
SOCIAL ANXIETY FROM AN ATTACHMENT THEORY PERSPECTIVE: THE MEDIATING ROLE OF EARLY MALADAPTIVE SCHEMA DOMAINS AND REJECTION SENSITIVITY

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Abstract

Social anxiety is a common problem. Several factors play a role in the development and maintenance of social anxiety. Since relationship with parents is specifically an important factor, it is important to examine social anxiety from an attachment theory perspective. Studies indicate that early maladaptive schemas and rejection sensitivity may play a role in the relationship between attachment pattern and psychological distress. Therefore, the aim of the present study is to examine the mediating role of early maladaptive schema domains and rejection sensitivity in the relationship between internal working models of attachment and social anxiety. The sample of the study consisted of 557 university students (199 male, 358 female) between the ages of 17-27 ($M = 20.69$, $SD = 1.79$). Liebowitz Social Anxiety Scale, Relationship Scales Questionnaire, Young Schema Questionnaire-Short Form 3, and Rejection Sensitivity Questionnaire were administered to the participants. Results of the mediation analysis with Bootstrapping showed that Impaired Autonomy schema domain and rejection sensitivity mediated the relationships between attachment self-model and social anxiety. Moreover, schema domains of Impaired Autonomy, Impaired Limits and Unrelenting Standards, and rejection sensitivity mediated the relationship between attachment other-model and social anxiety. The current study may contribute to the literature by providing an understanding of how the relationship between attachment and social anxiety may emerge. Clinicians aiming to increase clients' functionality and quality of life should/could focus on their clinical practice on the above early maladaptive schema domains and rejection sensitivity.

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Keywords: Social anxiety, attachment, early maladaptive schema domains, rejection sensitivity.

In the Diagnostic and Statistical Manual of Mental Disorders (Fifth Edition) (American Psychiatric Association, 2013), social anxiety is defined as “marked fear or anxiety about one or more social situations in which the individual is exposed to possible scrutiny by others” (p. 202). Social anxiety disorder is a common psychological problem with an estimated lifetime prevalence rate of 12.1% (Kessler et al., 2005). On the other hand, it is stated that social anxiety symptoms are frequently seen in the general population, although it is not a high level to be diagnosed with social anxiety disorder (Pélissolo et al., 2000; Stein et al., 1994, 2000). It is important to understand the factors related to social anxiety to develop effective interventions due to how it affects functionality and quality of life (Acarturk et al., 2008, 2009; Aderka et al., 2012; Rodebaugh, 2009; Safren et al., 1996; Schneier et al., 1994).

According to relevant literature, familial and parental factors are among the etiological factors (Bruch, 1989; Bruch et al., 1989; Rapee & Melville, 1997), and early life experiences such as parental attitudes, parent-child interaction, and quality of the parent-child bond are associated with social anxiety (Bruch & Heimberg, 1994; Neal & Edelman, 2003; Rapee & Spence, 2004). Similarly, attachment patterns are also considered to be related to social anxiety because they originate from early experiences and influence subsequent relationships (Bowlby, 1973). On the other hand, some researchers suggest that attachment theory can provide an explanation of social anxiety by combining the social anxiety theories in a meaningful way (see Vertue, 2003). One of the theories discussed in this context is Leary's (2001) extended self-presentation theory, which defines three conditions for social anxiety (i.e., motivation to make a particular impression on others, doubt that one will not make a desired impression, relational devaluation and social exclusion). Vertue (2003) stated that these three conditions could be related to attachment and proposed a unified theory of social anxiety. In the following, the main variables of the current research and the relationships between them will be mentioned, and then the explanations of this theory will be discussed.

Attachment theory (Bowlby, 1969/1982, 1973, 1980) suggests that a child develops mental representations of attachment relationship as a result of interactions with their caregiver. These mental representations, defined as “internal working models”, are divided into two types: internal working models of self and other. These models can be positive or negative depending on the quality of the relationship between the child and the caregiver (Bowlby, 1973). Based on this information, Bartholomew and Horowitz (Bartholomew, 1990; Bartholomew & Horowitz, 1991) developed a four-category model of attachment involving secure, preoccupied, fearful, and dismissing attachment styles. Some researchers classified attachment in

two dimensions; anxiety, which is related to the self-model, and avoidance, which is related to the other-model (Brennan et al., 1998; Fraley et al., 2000). As studies suggest, there are two main dimensions underlying the adult attachment pattern: “self-model,” which comprises the beliefs and expectations about the lovability of self, and the “other-model,” which comprises the beliefs and expectations about the sensitivity and availability of others (Bowlby, 1973).

Bowlby (1988) suggested that internal working models and attachment patterns that develop with early experiences and maintain their importance throughout life affect mental health as determinants of coping with stressful life events. In this context, studies that examine the relationship between attachment and social anxiety showed that insecure attachment (Bayramkaya, 2009; Bifulco et al., 2006; Brumariu & Kerns, 2008; Eng et al., 2001; Öztürk & Mutlu, 2010), especially preoccupied attachment style, which is characterized by negative mental representations of self, and fearful attachment style, which is characterized by negative internal working models of self and other (Van Buren & Cooley, 2002; Wenzel, 2002), are associated with social anxiety. Consistent with these findings, Vertue (2003) stated that three conditions which extended self-presentation theory (Leary, 2001) defines for social anxiety, could be directly or indirectly related to the internal working models of attachment. On the other hand, it is stated in relevant literature that social anxiety may include dysfunctional beliefs about self and others (Pinto-Gouveia et al., 2006), which are consistent with the mental representations of the related attachment patterns. The relationship between these mental representations or dysfunctional beliefs, which are gathered around the themes such as dependence, incompetence, failure, and rejection, with Young’s (1990, 1999) “Early Maladaptive Schemas” (EMSs) (Pinto-Gouveia et al., 2006) and rejection sensitivity (Ayduk et al., 2000; Berenson & Downey, 2006) will be presented below through research findings.

