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Temperamental Characteristics of Mothers of Preschool Children With Separation Anxiety Disorder

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Abstract

Objective: It is reported that there are many risk factors for the development of separation anxiety disorder (SAD) in children and adolescents. One of the most important factors is the mother-child relationship. It is thought that the temperamental characteristics of the mother have an important role to play in the quality of this relationship. The present study aimed to determine the temperamental characteristics of mothers whose preschool children were diagnosed with separation anxiety disorder.

Method: The study included 60 mothers of children with separation anxiety disorder (diagnosed between 4 and 7years of age) and 60 mothers of healthy children who were matched by sociodemographic factors with children with SAD. All cases were evaluated with a sociodemographic form, the Child Behavior Check List (CBCL) and The Temperament Evaluation of Memphis, Pisa, Paris and San-Diego Autoquestionnaire (TEMPS-A).

Results: Mean age of the children (32 female, 28 male) was 5.12±.0.85 years. The children with an anxiety disorder had higher behavioral problem CBCL scores than the control group. The mothers of the children with anxiety disorders had higher depressive, cyclothymic, irritabl and anxious temperament scores than the control group mothers.

Conclusion: The mothers of the children with separation anxiety disorder had higher scores on depressive, cyclothymic, irritability and anxious temperament scores than the control group mothers. We think that this study can be used to inform future community based, prospective studies.

Key Words: Separation Anxiety Disorder, temperament, child

INTRODUCTION

Separation anxiety disorder (SAD) is characterized by children experiencing anxiety for at least 4 weeks as the result of separation from home or from the person they are most attached in a repetitive pattern and at a level that is more than expected for their developmental stage. Such children live with continuous and excessive fear of loosing the primary caregivers that it's attached to or that something bad will happen them, and as a result do not want to go to school or anywhere else because of the fear of separation. SAD impairs a child's functionality (at school or in other social relationships outside of school) (Masi and et al. 2001).

Various risk factors are associated with the development of SAD. Some negative situations related to school, the birth of a new sibling, the death of a close person, prolonged separation of the child from its mother or father, and reciprocal dependency in the mother-child relationship are the primary factors thought to play an important role (Bernstein 1990, Lipsitz and et al. 1994, Silove and et al. 1996). When a child first attends school, some failures at school may cause a temporary unwilling-

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ness to attend, but these fears can resolve with appropriate parental intervention and school support. Studies of children with anxiety disorder report that the adjustment problems are also related to environmental interaction and parental characteristics, in addition to neuropsychological disorders, genetic predisposition, and inheritance (Büküşoğlu 2004). According to psychodynamic theory, a child with SAD has experienced problems during previous developmental stages and was unsuccessful (Field 1996).

Mothers of the SAD cases are frequently observed to have anxiety and depressive disorders (depressive Syndrome, major depression, dysthymic disorder) (Masi and et al. 2001). In particular among children of mothers with panic disorder, SAD occurs more frequently than in general population samples. The incidence of SAD is also high in the first-degree relatives of children with SAD. These psychiatric disorders may cause the development of an anxiety disorder in children by disturbing the mother-child relationship during its early stages, or can be evaluated as an indicator of a genetic transfer (Silove et al., 1996). Another important variable associated with the development of SAD is the quality of the mother-child relationship. Parents may do not allow the child to take any responsibility, use excessive discipline, limit and neglect the child, warn the child continuously instead of being a model, or the parents that are insecure and incriminating, and have physical or psychiatric problems are thought to be responsible for the development of adjustment difficulties in the child and for serious psychopathologies in future life stages, as well as limiting the capacity of children to develop normally (Muris et al., 1996).

According to Rutter (1997), a child's temperamental characteristics and the parents' behaviors and attitudes play an important role in the relationships that the child establish with his parents and environment. The term "temperament" is used in relation to "how a person does the thing that he does" and is defined as the manners and behaviors that are based on structural, genetic, and biological factors.

