

TESTING RESPONSE STYLES THEORY: THE RELATIONSHIP OF
RESPONSE STYLES AND PROBLEM SOLVING TO THE DEPRESSIVE
SYMPTOMS OF PREADOLESCENTS

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ABSTRACT

TESTING RESPONSE STYLES THEORY: THE RELATIONSHIP OF RESPONSE STYLES AND PROBLEM SOLVING TO DEPRESSIVE SYMPTOMS OF PREADOLESCENTS

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The present study aimed to test the Response Styles Theory with Turkish preadolescents. Therefore, two phases were followed. In the first phase, psychometric properties of Children's Response Styles Questionnaire (CRSQ) were examined. In the second phase, the relationship of response styles and problem solving way of children to their depressive symptoms with respect to grade and gender was tested.

The sample consisted of 599 children and preadolescents (299 females, 300 males) with a mean age of 11.77 ($SD = 1.53$), from 4th and 7th grade levels. In this study, Children's Depression Inventory (Kovacs, 1980), Children's Response Styles Questionnaire (Abela, Vanderbilt, & Rochon, 2000), Children's Action Tendency Scale (Deluty, 1979), and a demographic form were used.

Results of the study demonstrated that 7.5% of the children and preadolescents reported to have depressive symptoms. Seventh graders' scores were higher than fourth graders for depressive symptoms. There was not any gender difference in depressive symptoms. Seventh grade females had higher scores on the Rumination Subscale of Children's Response Styles Questionnaire

(CRSQ) than fourth grade females and seventh grade males. Fourth graders scored higher on the Distracting Subscale of CRSQ than seventh graders. Problem solving was not found to be mediating or moderating the relationship between response styles (rumination and distraction) and depressive symptoms. It is concluded that both response styles and problem solving independently contribute to depressive symptoms in preadolescents. Findings were discussed in the light of the literature.

Keywords: Depressive symptoms, response styles, problem solving, grade, preadolescents.

ÖZ

TEPKİ STİLLERİ KURAMININ TEST EDİLMESİ: TEPKİ STİLLERİ VE PROBLEM ÇÖZMENİN ÇOCUKLARIN DEPRESİF BELİRTİLERİYLE OLAN İLİŞKİSİ

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Bu çalışmada Tepki Stilleri Kuramı'nın Türk ön ergenleriyle test edilmesi amaçlanmaktadır. Kuram iki aşamada test edilmiştir. Birinci aşamada Çocuklarda Tepki Stilleri Ölçeği'nin psikometrik özellikleri incelenmiştir. İkinci aşamada ise, çocukların tepki stilleri ve problem çözme davranışlarının sınıf seviyesi ve cinsiyete göre depresif belirtilerle ilişkisi test edilmiştir.

Çalışmaya yaş ortalaması 11.77 ($SD = 1.53$) olan 599 (299 kız ve 300 erkek) 4. sınıf ve 7. sınıf öğrencisi katılmıştır. Araştırma kapsamında Çocuklarda Depresyon Ölçeği (Kovacs, 1980), Çocuklarda Tepki Stilleri Ölçeği (Abela, Vanderbilt, & Rochon, 2000), Çocuklarda Davranış Eğilimi Ölçeği (Deluty, 1979) ve demografik form kullanılmıştır.

Araştırma sonuçları, çocukların %7.5'inin depresif belirtilere sahip olduğunu göstermektedir. Yedinci sınıf öğrencileri Çocuklarda Depresyon Ölçeği'nden (ÇDÖ) dördüncü sınıf öğrencilere göre daha fazla skor elde etmişlerdir. Çocukların depresif belirtilerinin cinsiyetlerine göre farklılaşmadığı bulunmuştur. Yedinci sınıfta okuyan kız öğrenciler dördüncü sınıfta okuyan kız öğrencilere ve yedinci sınıfta okuyan erkek öğrencilere göre Çocuklarda Tepki Stilleri Ölçeği'nin alt ölçeği olan Ruminasyon Alt Ölçeği'nden daha yüksek

puan almışlardır. Dördüncü sınıf öğrencilerinin ise yedinci sınıf öğrencilerine göre Çocuklarda Tepki Stilleri Ölçeği'nin alt ölçeği olan Distraksiyon Alt Ölçeği'nden daha yüksek puan elde ettikleri bulunmuştur. Problem çözme değişkeninin tepki stilleri (ruminasyon ve distraksiyon) ve depresif belirtiler arasındaki ilişkide aracı (mediatör) ya da moderatör rolünün olmadığı elde edilen bulgular arasındadır. Sonuç olarak tepki stilleri ve problem çözme değişkenleri depresif belirtileri birbirinden bağımsız olarak yordamaktadır. Bulgular alan yazını ışığında tartışılmıştır.

Anahtar Kelimeler: Depresif belirtiler, tepki stilleri, problem çözme, sınıf seviyesi, çocuklar.

To my parents, Z. Pınar Özgülük

and

M. Sabri Özgülük,

*To my sister, E. Bengi Kuru and to my dear nephew who will be
with us two months later,*

To my brother, S. Burak Özgülük

&

To my love, Cüneyt Özcan

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CHAPTER I

INTRODUCTION

1.1. Background to the Study

Depressive symptomatology¹ is an important psychological problem that needs to be taken into consideration early in life since depressive symptoms in childhood give rise to several other problems and their prevalence increases from childhood to adolescence.

The problems children in depressed mood encounter vary from aggressive behavior to running away from school and stealing behavior (Kayaalp, 1999). In addition, children with depressive symptoms display academic problems (Bandura, Pastorelli, & Caprara, 1999), risky health behaviors such as smoking and drinking (Brown, Lewinsohn, Seeley, & Wagner, 1996), drug use (Sussman, Dent, & Galaif, 1997), increased sexual activity in adolescence (Modrcin- Talbott, Pullen, Zandstra, Ehrenberger, & Muenchen, 1998), and suicidal behavior (Sussman, Dent, & Galaif, 1997) in transition from childhood to adolescence. Furthermore, depressive symptoms are carried out from childhood to adolescence more severely with high prevalence rates (e.g. Angold, Erkanli, Silberg, Eaves, & Costello, 2002; Hankin, et al., 1998; Wade, Cairney, &

¹ For referring to depression, the terms; 'depressed mood', 'depressive symptoms' and 'depression' are used. Depressed mood is a mood in which an individual is pessimistic, passive and unmotivated (Beckham & Leber, 1995, as cited in Lyubomirsky, Tucker, Caldwell, & Berg, 1999). Depressive symptoms are the cognitive, affective, and behavioral symptoms as the predictors of depression (Abela, Vanderbilt, & Rochon, 2004). Depression refers to a clinical diagnosis. In this study, the term "depressive symptoms" and "depressed mood" will be used because the population of interest is non- clinical cases.

Pevalin, 2002). Epidemiological studies done in the US have shown that depression rate is 0.9% in preschool period, 1.90% in school children, and 4.7% in adolescents (Kashani, et al.,1987). Toros and her colleagues (2004) reported the prevalence of depression in Turkey, among 4.256 students between the ages of 10- 20 years, as 12.55%. In addition, the estimations indicate that 5 to 25% of the world population will be experiencing depression at any time in their lives (Gotlib & Hammen, 2002). Hence, it is expected that depression will be one of the most important disorders by 2020 in terms of disability and mortality (Murray & Lopez, 1997), taking into account that it is already one of the most common occurring psychological disorders (Gotlib & Hammen, 2002).

The course of depressive symptoms differs in different ages and in different developmental stages. Childhood and adolescence are important developmental periods in considering the onset of depressive symptoms since rates of depression increase dramatically from childhood to adolescence and from adolescence to adulthood (Cicchetti & Toth, 1998; Wade, et al, 2002). In childhood, as cognitive capacity and self- expression develops, symptomatology gains a different characteristic and starts to resemble the later depression. Depressive symptoms are accompanied with aggressiveness, running away from school, stealing others' belongings and several other problems (Kayaalp, 1999). In transition period from childhood to adolescence, adolescents are likely to experience more conflicts. Unless these conflicts are dealt with, depressive symptoms start to be apparent and suicidal ideation accompanies the depressive symptoms (Flisher, 1997). In addition, depressive symptoms in adolescence have the potential to be the onset of depressive symptoms in adulthood (Kovacs, Goldston, Obrosky, & Bonar, 1997).

When depression is taken into account in terms of gender differences, it is seen that the research in the literature reveals inconsistent findings. First of all, there are findings reporting that boys and girls are equally affected by depressive symptoms in childhood (Brooks- Gunn & Petersen, 1991; Nolen- Hoeksema,

Girgus, & Seligman, 1992). On the other hand, the study of Nolen- Hoeksema, Girgus, and Seligman (1992) posits that boys tend to be more depressed than girls in childhood whereas female adolescents were found to exhibit more depressive symptoms than adolescent males (Nolen- Hoeksema, 1990), especially between the ages of 13- 15 and 18- 21 (Hankin, et al., 1998). As for Turkey, while one of the studies stated that girls display more depressive symptoms than boys (Erdur- Baker, Özgülük, Turan, & Demirci- Danişık, 2008), the findings of other studies revealed no significant gender differences on depressive symptoms (Aysev, Ulukol, Ceyhun, 2000; Arslantaş, Ünsal, Metintaş, Tözün, & Toker, 2007; Erdur- Baker, 2009).

In order to explain the existence of gender differences in depressive symptoms, Response Styles Theory has been proposed (Nolen- Hoeksema, 1987; 1991). The theory posits that the intensity and duration of depressive symptoms are influenced by how individuals respond to their depressed mood. Individuals either tend to ruminate to or to distract from their depressive symptoms. Ruminative responses are defined by Nolen- Hoeksema (1991) as behaviors and thoughts that lead the individual to focus passively on the causes and consequences of depressive symptoms. Examples of ruminative responses include, “thinking about how alone one feels” and “thinking about all failures, faults, and mistakes of oneself”. On the other hand, distracting responses refer to behaviors or thoughts that make the person think of other things rather than the problem itself (Nolen- Hoeksema, 1987). Individuals who use distracting responses are more likely to engage in pleasant activities in order to relieve their depressive moods instead of focusing on their problems (Nolen- Hoeksema, 1991). Examples of distracting responses include “doing something enjoyable” and “doing something fun with a friend”.

Recent empirical studies done with children revealed that there is a significant positive relationship between ruminative responses and depressive symptoms while there is a negative correlation between distracting responses and depressive symptoms (Broderick & Korteland, 2004). For example, findings of

Ziegert and Kistner's (2002) study indicated that both rumination and distraction contributed uniquely to the prediction of depressive symptoms, in 4th and 5th grade children. While rumination predicted high scores of depression, distraction predicted lower scores of depression (Ziegert & Kistner, 2002). The findings of the studies done in Turkey were consistent with the findings in the literature that rumination itself contributed significantly to the depressive symptoms (Erdur- Baker, 2009; Erdur- Baker, Özgülük, Turan, & Demirci- Danışık, 2008).

Problem solving behavior of children and adolescents has also been found associated with depressive symptoms. A problem is a situation in which an individual does not give an effective response or in which even an effective response is not available to the individual (Perla & O'Donnell, 2004). Problem solving has both cognitive and emotional aspects as well as a behavioral aspect. It is a cognitive process since it involves recognizing and appraising the problem and coping with it. It is an emotional process as well because it results either in positive affect or depressed mood (D' Zurilla & Goldfried, 1971). Lastly, it is a behavioral process since solving a problem requires taking action (Perla & O' Donnell, 2004). Deluty (1979) proposes that people respond to problematic situations either assertively or unassertively (aggressively or submissively). An assertive response to a problem was defined as a non-hostile act in which a person expresses him/herself without violating the rights of other people. However, an aggressive response was defined as a hostile act in which one expresses his/ her feelings and rights at the expense of others. Submissive response is a non-hostile act in which an individual takes the feelings and power of others into account while denying one's own rights and feelings (Deluty, 1979). The empirical findings indicated that children, who tended to solve their problems in an unassertive way, were more likely to engage in an ineffective problem solving process, exhibiting more depressive symptoms (Dixon, 2000; Erdur- Baker, 2009; Heppner, Baumgardner, Jackson, 2005; Nezu, 1985; Paunesku, et al., 2008).

The studies in the literature have drawn attention to the vicious cycle among response styles, problem solving and depressive symptoms. The research studies carried out by Carver and colleagues, (1989) and by Nolen- Hoeksema and Morrow (1991) revealed that individuals who ruminate to their depressive symptoms are engaging in less active and less structured problem solving; thus ruminating more and increasing their depressive symptoms. As ruminative responses to depression cause negative cognitions to appear and hinder the initiation of positive behaviors, they are likely to make effective problem solving nearly impossible (Nolen- Hoeksema, 1991). The studies done to test if it is really the case revealed that ruminators tend to be poor problem solvers since they criticize and blame themselves for their problems, reducing self-motivation and perceived control (Lyubomirsky et al., 1999). On the other hand, people who use distracting responses to their depressive symptoms can engage in an effective problem solving process. For example, in the study of Morrow (1990, as cited in Nolen- Hoeksema, 1991) subjects were driven to be sad. They were asked to use either ruminative or distracting responses to their sad mood. Then, they were asked to find as many solutions as they can to the daily problems. The results indicated that participants who used distracting responses to their sad mood produced about two times more solutions to the problems than the participants who used ruminative responses.

To sum up, response styles theory aims originally to explain gender differences in depression and proposes that the way individuals respond to their depressive symptoms influences the severity and the chronicity of their symptoms. As people ruminate more, they hardly engage in an effective problem solving process and they display more depressive symptoms (Abela, et al., 2004; Broderick, 1998; Lyubomirsky & Nolen- Hoeksema, 1995). On the other hand, people tending to distract provide better solutions to their depressed mood. Therefore, they seem to suffer less from depressive symptoms.

Response Styles Theory (Nolen- Hoeksema, 1987; 1991) has been validated with children and adolescent samples in other cultures. However, in Turkey

there are only few studies that have examined response styles theory and its associates with adolescent samples (Erdur- Baker, 2009; Erdur- Baker et al., 2007). Therefore, the current study aims to test the Response Styles Theory in Turkey with a preadolescent sample, examining how response styles and problem solving relate to depressive symptoms of the participants with different grade level and gender. The current study testing the theory with a preadolescent sample is the first in Turkish literature and it will apparently pioneer the further studies testing the theory with different samples and with different associates. Also, testing the theory in another culture, in Turkey is expected to assist in the cross- cultural applicability of the theory. Moreover, Children's Response Styles Questionnaire was translated to Turkish in this study and its psychometric properties were examined. A valid instrument to assess the response styles of children was lacking in Turkish literature. Through the translation of Children's Response Styles Questionnaire into Turkish, it is thought that the gap in this field will be filled.

1.2. Purpose of the Study

The overall aim of the present study is to test the Response Styles Theory in Turkey. To achieve this goal, two phases were followed. In the first phase, the reliability and the validity of Children's Response Styles Questionnaire (CRSQ) was examined aiming to confirm it with Turkish preadolescents since it has not been used in Turkey before. In the second phase of the study, the relationship of response styles and problem solving to the depressive symptoms of the participants was investigated, with respect to the gender and grade level.

1.3. Research Questions

The overall aim of the current study is to test the Response Styles Theory in Turkey examining the relationship of response styles and problem solving to the depressive symptoms of preadolescents. To reach this aim, the research questions below were asked specifically:

- 1) Is Children's Response Styles Questionnaire a reliable and valid instrument to assess the response styles of Turkish preadolescents?
- 2) Are there any gender and grade differences in terms of depressive symptoms scores?
- 3) Are there any gender and grade differences in terms of problem solving scores?
- 4) Are there any gender and grade differences in terms of rumination and distraction scores?
- 5) Does the problem solving mediate or moderate the relationship between rumination and depressive symptoms?
- 6) Does the problem solving mediate or moderate the relationship between distraction and depressive symptoms?

1.4. Definitions of the Terms

Depressive symptoms: The cognitive, affective, and behavioral symptoms as the predictors of depression (Abela, et al., 2004).

Ruminative responses: Behaviors and thoughts that passively focus on depressive symptoms and the causes and the consequences of one's depressive symptoms (Nolen- Hoeksema, 1991).

Distracting responses: Behaviors and thoughts that purposefully divert one's attention from depressive symptoms, possible causes and consequences of these symptoms, into more pleasant activities (Nolen-Hoeksema, 1991).

Problem solving: Responding to a problematic situation in a non- hostile way involving self- expression and self- enhancement without violating the rights and feelings of others (Deluty, 1979).

1.5. Significance of the Study

This study is among the initial studies examining how response styles and problem solving abilities of children relate to their depressive symptoms in Turkey. Therefore, it proves significant because it provides a new insight into the fields of counseling and research, in Turkey.

As for counseling, the response styles, depressive symptoms and problem solving ways of preadolescents can be screened and assessed by counselors and educators. The knowledge obtained can be shared with parents of preadolescents. By knowing the characteristics of children who are depressed, training programs that aim to teach parents and educators prevention strategies can be developed. These programs may target at replacing the ruminative tendencies of preadolescents with distractive tendency and teaching effective problem solving strategies to preadolescents. In this way, probable depressive symptoms preadolescents may encounter can be prevented beforehand. For severe and chronic depression cases, counselors can make referrals to clinical psychologists, sharing the screened out response styles and problem solving ways of the cases.

In the aspect of research, this study is the first in Turkey to test the Response Styles Theory with a preadolescent sample. To the best knowledge of the researcher, the theory has been tested in United States of America (in California), Canada, and in New Zealand, which are all Western cultures. Therefore, testing the theory in Turkey- an Eastern culture- will contribute to the cross- cultural applicability of the theory. In addition, by the translation of Children's Response Styles Questionnaire and examination of its psychometric properties, a new instrument was introduced to the Turkish literature.

CHAPTER II

REVIEW OF THE LITERATURE

In this chapter, the literature on depressive symptoms and risk factors related to depressive symptoms will be presented. More specifically, the first section explains (a) the definition and the nature of depression, (b) depression's course of development and its prevalence, (c) effects of gender and age/grade on depression, (d) the theories explaining depression. In the second section, Response Styles Theory, which is one of the cognitive theories of depression, is explained. Empirical studies with respect to age/grade, gender and depression are presented. In the last section, problem solving literature is mentioned.

2.1. Definition and Nature of Depressive Symptoms

Everyone in several points of his/her life experiences sad or unhappy events and can be in a depressive mood. These may occur as a response to many situations; they may last long or for a brief period of time, and they may be related to many other problems or not related to any problems (Petersen, et al., 1993). However, the definition of the situations and problems need to be defined appropriately to prevent any possible depressive disorder.

