THE MEASUREMENT OF COGNITIVE FLEXIBILITY IN ADOLESCENTS AND ITS RELATION TO DEPRESSION SYMPTOMS

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THE MEASUREMENT OF COGNITIVE FLEXIBILITY IN ADOLESCENTS AND ITS RELATION TO DEPRESSION SYMPTOMS

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ABSTRACT

THE MEASUREMENT OF COGNITIVE FLEXIBILITY IN ADOLESCENTS AND ITS RELATION TO DEPRESSION SYMPTOMS

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This study aimed to explore the psychometric qualities of cognitive flexibility scale for Turkish high school students and compare it with university students, and its relation to depression. To fulfill this aim, 220 high school students aged between 14-18 were compared to 141 university students aged between 18-27. In order to investigate the cognitive flexibility of adolescents, psychometric properties of the CFI were analyzed for high school students.

It was concluded that CFI consists of two factors like the original form (Dennis & Wal, 2009) and the adapted Turkish form (Gülüm & Dağ, 2012) which was carried out with university students. CFI is a valid and reliable scale that can measure cognitive flexibility of the adolescents in Turkey.

The findings indicated non-significant differences between the CF score of high school and university students. However, depression scores of high school and university students were significantly different. Age was not correlated with CF and was negatively correlated with depression. CF had negative correlation with depression. Results are discussed in the light of relevant literature.

Keywords: Cognitive Flexibility, Depression, Adolescents, Adult, High School, University

ÖZET

ERGENLERDE BİLİŞSEL ESNEKLİK ÖLÇÜMÜ VE DERRESYON BELİRTİLERİ İLE İLİŞKİSİ

Büşra Güler

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Bu çalışma Türk lise öğrencilerinde bilişsel esneklik ölçümünü araştırmayı ve depresyonla ilişkisi yönünden lise öğrencilerini, üniversite öğrencileri ile kıyaslamayı amaçlamaktadır. Bu doğrultuda, 14-18 yaş arası 220 lise öğrencisi, 18-27 yaş arası 141 üniversite öğrencisi karşılaştırılmıştır.

Ergenlerde bilişsel esnekliği araştırmak amacıyla, BEE'nin psikometrik özellikleri, lise öğrencileri için analiz edilmiştir. Bu çalışmada, BEE'nin, üniversite öğrencileri arasında yürütülen orijinal (Dennis & Wal, 2009) ve Türkçe adaptasyon (Gülüm & Dağ, 2012) çalışmalarında olduğu gibi iki boyutlu yapıdan oluştuğu ve Türkiye'deki ergenlerin bilişsel esneklik seviyelerini ölçebilen geçerli ve güvenilir bir ölçek olduğu sonucuna varılmıştır.

Bulgular, lise ve üniversite öğrencilerinin bilişsel esnekliklerinin arasında anlamlı bir ilişki olduğunu ortaya koymuştur. Ancak, lise ve üniversite öğrencilerinin depresyon puanları arasında anlamlı bir fark bulunmuştur. Korelasyon analizi bulguları, yaşın; BE ile anlamlı bir ilişkisi yokken, depresyon ile negatif ilişkisi olduğunu ortaya çıkarmıştır. Bilişsel esnekliğin depresyonla negatif ilişkisi çıkmıştır.

Anahtar Kelimeler: Bilişsel Esneklik, Depresyon, Ergen, Yetişkin, Lise, Üniversite

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1.INTRODUCTION

1.1. Cognitive Flexibility

1.1.1. Theoretical Perspectives of Cognitive Flexibility Development

Cognitive flexibility (CF) is "*the human ability to adapt the cognitive processing strategies to new and unexpected conditions in the environment*" (Cañas, Antolí, Fajardo, & Salmerón, 2005, p.p.95).

In the current study, the development of cognitive flexibility was discussed in terms of some theoretical perspectives such as Piaget's cognitive developmental theory, the neuropsychological and the cognitive behavioral theories of depression.

Piaget's cognitive developmental theory proposed that the formal operational stage is the fourth and final stage that begins between the ages of 11 and 15, and lasts through adulthood. After the age of 15, the course of cognitive development shows a gradual and progressive improvement. At the formal operational stage of cognitive development, there are important characteristics that individuals develop such as the ability to think in more abstract and logical ways about the hypothetical processes and events. In this way, they can make plans to solve problems via developing and testing hypotheses; exploring logical possibilities, alternatives and solutions (Santrock, 2009). Also, the formal operational thinkers begin to consider possible alternative courses of actions and their probable consequences, and therefore they have better understanding of one's perspectives and the causes of behaviors. In this way, they can form different explanations about what is possible in one's life

(Shaffer & Kipp, 2014; Santrock, 2009). The cognitive development of adolescents may facilitate their adaptation to changing situational demands, which is the core point of cognitive flexibility (Shaffer & Kipp, 2014; Spiro & Jehng, 1990). Considering all these related points, it could be stated that the formal operational thinking is a crucial tool for the formation of cognitive flexibility.