According to schema theory (Young, 1990, 1999), EMSs develop as a result of early life experiences in which core emotional needs are not met. EMSs originating from early life experiences and developing throughout childhood and adolescence are based on the individual’s relationships with oneself and other people. It is stated that these cognitive structures formed by memories, emotions, cognition, and bodily sensations can form the basis of psychological distress. Young defined 5 schema domains formed as a result of the universal basic emotion needs not being met: Disconnection and Rejection, Impaired Autonomy, Impaired Limits, Other-Directedness, Over Vigilance and Inhibition. These schema domains comprise 18 EMSs (Young et al., 2003).

Contemporary models of social anxiety suggest that negative beliefs or mental representations of self and other, or EMSs play a role in social anxiety (e.g., Heimberg et al., 2010). Some researchers assert that cognitive schemas may represent individual differences in attachment patterns (Platts et al., 2002), and that repeated negative experiences with attachment figures may contribute to the development of EMSs (Gay et al., 2013). Young suggests that EMSs may underlie

psychological distress (Young et al., 2003). EMSs are conceptualized as internal representations of experiences with attachment figures, and attachment patterns are suggested to function as a bridge between the early experiences and schemas (Chorpita & Barlow, 1998; Mason et al., 2005; Platts et al., 2002). From this point, some researchers carried out various studies based on the hypothesis that EMSs may mediate the relationship between attachment and psychopathology (e.g., Bosmans et al., 2010; Roelofs et al., 2011, 2013). It is also important to test this hypothesis for social anxiety, a common psychological problem.

Considering the aforementioned, when the relationship between attachment patterns and EMSs is examined, research showed that insecure attachment patterns are associated with EMSs. A study examining the relationship between attachment styles and EMSs (Mason et al., 2005) has been reported that participants with a preoccupied attachment style that includes a negative self-model and with a fearful attachment style that includes a negative view of both self and others have more EMSs compared to participants with a secure and dismissing attachment style. There was no significant difference between preoccupied and fearful attachment styles. According to the results of another study examining the longitudinal relationship between child and adult attachment patterns and EMSs (Simard et al., 2011), adults with ambivalent attachment during childhood scored higher than those with secure attachment from various schemas that included all schema domains except the Impaired Limits schema domain. Participants with preoccupied attachment during adulthood had higher scores for various schemas covering all schema domains than securely attached participants. Consistent with the idea of mental representations that develop in the early period of life can contribute to the development of schemas by determining the individual's attention and relationship with the environment (Platts et al., 2002), results of the research showed that specific elements related to internal working models may be associated with EMSs (Simard et al., 2011).

In addition to studies that reported attachment patterns to be associated with EMSs, research also determined that EMSs are associated with social anxiety. In these studies, the schema domains of Disconnection and Rejection, Impaired Autonomy and Other-Directedness were found to be associated with social anxiety (Calvete, 2014; Calvete et al., 2013, 2015; Eldoğan & Barışkın, 2014; Mairet et al., 2014; Pinto-Gouveia et al., 2006). These findings are consistent with the three conditions that Leary (2001) proposes for social anxiety. Accordingly, since it includes the importance that individuals attach to the needs and desires of others rather than their own (Young, 2003) in order to maintain relations with others and to gain their approval, the Other-Directedness schema domain can contribute to “the desire to make a positive impression on others” (Leary, 2001) which is associated with a high need for approval (Arkin et al., 1980; Vertue, 2003). Beliefs such as inadequacy and failure (Young, 2003) related to the schemas in the Impaired Autonomy domain can contribute to the belief that “one will fail to leave a positive impression on others” (Leary, 2001) by having an effect on the individuals’

perception of their social skills. On the other hand, the Disconnection and Rejection schema domain may contribute to the belief that “relationships with others will decrease in value and be abandoned by others” (Leary, 2001), as it includes the thought that needs such as love, belonging, and acceptance will not be met and thus avoiding relationships (Young, 2003). According to Vertue (2003) the need for approval included negative evaluations of the self in relation to parents’ attitudes that are critical, controlling and lacking in supporting the development of the individual (Allaman et al., 1972). Therefore, it is related to the internal working models of attachment. On the other hand, negative perception towards social skills (Bowlby, 1982) is considered to be associated with internal working attachment models, as it includes the information about one’s skills in the context of relationships with others. Finally, the belief that one will be abandoned by others because cannot make a positive impression is also related to internal working models of attachment, since it includes negative evaluations of self and others (Vertue, 2003), and these three conditions result from negative mental representations. Thereby, considering the cognitive models of social anxiety and the relations between attachment and EMSs with each other and social anxiety, EMSs were considered as one of the mediating variables in this study.

