesi.

- American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders*. Washington DC: Author.
- Bandelow, B., Charimo T. A., Wedekind, D., Broocks, A., Hajak, G., & Eckart, R. (2004). Early traumatic life events, parental rearing styles, family history of mental disorders, and birth risk factors in patients with social anxiety disorder. *European Archives of Psychiatry and Clinical Neuroscience*, 254, 397-405.
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. Archives of general Psychiatry, 4, 561-571.
- Bifulco, A., Kwon, J., Jacobs, C., Moran, P. M., Bunn, A., & Beer, N. (2006). Adult attachment style as mediator between childhood neglect/abuse and adult depression and anxiety. *Social Psychiatry & Psychiatric Epidemiology*, 41, 796-805.
- N. (1993). Normal Bolel, ve gösteren psikvatrik semptom çocuklarda denetim odağı ile deilişkinin presyon arasındaki incelenmesi [Investigation of relationship between locus of control and depression in normal children and children with pschiatric symptoms]. Yayınlanmamış Yüksek Lisans Tezi, İzmir: Ege Üniversitesi.
- Bowlby, J. (1973). Attachment and loss: Separation, anxiety and anger. Vol.2. NY: Basic Books.

- Brown, L. S., & Wright, J. (2003). The relationship between attachment strategies and psychopathology in adolescence. *Psychology and Psychotherapy: Theory, Research and Practice, 76,* 351– 367.
- Ceyhan, A. A. (2000). Ayrılık kaygısı belirtileri ölçeği geliştirme çalışmaları [The development of the Separation Anxiety Symptom Scale]. Anadolu Universitesi Eğitim Fakültesi Dergisi, 10, 63-75.
- Ceyhan, A. A. (2006). The prediction of learned resourcefulness, anxiety, and psychological symptoms from early separation anxiety. *Educational Sciences: Theory & Practice*, 6, 72-79.
- Ceyhan, E., Ceyhan, A. A., & Kurtyılmaz, Y. (2005). Depression among Turkish female and male university students. *Social Behavior and Personality*, *33*(4), 329-340.
- Çakıl, N. (1992). Suç işleyen ve işlemeyen çocuklarda denetim odağını etkileyen bazı değişkenler [Some variables affecting locus of control on juvenile and juvenile delinquents]. Yayınlanmamış Yüksek Lisans Tezi, Malatya: İnönü Üniversitesi.
- Dağ, İ. (1991). Rotter'in iç-dış kontrol odağı ölçeği (RİDKOÖ)'nin üniversite öğrencileri için güvenirliği ve geçerliği [The validity and reliability of Rotter's locus of internal-external control scale on university students]. *Psikoloji Dergisi*, 7(26), 10-16.
- Dağ, İ. (1992). Kontrol odağı, öğrenilmiş güçlülük ve psikopatoloji ilişkileri [Relationships among lo-

cus of control, learned resourcefullness and psychopathology]. Türk Psikoloji Dergisi, 7(27), 1-9.

- Demir, N. (1998). Stresle başa çıkma stratejileri ile denetim odağı arasındaki ilişki: Bir grup lise öğrencisi üzerinde yapılan bir araştırma [Relationship between coping with stress and locus of control: An investigation on high school students]. Yayınlanmamış Yüksek Lisans Tezi, İzmir: Dokuz Eylül Üniversitesi.
- Deniz, M. E. (2004). Investigation of the relation between decision making self-esteem, decision making style and problem solving skills of university students. *Eurasian Journal of Educational Research*, 15, 23-35.
- Ellis, E. M. (1990). Adult agoraphobia and childhood separation anxiety: Using children's literature to understand the link. *American Journal of Psychotherapy*, 44(3), 433-445.
- Fonagy, P. (1998). An attachment theory approach to treatment of the difficult patient. *Bulletin of the Menninger Clinic*, 62(2), 147-170.
- Giotakos, O. (2002). Parenting received in childhood and early separation anxiety in male conscripts with adjustment disorder. *Military Medicine*, 167, 1-28.
- Heppner, P. P., & Petersen, C. H. (1982). The development and implications of a personal problem solving inventory. *Journal of Counseling Psychology*, 29, 66-75.
- Hisli, N. (1988). Beck Depresyon En vanteri'nin geçerliği üzerine bir çalışma [An investigation on validity of Beck Depression In-

ventory]. *Psikoloji Dergisi*, 6 (22), 118-122.

- Hock, E., Eberly, M., Bartle-Haring, S., Ellwanger, P., & Widaman, K.
  F. (2001). Separation anxiety in parents of adolescents: Theoretical significance and scale development. *Child Development*, 72(1), 284-298.
- Kennedy, B. L., Lynch, G. V., & Schwab, J. J. (1998). Assessment of locus of control in patients with anxiety and depressive disorders. *Journal of Clinical Psychology*, 54(4), 509-515.
- Kıran, B. (1993). Cinsiyetleri ve denetim odakları farklı lise öğrencilerinin uyum alanları ve yöntemlerinin incelenmesi [The investigation of adjustment domains and methods of high school students with different gender and locus of control]. Yayımlan-mamış Yüksek Lisans Tezi, Hacettepe Üniversitesi, Ankara.
- Kirsten, L. T., Grenyer, B. F. S., Wagner, R., & Manicavasagar, V. (2008). Impact of separation anxiety on psychotherapy outcomes for adults with anxiety disorders. *Counselling and Psychotherapy Research*, 8(1), 36-42.
- Köksal, F. (1991). Denetim odağı ile saldırgan davranışlar arasındaki ilişkiler [The relationships between locus of control and aggressive behavior]. Yayımlanmamış Doktora Tezi, Erzurum: Atatürk Üniversitesi.
- Lewinsohn, M. P., Holm-Denoma, J. M., Small, J. W., Seeley, J. R., & Joiner, T. B. (2008). Separation anxiety disorder in childhood as a risk factor for future mental illness. *Journal of the American*