According to the neuropsychological perspective, those developing abilities in the formal operational stage are some of the subcategories of executive functions which also include the concept of cognitive flexibility (Stevens, 2009). One of the components of executive functions is cognitive flexibility (Rende, 2000) and it was expected that as those subcategories of executive functions show improvement, cognitive flexibility improves, too. The ability to switch mental operations is the main component of executive functions (Zelazo, Craik & Booth, 2004). Likewise, a core component of cognitive flexibility is the ability to flexibly switch cognitive sets and inhibit habitual responding patterns to changing environmental stimuli (Diamond & Taylor, 1996; Scott, 1962). Also, executive functions are responsible for the process of dealing with novelty in problem solving situations (Channon & Green, 1999). Similarly, CF was defined as the ability to adapt to changing environmental stimuli and situational demands and also as the capacity of looking at different problems with various strategies (Cañas et al., 2005, & Spiro & Jehng, 1990). In this manner, it can be thought that CF is also shows conceptual similarity with executive functions in this regard. Executive functions begin to develop by the first year of life and continue to progress throughout childhood and adolescence, and then show a decline in late adulthood (Diamond & Taylor, 1996). Studies investigating the performance on a variety of executive function tasks showed a linear improvement between the ages of 11 and 17 (Anderson et al. 2001). Considering the pattern of

executive functions development, it could be argued that children and adolescents generally show linear progress in cognitive flexibility like other cognitive functioning areas.

It is also possible to talk about the relationship between cognitive flexibility and depression in terms of the neuropsychological perspective. In the respect of the relationship between depression and dysfunction in executive processes, Channon and Green (1999) stated that patients with depression mostly show cognitive inhibition deficits, problem-solving and planning impairments (Channon & Green, 1999). Cognitive impairments observed in depressed patients that was explained via abnormalities in the medial prefrontal cortex that leads to the dysfunction in the central executive component of working memory. In this manner, depression has been considered to be related with impairment in executive functions. Therefore, this finding could be considered as a basis for addressing the cognitive flexibility and depression in terms of neuropsychological perspective.

Finally, cognitive behavioral theories of depression is one of the theoretical perspectives of cognitive flexibility that is discussed in this study. According to the cognitive behavioral theories of depression, Young, Rygh, Weinberger and Beck (2008) stated that depressed individuals consistently distort their interpretations about events, therefore they maintain negative views of themselves, the environment and the future. These interpretations consist of negative thoughts that are far from being flexible. Accordingly, it was supposed that they are characterized by extreme rigidity (inflexibility) in thinking (Young, Rygh, Weinberger & Beck, 2008). It was stated that rigidity leads to failure in evaluating different perspectives and alternatives when confronted with new circumstances. This situation actually reinforce the acceptance of maladaptive beliefs (Moore, 1996). These dysfunctional

beliefs are automatic, rigid and resistant to change, therefore the depressed state was preserved (Sungur, 1994). According to the cognitive therapy model, the most effective way in the treatment of depression is to replace dysfunctional and inflexible beliefs that people hold about themselves, the environment and the future with more realistic and functional thoughts by using cognitive restructuring strategies (Young, Rygh, Weinberger & Beck, 2008). Cognitive restructuring is a specific therapeutic skill that improves adaptive functioning and adjust to changes in life conditions (Beck, 1976). In the acquisition of cognitive restructuring skills, cognitive flexibility has been considered to be a significant component (Johnco, Wuthrich, & Rapee, 2013). Dreisbach and Goschke (2004) found that cognitive flexibility facilitates adaptation to new situations. It also enables people to become aware of their choices when they experience new situations (Martin & Rubin, 1995). In this sense, one of the most important goals of the process of the psychotherapy interventions is to help clients gain cognitive flexibility (Sapmaz & Doğan, 2013). Gülüm and Dağ (2012) stated that cognitive behavioral therapy that enhance cognitive flexibility can offer ways for reducing psychopathology symptoms. There was a positive association between cognitive flexibility and ability to learn cognitive restructuring (Johnco, Wuthrich, & Rapee, 2013). Johnco, Wuthrich and Rapee (2013) explained that for the individuals with poorer cognitive flexibility, cognitive restructuring may not be considered an effective technique to cope with emotional distress. Executive function skills broadly and cognitive flexibility more specifically play an important role to get efficiency from techniques (Johnco, Wuthrich and Rapee, 2014).

1.1.2. Definition and Measurement of Cognitive Flexibility

The concept of cognitive flexibility has been explained on the basis of different perspectives and various operational definitions. Therefore, different research areas have addressed the concept of cognitive flexibility with various measurements. In the literature, CF was measured either by using self-report tests or performance-based tests (Dennis & Wal, 2009; Martin & Rubin, 1995; Martin & Anderson, 1998; Gülüm & Dağ, 2012; Johnco, Wuthrich, Rapee, 2014). Studies about cognitive flexibility mostly have used experimental tasks. One of the perspectives of cognitive flexibility measurement is based on behavioral responses that are measured by set shifting performance-based tasks, especially in cognitive science, cognitive psychology, cognitive neuroscience, and experimental psychology (Dennis & Wal, 2009; Johnco, Wuthrich, Rapee, 2014; Malooly, 2012; Ciairano, Bonino & Miceli, 2006). In this perspective, cognitive flexibility was defined in terms of behavioral response; *'the extent to which an individual displays perseverative responding on performace tasks requiring the changing of mental sets in response to concrete novel stimuli'* (Dennis & Wal, 2009, p. 242). CF is also defined as the ability to switch cognitive sets and processes of multiple sources of information simultaneously to adapt to changing environmental stimuli and situational demands (Cañas et al., 2005; Spiro & Jehng, 1990). Dennis and Wal (2009) stated that numerous performance-based measures such as the Stroop Color and Word Test (Golden, 1975), Trail Making Test Part B (TMT; Reitan and Wolfson, 1993), Wisconsin Card Sorting Test (WCST; Berg, 1948) have been used for the evaluation of the CF of adolescents and adults. In the literature, A-not-B task, Dimensional Change Card Sorting Task were also used to measure cognitive flexibility (Johansson, Forssman, & Bohlin, 2014; Minar & Sloutsky, 2011).