To start with, there are differing but interchangeably used terms in the literature to refer to depression, such as depressed mood, depressive symptoms, and depression. Depressed mood is defined by Beckham and Leber (1995, as cited in Lyubomirsky, et al. 1999), as a mood "accompanied by pessimism, passivity, and reduced motivation to continue performing one's work, social responsibilities, or even simply daily chores" (p.1). Depressive symptoms are the cognitive, affective, and behavioral symptoms as the predictors of

depression (Abela, Vanderbilt, & Rochon, 2004). Although in most of the studies the term 'depression' is used interchangeably with the term 'depressive mood', in a strict sense depression refers to a clinical diagnosis. In this study, however, the term "depressive symptoms" and "depressive mood" in children will be used due to the fact that the population of interest is non-clinical cases with depressive symptoms, not necessarily suffering from clinical depression.

2.1.1. Development of Depressive Symptoms in Childhood and Adolescence

Depressive symptomatology displays different courses in different ages and in different developmental stages. Therefore, the course of depression in childhood and adolescence will be mentioned in this section, which is thought to offer a better understanding of the participants' depression scores in the present study.

These developmental periods for depression are of great importance since gender and age differences in depression show a dramatic increase in the transition from childhood to adolescence. Moreover, the increased depressive symptoms in childhood are carried out to adolescence more severely with high prevalence rates (e.g. Angold, Erkanli, Silberg, Eaves, & Costello, 2002; Hankin, et al., 1998; Wade, Cairney, & Pevalin, 2002). Epidemiological studies done in US have shown that depression rate is 0.9% in preschool period, 1.90% in school children and 4.7% in adolescents (Kashani, et al., 1987). For major depressive disorder, the prevalence rate is % 0.4 to %2.5 in childhood and % 0.4 to %8.3 in adolescence. Furthermore, studies reveal that when stressful events are experienced in childhood, they are more likely to predict later depression (Broderick, 1998). Lifelong prevalence of depressive symptoms in adolescence (%15 to %20) is similar to its lifelong prevalence in adulthood (Cicchetti & Toth, 1998).

When Turkey is taken into consideration, most common occurring depressive symptoms among 12- 18 years old adolescents are anger, academic failure, and nail biting (Görker, Korkmazlar, Durukan, & Aydoğdu, 2004). In the study of Görker and her colleagues (2004), 18.54% of 1079 adolescents were not diagnosed with any symptoms of depression. On the other hand, 56.81% of the participants were diagnosed as Axis I disorder, 18.81% of them were diagnosed as Axis II disorder, 5.84% of them were diagnosed as Axis III disorder and 15.29% of them were diagnosed as comorbidity. Since the focus of the current study is “depressive symptoms” rather than clinical depression, in a school- based survey, Toros and her colleagues (2004) reported that the prevalence of depressive symptoms according to Child Beck Depression Inventory (CBDI) is 12.55% among 4.256 students who were between the ages of 10- 20 years. In addition, according to another research conducted with high school students in a low socioeconomic region of Istanbul, the prevalence rate of depressive symptoms was found 30.3% (Cebeci, et al., 2003, as cited in Ay & Save, 2004).

Behind these existing prevalence rates, the estimations indicate that 5 to 25% of the population will be experiencing depression at any time in their lives and this will result in committing suicide among severely depressed individuals up to a 15% (Gotlib & Hammen, 2002). In addition, it is expected that depression will be one of the most important disorders by 2020 in terms of disability and mortality (Murray & Lopez, 1997), taking into account that it is already one of the most common occurring psychological disorders (Gotlib & Hammen, 2002).

2.1.1.1. Childhood Depression

According to Berk (2003), middle childhood covers the ages of 6 to 11 and adolescence includes the ages of 11 to 20 years of age. Since middle childhood precedes adolescence, children in the current study were called so forth “preadolescents” as in the study of Ziegert and Kistner (2002). Childhood is a

period of rapid cognitive and psychosocial development. In this period, a behavior which is thought as “normal” for an infant or toddler may indicate a serious psychopathology for an older child (Puura, et al., 1998). Among psychological problems, childhood depression is one of the most major concerns since it has a high prevalence rate and it results in the impairment of functioning (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999).

As the age proceeds, cognitive capacity and self-expression develops, too. Therefore, symptomatology gains a different characteristic and starts to resemble the depression in adulthood. Depressive mood is presented by sentences “I don’t know”, “I am tired”, “I can’t do it”. Moreover, in order to resist depressive affects, aggressive behavior, running away from school, and stealing type of behavior can be exhibited (Kayaalp, 1999). In addition, several problems like academic failure (Bandura, et al, 1999), risky health behaviors such as smoking and drinking (Brown, Lewinsohn, Seeley, & Wagner, 1996), drug use (Sussman, Dent, & Galaif, 1997), increased sexual activity (Modrcin-Talbot, Pullen, Zandstra, Ehrenberger, & Muenchen, 1998), and suicidal behavior (Sussman, Dent, & Galaif, 1997) can be observed in the transition from childhood to adolescence.

Although the basic symptoms of depression are the same for children and adolescents (Kovacs, 1989), through the middle to late adolescence, the quality of depressive symptoms start to resemble that of adulthood with an increased frequency (McCauley, Kendall, & Pavlidis, 1995).

2.1.1.2. Adolescent Depression

Adolescence years are important because, firstly, they have the potential to be the beginning of the adult depression (Kovacs, Goldston, Obrosky, & Bonar, 1997) and secondly, they are associated with suicidal ideation (Flisher, 1997). In this developmental period, secondary sexual characteristics emerge, sexuality is explored. Psychology, therefore, changes in order to adapt to the

body's sexual change. There are lots of conflicts in this period and in the cases of not dealing with these conflicts, depression arises (Kayaalp, 1999).

2.1.2. Age and Gender Differences in Depression

Angold and colleagues (2002) pointed out that there were inconsistent research findings on the existence of gender and age differences with regard to the self-reported depression from late childhood to adolescence. In the literature, there are some studies that find no gender differences in depressive symptoms as well as some studies that point to the gender differences in depressive symptoms (Kistner, David, & White, 2003).

To start with the studies pointing out to the gender and age differences in depressive symptoms, one of the studies reported that gender differences in depression emerged in the transition from early to middle adolescence between the ages of 12 and 14 (Adams, Abela, & Hankin, 2007). Supportive of these findings, another study pointed out that gender differences in depressive symptoms start to emerge at the age of 13 (Hankin, et al., 1998). At this age, while females' depressive symptoms increase, males' symptoms stay steady. After the age of 15, the rate of depression increases rapidly for both males and females, females still having more depression rates than males (Crowe, Ward, Dunnachie, & Roberts, 2006; Hankin, et al., 1998; Poli, Sbrana, Marcheschi, & Masi, 2003). Therefore, gender differences in depression did not become dramatic until after the age of 15, although it started at the age of 13. That is, depression rates of females showed an increase between the ages of 11- 13 and 15- 18 but were constant between the ages of 13- 15 and 18- 21. On the other hand, the depression rates for males showed a rise only between the ages of 15- 18 but were relatively constant from the ages of 11-15 and 18-21 (Hankin, et al., 1998). In line with the reported studies, gender differences in depressive symptoms do not emerge before around the 12- 15 years of age. The prevalence of depressive symptoms increases from childhood into adolescence but only among girls but not among boys (Hankin& Abramson, 2002; 2001;

Nolen- Hoeksema & Girgus, 1994). In preadolescence, boys have higher levels of self- reported depressive symptoms than girls (Angold & Rutter, 1992; Nolen- Hoeksema, Girgus, and Seligman, 1992). Girls' levels of self- reported depressive symptoms increase rapidly in early adolescence, but boys' levels either increase slightly or remain stable (Twenge & Nolen- Hoeksema, 2002). However, after the ages of 13 and 15, depressive mood rates are higher in women than men. It is argued that after the age of 15, girls and women tend to be twice depressed than boys and men (Angold, et. al. 2002; Nolen- Hoeksema & Girgus, 1994) supporting the findings that depressive moods, depressive syndromes, and depressive disorders are seen more in women than men in adulthood (Culbertson, 1997; Nolen- Hoeksema, 1987).

Studies done with Turkish population are consistent with the literature. One of the studies done with Turkish adolescents between the ages of 13 and 18 stated that girls displayed more depressive symptoms than boys (Erdur- Baker, Özgülük, Turan, Demirci- Danışık, 2008). Another study done with adolescents between the ages of 10 and 20 reported that girls displayed higher prevalence of depressive symptoms than boys (Toros, et al., 2004).

The reason of gender differences may be due to cognitive or behavioral factors. As a cognitive factor, a study done with adolescents from 7th grade to 12th grade indicated that self- reported depressive symptoms have several cognitive correlates such as automatic thoughts, attributions, and dysfunctional attitudes (Garber, Weiss, & Shanley, 1993). According to the findings of this study, there is a strong relationship between negative cognitions/ negative thinking and depressive symptoms. Behaviorally, it is stated that emergence of gender differences in depressive symptoms is affected by the interaction of two factors: "a) Girls enter adolescence with a style of responding to frustration and distress that is less efficacious and action- oriented than boys. b) Girls begin to face certain uncontrollable stressors in early adolescence to a greater extent than boys."(p.519). Moreover, it is reported that adolescent females display more internalizing behavior in mid-adolescence than adolescent males,

indicating that adolescent females are at more risk of depressive symptoms (Crawford, Cohen, Midlarsky, & Brook, 2003).

In spite of the studies indicating gender and grade differences in terms of depression, there are findings revealing no gender differences in reported depressive symptoms. For example, a study done with Turkish participants at the age of 13- 18 years revealed no significant gender differences on depressive symptoms (Erdur- Baker, 2009). Another study done with children between the ages of 7- 13 did not indicate any significant differences in the total Children's Depression Inventory (CDI) scores between boys and girls and among different age groups (Samm, et.al., 2008). Moreover, while age did not correlate with depressive symptoms of boys, the depression scores of girls showed a significant increase from childhood to adolescence (Twenge & Nolen-Hoeksema, 2002). Between the ages of 8 and 12, it was reported that boys scored higher than girls on Children's Depression Inventory (CDI); however these gender differences were not statistically significant (Twenge & Nolen-Hoeksema, 2002). Supportive of these findings, another study done with 3rd, 4th, and 5th grade children revealed no significant gender differences (Kistner, David, & White, 2003). The results of another study which was done with 5th and 6th graders revealed that girls reported slightly more depressive symptoms than boys; however, this difference was not significant (Bailey, Zauszniewski, Heinzer, & Hemstrom- Krainess, 2007). The findings of another research done in Turkey with children between the ages of 7 and 17 revealed that the scores of females on Children's Depression Inventory were higher than that of males'. However, this difference in depression scores was not significant with respect to gender, either (Aysev, Ulukol, & Ceyhun, 2000). The study of Driscoll (2005) which compared the gender differences in depressive symptoms with respect to grade indicated that there were no significant gender differences in terms of depressive symptoms between 2nd/3rd grade males and 2nd/3rd grade females; there were no significant gender differences in terms of depressive symptoms between 6th/7th grade males and 6th/7th grade females but between

4th/5th grade males and 4th/5th grade females, males were more depressed than girls.

To sum up, there is a high prevalence rate for depression emerging during childhood, increasing dramatically during adolescence and continuing into adulthood, demonstrating gender and age differences, too. For explaining and predicting such a major psychological problem, cognitive theories of depression have been proposed, which are Beck's Theory of Depression (Beck, 1987), the Hopelessness Theory of Depression (Abramson, Metalsky, & Alloy, 1989), and the Response Styles Theory (Nolen- Hoeksema, 1991).

2.1.3. Cognitive Theories of Depression

In common, cognitive theories of depression tried to capture the developmental etiology and maintenance of depression. In the literature, the focus of research is on three cognitive theories: Beck's theory of depression (Beck, 1987), the hopelessness theory of depression (Abramson et al, 1989), and the response styles theory (Nolen- Hoeksema, 1991). The common feature of these theories is that they all identify specific cognitive vulnerability factors that are proposed to contribute to the occurrence and maintenance of depression (Lakdawalla, Hankin, & Mermelstein, 2007).

Beck's cognitive theory of depression (1967, 1987) proposes that cognitive vulnerability occurs as a result of maladaptive self- schemata including dysfunctional attitudes, involving themes of loss, inadequacy failure, and worthlessness. It is stated that these schemata include stored bodies of knowledge that is influential in encoding, comprehension, and retrieval of information. These dysfunctional attitudes are thought to be activated after a negative life event happens in accompany with negative thoughts about world, self, and future. In the end, depressive symptoms emerge as inferences about the distorted cognitions. The hypothesis of the theory is that depressogenic

schemata are not observed until a negative life event or negative mood triggers it (Beck, 1967).

The other theory explaining depression is hopelessness theory of depression (Abramson, et.al, 1989). This is a reformulated theory of helplessness and depression (Abramson & Seligman, 1978). According to this theory, some individuals have a more depressogenic inferential style than other individuals. When these individuals experience a negative life event, they tend to develop depressive symptoms. The theory proposes three types of inferences individuals may have in the occurrence of a negative life event: “inferred cause (inferences about why the event occurred), inferred consequences (inferences about what will result from the occurrence of the event), and inferred characteristics about the self (inferences about the self with respect to the event that occurred)” (p.360; p.361). As a result, in a vicious cycle these types of inferences lead to developing hopelessness and the hopelessness results in depression (Abramson & Seligman, 1978).

The other cognitive theory explaining depression is Response Styles Theory (Nolen- Hoeksema, 1987; 1991) which sets the theoretical background of the current study. This theory and its dimensions will be discussed below in more details.

2.2. Response Styles Theory

Response styles theory (Nolen- Hoeksema, 1987; 1991) was originally developed to explain why women tend to be more depressed than men. As Nolen- Hoeksema (1991) stated, this may be due to the sex differences in the responses individuals give to their depressed mood. In this regard, the theory proposes two response styles: rumination and distraction.

Ruminative responses are defined by Nolen- Hoeksema (1991) as behaviors and thoughts that lead the individual to attend to his/her depressive symptoms

and the causes and the consequences of his/her depressive mood. Additionally, ruminative responses involve focusing frequently in one's own depressive mood and on the symptoms of it. In a line with these definitions, rumination can also be defined as self-focused attention, which is also associated with depression (Ingram, Cruet, Johnson, & Wisnicki, 1988). The reason why rumination can be defined as self- focused attention comes from its definition since self- focused attention is the attention individuals direct inwards to their thoughts and feelings instead of directing externally toward the outer world (Carver & Scheier, 1982). Individual directing his/her attention internally towards his/her thoughts and feelings, and engaging in ruminative response style repetitively questions the causes, meanings and the consequences of his/her depressive symptoms. In addition, in order to focus more on the symptoms of the depression, the individual isolates him/herself (Nolen-Hoeksema, 1991). Through the ruminative responses, the individual may be leading him/herself into a more hopeless mood especially in the situation of initiating a problem solving action (Lyubomirsky, Tucker, Caldwell, & Berg, 1999).

The other response style, as an adaptive alternative to rumination is distraction. People using this response style relieve their depressive symptoms and engage in an effective problem solving process (Lyubomirsky, Tucker, Caldwell, & Berg, 1999). Distraction refers to behaviors or thoughts that make the person think of other things rather than the problem, thus lessening the effect of one's negative mood on the information processing and memory (Ingram & Smith, 1984, as cited in Broderick, 1998). Distracting responses are purposefully diverting one's attention away from the symptoms of depression and the possible causes and consequences of this depression to more pleasant activities. Individuals who use distracting response styles tend to engage in enjoyable activities in order to relieve their depressive symptoms instead of focusing on their problems (Nolen- Hoeksema, 1991).

There are several empirical studies pointing out to the relationship between response styles and depressive symptoms. It is a vicious cycle that depressed mood results in one's negative self evaluations and attributions leading to a more depressed mood (Blaney, 1986). That is, as people engage in a ruminative response to their depressed mood, they tend to be a part of the vicious cycle, increasing their depression by ruminating (Nolen- Hoeksema, 1991). On the other hand, a study focusing on the adaptiveness of distracting responses state that children and adolescents who use positive coping strategies like distracting themselves display lower levels of psychological symptoms (Connor- Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000). In the study of Nolen- Hoeksema, Morrow, and Frederickson (1993), participants were kept track of for 30 days in order to capture how their moods were and how they responded to their moods in that period. The findings revealed that participants who ruminated to their depressed mood remained more depressed than the participants who distracted their mood. Other research findings supported the fact that rumination predicted both clinical depression and depressive symptoms of moderate severity (Nolen- Hoeksema, 2000; Nolen- Hoeksema, Girgus, & Seligman, 1992).

In addition to the field studies, laboratory studies also supported the prediction that there is a relationship between response styles and depression. In an experimental study, responses to depression were manipulated and subjects were assigned to engage in 1 of 4 responses: active task that distracted the subjects from their depressive symptoms; a passive, distracting task; active task for ruminating about depressive symptoms; a passive, ruminative task (Morrow & Nolen- Hoeksema, 1990). The greatest remedy for depressive symptoms was achieved in active, distracting response condition, passive distracting response condition, active ruminative response condition, and passive ruminative response condition, respectively. When participants were made to engage in an active, distracting task for 10 minutes, they got relaxed from their depressive moods. On the other hand, when participants were exposed to a passive,

ruminative task, they did not have such a relaxation from their depressed mood (Morrow & Nolen- Hoeksema, 1990).

According to Nolen- Hoeksema (1991), there are three mechanisms explaining how response styles – specifically rumination- are influential on the occurrence of depression. Firstly, a vicious cycle occurs in which an individual in depressed mood thinks repetitively and processes information and feels more depressed. As one ruminates, the possibility of remembering negative life events increases, too (Bower, 1981). This leads to more negative interpretations of the behavior (Forgas, et al, 1984) and as a result, individual feels as if s/he does not have control on the outcomes (Alloy, et al, 1981). In this regard, depressed individuals with increased dysfunctional thinking and more engagement in rumination show particularly less recovery than the ones who distract (Sheppard & Teasdale, 2004). Secondly, rumination interferes with instrumental behavior. Rumination prevents individuals from engaging in behaviors which result in positive reinforcement. Lastly, rumination results in ineffective problem solving.