As mentioned before, social anxiety is associated with some dysfunctional beliefs (e.g., dependence, incompetence, failure) (Heimberg et al., 2010; Pinto-Gouveia et al., 2006). One of the themes related to these beliefs includes rejection (Pinto-Gouveia et al., 2006). Therefore, it is considered that these negative beliefs may also be associated with rejection sensitivity, aside from EMSs. Rejection sensitivity is based on the assumption that early experiences of rejection are internalized and influence subsequent relationships (Feldman & Downey, 1994). This is a concept used to explain the maladaptive reactions individuals show when they are rejected (Downey & Feldman, 1996). Rejection sensitivity originates from attachment theory and is used to define people who “tend to anxiously expect, readily perceive, and overreact to rejection” (Downey & Feldman, 1996, p. 1327; Downey et al., 1994, p. 497). Rejection sensitivity, which has an effect on people’s various relationships (Downey & Feldman, 1996; Downey et al., 1998) is considered to be a factor that stems from early rejection experiences, becomes active in social situations where there is a possibility of rejection, maintains rejection expectations and thus affects interpersonal relationships (Downey et al., 1999). Feldman and Downey (1994) mentioned that rejection sensitivity, which has been shown to damage interpersonal relationships (e.g., Ayduk et al., 2000), may also be a feature of social anxiety.

Considering the aforementioned characteristics, rejection sensitivity is considered to be a related and overlapping concept with Leary’s (2001) final condition for social anxiety, which is “believing that one’s relations with others will decrease in value and be rejected by others” as a result of failing to make a positive impression on others. On the other hand, relevant literature indicated that rejection sensitivity is related to attachment as well as social anxiety. Research showed that

individuals with an insecure attachment pattern are more sensitive to rejection than individuals with secure attachment (Feldman & Downey, 1994). In addition, findings showing that rejection sensitivity is related to both preoccupied and fearful attachment styles (Khoshkam et al., 2012), as well as anxiety and avoidance dimensions of attachment (Özen et al., 2011), revealed that rejection sensitivity may be related to mental representations of self and other. Vertue (2003) stated that as a result of these mental representations being consistent with the extended self-presentation theory (Leary, 2001), individuals may have beliefs that the value of their relationships will deteriorate, and they will be rejected by others. Research shows that these beliefs are associated with social anxiety (Nichols, 1974). Taking all the points mentioned earlier regarding the relationship between attachment and social anxiety into consideration, rejection sensitivity has also been considered as another mediating variable, in addition to early maladaptive schema domains.

The general aim of this study was to investigate the mediating role of early maladaptive schema domains and rejection sensitivity in the relationship between internal working models of attachment (self and other) and social anxiety. Consistent with the research findings in the relevant literature and the extended self-presentation theory (Leary, 2001), schema domains of Disconnection and Rejection, Impaired Autonomy and Other-Directedness, and rejection sensitivity are expected to mediate the relationship between the self-model and social anxiety. Furthermore, schema domains of Disconnection and Rejection and Impaired Autonomy, and rejection sensitivity are expected to mediate the relationship between the other-model and social anxiety. By investigating these mediating effects, this study may contribute to the literature by providing an understanding of how the relationship between attachment and social anxiety may emerge.

Method

Participants

The sample of the study consisted of 557 university students who were attending to their undergraduate education at Bursa Uludag University's (Northwest side city of Turkey) various faculties and departments. While 358 (64.3%) of the participants were female, 199 (35.7%) were male. The age range of the participants was 17-27 and the average age was 20.69 ($SD = 1.79$).

Measures

Demographic Information Form: The form consisted of 20 items and was prepared by the researchers; it includes information about age, gender, marital status, education, family, income, and place of residence.

Liebowitz Social Anxiety Scale (LSAS): The LSAS developed by Liebowitz (1987) aims to assess social interaction and performance situations where individuals with social anxiety may experience fear or avoidance. It consists of 24 items and two subscales (i.e., social interaction and performance). Level of fear and avoidance for each item is assessed on the 4-point scale. The total score is obtained by summing the fear and avoidance subscales. High scores indicate high levels of social anxiety and avoidance. Cronbach's alpha coefficients for both fear and avoidance subscales are 0.92, and 0.96 for the whole scale (Heimberg et al., 1999). The LSAS was adapted to Turkish by Soykan et al. (2003). Cronbach's alpha coefficients were determined as 0.96 and 0.95 for fear and avoidance subscales, and 0.98 for the whole scale.

Relationship Scales Questionnaire (RSQ): The RSQ developed by Griffin and Bartholomew (1994) consists of 17 items and four subscales which are secure, preoccupied, fearful, and dismissing. Each item is assessed on the scale which is rated between 1-7. Scores for each of the four attachment styles are obtained by summing the items aimed at measuring each attachment style and dividing by the number of items in the subscale. Griffin and Bartholomew (1994a) reported that the Cronbach's alpha coefficients of the subscales ranged from 0.41 to 0.71. The authors stated that these values were not due to the psychometric inadequacy of the subscales, but to the fact that each subscale included two models of self and other together. Turkish adaptation of the scale was conducted by Sümer and Güngör (1999). The Cronbach's alpha coefficients of the subscales of the Turkish form ranged from 0.27 to 0.61.

The method developed by Griffin and Bartholomew (1994b) was used to calculate the scores for the self and other models used in this study, and the obtained scores were calculated to correspond to the anxiety and avoidance dimensions of attachment. In this method, in which the scores of four attachment styles are used, negative self-model score representing the anxiety dimension was obtained by subtracting the scores of attachment styles that include positive mental representations of the self from the scores of attachment styles that include negative mental representations of the self ([preoccupied+fearful]-[secure+dismissing]). Similarly, negative other-model score representing the avoidance dimension was obtained by subtracting the scores of attachment styles that include positive mental representations of other from the scores of attachment styles that include negative mental representations of other ([fearful+dismissing]-[secure+preoccupied]). The increase in the scores calculated by this method denotes that the negative evaluations of self or others increase (Bartholomew, n.d.).