Dennis and Wal's study (2009) stated that the performance based on the measurement of cognitive flexibility depends on set shifting tasks that are more trait like and/or indicative of organic brain abnormalities. However, self-report measurements of cognitive flexibility are based on more state like characteristics. They are responsive to assess the affective states and identify the maladaptive thoughts. Other than that, self-report measures are often more practical in terms of administration, scoring, and they are less time-consuming and less likely to show an practice effect (Dennis & Wal, 2009).

As self-report measures, Dennis and Wal (2009) stated that there are limited numbers of self-report measures such as the Alternate Uses Test (Wilson et al. 1975), Attributional Style Questionnaire (ASQ; Peterson et al. 1982), Cognitive Flexibility Scale (CFS; Martin and Rubin 1995) and Cognitive Flexibility Inventory (Dennis & Wal, 2009). The most preferred self-measurements of CF are Cognitive Flexibility Scale (CFS; Martin and Rubin 1995) and The Cognitive Flexibility Inventory (Dennis & Wal, 2009). They were developed to measure characteristics of cognitive flexibility for adults. However, there is no cognitive flexibility self-report measures for adolescents (Bilgin, 2009).

In Dennis and Wal's study (2010) three aspects of cognitive flexibility was emphasized; the tendency to perceive difficult situations as *controllable*, the ability to *perceive multiple alternative explanations* for life occurrences and human behavior and the *ability to generate multiple alternative solutions* to difficult situations. According to Dennis and Wal's study (2009), cognitive flexibility offers facility to think adaptively in difficult life experiences. CFI (Dennis & Wal, 2009b) have been specifically developed to assess the levels of cognitive flexibility. This

measurement was associated with cognitive behavioral thought challenging interventions for depression and other psychopathology (Dennis & Wal, 2010).

Martin and Rubin (1995) stated that cognitive flexibility has three basic components: (1) person's *awareness* that in any given situation there are options and alternatives available; (2) *willingness* to be flexible and adapt to the situation, and (3) *self-efficacy* or belief that one has the ability to be flexible. Martin and Rubin (1995) considered cognitive flexibility as an essential component for effective communication concepts. Cognitive flexibility was mostly associated with communication competence, assertiveness and responsiveness. And, a positive relationship was found between CFI and these concepts (Martin & Rubin,1995)

In Turkey, there are various adaptation and development studies of self-report measures of cognitive flexibility (Altunkol, 2011; Gülüm & Dağ, 2012; Sapmaz & Doğan, 2013). The Turkish adaptation of cognitive flexibility scale was conducted with a sample of 17-25 age range university students. The other CFS (Bilgin, 2009) is the only scale that has been developed for adolescents in Turkey. The semantic differential approach is the basis for Cognitive Flexibility Scale (Bilgin, 2009). In this scale, only self-efficacy dimension of cognitive flexibility is assessed. However, one of the most important aspects of cognitive flexibility, "to be aware of the options (alternatives)" was not included in this scale (Altunkol, 2011). For this scale, it was suggested that when measuring cognitive flexibility, this scale should be used in collaboration with other scales, because the scale has just been developed and no prior semantic differential scales measuring cognitive flexibility was found. Therefore, it was stated that CFS requires further investigation (Bilgin, 2009).

In addition, Dennis and Vander Wal (2009) stated that self-report and performance-based measurements of cognitive flexibility may assess different constructs without significant overlap.

1.1.3. Developmental Perspective of Cognitive Flexibility

In Diril's (2011) study conducted on adolescents, Cognitive Flexibility Scale (CFS; Bilgin, 2009) was used. Diril (2011) concluded that there is a significant difference between grades of students and the level of cognitive flexibility. The cognitive flexibility score of 9th grade students was higher and more significant than those of grade 11. In the study, it was shown that the increase in cognitive flexibility via interpersonal communication is in the first years of adolescence (9th grade students). In this process, friendship has gained more prominence because they have not experienced frustration in terms of the need of acceptance and belonging at these ages. In the process of interpersonal communication, it can be offered to foster the perception of their cognitive intrerpretations, beliefs and thoughts, themselves as more compatible and sociable. As the grades proceeds, adolescents can get exposed to negative experiences or frustrations in their relationship. In this way, their cognitive interpretations/structures may be affected by these experiences and they may have more negative and rigid perceptions. This explanation was suggested to explain the difference between 9th grade students and 11th grade students in terms of CFI.

Another study, in which university students with an age range of 17 and 25 were participated, showed that there is no significant relationship between CF and age (Altunkol, 2011).

It appears that the issue of the cognitive flexibility in terms of developmental perspective has not been studied directly.