Both the response styles theory (Nolen- Hoeksema, 1991) and social- cognitive theory (Bandura, 1986, as cited in Lyubomirsky et al, 1999) propose that rumination of dysphoric individuals interferes with their problem solving process in two ways. One is through decreasing one's confidence in his/her problem- solving abilities and the second is through reducing the motivation to take a problem solving action. The findings of Morrow and Nolen- Hoeksema's (1990) study indicated that individuals who ruminate tend not to generate effective solutions to their problems. On the other hand, people who respond to their depressed mood in a distracting way can involve in a more effective problem solving process (Nolen- Hoeksema, 1991). For example, in the study of Morrow (1990, as cited in Nolen- Hoeksema, 1991), participants were driven to be in sad moods. Then, they were asked to engage in either ruminative tasks or distracting tasks. Afterwards, participants were asked to produce as many solutions as possible to some life problems. At the end of the

study, results indicated that while participants who engaged in ruminative tasks produced 2.7 solutions to the problems, participants who engaged in the distracting tasks produced approximately two times solutions to the problems (6.3 solutions).

Moreover, the study of Lyubomirsky and Nolen- Hoeksema (1995) suggested that dysphorics who are ruminating to their depressed mood and the symptoms of their depression, display ineffective problem- solving skills. In their study, students, after engaging in a ruminative or a distracting task, were asked to imagine situations in which they were experiencing various interpersonal and achievement problems. Afterwards, they were instructed to write each step they would take in order to solve each problem in a detailed way. Results of Lyubomirsky and her colleagues' (1995) study indicated that dysphoric participants who had a ruminative response style produced less effective solutions to the imaginary problems when compared with the dysphoric participants who distracted themselves. This is argued to be as a result of the vicious cycle a ruminating individual involves in, as mentioned above. Depressive mood leads to negative thinking and negative thinking results in depression. In this vicious cycle, individuals who are ruminating to their depressed mood may not be engaging in an effective problem solving process (Lyubomirsky & Nolen- Hoeksema, 1995).

Lyubomirsky and her colleagues (1999) conducted three studies in order to investigate the relationship between response styles, problem solving skills, and depressed mood. The Study 1 focused on how people perceive their problems and the solutions they generate to these problems, instead of their actual problem solving skills (Lyubomirsky et al, 1999). The results indicated that dysphoric participants who were asked to ruminate became more dysphoric whereas dysphorics who were asked to distract became less dysphoric. In terms of rating their confidence on their problems' severity and solvability, dysphoric participants who engaged in a ruminative task rated their problems as the most severe and least solvable ones when compared with the

dysphoric participants who were asked to distract and the nondysphoric groups of participants. To sum up, dysphoric individuals who ruminate tend to interpret and perceive their problems as more unsolvable than they really are whereas dysphoric individuals who engage in distracting responses, directing their attention away from their dysphoria had a perception that their problems were the same with the nondysphorics. In the Study 2, results argued that when an individual engaged in a ruminative thought when s/he was in a depressed mood, it led the individual to think negatively and to focus on his/her personal problems. The evidence from the study indicated that dysphoric individuals ruminating may try to engage in problem solving process. However, with the combination of their distorted thinking and their self-blaming, self-criticizing, and pessimist negative thoughts, they use impaired problem solving skills. Conclusively, the results of the Study 3 showed that dysphoric students who ruminated, had thoughts that were rated to be most likely to be feeling-focused when compared with nondysphoric students and the dysphorics who distracted. In addition, dysphoric students who had ruminated expressed their thoughts reflecting a less playful and less constructive problem solving than the other three groups and concluded that ruminators are likely to have poorer problem-solving skills due to negative self-criticism, self-blame for problems, and reduced self-confidence and perceived control.

Actually the findings mentioned above point out that, coping styles to depression and problem solving are related to each other significantly. Therefore, the vicious cycle between rumination and depressive symptoms is affected by problem solving. Individuals using ruminative responses just simply think and talk about how sad, indolent and unmotivated they are instead of trying to relieve from their symptoms. So, they are not making any plan to take action for change (Nolen-Hoeksema, 1991). Therefore, individuals who are using ruminative response styles and giving more emotion-focused responses are engaging in less active, less structured and impaired problem solving (Carver, Scheier, & Weintraub, 1989; Nolen-Hoeksema & Morrow, 1991). Empirical studies in the literature support that problem solving abilities

of adolescents contribute significantly to their depressive symptoms (Erdur-Baker, 2009), in a line with the other findings in the literature indicating a negative relationship between depressive symptoms and poor problem solving abilities (Dixon, 2000; Heppner, Baumgardner, & Jackson, 2005; Nezu, 1985).

In addition to rumination and distraction, there are responses which are distracting but unhealthy and dangerous for the individuals (Nolen- Hoeksema, 1987). For example, driving a car quickly on the mountain roads, or drinking alcohol may distract the individual from the stressors and the depressive mood s/he is in. However, this type of response interferes with the healthy functioning of the individual (Nolen- Hoeksema, 1987). The theory proposes a healthy distracting response to depression. The empirical studies indicate that distraction and problem solving protect against depression a little, and engaging in dangerous activities increases depression, men using more dangerous activities than women (Armelle & Fresco, 2002). Distraction is criticized by Armelle and Fresco (2002) since they claim that distracting response style has a little protection against depression. In addition, there are some other research positing that distracting is not a very healthy response. They posit that people who constantly distract may seem healthy however they are probably not aware that their physical health is in danger (Farley, Galues, Dickinson, de Jesus Diaz Perez, 2005; Nezu, Nezu, & Jain, 2005).

2.2.1. Origins of Response Styles to Depression

The response styles of children to their depressive symptoms may be affected by the response styles that their parents exhibit (Nolen- Hoeksema, 1991). For example, in Nolen- Hoeksema, Wolfson, Mumme, and Guskin's (1995) study, children between the ages of 5-7 reacted in a passive and helpless way when they faced a situation that evoked frustration in them, if they had depressed mothers. These children tended not to engage in active problem solving process, either when compared with the children of non- depressed mothers. Hence, children are affected by the depressed mood of their mothers and

respond to the stressors in their lives in ways resembling those of their mothers'.

Furthermore, gender role expectations of parents from their male and female children may result in different response styles in children (Block, 1973). For example, parents of boys and parents of girls have different child rearing practices towards their children in line with their expectations. Parents of boys rear their children emphasizing on being a strong man who does not display his emotions. Therefore, they are not socialized so to talk about their thoughts and feelings but to distract from them. On the other hand, parents of girls encourage their children to develop and maintain close relationships with others, to talk about their problems and to show affection physically (Block, 1973). In this regard, girls are more likely to think upon their problems.

Last factor that may have an impact on the formation of response styles can be biological. To understand the differing nature of responses to stress among individuals, it is necessary to consider the developments in biology as a basis to understand organism responses to stressors. Due to biological characteristics, some people may be more prone to stress than other people and they may have more physiological reactivity to stress than other people (Depue & Monroe, 1986). People with high reactivity may pay more attention to their emotional states and may question their emotionality. Hence, they may develop a ruminative tendency as a response to their negative mood (Nolen- Hoeksema, 1991).

2.2.2. Response Styles in Children and Adolescents with regard to Age/ Grade and Gender

As mentioned in the previous sections, Response Styles Theory has been validated in adult population both empirically and theoretically (Abramson, et al., 2002; Ingram et al., 1988; Scher et al, 2005). When response styles were considered, there were mixed results in adulthood, in terms of gender

differences. While some research supported the hypothesis of the Response Styles Theory that women are more likely to ruminate than men and men are more likely to distract than women, some research indicated that men and women engage in distracting activities equally (Butler & Nolen- Hoeksema, 1994; Strauss, et al, 1997). In the study of Nolen-Hoeksema, Morrow, and Frederickson (1993), participants were asked to follow up their depressed moods and how they respond to their depressed mood for 30 days. As a result of the study, women responded to their depressed mood in a more ruminating way when compared with men. Hence, the duration of women's depressed mood was longer and the severity of their depressed mood was more than that of men (Nolen- Hoeksema, 1991).

The research in the literature point out to mixed results in terms of gender differences in response styles. A study which was done with 130 children and young adolescents between the ages of 10 and 14 years reported that girls are using more ruminative responses than boys (Compas, Malcarne, & Fondacaro, 1988). The study of Ziegert and Kistner (2002) which was conducted with 205 children in the fourth and fifth grade supported these findings that girls ruminate more than boys but there is not a significant difference between genders in terms of their distracting responses. In addition, another study done with children between the ages of 10-17 years revealed that females reported higher levels of rumination than males (Jose & Brown, 2008). There are consistent findings from Turkish literature, too. The study of Özgülük, Erdur-Baker, and Demirci- Danışık (2008) which was conducted with 555 adolescents between the ages of 13 and 18 posited that females had more ruminative tendencies than males. The gender differences in response styles can be explained by the studies in the literature suggesting that (Nolen-Hoeksema, 1995; Nolen- Hoeksema & Girgus, 1994) girls may be more ruminative prior to adolescence. However, this ruminative tendency interacts more with the stressors in the adolescence and contributes more to the depressive symptoms of girls. Broderick and Korteland (2004) also claim that

girls tend to ruminate more than boys probably due to higher depression scores in females.

On the other hand, there are studies which have not found any significant gender differences in response styles. For example, the study of Erdur-Baker (2009) done with 250 Turkish adolescents between the ages of 13 and 18, pointed out that rumination did not differ with respect to gender which is consistent with the findings of Adams and colleagues (2007). No gender differences were found in the response styles of children from 2nd grade to 7th grade (Lopez, 2006). Supporting these findings the study of Driscoll (2005) indicated no significant gender differences between 2nd /3rd grade females and 2nd/3rd grade males and no significant gender differences between 4th/5th grade females and 4th/5th grade males.

The inconsistent findings on gender differences in response styles can be interpreted in two ways. Firstly, according to Jose and Brown (2008) and Abela and colleagues (2002), the age at which the gender differences in rumination begins is 12 years corresponding to the emergence of gender differences in depression. Therefore, when the studies in the literature are examined, most of the studies that did not find gender differences in response styles have worked with children below the age of 12. Second interpretation of the lack of gender differences in response styles in the literature is that Children's Response Styles Questionnaire may have overlap between the items without trustworthy psychometric properties (Driscoll, 2005).

When the research in the field is considered, it is seen that studies examined the gender differences in response styles within a developmental frame, taking into account the ages of the participants. Hence, there is a strong support from literature for testing the theory with child and adolescent population taking the overall development of the child into account (Abela, et al. 2004; Diener & Dwecks, 1978). One of the studies in the literature aimed to examine response styles theory with a sample of 3rd (n = 70) and 7th (n= 190) grade school

children (Abela, et al., 2004). This study hypothesized that children with high levels of depressive symptoms would engage in more ruminative responses while engaging in less distracting and less effective problem-solving coping strategies when compared to children who have low levels of depressive symptoms. It was found that 3rd and 7th grade students who engaged in ruminative responses had higher levels of depressive symptoms when compared with the ones who did not engage in such a style. The findings of the study revealed out that 7th graders who engaged in one of distractive or problem solving responses to depressed mood had lower levels of depressive symptoms than ones who did not engage (Abela, et al., 2004). In parallel to this study, the study of Ziegert and Kistner (2002) stated that rumination predicted high scores of depression whereas distraction predicted lower levels of depression in children in 4th and 5th graders. In another study done with children from 2nd grade to 7th grade, it was found that rumination was positively correlated with depressive symptoms while distraction was negatively correlated (Driscoll, 2005). Moreover, studies done with Turkish adolescents supported the findings in the literature that rumination itself contributed the most to the depressive symptoms of the participants (Erdur-Baker, 2009; Erdur-Baker, Özgülük, Turan, Demirci Danışık, 2008).

To sum up, Response Styles Theory was proposed to explain the gender differences in depression. It has been validated with adult samples and has recently been studied with child and adolescent populations. The findings in the literature indicate that one's having a ruminative tendency increases his/her depressive symptoms whereas if a person distracts from depressive symptoms there becomes a decrease in depressive symptoms. There are inconsistent findings on the gender differences in response styles. While some studies indicate gender differences in response styles, others do not propose a significant gender difference. Therefore, in order to capture whether there are significant gender differences in response styles of the participants in the current study, gender and grade differences in response styles will be investigated.

In the next section, problem solving which has been found to be a correlate of depression and response styles will be mentioned.

2.3. Definition and Nature of Problem Solving

Problem solving abilities of children were taken as a variable in this study because of two reasons: (1) there is already existing research on the relationship between problem solving and depressive symptoms in the literature, independent of response styles (e.g. Paunesku, et al., 2008), (2) there are also studies investigating the relationship between response styles and depressive symptoms taking into account the role of problem solving abilities of the people. For example, Lyubomirsky and her colleagues (1995) argued that ruminators are poor problem solvers. Since they are not able to solve their problems effectively, they are likely to suffer more from depressive symptoms. Therefore, in relation to the aforementioned two reasons, problem solving was taken as a variable to the current study.

In the field of social problem solving, a problem is defined as a situation in which an individual does not give an effective response or in which even an effective response is not available to the individual (Perla & O' Donnell, 2004). Hence, problem solving is the process in which the individual seeks for finding an effective response for the problem, trying actively to change unpleasant situations to pleasant ones and to resolve the problems (D' Zurilla & Goldfried, 1971; Lakdawalla, et al., 2007).

Problem solving is a cognitive process since it involves the recognition and appraisal of the problem and the ability to cope with that problem. In addition to its course cognitively, problem solving has an emotional aspect as well which may vary from situation to situation and may lead the individual either into positive affect or into depressive mood (D' Zurilla & Goldfried, 1971). Problem solving includes a behavioral aspect since the implementation of a solution requires to take some action (Perla & O' Donnell, 2004). With respect

to the cognitive and behavioral dimensions of problem solving, it involves some specific skills and the models to use (D' Zurilla & Goldfried, 1971). *Problem solving orientation* is one's attitude towards dealing with problems and it involves both emotional and intellectual aspects. *Definition and formulation of a problem* refers to analyzing the problem and then setting realistic goals to solve it. *Generation of alternatives* is producing multiple explanations or forming hypothesis with respect to the existing situation. Then, the other skill to be used is *decision making*. It involves the evaluation of different options and choosing the most appropriate one among them. Last skill is the *implementation and verification of a solution*. This skill refers to actively implementing the solution and continuing the problem solving process again, if the solution does not work (D' Zurilla & Goldfried, 1971; Nezu, Nezu, & Lombardo, 2001, as cited in Perla & O' Donnell, 2004).

Specifically for social problem solving, Social Information Processing (SIP) model which was developed by Crick and Dodge (1994) proposes six steps. First step is encoding situation specific and internal cues. The second one is interpreting the cues. Third one is selecting or determining a goal. Fourth one is generating responses. Fifth one is choosing among the responses and the sixth one is enacting behaviorally. According to this model, if people generate aggressive solutions to their problems but not effective ones, this may be due to a deficit in one or more of these stages (Dodge, 1986).

From another point of view, research studies report that children may differ in terms of their reactions to stressful life events. While some children are affected so much that it results in adjustment problems, other children may not be affected by these stressors negatively. In this regard, problem solving skills of the children will lead them to produce strategies to be able to deal with the stressors (Dubow & Tisak, 1989). Problem solving is a "personal resource", a cognitive process taking place within the child and the child can reach his/her problem solving skills in order to be able to cope with the stressors in his/her life (Dubow & Tisak, 1989). There is a developmental progression in

children's conflict resolution strategies from the simplest to the most complicated, focusing on the concurrent cognitive changes (Selman- Demorest, 1984). In a line with the developmental course of problem solving, it is important to develop the ability of solving interpersonal problems during childhood since it helps to develop social competence. Children who solve their problems in a poor way are likely to be rejected by their friends (Kupersmidt & Dodge, 2004).

In this study, problem solving abilities of children will be examined in relation to the problem solving behaviors proposed by Deluty (1979). According to Deluty (1979), people may respond to problem/ conflict situations either assertively or unassertively. Unassertive responses are the aggressive and submissive responses. A prosocially assertive response was defined as a "nonhostile act that involves self- expression and self- enhancement without violating the rights and feelings of others". On the other hand, an aggressive response was defined as a hostile act that involves expressing one's rights and feelings at the expense of others" and lastly, "submissive response is a nonhostile, unassertive act that involves considering the feelings, power, or authority of other while denying (or not standing up for) one's own rights and feelings" (Deluty, 1979; 1981).

In childhood, children who solved their problems in a good way could analyze the causalities, generate effective strategies and anticipate the probable outcomes (Pakaslahti, Karjalainen, & Keltikangas-Järvinen, 2002). For example, in a study done with fourth and fifth grade children, children reported using a range of strategies to resolve their conflicts with their friends. The most frequently used strategy by them to solve their problems was assertion. On the other hand, girls also used submissive behavior for ending the problematic situations, which may be related to further depressive symptoms since a study in Turkey showed that submissiveness is a significant predictor of depression (Ceyhan, Ceyhan & Kurtyılmaz, 2005). According to Ceyhan, Ceyhan, and Kurtyılmaz (2005) submissive problem solving behavior is a risk factor for

males since males were found to be more submissive than girls between the ages of 12 and 16 years. However, Dorsch and Keane (1994) found that males display more aggressive solutions which are ineffective to problematic situations, than females which is supported by the statement of Crick and Dodge (1994) that children who solve their problems aggressively are poor problem solvers.

Deluty (1981) speculated that submissive girls are aware of assertive solutions to any problems or conflicts; however, they may perceive these assertive solutions as being aggressive, unfeminine and thus undesirable. As a result, they may not be applying assertive behavior when confronted with a conflict. On the other hand, this speculation was not supported by another study measuring the children's evaluations of aggressive, assertive, and submissive responses (Deluty, 1983) because the results of the study revealed that boys got higher scores on aggressiveness subscale by solving their problems ineffectively, and girls got higher scores on assertiveness and submissiveness subscales, solving their problems both effectively and ineffectively.

2.4. Summary

Depressive symptoms in children and preadolescents are highly prevalent and the effects of the depressive symptoms in these periods are carried to adulthood. In addition, depressive symptoms are associated with several problems like academic failure, adjustment problems, smoking, alcohol and drug use, and they lead the stressors to increase in the lives of children and preadolescents. Findings in the literature state that males and females differ in their depressive symptoms, females in most of the cases displaying more depressive symptoms than males. The literature proposes that the gender differences in depressive symptoms emerge during the transition from childhood to adolescence, around the ages of 12- 14.