Young Schema Questionnaire-Short Form 3 (YSQ-SF3): The YSQ-SF3 (Young et al., 2003) evaluating EMSs, consists of 90 items, which includes five schema domains and 18 schemas. Each item is assessed on the scale which is rated between 1-6.

Soygüt et al. (2009) adapted the YSQ-SF3 to Turkish and found that the Turkish form of the scale consisted of 14 factors covered by the five schema

domains. It was observed that the factors generally overlapped with the original form, but the number of factors was different, and the items could take place in different dimensions from the original form. The five schema domains included of the Turkish form used in this study and the 14 EMSs covered by these schema domains are shown in Table 1 in comparison with the original form. The Cronbach's alpha coefficients range from 0.63 to 0.80 for EMSs, and between 0.53 and 0.81 for schema domains.

Table 1. Early Maladaptive Schema Domains in the YSQ-SF 3 Original and Turkish Form and the Schemas Included

YSQ-SF3 Original Form (Young et al., 2003)		YSQ-SF3 Turkish Form (Soygüt et al., 2009)	
Schema Domains	Schemas	Schema Domains	Schemas
Disconnection and Rejection	Abandonment/Instability Mistrust/Abuse Emotional Deprivation Defectiveness/Shame Social Isolation/Alienation	Disconnection	Emotional Deprivation Emotional Inhibition Social Isolation/Mistrust Defectiveness
Impaired Autonomy and Performance	Dependence/Incompetence Vulnerability to Harm or Illness Enmeshment/Undeveloped Self Failure	Impaired Autonomy	Enmeshment/Dependence Abandonment Failure Pessimism Vulnerability to Harm
Impaired Limits	Entitlement/Grandiosity Insufficient Self-Control/Self-Discipline	Impaired Limits	Entitlement /Insufficient Self-Control
Other-Directedness	Subjugation Self-Sacrifice Approval-Seeking/Recognition-Seeking	Other-Directedness	Self-Sacrifice Punitiveness
Overvigilance and Inhibition	Negativity/Pessimism Emotional Inhibition Unrelenting Standards/Hypercriticalness Punitiveness	Unrelenting Standards	Unrelenting Standards Approval-Seeking

Rejection Sensitivity Questionnaire (RSQ): The RSQ developed by Downey and Feldman (1996) consists of 18 items which assess individual's rejection sensitivity. Each item includes a hypothetical interpersonal situation that is likely to be rejected by others. Individuals' concern about the outcome of the situation, and the likelihood of others accepting are assessed separately on the scale, which is rated between 1-6. High scores indicate an increased expectation of acceptance, and low scores indicate an increased expectation of rejection. For calculating the rejection sensitivity score, firstly, the acceptance expectation scores for each item are converted into rejection expectations (rejection expectation = 7 – acceptance expectation), and then these scores are multiplied by the degree of anxiety or worry about the relevant item. The score that can be obtained from each item is between 1 and 36, and the total rejection sensitivity score is obtained by taking the average of the scores of 18 items. Cronbach's alpha coefficient of the RDQ is 0.83.

The data of two different studies (Göncü & Sümer, 2011; Özen et al., 2011) were used to adapt the RSQ to Turkish and eight items, which cover common situations related to rejection expectations in a Turkish cultural context, were added to the scale. The Cronbach's alpha coefficient of the Turkish form is 0.86 (Göncü & Sümer, 2011).

Procedure

Before the data collection process, ethical approval was obtained from the Bursa Uludag University Faculty of Medicine Clinical Research Ethical Committee. After the purpose of the study was explained and the informed consent form was read and signed by the participants, the instruments were administered in the classrooms in paper-pencil format. Participants completed the survey in an average of 30 minutes. All participants who agreed to participate filled out the survey and there was no dropout. Participants did not receive any benefits in exchange for their participation.

Statistical Analyses

Pearson correlation analysis was performed to examine the relationships between variables. The Bootstrap method was used in the evaluation of mediating effects; thus, the role of schema domains and rejection sensitivity were evaluated simultaneously (Parallel Multiple Mediator Model). In this method, it is stated that instead of conducting separate analyses for each mediating variable, entering all mediator variables together into the model provides various advantages (e.g., examining the effects of mediators separately (specific indirect effect) and together (total indirect effect), controlling the effects of mediators on each other) (Hayes, 2013). The bootstrap method includes obtaining the indirect effect and the confidence interval (CI) for this effect by resampling. The confidence interval does not include zero indicates that the indirect effect is significant (Preacher & Hayes, 2008). PROCESS (Model 4) was used in the analyses and the number of resampling was determined as 5000.

Results

Significant positive associations were found between social anxiety with self and other models, as well as with all schema domains except the Impaired Limits schema domain, and rejection sensitivity. The self-model was positively associated with the schema domains of Disconnection, Impaired Autonomy, Other-Directedness and Unrelenting Standards, and rejection sensitivity. The other-model was also positively associated with the schema domains of Disconnection, Impaired Autonomy, Impaired Limits and Unrelenting Standards, and rejection sensitivity. In

addition, the relationship between the four attachment styles, which differ from each other in terms of self and/or other model, and the other research variables was also examined. The results showed that insecure attachment styles other than dismissive attachment were positively, secure attachment on the other hand, negatively associated with social anxiety and rejection sensitivity. Furthermore, it was found that all insecure attachment styles showed significant positive associations with schema domains (except the relationship between preoccupied attachment style and Impaired Limits schema domain). Means, standard deviations, and correlation coefficients of variables are presented in Table 2.