1.2. Depression

1.2.1. Developmental Perspectives of Depression

According to a National comorbidity survey (Kessler, et al., 1994), major depressive episode is one of the most common disorders in the United States. It was stated that the adolescence depression is a significant mental health issue and its prevalence has showed a significant increase (Substance Abuse and Mental Health Services Administration, 2008; Merikangas et al.,2010; Wicks-Nelson & Israel, 2009). Mid-to-late adolescence is a critical time period. In this period, more susceptibility to depression and depressive symptoms were reported. Therefore, the risk in this period is greater than the risk associated with childhood, and possibly even with adulthood (Hankin, Abraham, Moffitt, Silva, MCGee & Angell, 1998; Wight, Sepu'lveda & Aneshensel, 2004; Blazer, Kessler, McGonagle & Swartz, 1994). According to the American National Institute of Mental Health, the average age for the onset of depressive disorder was 13 years and the overall prevalence of depressive disorder was 11.2% among adolescents. When 13–14 age and the 17–18 age groups were compared, it was shown that the prevalence of all mood disorders increased approximately two-fold with age (Merikangas et al. 2010). In a prospective longitudinal study, the development of depression from preadolescence to young adulthood (the age range of 11-21) was investigated and it was found that after age 15, the rates of depression increase rapidly and all of the sample showed an increase. There is a peak in prevalance of depression between the ages 15-18, and there was a

decrease from ages 18 to 21 (Hankin, Abramson, Moffitt, Silva, McGee & Angell, 1998). American National comorbidity survey (1994) stated that major depression had a relatively higher prevelance in 15-24 years of age than 25-34 years of age (Blazer, Kessler, McGonagle & Swartz, 1994). Also, Kessler (1994) indicated that a high prevalance rate was found in the youngest group (15 to 24 years) and usually it declines with age. It was observed that the presence of symptoms increased in adolescents. The findings indicated that there were about three symptoms at age 12 and four symptoms at age 19 (Wight, Sepu'lveda & Aneshensel, 2004).

1.3. Depression and Cognitive Flexibility

In the context of the cognitive flexibility, the association between depression and cognitive flexibility was mostly addressed. It was reported that there is a significant inverse relationship between cognitive flexibility, depression and anxiety (Dennis and Vander Wal, 2009). This relationship is mostly such that as cognitive flexibility increased, depression and anxiety symptomatology is reduced (Dennis and Vander Wal 2009; Fresco, Rytwinski & Craighead, 2007; Gündüz, 2013b). Fresco, Rytwinski and Craighead (2007) stated that inflexibility was associated with higher levels of risk factor for the development of depressive symptomatology in response to life event stress. DeBerry (2012) claimed that when age and education was controlled, cognitive inflexibility significantly predicted depression. Studies have also shown that individuals with depression exhibit a range of executive control deficiencies, such as cognitive inflexibility and poor inhibition that increase the suspectibility of emotion regulation deficits (Joormann & D'Avanzato, 2010). Irrational beliefs are characterized by extreme rigidity and negative generalized cognitions (Young, Rygh, Weinberger & Beck, 2008; Dennis and Vander Wal

2009b). Irrational beliefs influence the individual's relationships and lead to a depressed, aggressive, and anxious mood (Gündüz, 2013). In the face of stressful experiences, highly flexible individuals are better in terms of tolerating conflict and utilizing more adaptive coping strategies and perceptions of interpersonal communication competence (Martin & Anderson, 1998 &Dennis and Vander Wal 2009b). Also, Murray Sujan Hirt Sujan (1990) argued that positive mood improves an individual's ability to make alternative interpretations of a situation. Individuals in a positive mood are cognitively flexible and change their categorization schemes to adapt to the task. They are more likely to react adaptively in response to encountering difficult life experiences (Murray Sujan Hirt Sujan,1990). According to these findings, it can be stated that these positive concepts related with CF decrease the susceptibility of depression symptomatology. Individuals possessing cognitive inflexibility may be more susceptible to experiencing pathological reactions.

1.4. Aims of The Study

1.4.1. Aims

In the light of the literature review presented above, the purpose of the study is to investigate the role of cognitive flexibility in adolescents and its measurement as well as its relation to depression. For this reason, psychometric properties of Cognitive Flexibility Inventory for Turkish adolescents will be carried out. Cognitive Flexibility Inventory was developed by Dennis and Wal (2009) and adapted to Turkish by Gülüm and Dağ (2012) among undergraduate students. It has not been tested with an adolescent sample and that will be the primary aim of this thesis. In

addition, the differences in level of CF and depression in adolescents and adults will be investigated.

1.4.2. The Rationale and Importance Of Thesis

In the literature, self-report and performance based measures of cognitive flexibility has supported the relationship between depression and cognitive rigidity in adults (Dennis & Vander Wal, 2009). In addition, in terms of executive functions, developmental explanation of cognitive flexibility and depression was assessed separately via performance-based measurements in adolescents and adults. However, there is a lack of self-report studies that compare the cognitive flexibility of adults and adolescents through a developmental aspect. In this study, the aim is to investigate whether there is a difference between adult and adolescence depression symptoms and flexibility scores via self report measurement of CF. In order to investigate this topic, it was needed to cognitive flexibility inventory for adolescents. CF was studied only by performance based measurements for children and adolescents. There is no other self-report scale that measures the cognitive flexibility of adolescents except Cognitive Flexibility Scale (Bilgin, 2009) and as discussed earlier this scale does not consider the most important part of CF "to be aware of the options (alternatives)" that is thought to be related to depression (Martin & Rubin, 1995; Sungur, 1994).

In this study, psychometric properties of CFI for Turkish high school students and the association among age, cognitive flexibility and depression will be investigated.