In order to explain the gender differences in depressive symptoms, Response Styles Theory (Nolen- Hoeksema, 1987; 1991) has been proposed. According to this theory, people in depressed mood either ruminate to or distract their depressive symptoms. As they ruminate they have more depressive symptoms and start not to be able to engage in an effective problem solving process. As they can not solve their problems, their depressive symptoms increase more and they start to ruminate more in a vicious cycle. On the other hand, as they distract themselves from their depressive symptoms they remedy suffering any more. On the contrary, there are some studies pointing out that distracting may not always be healthy since it may lead people to ignore their physical health. Moreover, there are mixed results in explaining gender differences in response styles. Some studies point out to gender differences that girls ruminate more than boys and boys distract more than girls. However, there are findings that have not found any gender differences in response styles which are thought to be due to the fact that rumination emerges later developmentally. Although it is a well- known theory, Response Styles Theory has not yet been tested in different cultures and in Turkey. Therefore, testing this theory in Turkey may contribute to the cross- cultural applicability of the theory.

In addition to the close relationship between response styles and depression, problem solving has been proposed as a strong correlate to depressive symptoms. As a person solves problems effectively, s/he tends to suffer less from depressive symptoms. In addition, it is proposed by the research studies that ruminators are poor problem solvers and they have more depressive symptoms. In this regard, problem solving is associated with response styles, too. According to Deluty (1979), children solve their problem either assertively or unassertively- aggressively and submissively. Findings of the literature state that while males solve their problems in preadolescence aggressively, females solve their problems either assertively or submissively.

In conclusion, there are few studies in Turkey that have investigated the relationship between depression, problem solving and response styles with

regard to gender and grade. Already existing studies in Turkey were done with adolescent populations. In one of the studies, gender differences in response styles were found but in another study, no gender differences were found. Therefore, with this study an answer to probable gender and grade differences was sought with a younger sample. The current study is the first to test the theory in Turkey with preadolescents. In this regard, it has a contribution to understanding the emergence of gender differences in response styles in Turkey. There are some claims in the literature on the reliability and validity of Children's Response Styles Questionnaire. Thus, examining the psychometric properties of the questionnaire is thought to offer an answer to its reliability and cross-cultural validity.

CHAPTER III

METHOD

This method chapter describes the overall design of the study, characteristics of the participants in this study, data collection instruments, data collection procedures, variables, data analysis procedures, and limitations of this study.

3.1. Overall Design of the Study

The Response Styles Theory asserts that children who ruminate as opposed to distract themselves to overcome with negative situations are more likely to manifest depressive symptoms. The goal of this study is to test the Response Styles Theory and its assertions with Turkish preadolescents. Two phases were followed to reach the goal of the study. In the first phase, Children's Response Styles Questionnaire (CRSQ) which was developed based on the Response Style Theory was adapted to Turkish and its psychometric properties were examined. In the second phase, the relationship between response styles and depressive symptoms were examined considering the mediating and moderating effect of problem solving.

3.2. Participants

The sample of the study comprised 299 females (49.9%) and 300 males (50.1%) with a total of 599 participants. 249 of the participants were from İstanbul (41.6%) and 334 of them (55.8%) were from Çankırı. These cities were chosen for data collection because they were convenient to the researcher since the schools in these cities agreed to participate in the current study. As it is seen in Table 3.1, the characteristics of the participants from İstanbul and

Table 3.1

Demographic Characteristics of the Participants from İstanbul and Çankırı

	İstanbul		Çankırı	
	<i>f</i>	%	<i>f</i>	%
Gender				
Female	109	43.8	180	53.9
Male	140	56.2	154	46.1
Total	249	100.0	334	100.0
Grade				
4	129	51.8	142	42.5
7	119	47.8	189	56.6
Total	248	99.6	331	99.1
Income				
200- 400	15	6.0	25	7.5
401- 600	17	6.8	27	8.1
601- 800	15	6.0	16	4.8
801- 1000	33	13.3	44	13.2
Above 1000	71	28.5	124	37.1
Total	151	60.6	236	70.7
Mother Education				
Illiterate	11	4.4	13	3.9
Literate	4	1.6	1	.3
Elementary school	77	30.9	124	37.1
Secondary school	26	10.4	35	10.5
High school	50	20.1	79	23.7
University	51	20.5	46	13.8
Others	12	4.8	14	4.2
Total	231	92.8	312	93.4
Father Education				
Illiterate	1	.4	2	.6
Literate	4	1.6	2	.6
Elementary school	59	23.7	61	18.3
Secondary school	38	15.3	45	13.5
High school	54	21.7	88	26.3
University	62	24.9	95	28.4
Others	10	4.0	15	4.5
Total	228	91.6	308	92.2
Mother Occupation				
Housewife	156	62.7	251	75.1
Civil Servant	18	7.2	39	11.7
Worker	6	2.4	2	.6
Retired	9	3.6	11	3.3
Others	58	23.3	30	9.0
Total	247	99.2	333	99.7
Father Occupation				
Civil Servant	16	6.4	112	33.5
Worker	45	18.1	80	24.0
Retired	6	2.4	18	5.4
Others	175	70.3	116	34.7
Total	242	97.2	326	97.6

Çankırı resemble each other. In addition, the scores of the participants for each measure (problem solving, depressive symptoms, rumination, and distraction) were compared for both of the cities via one way ANOVA. Except for the scores on Problem Solving measure, there were not any significant differences between the participants of İstanbul and Çankırı. For Assertiveness Subscale, effect size was calculated and it was found .01, a small effect size. Therefore, the data were collapsed.

Participants of the study were between the ages of 9 and 15 ($M= 11.77$, $SD= 1.53$; Median= 13; Mode= 13). 276 (46.1%) of the participants were in 4th grade and 318 (53.1%) of them were in 7th grade. The preliminary analysis indicated that there were significant grade differences in the dependent variable of the study (depressive symptoms). Therefore, to control for the effect of grade, the analyses in this study were conducted for both 4th grade and 7th grade. Descriptive statistics for each grade level are reported in Table 3.2.

In 4th grade, there were 134 females (48.6%) and 142 males (51.4%) between the ages of 9 and 12 ($M= 10.21$, $SD= .47$). In 7th grade, there were 164 females (51.6%) and 154 males (48.4%) between the ages of 11 and 15 ($M= 13.12$, $SD= .49$).

In 4th grade, the monthly income of 74 participants (26.8%) was more than 1001 TL. Most of the mothers of the 4th graders were graduates of elementary school (25.7%) and more than half of them were housewives (62.3%). 29.3% of the fathers of 4th graders were graduated from university. Majority of the fathers were civil servant (21.0%) and workers (21.4%). In 7th grade, the monthly income of 124 participants (39.0%) was more than 1001 TL. Most of the mothers were graduates of elementary school (42.8%) and majority of them were housewife (77.4%). 24.5% of the fathers of 7th graders were graduated from university and 23.0% of the fathers were civil servant. As a result, it can be said that the participants of the current study are coming from middle to upper middle socioeconomic status (See Table 3.2).

Table 3.2

Demographic Characteristics of the Participants from 4th and 7th grade levels

	4 th Grade		7 th Grade	
	<i>f</i>	%	<i>f</i>	%
Gender				
Female	134	48.6	164	51.6
Male	142	51.4	154	48.4
Total	276	100.0	318	100.0
Family income (Monthly)				
200- 400 TL	22	8.0	18	5.7
401- 600 TL	16	5.8	29	9.1
601- 800 TL	13	4.7	19	6.0
801- 1000 TL	28	10.1	51	16.0
Above 1001 TL	74	26.8	124	39.0
Total	153	55.4	241	75.8
Mother Education				
Illiterate	9	3.3	15	4.7
Literate	4	1.4	1	.3
Elementary School	71	25.7	136	42.8
Secondary School	24	8.7	37	11.6
High School	60	21.7	74	23.3
University	58	21.0	39	12.3
Others	11	4.0	15	4.7
Total	237	85.9	317	99.7
Father Education				
Illiterate	3	1.1	-	-
Literate	5	1.8	1	.3
Elementary School	42	15.2	78	24.5
Secondary School	29	10.5	57	17.9
High School	59	21.4	89	28.0
University	81	29.3	78	24.5
Others	14	5.1	11	3.5
Total	233	84.4	314	98.7
Mother Occupation				
Housewife	172	62.3	246	77.4
Civil Servant	35	12.7	22	6.9
Worker	8	2.9	1	.3
Retired	8	2.9	12	3.8
Others	51	18.5	36	11.3
Total	274	99.3	317	99.7
Father Occupation				
Civil Servant	58	21.0	73	23.0
Worker	59	21.4	69	21.7
Retired	5	1.8	19	6.0
Others	145	52.5	151	47.5
Total	267	96.7	312	98.1

n= 599, Note. The lower percentages in the total values of each variable stem from the missing data on those variables.

3.3.Data Collection Instruments

In this study, response styles of the children were measured by Children's Response Styles Questionnaire (CRSQ; Abela, Vanderbilt, & Rochon, 2000). The problem solving ability of children was assessed by the Assertiveness Subscale of Children's Action Tendency Scale (CATS; Deluty, 1979). Depressive symptoms of children were measured by Children's Depression Inventory (CDI; Kovacs, 1980). Finally, a Demographic Form was utilized in order to obtain information about age, gender, and grade of the participants and about their parents' education and occupation.

3.3.1. Children's Response Styles Questionnaire (CRSQ)

Children's Response Styles Questionnaire was developed by Abela, Vanderbilt, and Rochon (2000). The information regarding the instrument was obtained from the article of Abela, Vanderbilt, and Rochon (2004). The questionnaire originally consisted of 25 items and 3 subscales. The Ruminative Response subscale consists of 13 items involving the self- focused responses given to the depressive mood. In the Distracting Response subscale, there are seven items asking if participants distract their attention away from their depressed mood. Lastly, the Problem- Solving subscale consists of five items and these items include the strategies in order to overcome the problems an individual encounters. For the items, children were asked to rate themselves on a 4- point Likert type scale (1= *almost never*, 2= *sometimes*, 3= *frequently*, 4= *almost always*) in terms of how often they respond to the depressed mood in the way given. The factor structure of CRSQ was examined by Abela, Aydin, and Auerbach (2007) by conducting an exploratory factor analysis. They found a two factor solution (rumination and distraction/ problem solving) with 21 items. Afterwards, they run a confirmatory factor analysis with a new data set. The fit indices indicated that two- factor model fit the data well (χ^2 (188) = 250.65, $p=.01$; χ^2/df -ratio=1.33; CFI= 0.98, RMSEA= .049). Abela, Aydin, and Auerbach (2007) found moderate levels of internal consistency for Rumination

Subscale ($\alpha = .82$) and for Distraction/ Problem Solving Subscale ($\alpha = .79$).

3.3.1.1. The Translation Process of CRSQ

Firstly, the translation of the questionnaire was done by three counselors advanced in English and by an experienced English teacher. After all the four translations were completed, they were compared and contrasted. The translations were mostly consistent. In a line with the translation, a Turkish version of the CRSQ was formed. The Turkish translation of the questionnaire was evaluated by two independent experts of counseling psychology. Some changes on wording were suggested. Afterwards, the last version of the scale was given to three experienced Turkish literature teachers. They checked the structure and the wording of the sentences. Some corrections in wording, structure of the sentences, and punctuation were suggested. The pilot study with fifteen 4th grade children and fifteen 7th grade children was conducted to check about the clearness of the scale. No changes were suggested. Sample items from the final version of the Turkish adaptation of CRSQ were presented in the Appendix A.

3.3.1.2. Validity and Reliability of CRSQ

Confirmatory factor analysis was performed on CRSQ to examine how well the two factor model fit the present data through the same process followed by Abela, Aydin, and Auerbach. (2007). Results of validity and reliability assessments are reported in Chapter IV.

3.3.2. Children's Action Tendency Scale (CATS)

Children's Action Tendency Scale (CATS) was developed by Deluty (1979). It is a self-report questionnaire providing assertiveness, submissiveness, and aggressiveness scores. It is not a trait scale but a scale assessing how a child

would behave in various problematic situations. CATS ascertain how a child would respond in 13 conflict situations. Each 13 situations are followed by a set of three alternative responses (submissive, assertive, and aggressive) (Deluty, 1979). These responses are given in a paired comparisons format. Then, combinations of three alternative responses are obtained, and 3 responses are provided for each 13 conflict situations (Deluty, 1979). As a result, by choosing the aggressive one against submissive and assertive responses, by choosing the submissive response against assertive and aggressive responses, and by choosing the assertive one against submissive and aggressive responses, the relative strength of each type of response could be evaluated. This also prevents to obtain the assertive response all the time since it is socially desirable (Deluty, 1979). To conclude, a participant can receive 2 aggressiveness points, 2 submissiveness points, and 2 assertiveness points maximum for each 13 conflict situations. Scores on a specific response type can range from 0 to 26. High scores on two specific response result in a low score in the remaining response type. CATS measures three type of solutions to problem situations: assertive, submissive and aggressive (Deluty, 1979).

In this study, the Assertiveness Subscale of the measure was used for two reasons: (1) the reliability of Submissiveness Subscale did not indicate an acceptable reliability value in the current study, (2) both submissive problem solving and aggressive problem solving was defined as unassertive ways of problem solving by Deluty (1979) therefore in the current study the problem solving behavior of preadolescents was aimed to be evaluated in a positive premium. The scores of Assertiveness Subscale will be operationalized as follows in this study: The higher the scores of subjects for Assertiveness Subscale of CATS, more they are good problem solvers – solving their problems effectively- and lower the scores, less they are good problem solvers – solving their problems ineffectively.

3.3.2.1. The Translation Process of CATS

The adaptation of CATS started by the translation of the instrument to Turkish by three counselors advanced at English and by an experienced English teacher. There were consistencies among the translations. The translation of the scale was evaluated by two experts in the field of Educational Sciences. They especially evaluated the appropriateness of the problem solving situations to Turkish culture and to the age groups (4th grade and 7th grade participants). Afterwards, focus groups with six 4th grade and seven 7th grade participants were formed. Slight modifications in the wording and structure of the 3rd, 5th, and 10th items were done and the last version of the instrument was formed. It was difficult for the participants to respond the scale since three responses are required for each question. This knowledge helped in data collection and participants were well- informed about how to sign three responses to each question. Sample items from the final version of the Turkish translation of CATS were presented in the Appendix B.

3.3.2.2. Validity and Reliability of CATS

Deluty (1979) has examined the validity of CATS in several steps. Firstly, about 2 weeks after the administration of CATS, children and their teachers have been given a questionnaire measuring the subjects' physical aggressiveness, verbal aggressiveness, assertiveness, and submissiveness indirectly in a peer- and teacher- assessed level. Afterwards, teachers and subjects have been asked to put the name of each student in the blank spaces on the questionnaire and to decide which response alternative the student would display. As a second step of validation, teachers and subjects have been asked to rate the other subjects as assertive, aggressive, and submissive, and to choose the 5 students most aggressive (MAG) and 5 students the least aggressive. In the third step of validation, Cooper's Self- Esteem Inventory and Children's Social Desirability Questionnaire has been group administered (Deluty, 1979). As a result, (a) the relationship between CATS aggressiveness

scores and subjects' total aggressiveness scores, peer physical aggression scores, peer MAG scores, and teacher verbal aggression scores was significant; (b) the relationship between CATS assertiveness scores and teacher assertiveness scores was significant; (c) the relationship between CATS submissiveness scores and subjects' total submissiveness scores, peer submissiveness scores, peer MSUB scores, and teacher submissiveness scores was significant. There was not significant relationship between CATS aggressiveness and Coopersmith self-esteem scores but there was a significant negative correlation between CATS submissiveness scores and subjects' self-esteem scores. The scores on Children's Social Desirability Questionnaire were significantly and positively associated with submissiveness scores and negatively with aggressiveness scores (Deluty, 1979). Deluty (1979) stated that these findings support the evidence of CATS' validity as a measure of assessing levels of aggressiveness and submissiveness in children.

In the current study, the validity of the scale was not assessed due to the limited time for collecting data from children, teachers, and peers, in a classroom hour. Reliability assessments done by Deluty (1979) indicated that reliability coefficient calculated by Spearman- Brown formula for Assertiveness Subscale was .63. For the current study, the reliability coefficient calculated for both grade levels by Spearman- Brown indicated that reliability coefficient for Assertiveness Subscale for 4th graders was .64, which is a moderate reliability and reliability coefficient for Assertiveness Subscale for 7th graders was .72, which is also a moderate reliability.

3.3.3. Children's Depression Inventory (CDI)

This instrument was developed by Kovacs (1980). It was developed as a version of Beck Depression Inventory (BDI) but with the aim of measuring the depressive symptoms in children. It is a self-report measure. It can be applied to children and adolescents between the ages of 6-17. CDI consists of 27 items. Ministry of Education did not approve three items (F, G, I) referring to

suicidal ideation, sense of impending doom, and sense of self, to be included in the inventory while collecting data. Therefore, these items were eliminated from the scale and in this study CDI was used as 24 items. Participants were asked to choose one among three sentences, taking into account their last two weeks. The inventory does not have any time limitation. However, it takes approximately half an hour to complete (Savaşır & Şahin, 1997).

In this study, The Turkish version of CDI was used. The Turkish version of CDI is called Çocuklar için Depresyon Ölçeği (ÇDÖ). It has been adapted by Öy (1990, as cited in Savaşır & Şahin, 1997). ÇDÖ is appropriate for children between the ages of 9-13. In this study, the scores for CDI will be operationalized as follows: The higher the scores of subjects for CDI, more they are in depressed mood and lower the scores, less they are in depressed mood. Sample items from CDI were presented in the Appendix C.

3.3.3.1. Validity and Reliability of CDI

Öy (1990, as cited in Savaşır & Şahin, 1997) tested the reliability and validity of CDI in Turkey. Test- retest reliability of the instrument was found to be .80 through implementing the instrument to 380 non- clinical students again after one week interval. For the criterion validity of the instrument with Turkish children, the correlation between ÇDÖ and Childhood Depression Rating Scale has been calculated and it was found .61. The construct validity of the instrument has been found through interviews regarding depression in terms of DSM- III diagnosis criteria. The ratio of the instrument's right diagnosis has been found to be % 84.75 (Öy,1990, as cited in Savaşır & Şahin, 1997). Kovacs (1980) suggests that there are five empirically developed factors: negative mood, ineffectiveness, negative self- esteem, interpersonal problems, and anhedonia.

For this study, the reliability of the total CDI scores was calculated by using Cronbach Alpha coefficient and it was found .78. Examining separately for two

grade levels, for the 4th grade participants the Cronbach Alpha coefficient for CDI was found .77 and for 7th grade participants it was found .78.

3.3.4. Demographic Form

The information about the age, gender, grade, income, parent education and parent occupation of the participants was gathered via Demographic Form. Demographic Form is presented in the Appendix D.