Table 2. Means, Standard Deviations, and Correlation Coefficients Between Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Social Anxiety	-												
2. Negative Self-Model	.35**	-											
3. Negative Other-Model	.20**	.03	-										
4. Secure Attachment	-.37**	-.60**	-.49**	-									
5. Preoccupied Attachment	.14**	.63**	-.45**	-.07	-								
6. Fearful Attachment	.25**	.49**	.74**	-.32**	.03	-							
7. Dismissing Attachment	.02	-.35**	.71**	-.05	-.20**	.41**	-						
8. Disconnection	.37**	.25**	.32**	-.26**	.17**	.37**	.29**	-					
9. Impaired Autonomy	.53**	.33**	.20**	-.28**	.23**	.30**	.13**	.66**	-				
10. Impaired Limits	-.00	-.05	.21**	-.04	.04	.15**	.33**	.30**	.26**	-			
11. Other-Directedness	.27**	.09*	.08	-.03	.13**	.14**	.14**	.29**	.45**	.35**	-		
12. Unrelenting Standards	.23**	.17**	.09*	-.12**	.23**	.16**	.16**	.25**	.40**	.45**	.42**	-	
13. Rejection Sensitivity	.42**	.25**	.14**	-.27**	.14**	.18**	.05	.35**	.39**	.09*	.15**	.10*	-
<i>M</i>	45	-.82	.35	4.12	3.85	3.88	4.43	47.60	62.09	25.42	37.08	30.38	8.60
<i>SD</i>	21.71	2.13	2.54	.88	1.03	1.18	1.08	16.02	19.74	6.52	8.45	8.01	3.19

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

Two separate Bootstrap analyses (Parallel Multiple Mediator Model) (Hayes, 2013) were conducted to test the mediating role of the schema domains and rejection sensitivity in the relationship between self, and other models with social anxiety. The effect of other-model was controlled in the analysis of self-model, and the effect of self-model was controlled in the analysis of other-model.

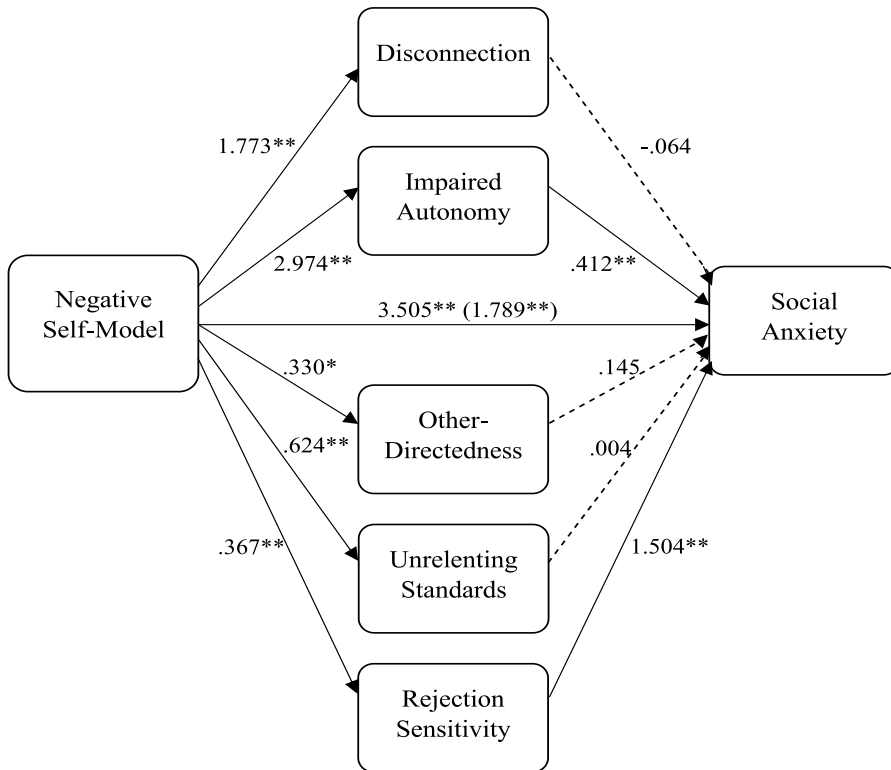


Figure 1. The Mediating Role of Schema Domains and Rejection Sensitivity in the Relationship Between Self-Model and Social Anxiety

Note. Unstandardized beta coefficients are presented in the figure. * $p < .05$, ** $p < .01$, *** $p < .001$

Firstly, the mediating role of schema domains that correlate with self-model (i.e., Disconnection, Impaired Autonomy, Other-Directedness, and Unrelenting Standards) and rejection sensitivity, in the relationship between self-model and social anxiety, was examined after controlling for other-model. It was revealed that model was significant ($F_{7,549} = 45.884, p < .001$) and explained 37% of the variance. Results of the bootstrap analysis showed that self-model was significantly associated with schema domains of Disconnection ($B = 1.773, p < .001, \% 95 \text{ CI } [1.20, 2.35]$), Impaired Autonomy ($B = 2.974, p < .001, \% 95$