1.4.3. Hypotheses

H1: The psychometric properties of CFI (CFI, Gülüm & Dağ, 2012) for Turkish adolescents will be similar to those reported for adults.

H2: There will be a significant positive relationship between age and cognitive flexibility

H3: There will be a significant inverse relationship between CF and depression

H4: The levels of depression will be higher in high school students compared to university students in this study.

2. METHOD

2.1. Participants

A total of 361 paricipants between the ages of 14-27 (M=18.39; SD=3.24) participated in this study and the number of females and males in the total sample was 199 and 161, respectively. Participants were recruited from two high schools and a university in Istanbul. There were 220 (60.9 %) participants from high school and 141 (39.1%) participants from university.

From all of the 220 high school students, 127 of the participants (57.7 %) were females and 92 (41.8 %) were males. The ages of the high school students ranged between 14 and 18 (M = 16.07, SD = 1.05). In terms of their grades in school, 65 participants (29,5 %) were recruited among the 9th graders, 70 participants (%31,8 %) were sampled from among the 10th graders, 37 participants (16,8 %) were recruited among the 11th graders, and 48 participants (21,8 %) were recruited among the 12th graders. The sample's demographic characteristics were summarized in the Table 1.

A total of 141 students enrolled in various undergraduate and graduate programs at the Bahcesehir University. 72 of the participants (51.1 %) were females and 69 (48.9) were males. The ages of the university students ranged between 18 and 27 (M = 22.10, SD = 1.75). In terms of their grades in school, 12 participants (8.5 %) were sampled from among the 1st graders , 48 participants (34,0 %) were recruited among the 2nd graders, 37 participants (26,2) were sampled from among the 3rd graders, 33 participants (23,4 %) were sampled from among the 4th and 11 were graduate students (7,8 %). All detailed information related to the demographic characteristics of the participants are presented in Table 1. With respect to education level of the participants mother and father education levels are presented in Table 2.

Table 1: Demographic Characteristics of Participants

	High School			**University**		
	N	**Age Range**	**Age Mean**	**N**	**Age Range**	**Age Mean**
Female	127	14-18	16.20	72	18-27	22.10
Male	92	14-18	15.89	69	18-26	22.11
Total	220	14-18	16.07	141	18-27	22.10

Table 2: Education Levels of The Participants' Parents

	High School		**College**	
	Father	Mother	Father	Mother
Primary School	31 (10.2%)	70 (23.1%)	7 (5%)	20 (14.2%)
Secondary School	46 (15.2%)	53 (17.5%)	17 (12.2%)	15 (10.6)
High School	117 (38.6%)	108 (35.6%)	63 (44.7%)	61 (43.3%)
College	106 (35%)	69 (22.8%)	54 (38.3%)	45 (31.9%)

2.2. Materials

The demographic form (see Appendix A) that includes questions about participants' gender, age, grade level, and education of their parents was prepared. In the beginning of the study, this form administered and the other measures were administered subsequently. The measures that were used in this study were Cognitive Flexibility Inentory (see Appendix B) and Beck Depression Invenotry (see Appendix C).

2.1.1. Cognitive Flexibility Inventory

Cognitive Flexibility Inventory (CFI) is developed to measure the individual's cognitive flexibility. The CFI was developed by Dennis and Vander Wal (2010) and the aim of the scale is to evaluate participants' ability to produce alternative, adaptive, appropriate, and stable thaoughts under difficult situations. The alpha coeffiecients for the original version of CFI, Control and Alternatives subscales were 0.91, 0.84, and 0.91, respectively. The seven-week test-retest reliability coefficients for the CFI, Control and Alternatives subscales were 0.81, 0.77, and 0.75, respectively (Dennis & Vander Wal, 2010).

In this study, Cognitive Flexibility (CF) was measured by using Turkish adaptation of the CFI (Gülüm and Dağ, 2012). The CFI is a 20-item self-report inventory that provides scores on two subscales: Alternatives (13-items), and Control (7-items). Each item was rated on a 5-point scale (1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly agree). Higher scores indicate higher levels of cognitive flexibility. CFI, CFI-alternatives and CFI-control subscales' internal validity were 0.90, 0.89, 0.85 respectively. The test-retest reliability scores

were ranged from 0.22-0.81 for two subscales. Factor loadings of the subscales ranged from .39 to .86. The correlations of CFI, Control and Alternatives subscales between Beck Depression Scale were -.27, -.32, and .48, respectively. The correlations of CF between Cognitive Flexibility Scale was .44 (Gülüm & Dağ, 2012). In the current study, for high school students, the internal consistency coefficients for the CFI, CFI-alternatives, CFI-control were .84, .84, and .81 respectively. For university students, Cronbach's alpha were .84, .81 and .80 respectively. For all of the sample, Cronbach's alpha were .84, .83 and .81 respectively.

2.1.2. Beck Depression Inventory

The 1978 version of the Beck Depression Inventory (BDI) was used in this study. The scale was developed by Beck, Rush, Shaw and Emery (1979) that was a second form of the scale originally developed by Beck et al.(1961). In the scale with 21 items that inquire about cognitive, emotional and motivational symptoms of depression. Each item scores between 0 and 3 and higher scores indicate higher levels of depression. The possible highest total score is 63. The Turkish adaptation of the scale was performed by Hisli (1989). It was found to have acceptable reliability; split-half reliability was r= .74 and Cronbach's alpha was .80. The cut-off point of the scale was found as 17. The scores that are above 17 were accepted as to report clinical depression of the subjects (Hisli, 1989). Also, the test-retest reliability of the BDI was found to be .73 in a study on 146 students aged between 14-20 (Hisli, 1990). In the current study, BDI (Hisli, 1989) was used and it was considered as a valid and reliable measure for adolescents to examine the level of depression of high school students in the 14-28 age range. For high school, university students and all of

the sample, the internal consistency coefficients of BDI was .83, .83 and.84 respectively in the present study. The Turkish version of the BDI was found to be a reliable and valid instrument to measure depressive symptoms on high school and university students.