3.4. Data Collection Procedures

In order to start the research, firstly permission was obtained from Middle East Technical University Human Subjects Ethics Committee. After receiving permission, the research with its aim and method was presented to the Ministry of Education. Permission to start the data collection was obtained from the Ministry of Education. The schools determined by the researcher were presented to the Provincial Educational Directorate in both İstanbul and in Çankırı. Following delivery of the official research permit to the Provincial Educational Directorate, each of the directors of the pre-determined schools was visited. They were told about the aim, method and procedure of the study. Then, volunteer participation forms of the participants and parents' informed consents were obtained (See Appendix E for informed consent; See Appendix F for volunteer participation form for 4th graders; See Appendix G for volunteer participation form for 7th graders). Afterwards, in classrooms CATS (Children's Action Tendency Scale), CRSQ (Children's Response Styles Questionnaire), CDI (Children's Depression Inventory), and demographic form were group administered to the participants in a class hour (50 minutes) and a break (10 minutes), by the researcher. Data were collected by optics questionnaire.

3.5. Variables

Depressive Symptoms: In this study, the words “depressive symptoms” and “depressive mood” was used interchangeably and it was measured by the total scores obtained from Children’s Depression Inventory (CDI).

Rumination: In this study, rumination was measured by the scores obtained from the Rumination subscale of Children’s Response Styles Questionnaire (CRSQ).

Distraction: In this study, distraction was measured by the scores obtained from the Distraction subscale of Children’s Response Styles Questionnaire (CRSQ).

Problem Solving: Problem solving was measured by the scores obtained from Assertiveness subscale of Children’s Action Tendency Scale (CATS).

Gender: A dichotomous variable with categories of (1) female and (2) male.

Grade: A dichotomous variable with categories of (1) 4th grade and (2) 7th grade.

3.6. Data Analysis Procedures

Data analysis took place in several steps. In the first step of analyses, psychometric properties of Children’s Response Styles Questionnaire (CRSQ) were examined. In the second step of analysis, descriptive statistics were utilized for all the variables. In the third step, two- way ANOVA was conducted in order to test whether gender and grade groups differ from each other in terms of their depressive symptoms. In the fourth step, two- way ANOVA was conducted to examine gender and grade differences with respect to problem solving. In the fifth step, two- way MANOVA was utilized for

investigating the gender and grade differences with regard to response styles- rumination and distraction. In the sixth step of analysis, multiple regression analyses were carried out to examine the role of problem solving as mediator and moderator in the relationship between depressive symptoms and rumination for both grade levels- 4th grade and 7th grade. However, the mediation conditions for rumination were not met. Therefore, the power of rumination and problem solving for explaining the variance in depressive symptoms was examined by hierarchical regression analysis. In the seventh step, regression analyses were carried out to examine the role of problem solving as mediator and moderator in the relationship between depressive symptoms and distraction for both grade levels- 4th and 7th.

3.6.1. Assumption Checks

Prior to main analyses, assumptions were checked. The main assumptions for two- way ANOVA were independence of observations, univariate normality and homogeneity of variance for dependent variable. All the assumptions were tested with regard to the tests and criteria suggested by Tabachnick and Fidell (2007).

First, the scores of the participants on the variables were independent of each other and independence of observation assumption was met. Second, univariate normality was tested for dependent variable by Skewness and Kurtosis values, histograms, and Q-Q plots, Shapiro-Wilks' W test, Kolmogorov-Smirnov D test. As a result of testing univariate normality, Skewness value was close to 1, Shapiro-Wilks' W test and Kolmogorov-Smirnov D test were significant and visual inspection of both histograms and normality plots indicated that there is not a normal distribution of scores. Therefore, squared root transformation was done. As a result of transforming the variable, Kurtosis value was found close to zero which provided evidence for normality. Although Shapiro-Wilks' W test and Kolmogorov-Smirnov D test still suggested significant results meaning deviations from normality, visual inspection of the histograms and Q-Q plots

showed evidence for normality. Considering the fact that sample size was large enough ($n=599$) and violation of multivariate normality has small effect on Type I error and F test is robust to deviations from normality, univariate normality was assumed. Then, homogeneity of variance matrix for dependent variable was tested through Levene's test. It was found that the error variance of the dependent variable is equal across the groups. Thus, homogeneity of variance assumption was met.

Prior to the multiple regression analyses, the major assumptions of multiple regression analyses were tested according to the tests and criteria by Field (2005). Assumptions were normally distributed errors, homoscedasticity, independent errors, linearity, no multicollinearity, and influential observations (outlier and residual check).

In order to check the normally distributed errors assumption, histograms and normal p-p plots were examined. Normal p-p plots and histogram patterns were visually inspected and the normal distribution of the residuals assumption was met.

According to Field (2005), in order not to violate the homoscedasticity assumption error term variance should be constant at levels of predictor variable. Therefore, for investigating the homoscedasticity assumption scatterplots were controlled and assumption was not violated.

Afterwards, the independence of errors assumption was checked via Durbin-Watson test which is supposed to be between 1.5 and 2.5. In the current study, all of the obtained values for Durbin-Watson the results were between the acceptable range (1.98).

Linearity assumption states that there must be a linear relationship between predictor and criterion variables. After the visual inspection of the residual

plots, linearity of the relationship between predictor variables and criterion variable was assumed.

For testing no multicollinearity assumption, bivariate correlation coefficient, tolerance, and VIF values were examined. The correlation matrix for independent variables was checked and there was not correlation coefficients more than .90. The tolerance values were greater than .20 and VIF (Variance Inflation Factor) values were less than 4 (Tabachnick & Fidell, 2007). As a result, there is no evidence for multicollinearity for the current data and no multicollienarity assumption was met.

Finally, influential observation assumption was tested by Mahalonobis distance test whether there are multivariate outliers in the data influencing the results. There was only one outlier for 4th graders as a result of Mahalonobis distance inspection at $p < .001$ level. However, since the sample size was large enough, it was not unusual to find an outlier. Therefore, it was decided to go on with that outlier.

As a result of the assumption testing for both MANOVA and multiple regression analyses data were found as appropriate to conduct the main analyses. For all the statistical analyses, significance level was chosen as .05. All the analyses were carried by SPSS 11.0 except confirmatory factor analyses which were conducted via AMOS 7.0 Graphics statistical program.

3.7. Limitations of the Study

As well as the strengths of the study, it has some limitations. First limitation of this study is the usage of self- report measures for assessing the level of depressive symptoms, response styles, and problem solving. Using self- report measures may have resulted in socially desirable answers and social desirability problem can confound the results.

Secondly, data were collected from the elementary and secondary school children at the participating schools in Çankırı and İstanbul via convenient sampling. Thus, the generalizability of the results is limited to the preadolescents aged between 9- 15 at from the 4th and 7th grade levels of the participating schools in İstanbul and Çankırı and coming from mostly middle socioeconomic status.

Thirdly, the CRSQ and CATS used in this study were adapted to Turkish recently. Taking into account that they were unstandardized, in order to eliminate this limitation, the validity assessments of CRSQ and reliability assessments of CATS and CRSQ were performed for the current data. However, these measures need to be tested with diverse samples.

In addition, while the reliability assessment of problem solving scale showed acceptable reliability, the validity assessment of the scale was not done in the current study. Therefore, further studies may replicate this study with a well-established and a valid problem solving instrument.

Finally, correlational methods were used in this study for analyzing the data. Therefore, a direct causal relationship can not be inferred. The findings of the present study should be evaluated by taking into consideration the aforementioned limitations.

CHAPTER IV

RESULTS

This chapter demonstrates the results of the study which were obtained by analyzing the data through parametric statistical techniques presented in the preceding chapter.

This study examines the Children's Response Styles Theory for Turkish students. The theory purposes that two types of responses are given to depressive moods: rumination and distraction. While rumination exacerbates the depressive moods, distraction dampens unless it is taken to extremes. Additionally, the theory asserts that female gender is more likely to be associated with rumination while male gender is associated with distraction. This assertion was utilized to explain why females after a certain age are more prone to depressive mood. Problem solving was another interest of the study because some researchers suggested that ruminators are worse problem solvers than non-ruminators. Based on these assertions of the theory this study aims to answer the following research questions.

- 1) Is Children's Response Styles Questionnaire a reliable and valid instrument to assess the response styles of Turkish preadolescents?
- 2) Are there any gender and grade differences in terms of depressive symptoms scores?
- 3) Are there any gender and grade differences in terms of problem solving scores?
- 4) Are there any gender and grade differences in terms of rumination and distraction scores?
- 5) Does the problem solving mediate or moderate the relationship between rumination and depressive symptoms?

- 6) Does the problem solving mediate or moderate the relationship between depressive symptoms and distraction?

4.1. Psychometric Properties of Children's Response Styles Questionnaire

In this section, reliability and validity assessments of Children's Response Styles Questionnaire (CRSQ) were reported in a line with the first research question of the study.

Firstly, confirmatory factor analysis was conducted in order to test the validity of Children's Response Styles Questionnaire. In order to conduct the analysis, missing items were deleted and the analysis was conducted with a sample size of 676.

As the evaluation criteria, the fit statistics reported by Abela et al. (2007) who developed the scale were selected: χ^2 (Chi-square), χ^2/df -ratio (Chi-square to df-Ratio), comparative fit index (CFI), and root mean square error of approximation (RMSEA). The CFI statistics range from 0 to 1, and values greater than .90 indicate a good model fit. For RMSEA, a value of .05 or less indicates a good fit, a value of .08 indicates a reasonable fit, and a value of .10 and higher indicates a poor fit. For χ^2/df -ratio, a value of 2 or less is acceptable (Byrne, 2001).

Results of the current study indicated an inadequate model fit for the two-factor structure, χ^2 (188) = 495.03, $p=.00$; χ^2/df -ratio= 2.63; CFI=.86 and RMSEA= .05. To improve the model, modification indices were examined to determine whether additional paths can be added to the model. As a result of modification indices check, correlations between error terms of items 16-20, 3-9, 10-12, 5-11, 2-20 were added. Actually, items of these pairs are similar in content. Thus, there is theoretical justification for these statistical findings. After the addition of these correlation terms, results showed a good mediocre

fit for $\chi^2 (183) = 365.89$, $p=.00$; χ^2/df - ratio= 2.00; CFI=.92 and RMSEA= .04. Therefore, the results suggested that the modified two factor model was confirmed with the present data providing evidence for the construct validity of CRSQ (Figure 4.1).

In addition, since the sample of interest of the study was preadolescents, face validity of CRSQ was provided, too by taking expert opinion on CRSQ and by conducting focus groups with 4th and 7th graders to examine the applicability and appropriateness of the questionnaire to those age groups. Moreover, as Nolen- Hoeksema (1991) proposed, rumination is a risk factor for predicting depressive symptoms in the long run and distracting is a protective factor predicting lower levels of depressive symptoms. In a line with these statements, the current study found out that rumination predicted higher levels of depressive symptoms whereas distraction predicted lower levels of depressive symptoms. In this regard, predictive validity of CRSQ was provided as a proof of criterion- related validity.

To mention the reliability of CRSQ, the internal consistency of the Rumination Subscale was calculated by Cronbach Alpha coefficient for both grade levels. It was found .76 for 4th graders and .80 for 7th graders. Internal consistency of Distraction Subscale was calculated by Cronbach alpha coefficient. It was found .70 for 4th graders and .68 for 7th graders. In addition, Spearman- Brown split- half reliability was calculated as another evidence of the reliability of CRSQ. Split- half reliability of Rumination Subscale was calculated .79 for 4th grade and .83 for 7th grade. Split- half reliability of Distraction Subscale was calculated .72 for 4th grade and .71 for 7th grade. Spearman- brown split- half reliability coefficient for both Rumination and Distracting Subscales, for both grade levels also indicated a good reliability.

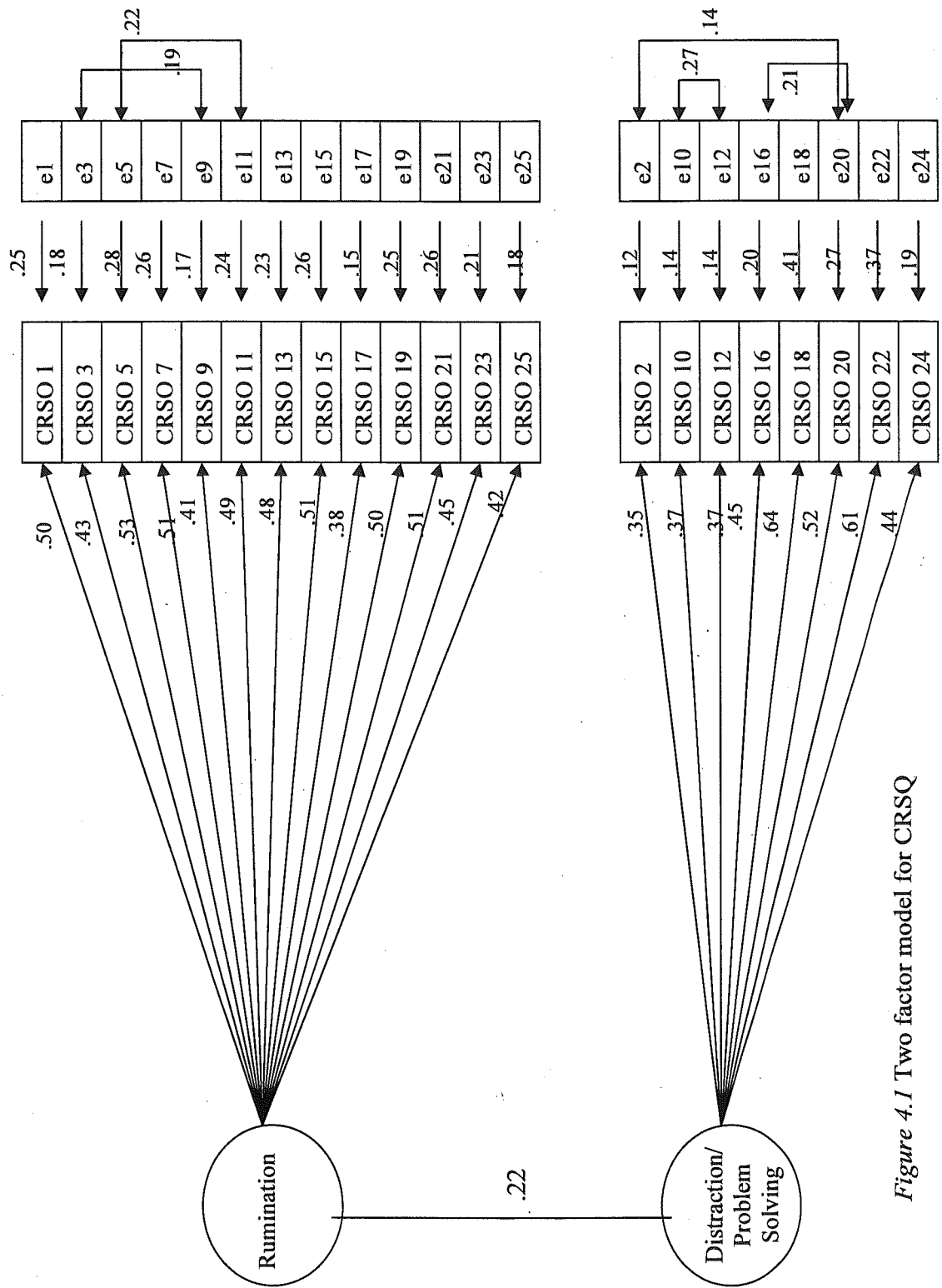


Figure 4.1 Two factor model for CRSQ

4.2. Gender and Grade Differences in terms of Depressive Symptoms

Before examining the gender and grade differences in depressive symptoms, cases below the cut point which is 19, were calculated. There were 505 cases below the cut off point (84.3%). 7.5% of the sample had scores above the cut point.

Afterwards, two- way ANOVA was conducted to explore the gender and grade differences with respect to depressive symptoms, as measured by Children's Depression Inventory (CDI). According to the results, there was no significant interaction between gender and grade ($F(1,541) = 1.42, p=.23, \text{partial } \eta^2 = .00$), but significant main effect was observed for grade ($F(1,541) = 8.63, p=.00, \text{partial } \eta^2 = .02$) indicating that 2% of the variance in depression is explained by the main effect for grade, which is a small effect (Cohen, 1988). According to these results, 7th graders ($M=11.25, SD=5.78$) displayed more depressive symptoms than 4th graders ($M=9.80, SD=5.59$). There was not a significant main effect for gender, $F(1,541) = .76, p = .38, \text{partial } \eta^2 = .00$ (Table 4.1). However, 4th grade males displayed higher mean scores on CDI than 4th grade females whereas 7th grade males displayed lower mean scores on CDI than 7th grade females did.

Table 4.1

The Main and Interaction Effect of Gender and Grade on Depressive Symptoms

Source	SS	df	MS	F	η^2
Gender	24.61	1	24.61	.76	.00
Grade	279.31	1	279.31	8.63*	.02
Gender x Grade	46.08	1	46.08	1.42	.00
Error	17506.44	541	32.36		
Total	78900.00	545			

$n=545, *p<.05$

4.3. Gender and Grade Differences in terms of Problem Solving

Two- way ANOVA was conducted to explore the gender and grade differences with respect to problem solving, as measured by the subscale of Children's Action Tendency Scale (CATS).

According to the results there was no significant interaction between gender and grade ($F(1,590) = 1.74, p=.19, \text{partial } \eta^2 = .00$). However, there is a significant main effect for grade ($F(1,590) = 60.02, p= .00, \text{partial } \eta^2 = .09$) indicating that 9% of the variance in problem solving is explained by the main effect for grade, which is a moderate effect (Cohen, 1988). That is 4th graders ($M=21.45, SD=2.62$) solve their problems more effectively than 7th graders ($M=19.42, SD=3.73$). There was also a significant main effect for gender ($F(1,590) = 10.52, p = .00, \text{partial } \eta^2 = .02$) indicating that only 2% of the variance in problem solving was explained by the main effect for gender, which was a small effect (Cohen, 1988) (see Table 4.2). That is females ($M=20.78, SD=3.25$) solve their problems more effectively than males ($M=19.92, SD=3.57$).