CI [2.26, 3.69]), Other-Directedness ($B = .330, p = .049, \% 95 \text{ CI } [.01, .66]$) and Unrelenting Standards ($B = .624, p < .001, \% 95 \text{ CI } [.32, .93]$), and rejection sensitivity ($B = .367, p < .001, \% 95 \text{ CI } [.25, .49]$). Impaired Autonomy schema domain ($B = .412, p < .001, \% 95 \text{ CI } [.30, .52]$) and rejection sensitivity ($B = 1.504, p < .001, \% 95 \text{ CI } [1.00, 2.01]$) were the only unique predictors of social anxiety. It was determined that both total effect ($B = 3.505, p < .001, \% 95 \text{ CI } [2.73, 4.28]$), and direct effect of self-model on social anxiety ($B = 1.789, p < .001, \% 95 \text{ CI } [1.06, 2.52]$) were significant. Results indicated that total indirect effect was significant ($B = 1.716, \% 95 \text{ CI } [1.25, 2.21]$). When the effects of mediators were separately examined, only indirect effects through Impaired Autonomy schema domain ($B = 1.226, \% 95 \text{ CI } [.81, 1.72]$) and rejection sensitivity ($B = .552, \% 95 \text{ CI } [.31, .84]$) were significant after controlling for all other mediators. In other words, the effect of self-model on social anxiety takes place through Impaired Autonomy schema domain and rejection sensitivity after controlling for other-model (see Figure 1).

Secondly, the mediating role of schema domains that correlate with other-model (i.e., Disconnection, Impaired Autonomy, Impaired Limits, and Unrelenting Standards) and rejection sensitivity in the relationship between other-model and social anxiety, was examined after controlling for self-model. It was revealed that model was significant ($F_{7,549} = 50.274, p < .001$) and explained 39% of the variance. Results of the bootstrap analysis showed that other-model was significantly associated with schema domains of Disconnection ($B = 1.971, p < .001, \% 95 \text{ CI } [1.49, 2.46]$), Impaired Autonomy ($B = 1.445, p < .001, \% 95 \text{ CI } [.84, 2.05]$), Impaired Limits ($B = .533, p < .001, \% 95 \text{ CI } [.32, .74]$) and Unrelenting Standards ($B = .272, p = .039, \% 95 \text{ CI } [.01, .53]$), and rejection sensitivity ($B = .169, p = .001, \% 95 \text{ CI } [.07, .27]$). The schema domains of Impaired Autonomy ($B = .430, p < .001, \% 95 \text{ CI } [.33, .54]$), Impaired Limits ($B = -.607, p < .001, \% 95 \text{ CI } [-.86, -.35]$) and Unrelenting Standards ($B = .259, p = .018, \% 95 \text{ CI } [.04, .47]$), and rejection sensitivity ($B = 1.514, p < .001, \% 95 \text{ CI } [1.02, 2.01]$) were the unique predictors of social anxiety. It was determined that both total effect ($B = 1.572, p < .001, \% 95 \text{ CI } [.92, 2.23]$), and direct effect of other-model on social anxiety ($B = .966, p = .002, \% 95 \text{ CI } [.37, 1.56]$) were significant. Results indicated that total indirect effect was significant ($B = .606, \% 95 \text{ CI } [.18, 1.07]$). When the effects of mediators were separately examined, indirect effects through schema domains of Impaired Autonomy ($B = .622, \% 95 \text{ CI } [.32, 1.01]$), Impaired Limits ($B = -.324, \% 95 \text{ CI } [-.55, -.16]$) and Unrelenting Standards ($B = .070, \% 95 \text{ CI } [.01, .20]$), and rejection sensitivity ($B = .256, \% 95 \text{ CI } [.11, .47]$) were significant after controlling for all other mediators. In other words, the effect of other-model on social anxiety takes place through schema domains of Impaired Autonomy, Impaired Limits and Unrelenting Standards, and rejection sensitivity after controlling for self-model (see Figure 2).

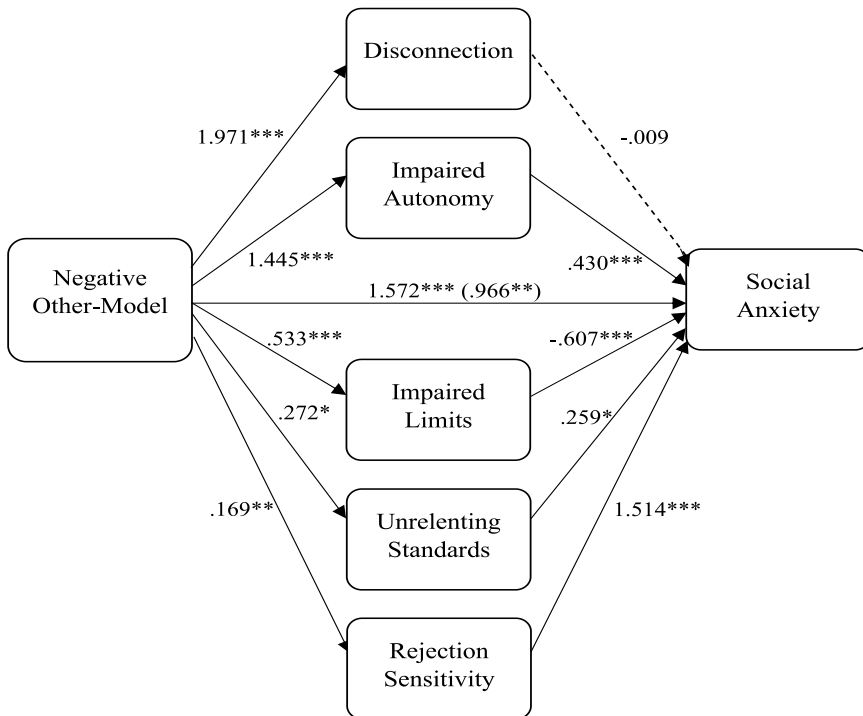


Figure 2. The Mediating Role of Schema Domains and Rejection Sensitivity in the Relationship Between Other-Model and Social Anxiety