2.3. Procedure

All participants were randomly selected and a booklet including the demographic form, Cognitive Flexibility Inventory and Beck Depression Inventory was administered and all of them were paper-pencil tests. All of the students participated voluntarily in the study. In the beginning of the administration, the purposes and confidentiality of the study was told to the participants. Afterwards, scales' items were collectively administered to the students.

For data collection from high school students, official permission see (Appendix D) was obtained from the Istanbul Provincial Directorate of National Education with a proposal that stated the purpose, rationale and method of the study. Classes were determined with the school guidance counselors. Before the administration of scales, Parent Consent Forms (see Appendix E) were distributed to students. Their parents signed the forms and they brought the consent forms to the class. Then, a booklet including demographic form and other measures of the study were administered to the students, collectively.

The second sample consisted of 303 students who were randomly selected from Bahçeşehir University. Initially, for the collecting data from university students, official permission was obtained from Bahcesehir University Research and Publication Ethics Committee (see Appendix F). After, a booklet including demographic form and other measures of the study was prepared. Scales were

administered to the students just before classes begin with the permission of instructors. Students who agreed to participate in the study read and signed the informed consent forms (see Appendix G).

2.4. Data Analysis

The two age groups were created (For adolescent (high school) group, M = 16.07, SD = 1.05; for university group, M = 22.10, SD = 1.75).

In the second step, to investigate the psychometric properties of Cognitive Flexibiliy Inventory (CFI) for Turkish adolescents, analysis of reliability and validity of CFI were conducted. In order to investigate the construct validity of CFI for Turkish adolescents, Principal Component Analysis (PCA) was applied to discover whether two factor model that was revealed for the factor structure of CFI would be verified for Turkish adolescents sample. Firstly, Principal Component Analysis was applied to discover the factor structure of CFI for adolescent and to test our hypotheses that whether the obtained factor solution (for adolescent sample) fit an expected two-factor solution of original version CFI (for adults).

To examine internal consistency of the CFI and its subscales for high school students, Cronbach's coefficient (for whole scale and subscales) was calculated.

Based on these results, it was investigated that the original version of 20-item CFI for adults whether it has appropriate psychometric properties for the assessment of cognitive flexibility for Turkish adolescents. To compare the differences between the level of adolescents' and adults' cognitive flexibility and depression an independent sample t-test was carried out. Correlations between age, cognitive flexibility and depression were carried out to see whether there is a relationship between them.

3. RESULTS

3.1. Descriptive Statistics

An investigation of CF and BDI scores was performed in terms of means, standard deviation values. These descriptive statistics are presented in Table 3. Some significant differences between high school and university students have been found and explained in the following section.

Table 3: Descriptive statistics of key variables

	High School			University				
	N	**M**	**SD**	**N**	**M**	**SD**	**t**	**Sig.(*p*)**
CFI	200	76,09	9,57	134	78,09	9,13	-1.91	.057
BDI	196	13,98	8,04	134	9,78	6,82	5.11	.00*

P <.05

Note: CFI: Cognitive Flexibility Inventory, BDI: Beck Depression Inventory.

3.1.1. Descriptive Statistics For Cognitive Flexibility

The level of cognitive flexibility was measured by Cognitive Flexibility Inventory (CFI). It was scored within the possible range of 21-100. The mean was 76.89 and the standard deviation was 9.43 for all subjects. The descriptive statistics of high school and university students are presented in Table 3, separately.

3.1.2. Descriptive Statistics For Depression

Depression was measured by Beck Depression Inventory (BDI) which gives each participant a score between 0 and 63. The mean was 12.27 and the standard deviation was 7.84 for all subjects. The descriptive statistics of high school and university students are presented in Table 3, separately.

3.2. Construct Validity/Factor Analysis

In regards to the first aim of the study, a factor analysis was conducted to find the structural validity of the scale for high school students. Factor Analysis was administered to find out whether the items in the scale could be divided into fewer factors. In the first phase of the factor analysis, a Principal Component Analysis (PCA) extraction method was performed on 20 Likert scale items from Cognitive Flexibility Inventory (CFI) for a sample of 220 high school students (female:127, male:92) to investigate the structure of CFI for adolescents.

Initially, the factorability of the 20 items was examined. The Kaiser-Meyer-Olkin (KMO) was controlled to test suitability of our sample for the PCA. The Kaiser-Meyer-Olkin measure provides an adequacy of the correlations (KMO= .83) indicating that the data is structured and potentially a very good candidate for factor analysis. Bartlett's test of sphericity was significant (χ^2 (190) = 1375,991, $p < .05$). The results showed that findings are appropriate for factor analysis.