There are limited number of studies concerning the relationship between a mother's temperament and her child's adjustment. It is unavoidable that the relationship the child establishes with its mother will be affected by her temperamental characteristics and by the general temperament structure of the child which can be defined as behavior styles (Rothbart et al., 1994). According to a recent study, both a child's and the parent's temperament characteristics affect their relationship (Wamboldt and Wamboldt, 2000). If we consider that one of the most important identity objects for a child is its mother, and that following birth a child establishes a long-term relationship with its mother, it becomes apparent that the mother's temperament characteristics are important factors affecting how a child copes with stressful life events and whether or not its develop anxiety. The behavior pattern of a person can be defined with the temperament of that person; therefore we thought that it was important to investigate the temperamental characteristics of mothers that are risk factors for the development of SAD in their children.

The present study aimed to evaluate compare and evaluate the temperamental characteristics of the mothers of 4-7-year-old children diagnosed with SAD and compare them with those of mothers whose children were free of any psychiatric disorder.

METHOD

The study included the mothers of the children aged 4-7 years that were diagnosed with SAD according to DSM-IV diagnostic criteria (American Psychiatry Association 1994) and referred to the Ege University Medical Faculty, Child and Adolescent Psychiatry Department due to unwillingness to attend school.

The control group consisted of mothers whose children were free of any psychiatric complaints or disorder according to a psychiatric assessment that were matched with the children of the mothers in the study group in terms of sex, age, socioeconomic level, important life events that occurred in the last year that are considered psychosocial risk factors for the development of SAD (moving to a new home, changing school, divorce, or impairment of family relationships).

To create the study group, 141 children aged 4-7 years that were referred to the study center with complaints that included unwillingness to attend school or separation problems from the mother were evaluated. At the end of their first interview 89 children were diagnosed with SAD according to DSM-IV diagnostic criteria. After informing the parents about the study these children were re-evaluated by a physician that was blind to the diagnosis. As a result of this second psychiatric interview, 69 children were diagnosed with SAD and then their mothers were evaluated by an adult psychiatry specialist. At the end of that psychiatric assessment which used the SCID- nonpatient form (SCID-NP) (First et al., 1997, Özgürkçügil et al., 1999) 60 mothers that were not di-

Table I. Comparison of mean CBCL behavior subscale scores using Man-Whitney U test.

CBCL Subscales	Mean Group=1	Mean Group=2	z
Withdrawn	84.9	36.1	-8,04*
Somatic Problems	78.8	42.1	-6,6*
Anxiety/Depression	88.75	32.25	-9,07*
Social Problems	84.56	36.44	-7,82*
Thought Problems	77.23	43.77	-5,80*
Attention Problems	77.52	43.48	-5,49*
Delinquent Behavior	71.53	49.47	-3,67*
Aggressive Behavior	71.39	49.61	-3,74*
Internalizing	73.97	47.03	-9,13*
Externalizing	71.49	49.51	-4,24*
Total	86.69	31.52	-8,25*

*p<0.0001

agnosed with an affective disorder, psychotic disorder, or anxiety disorder were included in the study.

To compose the control group, healthy classmates of the children of the study group, who were matched according to the risk factors for SAD development were identified during school visits and after receiving the necessary permissions from their mothers. These children and their mothers were informed about the study and those that agreed to participate were evaluated. Sixty children and their mothers, who did not to have any psychiatric disorder, were included in the study as the control group. In this study it was important that the participants were psychiatrically healthy for determining the temperamental characteristics, therefore the SCID-NP was administered to both the study and control group mothers.

Assessment Scales

1. Sociodemographic Form

This form was used to gather data on the socio-demographic properties of the children and families as well as the risk factors for development of SAD. The form was completed by the mothers.