Note. Unstandardized beta coefficients are presented in the figure. * $p < .05$, ** $p < .001$

Discussion

In this study, it was aimed to investigate the mediating role of early maladaptive schema domains and rejection sensitivity in the relationship between internal working models of attachment and social anxiety. First, the relationships between the variables were examined, and it was determined that insecure attachment styles other than dismissive attachment, which included positive self and negative internal working models of others, were positively associated with social anxiety. This finding supports the results of previous research (e.g., Van Buren & Cooley, 2002; Wenzel, 2002) that preoccupied attachment style, including negative self-model, and fearful attachment style, including negative internal working models of both self and other, are associated with social anxiety. In addition, it was determined significant positive associations between social anxiety with both

internal working models of self and other, schema domains of Disconnection, Impaired Autonomy, Other-Directedness and Unrelenting Standards, and rejection sensitivity. These findings seem to be consistent with the assumptions of attachment theory (Bowlby, 1969/1982, 1973, 1980) and schema theory (Young, 1990, 1999; Young et al., 2003), and with the perspective that mental constructs based on early experiences may be related to social anxiety (Bruch & Heimberg, 1994; Neal & Edelman, 2003; Rapee & Spence, 2004). Attachment theory suggests that negative mental representations of self and/or other develop as a result of an individual's needs not being met responsively and consistently (Bowlby, 1973). These negative mental representations have an impact on the individual's subsequent relationships and may increase the risk of psychopathology by affecting the way the individual copes with stressful situations (Bowlby, 1988). On the other hand, schema theory states that basic emotional needs not being met properly may lead to the development of EMSs. EMSs are considered to form the basis of psychological distress (Young et al., 2003).

Results of the present study showed that both self and other models, schema domains of Impaired Autonomy, Impaired Limits and Unrelenting Standards, and rejection sensitivity predicted social anxiety. Internal working models of attachment, Impaired Autonomy schema domain and rejection sensitivity were expected to be associated with social anxiety consistent with Leary's (2001) extended self-presentation theory. In addition, the relationships between the schema domains of Impaired Limits and Unrelenting Standards with social anxiety can be explained by the conditions for social anxiety that was suggested by Leary (2001). According to this, individuals experience social anxiety when they believe that they will fail to leave the desired impression on others. Thus, if they do not care about the impression that they will leave on others or do not doubt they will be able to leave the desired impression, they do not experience social anxiety (Leary & Kowalski, 1995; Schlenker & Leary, 1982). In the context of the Unrelenting Standards schema domain, individuals' belief that they will fail to leave the desired impression may stem from the rigid and high standards that one internalizes to avoid rejection from others. On the other hand, since the Impaired Limits schema domain is negatively related to social anxiety, it may be that individuals with this schema may not care about the impression they leave on others or not worry about the impression that they will leave, because they think that they are special, and consider themselves superior to others (Young et al., 2003). Thus, they may be less likely to experience social anxiety.

Another result of the study is that Impaired Autonomy schema domain and rejection sensitivity mediated the relationship between self-model and social anxiety, and the schema domains of Impaired Autonomy, Impaired Limits and Unrelenting Standards, and rejection sensitivity mediated the relationship between the other-model and social anxiety. These results support the assumption that insecure attachment may have an impact on psychological distress through EMSs by

revealing the mediating role of the mentioned schema domains and rejection sensitivity in the relationship between internal working models of both self and other and social anxiety, and Vertue's (2003) point of view, which conceptualized social anxiety from an attachment theory perspective.

When the findings of the mediation analysis are examined, firstly, Impaired Autonomy schema domain and rejection sensitivity mediated the relationship between self-model and social anxiety. A negative view of self is related to lack of consistency of the individuals' needs being met or the lack of support of the attempt of autonomy (Bowlby, 1973). Negative self-model, which causes individuals to feel inadequate and worthless, may contribute to the development of the schemas in the Impaired Autonomy schema domain which is characterized by the feeling of inadequacy and low self-esteem (Young et al., 2003). It is worthy of note that these schemas are similar to the common belief of individuals with high social anxiety levels, that other people are socially more competent than themselves (Turner et al., 2003). Also, negative self-model may lead individuals to expect rejection and thinking that they will not be approved and abandoned by others as a result of feeling worthless and inadequate. Thus, individuals' negative evaluations of their social skills resulting from a negative view of self, and the belief that they will be rejected by others, can lead to social anxiety.

Secondly, schema domains of Impaired Autonomy, Impaired Limits and Unrelenting Standards, and rejection sensitivity mediated the relationship between other-model and social anxiety. A negative view of others is related to others not being sensitive to the needs of the individuals' and not meeting these needs appropriately (Bowlby, 1973). Similarly, Impaired Autonomy schema domain, which is comprised of negative perception of self and low self-esteem, can also develop as a result of the insensitivity of the important figures in the individual's life to the needs of the individual (Young et al., 2003). Along with the Impaired Autonomy schema domain, Unrelenting Standards schema domain, and rejection sensitivity were also mediators in the relationship between other-model and social anxiety. In this case, the negative other-model may cause individuals to expect rejection and to determine strict and high standards in order to avoid rejection from others. Thus, in relation to a negative view of others, individuals' low self-esteem, or the belief about not being accepted by others through not meeting high standards, and being rejected, can all lead to social anxiety. On the other hand, as a result of unresponsive attitudes associated with a negative view of others; schemas in the area of Impaired Limits may also develop, which was found in this study to mediate the relationship between other-model and social anxiety, as an overcompensation of some schemas such as Emotional Deprivation, Defectiveness, and Failure. Consistently, it can also be considered that the negative view of others may contribute to the development of Entitlement/Insufficient Self-Control schema consisting in the Impaired Limits schema domain, includes the belief that the individual is different and privileged from others through overcompensation.