In the first step, explanatory factor analysis was used to discover the pattern of intercorrelations among variables. Firstly, the analysis offered five factor solution

which accounted for approximately 59.91 % of the total variance. The exploratory percentage of factor loads of the total variance is considered acceptable because this value is greater than 30 (Büyüköztürk, 2002). The explained variances for each five factors were 25,95 %, 16,43 %, 6, 90 %, 5,53 % and 5,09 % respectively. The each core value of the five factors are 5.19, 3.29, 1.38, 1.11 and 1.02. It was observed that the factor loadings of all items were identified as greater than .30 on each offered dimension. Therefore, there is no need to remove an item from the scale. Factor analysis was conducted with all 20 items. The factor loadings of the items were ranging between .31 and .67. To guide initial choice for number of factors the scree plot graph was considered. The scree plot begins to level out after the third eigenvalue.

The findings of the explained variances and the core values for two factor solution of the current study and the previous and theoretical background supported two factor solution. However, there was the fact of the leveling off eigen values on the scree plot after three factors in the findings of the present study. And also, the findings of explanatory factor analysis of the current study supported three factor solution, too. In addition to this, Dennis and Wal (2009) stated that this self-report scale initially was prepared to have a three subscales: 1. The tendency to perceive difficult situations as *controllable*, 2. The ability to perceive multiple alternative explanations for life occurrences and human behavior and 3. The ability to generate multiple alternative solutions to difficult situations. However, the ability to perceive multiple alternative explanations and ability to generate multiple alternative solutions were not distinct constructs as anticipated. The Alternatives subscale, was composed of 13 CFI items designed to measure both aspects of cognitive flexibility without distinguishing between the two. The first factor, named the Control subscale, was

composed of 7 CFI items designed to measure the tendency to perceive difficult situations as controllable (Dennis & Wal, 2009). In this way, Dennis and Wal (2009) study concluded that that a two-factor solution best described the CFI. In the Turkish adaptation of CFI (Gülüm & Dağ, 2012), it was found that core values of three factor was greater than 1. Then they decided that the findings of explanatory factor analysis also supported two factor solution because of scree plot and content of the items. Therefore, all of these considered, it was decided that two and three factor solutions will be examined, using varimax rotation of the factor loading matrix for this study.

In the literature, the original (Dennis & Wal, 2009) and the Turkish version of CFI (Gülüm & Dağ, 2012) revealed two subscales as CFI-Alternatives and CFI-Control. Also, Sapmaz & Doğan (2013) study with sample of 551 university students, the two-factor solution was concluded in the study reliability and validity studies of Turkish version of the Cognitive Flexibility Inventory. Therefore, in the second step, exploratory factor analysis with two factor solution was used. Varimax rotation was preferred because it offers the maximum rotation for factor variance with as few variables as much as possible. In this way, the interpretability, discrimination and scientific utility of the optimal factor solution improve (Büyüköztürk, 2002). The results of an Varimax rotation of the solution stated that the 2 components explain 42.39 % of the total variance in the variables which are included on the components. The explained variances for these two factors were 23,30 % and 19,09 %, respectively. Also, the factor loadings of all items were identified as greater than .30. The first factor that was composed of 12 items can be called as CF-alternatives except missing of one item (“I am good at ‘‘sizing up’’ situations”) that belongs to Alternative subscale in the original scale. The first

dimension factor loadings ranging between .47 and .75. The second dimension factor loadings ranging between.37 and .80. The second factor which was composed of 8 items constituted the second factor which can be called as CF-Control, just differentiate with adding one item ("I am good at ''sizing up'' situations") that is part of CF-Alternative subscale. In the current study, this item was located to the control subscale. Unlike the original version of the CFI, the second dimension consisted of 8 items instead of 7 items and its factor loadings ranging from .37 and .80. The factor loading of the this item was .37. However, The factor loadings of the Control subscale items ranged between 56-.80 except this item. When the content and meaning of the item examined, it has been agreed that it was the appropriate the item would be take part in the alternatives subscales. In the process of analysis, as in the original scale, this item utilized in the alternatives subscale. Factor Loading for Principal Factors Extraction and Varimax Rotation on CFI Items results shown in Table 4.

Table 4: Factor Loading for Principal Factors Extraction and Varimax Rotation on CFI Items

Items	F1	F2
13. When in difficult situations, I consider multiple options before deciding how to behave.	.75	.00
14. I often look at a situation from different viewpoints.	.74	.00
8. I try to think about things from another person's point of view.	.67	.00
5. I like to look at difficult situations from many different angles.	.66	.00
20. I consider multiple options before responding to difficult Situations.	.65	.00
18. When I encounter difficult situations, I stop and try to think of several ways to resolve it.	.60	.00
3. I consider multiple options before making a decision.	.60	.00
16. I consider all the available facts and information when	.58	.00

attributing causes to behavior.		
6. I seek additional information not immediately available before Attributing causes to behavior.	.57	.00
10. I am good at putting myself in others' shoes.	.53	.00
19. I can think of more than one way to resolve a difficult situation I'm confronted with.	.50	.00
12. It is important to look at difficult situations from many angles.	.47	.00
11. When I encounter difficult situations, I just don't know what to do.	.00	.80
7. When encountering difficult situations, I become so stressed that I can not think of a way to resolve the situation.	.00	.80
17. I feel I have no power to change things in difficult situations.	.00	.74
4. When I encounter difficult situations, I feel like I am losing control.	.00	.71
9. I find it troublesome that there are so many different ways to deal with difficult situations.	.00	.66
2.I have a hard time making decisions when faced with difficult situations.	.00	.58
15. I am capable of overcoming the difficulties in life that I face.	.00	.56
1. I am good at ''sizing up'' situations.	.00	.37