2. Child Behavior Checklist- Parent Form (CBCL-Parent)

This form was developed by Achenbach and Edelbroch (1978, 1979) to determine the sufficiency areas, and problem behaviors of 4-18-years-olds according to their parents. This for is composed of 2 parts- "social sufficiency" and "problem behaviors". Adaptation of the 1981 form of the scale to Turkish was performed by Akçakın and Savaşır in 1983. CBCL was completed by the mothers.

3. The Temperament Evaluation of Memphis, Pisa, Paris and San-Diego-Auto Questionnaire (TEMPS-A)

This Likert-type scale which was developed by Akiskal and consist of 110 questions about the properties related to depressive, cyclothymic, hyperthymic, irritable, and anxious temperament. Questions are answered "yes" or "no". These questions must be answered consideration of a person's entire life. The validity and reliability of the Turkish form was established by Vahip et al. (2005). The 99-item Temperament Scale they created is reported to have good intra-consistency and complete reliability.

4. Structural Clinical Interview for DSM-III-R Disorders-Non-Patient Version (SCID-NP)

This scale was administered to both the study and control group mothers by an adult psychiatry specialist. This semi-structured interview is used to exclude DSM-III-R psychiatric disorders.

Table II. Comparison of the temperament characteristics of the mothers using the Man-Whitney U test.

Temperament Characteristic	Mean Group=1	Mean Group=2	Z
Depressive Mood	71.49	49.51	-3.49*
Cyclothymic Mood	71.85	49.15	-3.59*
Hyperthymic Mood	56.92	64.07	-1.12
Irritable Mood	73.31	47.69	-4.2*
Anxious Mood	77.22	43.78	-5.29*

* : p<0,0001

Statistical Analysis

The study data were evaluated with the statistical package program SPSS v.10.0 for Windows. Means, the chi-square test, Spearmen's correlation test, and Man Whitney U test were used to analyze the data.

Comparisons between the CBCL scores of the children with SAD, and the control group and mothers' temperament scores were performed. The relationship between the behavior scores of the children with SAD and their mothers' temperament scores were investigated. Since the study was performed with preschool children, we excluded the "efficacy", "sociality", and "school" subscales of CBCL. The remaining 118 items that identify behavioral problems and emotional problems in the children and adolescents from the second part of CBCL (problem behaviors) were used in the evaluation.

RESULTS

Sociodemographic Characteristics

Thirty-two (52.3%) of the children of the study group mothers were female and 28 (46,7%) male. The youngest was 4 years old, the eldest 6 years old; mean age was 5,12±0,85 years. Of the study group families, 54 (90%) were nuclear, 3 (5%) were divorced and the remaining 3 (5%) were extended. According to the families' own perceptions 7 (11,7%) were of low socioeconomic status, 49 (81,7%) were middle and 4 (6,7%) were high. The cases selected as the control group were matched with the study group in terms of on the sex, age, number of siblings, family type, and socioeconomic status.

Age of the mothers ranged between 22 and 43 years; the arithmetic mean was 31±3.5 years in the study group and 33±4.1 years in the control group. In all, 19 (31.7%) of the study group mothers were primary school graduates, 22 (36.7%) were high school graduates, and 19 (31.7) were university graduates. In terms of work status, 31 (51.7%) of the study group mothers were housewives and 29 (48.3%) worked outside of the home. In the control group 8 (13.3%) mothers were primary school graduates, 22 (36.7%) were high school graduates, and 30 (50%) were university graduates. In all, 23 (38.3%) were housewives and 37 (61.7%) worked outside of the home.

A statistically significant difference was observed between the study group and control group (χ^2=6.95, p=0.031). The mothers in the study group had less education than the mothers in the control group. Based on age, and work status, there were no significant differences between the mothers in the 2 groups.

CBCL

CBCL part II scores of the children with SAD (group 1) were compared with those of the children without any psychiatric diagnosis (group 2) using the t test (results are shown in Table I).