Table 4.2

The Main and Interaction Effect of Gender and Grade on Problem Solving

Source	SS	df	MS	F	η^2
Gender	109.96	1	109.96	10.52*	.02
Grade	627.17	1	627.17	60.02*	.09
Gender x Grade	18.17	1	18.17	1.74	.00
Error	6164.65	590	10.45		
Total	253230.00	594			

* $p < .05$

$N=594$

4.4. Gender and Grade Differences in terms of Rumination and Distraction

A two- way multivariate analysis of variance was conducted to explore the gender and grade differences on two dependent variables (rumination and distraction), as measured by Children’s Response Styles Questionnaire (CRSQ). There was a statistically significant interaction effect of grade and gender on the combined dependent variables of rumination and distraction, ($F(2, 506) = 4.49, p = .01$; Wilks’ Lambda= .98; partial eta squared=.02). There was also a statistically significant difference between 4th grade and 7th grade children on the combined dependent variables (rumination and distraction), ($F(2, 506) = 7.69, p = .00$; Wilks’ Lambda= .97; partial eta squared=.03). However, there was not a statistically significant difference between males and females on the combined dependent variables (rumination and distraction), ($F(2, 506) = 1.25, p = .29$; Wilks’ Lambda= 1). Means and standard deviations for all the measures are given in Table 4.3.

Table 4.3
Means and Standard Deviations for All Measures

Variable	Fourth Grade				Seventh Grade			
	Boys		Girls		Boys		Girls	
	M	SD	M	SD	M	SD	M	SD
Depression	10.31	5.59	9.30	5.55	11.17	5.76	11.32	5.80
Rumination	30.46	6.51	29.48	6.55	29.20	6.46	31.42	7.52
Distraction	21.98	4.25	21.97	4.54	20.69	4.46	19.89	4.66
Problem Solving	21.20	2.85	21.72	2.34	18.79	3.70	20.01	3.67

When the results for rumination were considered separately, there was not a significant difference between males and females ($F(1,507) = .90, p=.34$) and

between 4th grade and 7th grade children ($F(1,507) = .21, p=.65$) in terms of their rumination scores (Table 4.4). However, there was a significant interaction effect of gender and grade in terms of rumination scores ($F(1,507) = 7.70, p=.01, \text{partial } \eta^2 = .02$). Since the interaction effect in rumination was found significant, the analyses of simple main effects for rumination was executed as follow up tests. In order to control Type I error, Bonferroni adjustment for multiple comparisons of simple main effects was utilized.

The results from multiple comparisons revealed that differences in rumination between 4th grade and 7th grade are not consistent between males and females. Males' scores on rumination were not found to be different through the grades (all $p>.05$). However, females' scores on rumination showed variances with respect to grade. 7th grade females scored higher on rumination than 4th grade females that is 7th grade females were more likely to ruminate than 4th grade females (Figure 4.2).

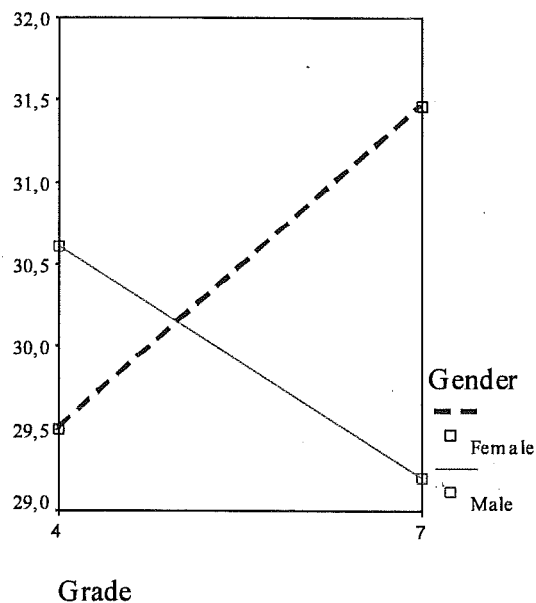


Figure 4.2 Interaction Effect of Gender and Grade on Rumination

Table 4.4

Gender and Grade Differences in terms of Rumination and Distraction

Source	Rumination						Distraction					
	SS	df	MS	F	η^2	Wilks's λ	SS	df	MS	F	η^2	
Gender	42.23	1	42.23	.90	.00	1.00	25.91	1	25.91	1.28	.00	
Grade	9.73	1	9.73	.21	.00	.97*	293.82	1	293.82	14.50*	.03	
Gender x Grade	361.75	1	361.75	7.70*	.02	.98*	11.86	1	11.86	.59	.00	
Error	23810.37	507	46.96				10277.00	507	20.27			
Total	491557.00	511					238329.00	511				

* $p < .05$

N=545

Moreover, results of the comparisons by gender are not consistent between 4th and 7th graders. 4th graders' scores on rumination were not found to be different between males and females (all $p > .05$). However, 7th graders' scores on rumination were found to vary with regard to gender. 7th grade females scored higher on rumination than 7th grade males, that is 7th grade females had a more ruminative tendency than 7th grade males. The results of multiple comparisons of simple main effects by grade and gender are presented in Table 4.5.

Table 4.5

Multiple Comparisons of Rumination: By Gender across Categories of Grade and by Grade across Categories of Gender

Comparison (CB)	Rumination		
	Mean difference	s.e.	95% CI
Females			
4 th grade vs. 7 th grade	-1.94*	.83	-3.57, -.31
Males			
4 th grade vs. 7 th grade	1.26	.84	-.39, 2.91
4 th Grade			
Female vs. Male	-.97	.86	-2.67, .72
7 th Grade			
Female vs. Male	2.23*	.81	.65, 3.81

* $p < .05$, where p - values are adjusted using the Bonferroni method.

When the results for distraction were considered separately, there was not a significant difference between males and females in their distraction scores ($F(1,507) = 1.28, p = .26$) as it is seen in Table 4.4. However, there was a significant difference between 4th grade and 7th grade children in their distraction scores ($F(1,507) = 14.50, p = .00, \text{partial } \eta^2 = .03$), 4th graders distracting more than 7th graders (Table 4.4). There was not either a significant interaction effect of gender and grade in terms of distraction scores, $F(1,507) = .59, p = .45$. However, 4th and 7th graders' scores on distraction are likely to show variances between males and females. Although non-significant, 7th

grade males had higher scores on distraction than 7th grade females (Figure 4.3).

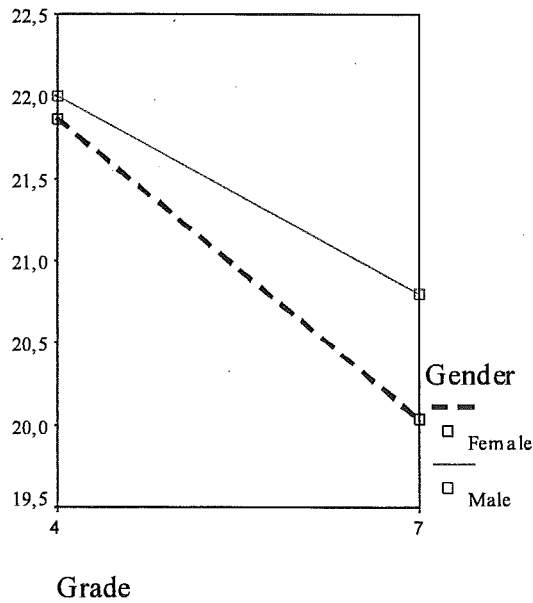


Figure 4.3 Interaction Effect of Gender and Grade on Distraction

4.5. The Relationship between Response Styles and Depressive Symptoms with respect to Problem Solving

In order to test the mediation and moderation role of problem solving in the relationship between response styles and depressive symptoms, hierarchical regression analyses were conducted. Prior to regression analyses correlations among the variables were calculated. Afterwards, mediation and moderation analyses were reported.

4.5.1. Correlation Analyses Exploring the Relationship among Variables

Correlations between all measures in fourth grade participants are presented in the top panel of Table 4.6. Firstly, findings revealed that there is a significant

positive correlation between rumination and depressive symptoms indicating that children who exhibited a tendency to ruminate reported high levels of depressive symptoms. At the same time, there is a significant negative correlation between depressive symptoms and distractive tendencies of children. Children with a tendency to distract tended to display few depressive symptoms. Second, the two response styles- rumination and distraction were significantly inter-correlated with each other meaning that children who ruminate to depressed mood also distract from the depressed mood. In addition, there was a significant relationship between distraction and problem solving, meaning that children who solve their problems effectively distract more. Moreover, rumination was not found as significantly correlated to problem solving. Finally, there was a significant negative relationship between problem solving and depressive symptoms; that is poor problem solvers tend to have higher levels of depressive symptoms.

Correlations between all measures in seventh grade participants are given in the bottom panel of Table 4.6. Firstly, findings revealed that there is a significant positive correlation between rumination and depressive symptoms indicating that children who exhibited a tendency to ruminate in response to depressed mood reported high levels of depressive symptoms. At the same time, there is a significant negative correlation between depressive symptoms and distractive tendencies of children. Children with a tendency to distract tended to display fewer depressive symptoms. In addition, there was a significant negative relationship between problem solving and depressive symptoms; that is poor problem solvers tend to have higher levels of depressive symptoms. Moreover, there was a significant relationship between distraction and problem solving in 7th grade children, indicating that children who solve their problems in an effective way distract more. Finally, rumination was not found as significantly correlated to problem solving.

Table 4.6

Correlations among Response Styles, Problem Solving, and Depressive Symptoms

Fourth Grade	Depression	Rumination	Distraction	Prob.Solv.
Depression	1	.26**	-.29**	-.26**
Rumination		1	.28**	-.04
Distraction			1	.21**
Problem Solving				1
Seventh Grade	Depression	Rumination	Distraction	Prob.Solv.
Depression	1	.42**	-.32**	-.23**
Rumination		1	.00	-.05
Distraction			1	.22**
Problem Solving				1

Note. Prob. Solv. is problem solving.

** . Correlation is significant at the 0.01 level.

4.5.2. The Relationship of Response Styles to Depressive Symptoms with respect to Mediation Role of Problem Solving

In order to investigate the mediation role of problem solving in the relationship between response styles (rumination and distraction) and depressive symptoms, hierarchical regression analyses were conducted separately for both rumination and distraction.

4.5.2.1. The Relationship between Rumination and Depressive Symptoms with respect to the Mediation Role of Problem Solving

For the purpose of analyzing the relationship between depressive symptoms and rumination, firstly a mediation analysis was conducted, keeping the problem solving as an intervening variable. In the mediation analysis, the independent variable was rumination, the mediator variable was problem solving and the dependent variable was depressive symptoms.

Before conducting the multiple regression analyses for investigating the mediator relationship, Baron and Kenny (1986)'s required conditions for testing the mediation hypotheses were tested. These were:

1- *There must be a relationship between independent variable and the mediator.* For testing the relationship between independent variable and mediator, correlational analyses were conducted (Table 4.6).

As it is seen in Table 4.6, there is not a significant correlation between rumination- the independent variable- and the problem solving –the mediator variable- for both grade levels. Thus, the first requirement was not met.

2- *There must be relationship between mediator and dependent variable.* For testing the relationship between problem solving and depressive symptoms, correlational analyses were utilized (Table 4.6).

There is a significant negative correlation between depressive symptoms and problem solving for both 4th grade and 7th grade participants. Therefore, the second required condition of the mediational analyses was supported meaning that as participants solve their problems in an ineffective way, they will display more depressive symptoms.

3- *There must be a relationship between independent and dependent variables.*

In order to examine the relationship between independent and the dependent variable, correlational analyses were utilized (Table 4.6). There was a significant positive relationship between depressive symptoms and rumination for both grade levels. Thus, the third required condition of the mediational analysis was met, too indicating that as participants ruminate they will have more depressive symptoms.

Since one of the conditions was not met, a mediational role of the problem solving was not considered any further and concluded that problem solving was not a mediator.

In order to examine the relationships of rumination and problem solving to depressive symptoms hierarchical regression analyses were conducted for both 4th and 7th graders. The dependent variable was depressive symptoms. One of the independent variables which was entered first to the model was rumination and the other one which was entered in the second step was problem solving.

In fourth graders, rumination which was entered to the regression equation in the first step accounted for 7% of the variance in depressive symptoms ($R^2 = .07$, $F(1,226) = 16.23$, $p = .00$). After the proportion of variance in CDI scores explained by rumination was controlled for, problem solving score still remained as a significant contributor to the variance in CDI, explaining additional 7% of the variance ($\Delta R^2 = .07$, $F(1,225) = 18.48$, $p = .00$). In seventh graders, rumination explained 18% of the variance in CDI scores ($R^2 = .18$, $F(1,268) = 58.84$, $p = .00$) while problem solving explained additional 4% of the variance, independently ($\Delta R^2 = .04$, $F(1,267) = 12.26$, $p = .00$) (Table 4.7).

The ANOVA results indicated that the model in 4th graders as a whole is significant ($F(2,225) = 17.98$, $p = .00$). In addition, the model in 7th graders is significant as a whole ($F(2,267) = 36.78$, $p = .00$). To find out how well each of the variables contributed to the equation, coefficients table was utilized. In 4th graders, both rumination ($\beta = .26$) and problem solving ($\beta = -.27$) made a

significant contribution to the variance in depressive symptoms. It was the same for 7th graders that both rumination ($\beta = .42$) and problem solving ($\beta = -.19$) made a significant contribution to the depressive symptoms. These indicate that ruminating more and poor solving problems may lead to more depressive symptoms.

Table 4.7

Hierarchical Regression Analysis: Relationship of Rumination and Problem Solving to Depressive Symptoms

	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	<i>Partial correlation</i>
4th Grade						
Step 1						
Rumination	.22	.06	.26*	4.03	.00	.26
Step 2						
Rumination	.21	.05	.25*	3.96	.00	.26
Problem Solving	-.58	.14	-.27*	-4.30	.00	.28
7th Grade						
Step 1						
Rumination	.34	.05	.42*	7.67	.00	.42
Step 2						
Rumination	.34	.04	.42*	7.77	.00	.43
Problem Solving	-.30	.09	-.19*	-3.50	.00	-.21

Note. $R^2 = .07^*$ for Step 1 in 4th Grade; $\Delta R^2 = .07^*$ for Step 2 in 4th grade
 $R^2 = .18^*$ for Step 1 in 7th Grade; $\Delta R^2 = .04^*$ for Step 2 in 7th grade
 $*p < .01$.

4.5.2.2. The Relationship between Distraction and Depressive Symptoms with respect to Mediation Role of Problem Solving

For the purpose of analyzing the relationship between depressive symptoms and distraction, a mediation analysis was conducted, keeping the problem

solving as an intervening variable. In the mediation analysis, the independent variable was distraction, the mediator variable was problem solving and the dependent variable was depressive symptoms. Mediation analyses were conducted through multiple regressions. Significant mediation explained the reason of the relationship between the independent and the dependent variable (Baron & Kenny, 1986).

Before conducting the multiple regression analyses for investigating the mediator relationship, Baron and Kenny (1986)'s required conditions for testing the mediation hypotheses were tested. These were:

1- *There must be a relationship between independent variable and the mediator.* For testing the relationship between independent variable and mediator, correlational analyses were conducted (Table 4.6).

As it is seen in Table 4.6, there is a significant positive correlation between distraction- the independent variable- and the problem solving –the mediator variable- for both 4th graders and 7th graders. Thus, the first requirement was met, indicating that as participants distract more they solve their problems more effectively.

2- *There must be relationship between mediator and dependent variable.* For testing the relationship between problem solving and depressive symptoms, correlation analyses were utilized (Table 4.6).

There is a significant negative correlation between depressive symptoms and the problem solving for both 4th grade and 7th grade participants. Therefore, the second required condition of the mediational analyses was supported meaning that as participants solve their problems in an ineffective way, they will display more depressive symptoms.

3- *There must be a relationship between independent and dependent variables.*

In order to examine the relationship between independent and the dependent variable, again correlational analyses were utilized (Table 4.6). There was a significant negative relationship between depressive symptoms and distraction for both grade levels. Thus, the third required condition of the mediational analysis was met, too indicating that as participants distract they will have less depressive symptoms.

Since all of the conditions for conducting a mediation analyses were met, mediational analyses were conducted.

Hierarchical multiple regression was utilized to test the mediational role of problem solving. In the analyses, distraction was the independent variable, problem solving was the mediator variable, and depressive symptoms was the dependent variable.

In fourth graders, distraction which was entered to the model in the first step accounted for 8% of the variance in depressive symptoms. After the proportion of variance in CDI scores explained by distraction was controlled for, problem solving scores still remained as a significant contributor to the variance in CDI, explaining additional 4% of the variance. In seventh graders, distraction explained 10% of the variance in CDI scores while problem solving explained additional 4% of the variance, independently. When distraction and problem solving were entered together in the regression analysis in both grade levels, there was not a reduction in the effect of distraction. Therefore, in both fourth graders and seventh graders, the relationship between depressive symptoms and distraction was not mediated by problem solving (Table 4.8).

Table 4.8

Testing the Meditational Role of Problem Solving in the Relationship between Distraction and Depressive Symptoms

		<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	<i>Partial correlation</i>
4 th Grade							
Step 1							
	Distraction	-.36	.08	-.29*	-4.54	.00	-.29
Step 2							
	Distraction	-.30	.08	-.24*	-3.80	.00	-.24
	Problem Solving	-.42	.13	-.20*	-3.13	.00	-.20
7 th Grade							
Step 1							
	Distraction	-.40	.07	-.32*	-5.55	.00	.32
Step 2							
	Distraction	-.35	.07	-.28*	-4.86	.00	-.28
	Problem Solving	-.31	.09	-.20*	-3.45	.00	-.20

Note. $R^2 = .08^*$ for Step 1 in 4th Grade; $\Delta R^2 = .04^*$ for Step 2 in 4th grade
 $R^2 = .10^*$ for Step 1 in 7th Grade; $\Delta R^2 = .04^*$ for Step 2 in 7th grade
 $*p < .01$.

Additional Analyses: In order just to explore further the relationship between distraction and depressive symptoms, one additional mediation model was tested. In this model, distraction was the mediator variable in the relationship between depressive symptoms and problem solving. After testing the required conditions for mediation analyses, mediation analyses were conducted. In the analyses, problem solving was the independent variable, distraction was the mediator variable, and depressive symptoms was the dependent variable.

In fourth graders, problem solving which was entered to the model in the first step accounted for 6% of the variance in depressive symptoms. After the proportion of variance in CDI scores explained by problem solving was controlled for, distraction scores still remained as a significant contributor to the variance in CDI, explaining additional 6% of the variance.

In seventh graders, problem solving explained 6% of the variance in CDI scores while distraction explained additional 7% of the variance, independently. When distraction and problem solving were entered together in the regression analysis in both grade levels, there was not a reduction in the effect of problem solving. Therefore, in both fourth graders and seventh graders, the relationship between depressive symptoms and problem solving was not mediated by distraction (Table 4.9).