Therefore, as mentioned earlier, individuals may think that they are special (Young et al., 2003) and do not care about the impression that they leave on others. Also, they may consider themselves superior to others (Young et al., 2003) and do not doubt about they will leave the desired impression. Thus, they may experience less social anxiety. Young et al. (2003) stated that when these individuals cannot meet high standards, their sense of superiority can turn into a sense of inferiority and shame, and such individuals may experience anxiety.

Examining the mediating effects, it is a remarkable result that the Disconnection schema domain, which is expected to mediate the relationship between both attachment models and social anxiety, such as the Impaired Autonomy schema domain, did not have a mediating effect. The Disconnection schema domain is considered to be consistent with the third condition for social anxiety of the extended self-presentation theory which is “the belief that one will be abandoned by others” (Leary, 2001). However, the Disconnection schema domain being not mediate the relationship between attachment and social anxiety is considered to be related to the fact that, the Abandonment schema, which overlaps with the aforementioned condition for social anxiety, was included in the Impaired Autonomy schema domain in the Turkish form, while it is in the Disconnection schema domain in the original form of the YSQ-SF3. Similarly, the Other-Directedness schema domain did not mediate the relationship between self-model and social anxiety. This may be related to the fact that the Approval-Seeking schema, which is consistent with the first condition of the extended self-presentation theory, “the desire to make a positive impression on others” (Leary, 2001), is included in the Unrelenting Standards schema domain in the Turkish version of the YSQ-SF3, unlike the original form. This situation may explain both the absence of a mediating effect of the Other-Directedness schema domain and the mediating role of the Unrelenting Standards schema domain, which includes the Approval-Seeking and the Unrelenting Standards schemas, in the relationship between the other-model and social anxiety.

In the present study, it is aimed to examine social anxiety within the framework of attachment theory. Considering the relevant literature, the mediating role of early maladaptive schema domains and rejection sensitivity in the relationship between internal working models of attachment and social anxiety has been examined, and a contribution to the literature has been made by presenting a perspective on the possible mechanisms of this relationship. By this means, a better understanding of the factors associated with social anxiety is considered important for the development and use of effective interventions. In other words, these theoretical findings regarding underling mechanisms of social anxiety can have practical implications. These mechanisms could be used as a basis for the development of effective interventions for social anxiety and interventions could target these mechanisms for change (i.e., the schema domains of Impaired Autonomy, Impaired Limits and Unrelenting Standards, and rejection sensitivity). In addition to revealing the role of internal working models of self and other in social

anxiety, the findings of this study showed that rejection sensitivity and EMSs based on attachment relationship can also be observed in social anxiety and may play a role in the relationship between attachment and social anxiety. This may explain the fact that a significant portion of individuals with social anxiety continue to show symptoms after cognitive behavioral treatment methods (Moscovitch, 2009). Consistent with the findings of previous studies (Calvete et al., 2015, Eldoğan and Barışkın, 2014; Pinto-Gouveia et al., 2006), EMSs are common in social anxiety. In addition, the fact that this study revealed that early maladaptive schema domains mediate the relationship between internal working models of attachment and social anxiety may have clinical implications for both assessment and treatment. Considering that individuals with social anxiety may experience difficulties related to these schemas, it may be important to evaluate these schemas during the clinical evaluation. In addition, to the techniques used in standard Cognitive Behavioral Therapy, with the consideration of the development history of the schemas in the domains of Impaired Autonomy, Impaired Limits and Unrelenting Standards, techniques used in Schema Therapy such as imagery rescripting, chair dialogues, empathetic confrontation, and limited reparenting can also be used. Thus, the therapeutic techniques of Schema Therapy that focus on the early foundations of schemas and specifically target these maladaptive schemas may reduce the possibility of persistence of symptoms after treatment. In addition to these variables that mediate the relationship between attachment and social anxiety in the therapy process, it may also be important to focus on attachment patterns. It is suggested that Schema Therapy could be effective in the treatment of social anxiety, since it also directly works on internal working models of attachment in the psychotherapy process (Young et al., 2003) as suggested by the attachment theory (Bowlby, 1988). On the other hand, besides to the clinical contributions of the research to the literature, such as presenting an overview of the mediating role of EMSs and rejection sensitivity in the relationship between attachment and social anxiety, and providing a perspective of the mechanism of this relationship, a significant statistical advantage was obtained by providing control by entering the possible mediating variables into the model at the same time with the Bootstrap method in the evaluation of mediating effects.

Besides various contributions to literature, there are also some limitations of the current study. The first is that it has not been studied with a clinical sample. Replicating the study with existing variables in a clinical sample may provide important information. In addition, it may be beneficial to use individual observations and interviews in future studies. It is stated that especially the evaluation of the attachment relationship is aimed at measuring processes partly outside of conscious awareness, and therefore, it may be more reliable to evaluate it with methods based on interview technique (Bartholomew & Moretti, 2002). Finally, the current research is a cross-sectional study. Indirect effects can be better understood by conducting longitudinal studies. Future studies apart from those

related with the methodological limitations of the study, may focus on the efficacy of Schema Therapy in the treatment of social anxiety disorder. In addition, in future studies, the development of interventions based on the mechanisms underlying social anxiety revealed by the results of this research and examining their effects will also make important contributions.

Authors' note

Conflict of interest. No potential conflict of interest was reported by the authors.

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