The children with SAD had higher problem behavior scores than the control group children. The high internalizing scores were noteworthy (p<0.001). Internalizing scores were 67.68±6.65 in the SAD group and 44.28±8.33 in the control group. Externalizing scores were 55.03±11.70 in the SAD group and 45.58± 10.38 in the control group, and total problem behavior scores were 64.51±7.19 in the SAD group and 43.83±10.54 in the control group (p<.001).

Comparison of the Mothers' Temperament Scores

The mothers TEMPS-A scores were compared using Man Whitney U Test. The results of the analysis are shown in Table II.

Based on the mothers' TEMPS-A scores the study group mothers had significantly higher scores for depressive temperament (z=-3,49, p<0.0001), cyclothymic temperament (z=-3,59, p<0.0001), irritable temperament (z=-4,20, p<0.0001), and anxious temperament (z=-5,29, p<0.0001) when compared to the control group mothers. No statistically significant difference was detected in hyperthymic temperament between the 2 groups (z=-1,12, p>0.05).

Table III. The relation between CBCL subscale Scores of the children with SAD and the temperament characteristics scores of their mothers using Spearmen's correlation analysis.

Group I (n=60)										
CBCL Subscales	Depressive Mood (Mother)		Cyclothymic Mood (Mother)		Hyperthymic Mood (Mother)		Irritable Mood (Mother)		Anxious Mood (Mother)	
	r	P	r	P	r	p	R	p	R	p
Withdrawn	.26	.048	.313	.015			.275	.033	.361	.005
Somatic Problems	.311	.016					.326	.011	.365	.004
Anxiety/ Depression			.301	.020			.340	.008	.386	.002
Social Problems	.254	.050					.349	.006	.313	.015
Thought Problems			.369	.004						
Attention Problems			.291	.024			.361	.005		
Delinquent behavior										
Aggressive Behaviors			.298	.021						
Total Problem Behavior			.462	.000			.387	.002		
Internalizing Score			.384	.002			.443	.000	.454	.000
Externalizing Score			.291	.024						

CBCL subscale scores of all the children in the study were compared with the mothers' temperament scores using Spearman's correlation analysis. The correlation and p values of the subscales, for which statistical significance was observed, are shown in Table III.

CBCL somatic problem subscale scores were related to depressive temperament, irritable temperament, and anxious temperament scores of the mothers. Anxiety/depression scores of the children were significantly related to the cyclothymic temperament, irritable temperament, and anxious temperament of the mothers. Depressive temperament scores of the mothers were significantly related to social problem scores of the children. Thought, attention, and aggression scores were related to cyclothymic temperament scores of the mothers. Total problem behavior scores of the children related to cyclothymic and irritable temperament scores of the mothers, and internalizing problem scores of the children were related to cyclothymic, irritable and anxious temperament scores, and externalizing problem scores were related to cyclothymic temperament scores of the mothers at statistically significant levels. None of the CBCL subscale scores were related to hyperthymic temperament of the mothers.

DISCUSSION

Factors related to the development of SAD development, are mostly, negative situations in the school, born of new sibling, death of a close person, separation of the parents, or home for a long time and reciprocal dependency in the mother-child relationship. In recent years, problems and dependence in the mother-child relationship have been frequently reported (Silove et al., 1996, Lipsitz et al., 1994). Studies suggest that while examining a child's mental problems, psychopathology in the family functional impairment, relationships in the family, and temperamental characteristics should be investigated (Fagiolini et al., 1998, Prior 1992). In the present study the temperament characteristics of the mothers of children diagnosed with SAD were investigated, a topic rarely addressed in the literature, but one thought to be an important when developmental characteristics are taken into account. By evaluating the results of the present study first, reviewing the sociodemographic variables of

the children and their mothers, then discussion of inter-group differentiations of CBCL scores and mothers' temperamental characteristics, and lastly, evaluation of the relationship between the children's behavior problem scores points and the temperamental characteristics of study group mothers was planned.