Table 4.9

Testing the Mediation Role of Distraction in the Relationship between Problem Solving and Depressive Symptoms

		<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	<i>Partial correlation</i>
4th Grade							
Step 1							
	Problem Solving	-.53	.13	-.25*	-3.99	.00	-.25
Step 2							
	Problem Solving	-.42	.13	-.20*	-3.13	.00	-.20
	Distraction	-.30	.08	-.24*	-3.80	.00	-.24
7th Grade							
Step 1							
	Problem Solving	-.40	.09	-.25*	-4.33	.00	-.25
Step 2							
	Problem Solving	-.31	.09	-.20*	-3.45	.00	-.20
	Distraction	-.35	.07	-.28*	-4.86	.00	-.28

Note. $R^2 = .06^*$ for Step 1 in 4th Grade; $\Delta R^2 = .06^*$ for Step 2 in 4th grade
 $R^2 = .06^*$ for Step 1 in 7th Grade; $\Delta R^2 = .07^*$ for Step 2 in 7th grade
 $*p < .01$.

4.5.3. The Relationship between Response Styles and Depressive Symptoms with respect to the Moderation Role of Problem Solving

In order to investigate the moderation role of problem solving in the relationship between response styles (rumination and distraction) and

depressive symptoms, hierarchical regression analyses were conducted separately for both rumination and distraction.

4.5.3.1. The Relationship between Rumination and Depressive Symptoms with respect to the Moderation Role of Problem Solving

A hierarchical multiple regression analysis was conducted to examine whether the tendency to ruminate interacted with poor problem solving to predict higher levels of depressive symptoms. Firstly, main effect variables which are rumination and problem solving were entered to the 1st step. Second the interaction effect variable Rumination X Problem Solving was entered (Table 4.10).

Results indicated that in 4th graders rumination- problem solving interaction was not a significant predictor of the depressive symptoms, $F(1,224) = .58$, $p=.45$). However, the main effect variables (rumination and problem solving) explained 14% of the variance in CDI scores significantly, $\Delta R^2 = .14$, $F(2,225) = 17.98$, $p=0.00$.

To find out how well each of the variables contributed to the equation, coefficients table was utilized. According to this table, there was a significant contribution of rumination for predicting depressive symptoms ($\beta = .25$). This means that as one ruminates more s/he has more depressive symptoms. In addition, there was a significant contribution of problem solving, too for explaining depressive symptoms. Poor problem solvers display more depressive symptoms, $\beta = -.27$ (Table 4.10).

Results indicated that in 7th graders rumination- problem solving interaction was not a significant predictor of the depressive symptoms, $F(1,266) = .36$, $p=.55$). However, the main effect variables (rumination and problem solving) explained 22% of the variance in CDI scores significantly, $\Delta R^2 = .22$, $F(2,267) = 36.78$, $p=0.00$.

To find out how well each of the variables contributed to the equation, coefficients table was utilized. According to this table, there was a significant contribution of rumination for predicting depressive symptoms ($\beta = .42$). This means that as one ruminates more s/he has more depressive symptoms. In addition, there was a significant contribution of problem solving, too for explaining depressive symptoms. Poor problem solvers display more depressive symptoms, $\beta = -.19$ (Table 4.10).

Table 4.10

Testing the Power of Rumination, Problem Solving, and Rumination and Problem Solving Interaction in Explaining Depressive Symptoms

		<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>Partial correlation</i>
4th Grade						
Step 1						
	Problem Solving	-.58	.14	-.27*	-4.30	-.28
	Rumination	.21	.05	.25*	3.96	.26
Step 2						
	Rumination X Prob.Solv.	-.02	.02	-.06	-.76	-.05
7th Grade						
Step 1						
	Problem Solving	-.30	.09	-.19*	-3.50	-.21
	Rumination	.34	.04	.42*	7.77	.43
Step 2						
	Rumination X Prob.Solv.	.01	.01	.03	.60	.04

Note. Prob Solv. is problem solving.

$R^2 = .14^*$ for Step 1 in 4th Grade; $\Delta R^2 = .00$ for Step 2 in 4th grade

$R^2 = .22^*$ for Step 1 in 7th Grade; $\Delta R^2 = .00$ for Step 2 in 7th grade

* $p < .01$.

4.5.3.2. The Relationship between Distraction and Depressive Symptoms with respect to the Moderation Role of Problem Solving

A hierarchical multiple regression analysis was conducted to examine whether the tendency to distract interacted with good problem solving to predict lower levels of depressive symptoms. Firstly, main effect variables which were

distraction and problem solving were entered to the 1st step. Second the interaction effect variable Distraction X Problem Solving was entered.

Results indicated that in 4th graders distraction- problem solving interaction was not a significant predictor of the depressive symptoms, $F(1,230) = .09$, $p=.77$). However, the main effect variables (distraction and problem solving) explained 12% of the variance in CDI scores significantly, $\Delta R^2 = .12$, $F(2,231) = 15.62$, $p=0.00$ (Table 4.11).

To find out how well each of the variables contributed to the equation, coefficients table was utilized. According to this table, there was a significant contribution of distraction for predicting depressive symptoms ($\beta = -.24$). This means that as one distracts more s/he has less depressive symptoms. In addition, there was a significant contribution of problem solving, too for explaining depressive symptoms. Poor problem solvers display more depressive symptoms ($\beta = -.20$).

In 7th graders distraction- problem solving interaction was not a significant predictor of the depressive symptoms, $F(1,274) = .20$, $p=.66$). However, the main effect variables (distraction and problem solving) explained 14% of the variance in CDI scores significantly, $\Delta R^2 = .14$, $F(2,275) = 21.97$, $p=0.00$ (Table 4.11).

To find out how well each of the variables contributed to the equation, coefficients table was utilized. According to this table, there was a significant contribution of distraction for predicting depressive symptoms ($\beta = -.28$). This means that as one distracts more s/he has less depressive symptoms. In addition, there was a significant contribution of problem solving, too for explaining depressive symptoms. Poor problem solvers display more depressive symptoms ($\beta = -.20$).

Table 4.11

Testing the Power of Distraction, Problem Solving, and Distraction and Problem Solving Interaction in Explaining Depressive Symptoms

		<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>Partial correlation</i>
4 th Grade						
Step 1						
	Problem Solving	-.42	.13	-.20*	-3.13	-.20
	Distraction	-.30	.08	-.24*	-3.80	-.24
Step 2						
	Distraction X Prob.Solv.	.01	.03	.02	.29	.02
7 th Grade						
Step 1						
	Problem Solving	-.31	.09	-.20*	-3.45	-.20
	Distraction	-.35	.07	-.28*	-4.86	-.28
Step 2						
	Distraction X Prob.Solv.	-.01	.02	-.03	-.45	-.03

Note. Prob. Solv. is problem solving.

$R^2 = .12^*$ for Step 1 in 4th Grade; $\Delta R^2 = .00$ for Step 2 in 4th grade

$R^2 = .14^*$ for Step 1 in 7th Grade; $\Delta R^2 = .00$ for Step 2 in 7th grade

* $p < .01$.

4.5.4. Summary of the Findings

In this section of the current study, answers to the research questions were sought. The first research question of the study, which was assessing the reliability and the validity of Children's Response Styles Questionnaire, was supported. It was found that CRSQ is a reliable and valid instrument to be used with Turkish preadolescents, in order to assess the ways they respond to their depressive symptoms.

Coming to the second research question of the study, there were not any significant gender differences in depressive symptoms while there were significant grade differences; 7th graders scoring higher on CDI than 4th graders.

There were both gender and grade differences in problem solving, in relation to the third research question. Females were more likely to solve their problems better than males and 4th graders tended to solve their problems more effectively than 7th graders.

While there were only grade differences in distraction (4th graders were more likely to distract than 7th graders), there was a significant interaction effect of gender and grade on rumination. 7th grade females scored higher on Rumination Subscale than 7th grade males and 4th grade females.

The mediation and moderation analyses indicated that problem solving did not mediate or moderate the relationship between response styles and depressive symptoms for both grade levels. On the contrary, problem solving and response styles (rumination and distraction) had separate power of predicting the variance in depressive symptoms, independent of each other.

CHAPTER V

DISCUSSION

This chapter demonstrates discussions in relation to the results derived from statistical analysis. The first section is devoted to the discussion on the applicability of Response Styles Theory to the Turkish preadolescents. Second section provides the implications drawn from the results of the study. Finally, the third section presents the recommendations for future research and practice.

The Response Styles Theory of Nolen- Hoeksema (1987; 1991) was proposed with the aim of explaining gender differences in depression. According to the theory, there are two types of responses given to depressive mood: rumination and distraction. While rumination increases depressive symptoms, distraction leads to decreases in displayed symptoms of depression unless it is taken to extremes. The theory asserts that female gender is more likely to be associated with rumination while male gender is associated with distraction. This assertion was utilized to explain why females after a certain age are more prone to depressive mood. Problem solving was another interest of the study because some researchers suggested that ruminators are poor problem solvers. In order to test the response styles of preadolescents, Children's Response Styles Questionnaire was used and its psychometric properties were examined.

The theory is well- established with adult samples (Lyubomirsky & Nolen- Hoeksema, 1995; Nolen- Hoeksema, et al., 1994) and it has been recently validated with child and adolescent populations (Abela, et al., 2004; Broderick, 1998, Ziegert & Kistner, 2002). To the best of researcher's knowledge, the theory has been tested in United States of America (Driscoll, 2005; Lopez, 2006; Ziegert & Kistner, 2002), in New Zealand (Jose & Brown), and in Canada (Abela, et al., 2004; Abela, et al., 2007). Although tested in Western

cultures, Response Styles Theory has not yet been tested in an Eastern culture. That is, the validity of the theory has not yet been proved in an Eastern culture. Therefore, the current study aimed to test the theory in Turkey, with Turkish preadolescents. In order to achieve the goal of the study, first, the Children's Response Styles Questionnaire (CRSQ) was adapted to Turkish and its basic psychometric properties were examined. Later, the assertions of the Response Styles Theory to Turkish preadolescents were tested by examining (a) the gender and grade differences in response styles (b) the relationship between response styles (rumination and distraction) and depressive symptoms (c) mediation and moderation role of problem solving in the relationship between depressive symptoms and response styles.

5.1. Discussion of the Findings

In this section, findings of the literature are discussed in line with the relevant literature.

5.1.1. Psychometric Properties of CRSQ

Abela and his colleagues (2004) examined the psychometric properties of Children's Response Styles Questionnaire and they proposed a two factor structure for CRSQ: CRSQ-R (Children's Response Styles Questionnaire-Rumination) and CRSQ-DPS (Children's Response Styles Questionnaire-Distraction and Problem Solving). One of the basic goals of the current study was to examine the psychometric properties of CRSQ with a Turkish preadolescence sample. First of all, the two-factor structure of Children's Response Styles Questionnaire (CRSQ) was confirmed with Turkish sample which provided evidence for the construct validity of CRSQ. Since the sample of interest of the study was preadolescents, face validity of CRSQ was provided too by obtaining expert opinion and by conducting focus groups with 4th and 7th graders, for assessing the appropriateness of the questionnaire to the age groups of interest and to the Turkish culture.

Moreover, as Nolen- Hoeksema (1991) proposed, rumination is a risk factor for predicting depressive symptoms and distracting is a protective factor predicting lower levels of depressive symptoms. In a line with these statements, the current study found out that rumination predicted higher levels of depressive symptoms whereas distracting predicted lower levels of depressive symptoms. In this regard, predictive validity of CRSQ was met as a proof of criterion-related validity. To mention the reliability of CRSQ, it was found that it had an internal consistency adequately good for Rumination Subscale and Distraction/Problem Solving Subscale for both grade levels, calculated by Cronbach Alpha coefficient. In addition, Spearman- Brown split- half reliability was calculated as another evidence of the reliability of CRSQ. Spearman- brown split- half reliability coefficient for Rumination and Distracting Subscales, for both grade levels also indicated a sufficiently good reliability.

All these findings support the reliability and the validity of the Children's Response Styles Questionnaire to be used with Turkish preadolescent sample. At the same time, the confirmation of the same factor structure indicated that response styles of Turkish children are similar to their international counterparts.

5.1.2. Testing Response Styles Theory

Response Styles Theory has basic assertions. First of them is that there are gender differences in the responses people give to their depressed moods. Second of them is that rumination predicts higher levels of depressive symptoms whereas distraction predicts lower levels of depressive symptoms. Third of them is that as claimed by Lyubomirsky and her colleagues (1999), ruminators are poor problem solvers. Therefore, they tend to display higher levels of depressive symptoms.

5.1.2.1. Gender Differences in Response Styles

A key assertion of Nolen- Hoeksema and Girgus's (1994) model is that gender differences in response styles emerge prior to adolescence and precede the emergence of sex differences in depressive symptoms in adolescence. Among children and adolescents, the existence of gender differences in response styles show mixed results. There are findings displaying gender differences (Jose & Brown, 2008; Özgülük et al., 2008; Ziegert & Kistner, 2002) and yet, there are findings that have not found any gender differences in response styles (Adams et al., 2007; Erdur- Baker, 2009). In this study, gender differences in rumination were found significant when evaluated together with the grade levels of the preadolescents. According to the results of the current study, 7th grade females were more likely to ruminate than 7th grade males and 4th grade females. This was an expected finding in accordance with the Nolen- Hoeksema and Girgus's (1994) model. They claimed that gender differences in response styles emerge prior to adolescence.

In addition, according to the theory (Nolen- Hoeksma, 1991), females are at more risk of ruminating than males, especially from childhood to adolescence. In the way to adolescence, conflicts in the lives of preadolescents and adolescents start to increase and accordingly their depressive mood develops. Since 7th grade females are in that developmental period, they were more likely to ruminate than males.

The lack of gender differences in distraction in the current study can be explained by the studies of Nolen- Hoeksema and her colleagues (1993) and the study of Butler and Nolen- Hoeksema (1994) which have stated that women and men do not show any differences in their tendency to distract. There are also studies that have not found any gender differences in distraction with children sample, either (Ziegert & Kistner, 2002). All these studies explain the non existence of gender differences in distraction by the questionable validity of the measures assessing distraction. In addition, it can

be explained in the frame of developmental domain. According to Jose and Brown (2008), gender differences in rumination begin about the age of 12. While there is such a finding for rumination, to the best knowledge of the researcher, the same finding does not account for distraction. Therefore, maybe gender differences in distraction evolve in a later age. This needs to be further examined.

In spite of the non existence of gender differences in distraction, there were grade differences: 4th graders were more likely to exhibit distractive tendency to their depressed mood than 7th graders. This may be due to the increasing conflicts in the lives of preadolescents in 7th grade in transition to adolescence. Although theory posits that males tend to distract more than females, that pattern has not been formed for 7th grade males, yet. As suggested above, this may be due to the development of distraction as a response to depressed mood later in the lives of adolescents. This knowledge lacks in the literature and deserves to be searched in order to explain the emergence of distraction among preadolescents and adolescents.

The findings of the current study supported the assertion of the theory on gender differences in rumination in relation to the grade level of the preadolescents.

5.1.2.2. Relationship between Response Styles and Depressive Symptoms

In addition to the support for gender and grade differences together in rumination, the current study supported another tenet of the theory: Rumination is related to higher levels of depressive symptoms whereas distraction is related to lower levels of depressive symptoms. Consistent with the theory, all the studies done with different cultures, such as United States of America (Driscoll, 2005; Lopez, 2006; Ziegert & Kistner, 2002), New Zealand (Jose & Brown, 2008), and Canada (Abela, et al., 2004; Abela, et al., 2007), reported that rumination was associated with higher levels of depressive symptoms and

distraction was associated lower levels of depressive symptoms. Also, in the current study, a significant relationship between rumination and depressive symptoms was found for both 4th graders and 7th graders. Preadolescents who were likely to ruminate displayed higher levels of depressive symptoms than the preadolescents who did not engage in such a response style to their depressed mood. In the present study, distraction was also found to be associated with depressive symptoms for both 4th graders and 7th graders. Both 4th and 7th grade preadolescents who tended to distract themselves from their depressive symptoms were likely to display lower levels of depressive symptoms than the ones who did not tend to engage in such a response style. The current findings in Turkey were found to be the same with the findings in different cultures. This serves to the cross- cultural applicability of the Response Styles Theory and strengthens the validity of the theory. Maybe cross- cultural studies between Turkey and a western culture, between Turkey and another eastern culture can be conducted in order to make comparisons on the main tenets of the theory. So, the knowledge that the cultures differ in terms of their responses to depressed mood can be obtained.

5.1.2.3. Mediation and Moderational Role of Problem Solving in the Relationship between Response Styles and Depressive Symptoms

In addition to the relationship between rumination and depressive symptoms, it is asserted that ruminators are poor problem solvers (Lyubomirsky, et al., 1999). As people ruminate they can not solve their problems and as they are not able to solve their problems they can not have relief from their depressive symptoms and they ruminate more in a vicious cycle (Lyubomirsky & Nolen-Hoeksema, 1995). This assertion was not met in this study since there was not a mediation or moderation role of problem solving in the relationship between depressive symptoms and rumination. Instead, rumination and problem solving were found as significant predictors of depressive symptoms in both 4th graders and in 7th graders, independent of each other; problem solving was not affecting the relationship between depressive symptoms and rumination. Both

4th and 7th graders who tend to ruminate and who were more likely to solve their problems ineffectively displayed higher levels of depressive symptoms than the ones who did not engage in such a response styles and problem solving. Therefore, a conclusion as stated by Lyubomirsky and her colleagues (1999) that “ruminators are poor problem solvers so they tend to have more depressive symptoms” can not be driven from these findings. These findings were consistent with another study in Turkey (Erdur- Baker, 2009). This study also indicated that rumination and problem solving predict depressive symptoms independently. This may be due to cultural differences. Turkey is a collectivist culture when compared to the Western, individualist cultures. In Turkey, individuals may experience rumination differently as Erdur- Baker (2009) suggested since individuals are more likely to talk about their problems and they seek help from their parents, teachers, or friends when they encounter a problem. A comparative study reported unlike American adolescents, Turkish adolescents consider their parents to be more satisfying in meeting their needs (Hortaçsu, 1997). In addition, while adolescents use more forcing strategies to their mothers, they prefer to talk with their fathers and to act collaboratively with their peers in order to solve their problems. Therefore, problems are solved more easily in Turkey (Erdur- Baker, 2009). So, Turkish adolescents who have a tendency to ruminate are not necessarily more likely to engage in an impaired problem solving since they already solve their problems talking with others.