Academy of Child and Adolescent Psychiatry, 47(5), 548-555.

- Lipsitz, J. D., Martin, L. Y., Mannuzza, S., Chapman, T. F., Liebowitz, M. R., Klein, D. F., et al. (1994). Childhood separation anxiety disorder in patients with adult anxiety disorders. *American Journal of Psychiatry*, 151(6), 927-929.
- Lutz, W. J. A., & Hock, E. (1995). Maternal separation anxiety: Relations to adult attachment representations in mothers of infants. *Journal of Genetic Psychology*, *156*(1), 57-73.
- Manicavasagar, V., Silove, D., & Hadzi-Pavlovic, D. (1998). Subpopulations of separation anxiety: Relevance to risk of panic disorder and agoraphobia. *Journal of Affective Disorders*, 48, 181-190.
- Manicavasagar, V., Silove, D., Wagner, R., & Hadzi-Pavlovic, D. (1999) Parental representations associated with adult separation anxiety and panic disorderagoraphobia. Australian and New Zeland Journal of Psychiatry, 33, 422-428.
- Marks, L. I. (1998). Deconstructing locus of control: Implications for practitoners. *Journal of Counseling and Development*, 7, 251-260.
- Morrison, K. (1997). Personality correlates of the Five-Factor Model for a sample of business owners/managers: Associations with scores on self-monitoring, type A behavior, locus of control and subjective well-being. Psychological Reports, 80(1), 255-272.
- Nezu, A. M., & Ronan, G. F. (1988). Social problem solving as a moderator of stress-related depressive

symptoms: A prospective analysis. *Journal of Counseling Psychology*, 35(2), 134-138.

- Otacioğlu, S. G. (2007). The comparison of problem solving skills of post graduate students in teacher's colleges in terms of their levels. *Eurasian Journal of Educational Research*, 29, 73-83.
- Presson, P. K., & Benassi, V. A. (1996). Locus of control orientation and depressive symptomatology: A meta-analysis. *Journal of Social Behavior and Personality*, *11*, 201-212.
- Pretorius, T. B., & Diedricks, M. (1994). Problem solving appraisal, social support and stressdepression relationship. *South African Journal of Psychology*, 24(2), 86–90
- Rotter, J. B. (1966). Generalized expectancies for internal vs. external control of reinforcement. *Psychological Monographs*, 80, 1-28.
- Savaşır, I., & Şahin, N. H. (1997). Bilişsel-Davranışcı Terapilerde Değerlendirme: Sık Kullanılan Ölçekler [The evaluation in the Cognitive-behavioral therapy: The scales used frequently]. Türk Psikologlar Derneği Yayınları, Ankara.
- Scharf, M. (2001). A "natural experiment" in childrearing ecologies and adolescents' attachment and separation representations. *Child Development*, 71(1), 236–251
- Scott, J., & Cully, M. (1995). Helping the separation anxious school refuser. *Elementary School Guidance & Counseling, 29*(4), 289-298.

- Silove, D., Manicavasagar, V., O'Connell, D., Blaszczynski, A., Wagner, R., & Henry, J. (1993). The development of the separation anxiety symptom inventory (SAS). Australian and New Zealand Journal of Psychiatry, 27, 477–488.
- Silove, D., Manicavasagar, V., O'Connell, D., & Morris-Yates, A. (1995). Genetic factors in early separation anxiety: Implications for the genesis of adult anxiety disorders. ACTA Psychiatrica Scandinavia, 92, 17–24
- Şahin, N., Şahin, N. H., & Heppner, P. P. (1993). Psychometric properties of the problem solving inventory in a group of Turkish university students. *Cognitive Therapy* and Research, 17(4), 379-396.
- Şimşek, Ö. F. (2007). Yapısal eşitlik modellemesine giriş. Temel ilkeler ve LISREL uygulamaları [The introduction to structural equation modeling, basic principles and LISREL applications]. Ankara: Ekinoks Yayınevi.
- Watson, D. C. (1998). The relationship of self-esteem, locus of control, and dimensional models to personality disorders. *Journal of Social Behavior & Personality*, 13(3), 399-420.
- Yeşilyaprak, B. (1990). Gençlerde denetim odağı ve ön koşulları [Locus of control and its preconditions on the youngs]. V.Ulusal Psikoloji Kongresi Psikoloji-Seminer Dergisi Özel Sayısı, 8, 209-219.

Received May 2008 Revision received May 2009