When the sociodemographic variables of the children were evaluated, no differences were observed between the study group and control groups. In terms of the mothers' sociodemographic variables, only the level of education was significantly different between the study and control groups.

It was determined that the level of education of the study group mothers was significantly lower than the control group's ($p<0,05$). In the literature parental level of education of SAD cases with social phobia was reported to be low (Moss et al., 1998).

It was observed that there wasn't any difference between the 2 groups in terms of socioeconomic level but in our study the socioeconomic level was determined according to the mother's own perception a methodological limitation of the study.

When the children's CBCL behavior problems scores were evaluated, the study group had significantly higher behavior problem scores, as compared to the control group ($p<0,0001$). The children diagnosed with SAD had higher internalizing, externalizing, and total problem scores, as well as higher social introversion, somatic complaints, anxiety-depression and social problems subscale scores, which are important for anxiety disorders. This result is considered to support the diagnoses of SAD and is in agreement with previous studies' findings (Büküşoğlu 2001). In another study of 70 children between the ages of 6 and 11 years that were diagnosed with SAD and refused to attend school, all the CBCL subscale scores other than aggression subscale, was higher than in the healthy group. This result is important because it demonstrates the spectrum of mental problems seen in children with SAD (Büküşoğlu 2001).

While evaluating the temperament characteristics of the mothers in the present study, it was observed that the study group mothers had significantly higher depressive, cyclothymic, irritable, and anxious temperament scores than the mothers in the control group ($p<0,0001$). It is appropriate to consider the relationship between a mother's temperament and a child's SAD, due to behavioral and analytic theories and genetic and biologic properties.

The high-level depressive, cyclothymic, irritable and anxious temperament scores of the study group mothers are consistent with some theories and study results that suggest they are responsible for the occurrence of SAD. In the present study the temperament characteristics described by Akiskal and Malya (1987) were used. Accordingly the mothers with high depressive scores were defined as sorrowful, introverted, pessimistic, lacking a sense of humor, sleeping excessively (but sometimes suffering from insomnia), suspiciousness, thoughts of insufficiency and dependent. The mothers with high irritable temperament scores were defined as being more pessimistic (as compared to others), critical, and having high-level emotional expression, with mocking behaviors and impulsivity. High anxious scores were also related with temperament characteristics, including internalizing symptoms like anxiety and somatization.

Based on behavioral theory's explanation of SAD's development, inappropriate mother-child interactions create difficulties in separation (Miral and Baykara 1998). In studies related to this subject it was stated that most mothers' emotions, behaviors, and habits about separation from their children are related to the control that the child perceives (Velez et al., 1989). A mother, intensifies the unhealthy reaction by being extremely sensitive and protective of the stress that the child feels about separation. This is suggested to be a model for the provision of the continuity of anxiety in the families (Ainsworth 1978, Capps et al., 1996).

According to Bowlby (1973), the primary instinct is "attachment". Prior to the development of a baby's cognitive abilities, there is attachment of the baby to the mother. A child feels secure if it does not feel that its existence is threatened or if it is easily able to obtain its attachment object. Later , when the child must separate from its attachment object it is expected that the child will calm itself and accommodate to the new situation. The achievement of this developmental task by the child is usually prevented by separation anxiety, which the mother feels. Separation anxiety and extreme protectiveness of the parent are related to insecure attachment types (Hock and Schirtzinger 1992, Liotti 1992, Van Ijzendoorn 1995). It was also determined that a mother's depressive and anxious temperament characteristics, incompatibility between the parents, and marriage problems increase the separation anxiety that the mother feels when she's separating from her child (Cummings and Davis 1994). Moreover the mother is an important identity object for the child. The internal source for the resolution and regulation of the Oedipal conflict in the

phallic stage -also the psychosexual developmental stage of our study children- is the superego, which is primarily based on identifications arising from parental figures (Meissner 2007). We previously determined that the anxious, depressive, and irritable temperament characteristic scores of the study group mothers were higher. It was thought that the mothers were pessimistic, suspicious, restless and had feelings of insufficiency due to their temperament characteristics which may have negatively affected the attachment period and that they may might have been negative models of an identity object for their children. These findings are in agreement with the literature about attachment and general anxiety in families.