In contrast to rumination, there are findings in the literature that people who tend to distract are more likely to engage in an effective problem solving process and as a result to display lower levels of depressive symptoms. However, the relationship between distraction and depressive symptoms was not mediated or moderated by problem solving in this study. Instead, as it was the case in rumination, both distraction and problem solving predicted depressive symptoms independently and problem solving did not explain the relationship between depressive symptoms and distraction, that is consistent with the studies in the literature (Broderick & Korteland, 2004; Lopez, 2006).

That is, both 4th graders and 7th graders who tend to distract and to solve problems were likely to display lower levels of depressive symptoms, independent of each other. In a line with the assertion in the literature, it was found that preadolescents who were likely to distract from their depressed mood tended to solve their problems in a more effective way. However, having lower levels of depressive symptoms is explained separately by distraction tendency and problem solving ability in the current study. Preadolescents who tend to distract from their depressed mood are more likely to relieve from depressive symptoms and to display lower levels of them. However, it is not certain whether they solved their problems or not, which needs further examination. On the other hand, preadolescents who tend to solve their problems in a better way, already display lower levels of depressive symptoms. Independent effects of distraction and problem solving in depressive symptoms can be explained with the same logic referring to the cultural differences as stated above while discussing rumination. However, the ways and the strategies female and male adolescents solve their problems may differ from each other, which also needs to be examined in further studies.

Moreover, the lack of mediation and moderation role of problem solving can be explained by the psychometric properties of the problem solving inventory used in this study. The validity of the problem solving inventory was not proved in this study with preadolescents and it had an acceptable but small reliability. Hence, this problem solving scale may have not worked well with the Turkish preadolescents in the current study. This could have interfered with the lack of mediation or moderation role of problem solving in the relationship between depressive symptoms and response styles for the present study.

To sum up, the findings of the current study indicated that the applicability of response styles theory was proved in Turkish culture with preadolescents in some tenets: gender and grade differences in rumination and the relationship between response styles and depressive symptoms. Additionally, the applicability of the Response Styles Theory in Turkey was supported by the

adaptation of a reliable and valid questionnaire, Children's Response Styles Questionnaire (CRSQ), in order to assess the response styles of preadolescents in Turkey.

5.2. Implications of the Findings

According to the findings of this study, there are a susceptible 7.5% of children and preadolescents suffering from depressive symptoms. It is not a small ratio of prevalence. Therefore, before its prevalence increases, intervention programs must be prepared. These programs may have their basis on the screening and assessment of depressive symptoms. The necessary information on the characteristics and associates of depressive symptoms may be shared with educators and care givers via seminars or meetings. In this regard prevention of depressive symptoms can also be strengthened. In cases of severe and chronic depression, referrals to clinical psychologists must be done.

Findings of the current study suggest that engaging in a distracting response is associated with lower levels of depressive symptoms when compared to ruminating. Therefore, preventions and interventions may be designed to teach children to replace their ruminative tendencies with distracting responses unless distraction is taken to the extreme. Firstly, existing response styles of children can be screened out through hypothetical and actual cases. After assessing the response styles of children, programs may be developed in accordance with the need of the children. In addition, one possible solution could be to provide self-reported screening as a part of regular check up or screening instrument for school children that could be used as a basic step for obtaining information about children and to communicate with the caregivers as suggested by Samm and colleagues (2008).

Moreover, the results of the current study indicated that seventh grade females tended to ruminate more than seventh grade males and seventh graders were more likely to display more depressive symptoms than fourth graders. Thus,

seventh graders seem to be at more risk due to depressive symptoms than 4th graders. Therefore, prevention studies may target these ages.

5.3. Recommendations for Further Research

Research on Response Styles Theory has extended in the international literature whereas it has recently been growing in Turkish literature. Hence, several recommendations can be done for future research. There may be different associates of depressive symptoms and response styles as stated in the literature. For extending the research field of response styles theory and depressive symptoms, familial and environmental factors are suggested to be tested further because according to the origins of response styles, the response styles of children are affected by their parents' way of responding to a depressed mood (Cohn & Tronick, 1983). Since the purpose of the current research was testing the theory rather than examining the probable associated variables, these variables were not included in this study but are suggested to be examined in a broad range for further studies.

This study utilized correlational design so inferences about cause and effect relationship can not be made as mentioned in the limitations part of the study. Future research could utilize experimental designs in order to observe the relationship of response styles and problem solving to depressive symptoms. As it was done in the study of Morrow and Nolen- Hoeksema (1990), responses to depressed mood can be manipulated. Different from their study, subjects can be assigned to 2 responses and a problem solving situation for 10 minutes as it is in Morrow and Nolen- Hoeksema's (1990) design. After engaging in manipulated response styles, relaxation and remedy from depressive symptoms can be measured and compared.

Moreover, the present study utilized cross-sectional design. Using longitudinal design would enrich the results and would help to explore how the response styles affect the duration, severity, and the chronicity of depressive symptoms

in long run. In addition, the onset of response styles in relation to depressive symptoms could be examined via longitudinal studies. This could not be actualized in this study due to time limitations.

As aforementioned in the limitations part of the study, self- report measures were used for assessing the level of depressive symptoms, response styles, and problem solving. Using self- report measures may have resulted in socially desirable answers. Therefore, in order to prevent such a possibility, teacher, parent and peer forms for assessing those dimensions can be utilized because different measurement tools would provide more extensive findings.

In addition, Children's Action Tendency Scale (CATS) which was not a very common measure in Turkey was used to measure problem solving ways of children. Furthermore, its validity assessment could not be done in the current study as stated in the limitations part. Hence, in further studies, this study may be replicated with a well- established and validated self- report problem solving instrument.

To conclude, response styles theory of depression is promising for explaining depressive symptoms. It provides new and fresh knowledge for understanding the development and maintenance of depressive symptoms in preadolescents and may lead the mental health professionals to develop prevention and intervention programs for reducing the severity and prevalence of depressive symptoms of people of all ages. This study is the initial study in Turkey testing the theory with non- clinical preadolescents and it was proven to have a partial validity with Turkish preadolescents. It must be noted that this study is an exploratory study, yet crawling but needs to be fed and developed in Turkey with different samples and different methodologies.

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APPENDICES

APPENDIX A

SAMPLE ITEMS FROM CHILDREN'S RESPONSE STYLES QUESTIONNAIRE

Biz senin nasıl birisi olduğunla ilgileniyoruz. Aşağıda, kendini nasıl hissettiğinle ilgili ifadeler yer almaktadır. Bu bir sınav değildir, bu yüzden doğru ya da yanlış yanıt yoktur. İnsanlar üzüldükleri zaman farklı şeyler yaparlar ve farklı şeyler düşünürler. Peki ya sen? Sen üzüldüğün zaman ne düşünürsün, neler yaparsın? Aşağıda her bir madde için, ne yapman gerektiğini değil, genellikle bu durumlarda ne yaptığını belirt lütfen.

- 1) Üzgün olduğum zaman "Ne kadar da yalnız hissediyorum." diye düşünürüm.
- 2) Üzgün olduğum zaman, kendi sorunumu düşünmemek için başkalarına yardım ederim.
- 5) Üzgün olduğum zaman, "Her şeyi mahvediyorum" diye düşünürüm.
- 9) Üzgün olduğum zaman, yalnız kalıp düşünebileceğim bir yere giderim.
- 14) Üzgün olduğum zaman, kitap veya dergi okurum .
- 17) Üzgün olduğum zaman, "Benimle ilgili bir sorun olmalı yoksa bu şekilde hissetmezdim" diye düşünürüm.
- 20) Üzgün olduğum zaman, daha iyi hissetmeme yardım edeceğini düşündüğüm birisiyle sorunumu konuşurum.
- 21) Üzgün olduğum zaman, tüm başarısızlıklarımı ve hatalarımı düşünürüm.

APPENDIX B

SAMPLE ITEMS FROM CHILDREN'S ACTION TENDENCY SCALE

Bu bölümde, bir sorun olduğunda senin bu sorunla nasıl başa çıktığını öğrenmek istiyoruz. Kesinlikle doğru ya da cevap yok. Senden her soru için verilen 3 set seçeneğin her birinden 1 şikkı işaretlemeni istiyoruz. Yani her soru için 3 seçeneğin işaretlenmesi gerekiyor.

- 1) Arkadaşlarınla oyun oynuyorsunuz. Bütün çabalamalarına rağmen sürekli hata yapıyorsun. Arkadaşların da seninle alay etmeye ve sana isim takmaya başlıyorlar. Bu durumda ne yapardın?
 - A) Oyunu bırakır, eve giderdim. YA DA
 - B) Benimle en çok dalga geçen çocuğu yumruklardım.
 - A) Onlara aynı şeyi yapsam hoşlanmayacakları için, durmaları gerektiğini söyledim. YA DA
 - B) Oyunu bırakır, eve giderdim.
 - A) Benimle en çok dalga geçen çocuğu yumruklardım. YA DA
 - B) Onlara aynı şeyi yapsam hoşlanmayacakları için, durmaları gerektiğini söyledim.
- 2) Bir arkadaşınla sizin evde oyun oynuyorsunuz. Arkadaşın ortalığı çok dağıtıyor ama anne- baban seni suçluyor ve seni cezalandırıyor. Bu durumda ne yapardın?
 - A) Ortalığı toplardım. YA DA
 - B) Ortalığı toplamak için arkadaşımın bana yardım etmesini isterdim.
 - A) Ertesi gün anne- babamla konuşmaz ve onları dinlemezdim. YA DA
 - B) Ortalığı toplardım.
 - A) Ortalığı toplamak için arkadaşımın bana yardım etmesini isterdim. YA DA
 - B) Ertesi gün anne- babamla konuşmaz ve onları dinlemezdim.

APPENDIX C

SAMPLE ITEMS FROM CHILDREN'S DEPRESSION INVENTORY

Aşağıda gruplar halinde bazı cümleler yazılıdır. Her gruptaki cümleleri dikkatlice okuyunuz. Her grup içinden, bu gün de dâhil olmak üzere, son iki haftadır yaşadıklarınızı en iyi şekilde tanımlayan cümleyi seçip, yanındaki numarayı daire içine alınız.

- A** 0.Kendimi arada sırada üzgün hissederim
1. Kendimi sık sık üzgün hissederim.
2.Kendimi her zaman üzgün hissederim.
- B** 0.İşlerim hiçbir zaman yolunda gitmeyecek.
1.İşlerimin yolunda gidip gitmeyeceğinden emin değilim.
2.İşlerim yolunda gidecek.
- C** 0.İşlerimin çoğunu doğru yaparım.
1.İşlerimin çoğunu yanlış yaparım.
2.Her şeyi yanlış yaparım.
- O** 0.Her gece uyumakta zorluk çekerim.
1.Bir çok gece uyumakta zorluk çekerim.
2.Oldukça iyi uyurum.
- Ö** 0.Arada sırada kendimi yorgun hissederim.
1.Bir çok gün kendimi yorgun hissederim.
2.Her zaman kendimi yorgun hissederim.
- P** 0.Hemen her gün canım yemek yemek istemez.
1.Çoğu gün canım yemek yemek istemez.
2.Oldukça iyi yemek yerim.

- 4) Ortaokul mezunu
- 5) Lise mezunu
- 6) Üniversite mezunu
- 7) Diğer, belirtiniz:

Annelerinizin Mesleği

- 1) Ev hanımı
- 2) Memur
- 3) İşçi
- 4) Emekli
- 5) Diğer, belirtiniz:

Babanızın Mesleği

- 1) Memur
- 2) İşçi
- 3) Emekli
- 4) Diğer, belirtiniz:

APPENDIX E

PARENT CONSENT FORM

Sayın Veliler, Sevgili Anne-Babalar,

Orta Doğu Teknik Üniversitesi Eğitim Bilimleri- Psikolojik Danışmanlık ve Rehberlik Bölümü'nde Yrd. Doç. Dr. Özgür Erdur Baker danışmanlığında, "Tepki Stilleri Kuramı'nın Türkiye'de Test Edilmesi: Çocukların ruminatif/distraktif eğilimleri ve problem çözme becerilerinin depresif belirtilerle arasındaki ilişki" başlıklı yüksek lisans tez çalışmasını yürütmekteyiz. Araştırmamızın amacı Tepki Stilleri Kuramı'nı Türkiye'de test etmek ve çocukların depresif durumlarına gösterdikleri tepkilerin ve problem çözme becerilerinin bu dönemde gösterdikleri depresif belirtilerle arasındaki ilişkiyi incelemektir. Bu amaca ulaşmak için de çocuğunuzdan verilecek anket formlarını doldurması istenecektir.

Katılmasına izin verdiğiniz takdirde çocuğunuz anketi okulda ders saatinde dolduracaktır. Çocuğunuzun cevaplayacağı soruların hiçbir olumsuz etkisi olmayacağından emin olabilirsiniz. Çocuğunuzun dolduracağı anketlerde cevapları kesinlikle gizli tutulacak ve bu cevaplar sadece bilimsel araştırma amacıyla kullanılacaktır. Siz bu formu imzaladıktan sonra dahi çocuğunuz katılımcılıktan ayrılma hakkına sahiptir. Çocuğunuzun kimliği kesinlikle gizli tutulacaktır.

Araştırma sonuçlarının özeti tarafımızdan okula ulaştırılacaktır. Anketleri doldurarak bize sağlayacağınız bilgiler çocukların psikolojik gelişimini etkileyen faktörlerin saptanmasına önemli bir katkıda bulunacaktır. Araştırmayla ilgili sorularınızı aşağıdaki e-posta adresini veya telefon numarasını kullanarak bize yöneltebilirsiniz.

Saygılarımızla,

Tez Danışmanı:

Yrd. Doç. Dr. Özgür Erdur Baker

Araştırmacı:

S.Burcu Özgülük

Psikolojik Danışmanlık ve Rehberlik

Yüksek Lisans Öğrencisi

ODTÜ, Ankara

Tel:

e-posta:

ODTÜ, Ankara

Tel:

e-posta:

Lütfen bu araştırmaya katılmak konusundaki tercihinizi aşağıdaki seçeneklerden size en uygun gelenin altına imzanızı atarak belirtiniz ve bu formu çocuğunuzla okula geri gönderiniz.

A) Bu araştırmaya çocuğum.....'nın katılmasına izin veriyorum. Çalışmayı çocuğumun istediği zaman yarıda kesip bırakabileceğini biliyorum ve çocuğumun verdiği bilgilerin bilimsel amaçlı olarak kullanılmasını kabul ediyorum.

Baba Adı-Soyadı..... Anne Adı-Soyadı.....

İmza İmza.....

B) Bu çalışmaya çocuğum'nın katılmasına izin vermiyorum.

Baba Adı-Soyadı..... Anne Adı-Soyadı.....

İmza İmza

APPENDIX F

VOLUNTEER PARTICIPATION FORM FOR 4TH GRADERS

Bu çalışmaya eğer istersem katılmam için ailemin izin verdiğini biliyorum. Bu çalışma çocukların üzgün oldukları durumlara verdikleri tepkileri ve çocukların bu durumlarda problemlerini nasıl çözdüklerini araştırıyor. Bu proje Orta Doğu Teknik Üniversitesi (ODTÜ)'den Yrd. Doç. Dr. Özgür Erdur Baker yürütücülüğünde, yüksek lisans öğrencisi olan S.Burcu Özgülük tarafından yürütülüyor. Bu proje için bazı sorular cevaplayacağım. Benim cevaplarım gizli kalacak. Cevaplarım bilimsel bir yayında kullanılabilir ama kimliğimi kimse bilmeyecek. İstemediğim soruları cevaplamak zorunda olmadığımı biliyorum ve her hangi bir zamanda çalışmaya katılmaktan vazgeçebilir, çalışmayı yarıda bırakabilirim. Eğer çalışmaya katılmayı istemezsem bu hiçbir şekilde bir sorun olmayacak ve notlarımı da hiçbir şekilde etkilemeyecek. Eğer herhangi bir soruyla ilgili kendimi rahat hissetmezsem, S. Burcu Özgülük ile konuşabilirim. Eğer sorularım olursa aileme sorabilirim ya da S. Burcu Özgülük (tel. no: -) veya Yrd. Doç. Dr. Özgür Erdur Baker'ı arayabilirim (tel no: -).

Adı- soyadı:

Tarih:

İmza:

APPENDIX G

VOLUNTEER PARTICIPATION FORM FOR 7TH GRADERS

Bu çalışma, Yrd. Doç. Dr. Özgür Erdur Baker danışmanlığında, Orta Doğu Teknik Üniversitesi (ODTÜ), Psikolojik Danışmanlık ve Rehberlik yüksek lisans öğrencisi olan S. Burcu Özgülük tarafından yürütülmektedir. Çalışmanın amacı, katılımcıların depresif durumda bulduklarında, bu duruma nasıl tepki gösterdikleriyle ve problemlerini nasıl çözdükleriyle ilgili bilgi toplamaktır. Çalışmaya katılım tamamen gönüllülük temelinde olmalıdır. Ankette, sizden kimlik belirleyici hiçbir bilgi istenmemektedir. Cevaplarınız tamamen gizli tutulacak ve sadece araştırmacılar tarafından değerlendirilecektir; elde edilecek bilgiler bilimsel yayımlarda kullanılacaktır.

Anket, genel olarak kişisel rahatsızlık verecek soruları içermemektedir. Ancak, katılım sırasında sorulardan ya da herhangi başka bir nedenden ötürü kendinizi rahatsız hissederseniz cevaplama işini yarıda bırakıp çıkmakta serbestsiniz. Böyle bir durumda anketi uygulayan kişiye, anketi tamamlamadığınızı söylemeniz yeterli olacaktır. Anket sonunda, bu çalışmayla ilgili sorularınız cevaplanacaktır. Bu çalışmaya katıldığınız için şimdiden teşekkür ederiz. Çalışma hakkında daha fazla bilgi almak için Eğitim Bilimleri- Psikolojik Danışmanlık ve Rehberlik Bölümü yüksek lisans öğrencisi olan S. Burcu Özgülük (Tel: -, E- posta: -) ile iletişim kurabilirsiniz.

Bu çalışmaya tamamen gönüllü olarak katılıyorum ve istediğim zaman yarıda kesip çıkabileceğimi biliyorum. Verdiğim bilgilerin bilimsel amaçlı yayımlarda kullanılmasını kabul ediyorum. (Formu doldurup imzaladıktan sonra uygulayıcıya geri veriniz).

Adı- Soyadı

Tarih

İmza

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