One finding that we didn't expect to see in the study group mothers was higher cyclothymic temperament scores in comparison with the control group. We didn't predict that the children of the study group mothers would have a tendency to develop SAD; their mothers experience sudden changes -from sorrowful and boring to cheerful or from introversion to extravertion and from silent state to talkative state, in addition to fluctuations in daily sleep habits and energy levels. Some investigations have reported a relationship between cyclothymic temperament and affective disorders. According to this data, individuals with bipolar disorder and a family history of bipolar disorder exhibit many more cyclothymic and irritable temperament characteristics in the premorbid period (Vahip 2005). Consistency is one of the most important factors, together with love and authority, in a child's life and education (Yalın 2007). When we consider that a child adopts the mother as a role model and is directly affected by her behaviors and attitudes. The changeful temperament characteristics of the mother may disturb the adjustment of the child, however no controlled, prospective follow-up studies examined this.

In addition to psychodynamic and behavioral theories, the number of studies on the biology of temperament have increased. Genetics are suggested to affect and determine a baby's early stage affect, attitude, and behaviors to a great extent (Panksepp 1982, Rothbart 1989, Rothbart et al., 1994). As such, we can say that mother's temperament characteristic is a factor which is also affecting the child.

Among the results of the present study, the relationship between CBCL behavioral problem scores of the children and temperament characteristics of the mothers is remarkable. The relationship between somatic complaints, an important SAD symptom, of the children and the mothers' depressive, irritable and anxious temperament scores suggest that the children might have been affected by the critical, mocking, and suspicious behaviors of their mothers, and might have developed different defense mechanisms while expressing their negative feelings. Similarly, the relationship between the anxiety/depression scores of the children with the mothers' cyclothymic, irritable, and anxious temperament scores, indicate that pessimistic, irritable, and anxious behaviors of the mothers may have been reflected in their children's behaviors. Furthermore the relationship between the children's social scores and the mother's depressive temperament scores may also be an important finding suggesting that introvert and passive mothers' children are also ineffective shy, and inhibited in their social relationships. Nonetheless since there are no other study results with which we can compare our findings with, the discussion is limited to a framework of development theories and general temperament characteristics.

As a result, several factors in the development of SAD were studied. Additionally, a well-known topic, mothers' temperament characteristics, variables that may affect the mother-child relationship. The high irritable, depressive, anxious, and cyclothymic temperament characteristics scores of the study group mothers are remarkable and the relationship between the temperamental properties of the mothers and behavior problems of the children should be evaluated.

CONCLUSION AND LIMITATIONS OF THE STUDY

Temperament characteristics of the mothers of the study group mothers were different than those of the control group mothers, and a relationship was observed between the temperament characteristics of the mothers and behavior problems of the children. Yet, there are many variables thought to be involved in the development of SAD. Although the study group and control group were matched for such parameters as age, sex, socioeconomic level, important life events in the last year (moving to a new home, changing school, birth of a sibling, migration, divorce, and impairment of intra-family relationships), it was not possible to match all the variables. Moreover socioeconomic level was determined according to the mothers' own perceptions a methodological limitation of the study. SAD is an important disease that impairs the functionality of children and its treatment is long term. Identifying the risk factors for the development of SAD and attempting to control these risk factors is very important for protective mental health. Therefore, we

consider that the temperament characteristics of mothers and the quality of the mother-child relationship should be investigated. In order to generalize the findings of the present study, the number of cases should be increased and the relationship between the mothers' temperament characteristics and their children's behaviors should be investigated in a community sample.

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