**Factor labels:*
F1: CF-Alternatives
F2: CF-Control

In the third step, explanatory factor analysis with three factor solution and varimax rotation was used. Results of an Varimax rotation of three factor solution stated that the three components explain 49.29 % of the total variance in the variables which are included on the components. The explained variances for these two factors were 19,18 %, 18,79%, and 11,33%, respectively. The first factor that was composed of 9 items. The first dimension loadings consisting of 9 items ranging between .51 and .73. The second factor which was composed of 8 items. The second

dimension loadings consisting of 8 items ranging between .37 and .80. And the third factor was consisted of 3 items. The third dimension loadings consisting of 3 items ranging between .61 and .78. Factor Loading for Principal Factors Extraction and Varimax Rotation on TAF Items results shown in Table5.

According to the PCA with three factor solution, same 7 item and 1 different item load onto first factor. This factor can be considered to be consistent to its previous subscale, CF-Control except one item. However, 12 items for CF-Alternatives load onto second and third factors. This 12 items that belongs to alternative subscale in the original scale divided as two different subscales.

Table 5: Factor Loading for Principal Factors Extraction and Varimax Rotation on CFI Items

Items	F1	F2	F3
13. When in difficult situations, I consider multiple options before deciding how to behave.	.73	.00	.00
20. I consider multiple options before responding to difficult situations.	.71	.00	.00
3. I consider multiple options before making a decision.	.69	.00	.00
16. I consider all the available facts and information when attributing causes to behavior.	.61	.00	.00
19. I can think of more than one way to resolve a difficult situation I'm confronted with.	.57	.00	.00
14. I often look at a situation from different viewpoints.	.57	.00	.00
5. I like to look at difficult situations from many different angles.	.56	.00	.00
18. When I encounter difficult situations, I stop and try to think of several ways to resolve it.	.56	.80	.00
6. I seek additional information not immediately available before attributing causes to behavior.	.51	.78	.00
7. When encountering difficult situations, I become so stressed that I can not think of a way to resolve the situation.	.00	.80	.00
11. When I encounter difficult situations, I just	.00	.79	.00

don’t know what to do.			
17. I feel I have no power to change things in difficult Situations.	.00	.74	.00
4. When I encounter difficult situations, I feel like I am losing control.	.00	.71	.40
9. I find it troublesome that there are so many different ways to deal with difficult situations.	.00	.66	.00
2.I have a hard time making decisions when faced with difficult situations.	.00	.57	.47
15. I am capable of overcoming the difficulties in life that I face.	.00	.55	.00
1. I am good at ‘‘sizing up’’ situations.	.00	.37	.88
10. I am good at putting myself in others’ shoes.	.00	.80	.78
8. I try to think about things from another person’s point of view.	.00	.71	.73
12. It is important to look at difficult situations from many angles.	.00	.00	.61

It was considered that overall these analyses stated that the two-factor structure of Cognitive Flexibiliy Inventory (CFI, Gülüm & Dağ, 2012) is verified for Turkish adolescents sample. The two structure can be considered as valid model for Turkish adolescents. Namely, the psychometric properties of CFI for Turkish adolescents were found similar to reported findings of adults. Therefore, the original factor structure proposed by Dennis and Wal (2010) was retained. In this way, the other hypotheses can be tested via using CFI for adolescent sample.

3.3. Reliability Analysis

In this study, in order to determine the reliability of the CFI for adolescents, the internal consistency coefficient was calculated. The internal consistency coefficients for the CFI, CFI-alternatives (13 items), CFI-control (7 items) were .84, .84, and .81 respectively. The results of the reliability analysis showed that CFI is good internal reliability.

3.4. Group Differences

To compare the differences between the level of adolescents' and adults' cognitive flexibility and depression an independent sample t-test was carried out. First of all the Levine's test was checked. We found that groups variances are equal (F=.971; p = .325). According to t-test results the differences between two groups regarding Cognitive Flexibility scores were not statistically significant. However, t-test results show that adolescent and adult participants' depression scores were significantly different (t = 5.11; df = 328; p< .05). According to the results, high school students' depression score (M=13.98, SD=8.04) is significantly higher than university student's score (M= 9.78, SD=6.82).

3.5. Correlational Information

Correlations of ratings of the age, cognitive flexibility and its subscales and depression was investigated. Correlations between the measures obtained from depresion and CF sores are summarized in Table 6.

As the students grew older, they tend to report decreased depression / as they grew up, they reported less depression. As the levels of CF increased, their tendency

to exhibit depression was decreased, on the other hand, as the levels of depression increased, their level of CF decreased. Students with "*high*"*cognitive flexibility* reported less depression.

Table 6: Correlations among the Variables

	Age	CF	BDI	CF-Alt.	CF-Control
Age	1				
CF	,073	1			
BDI	-,226**	-,327**	1		
CF-Alternative	,066	,845**	-,111*	1	
CF-Control	,046	,747**	-,437**	,276**	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Variables: Age, cognitive flexibility, cognitive flexibility-alternative, cognitive flexibility control.

4. DISCUSSION

This study investigated the role of cognitive flexibility in adolescents and its measurement as well as its relationship to age and depression. In this chapter, results of the study will be discussed under the scope of the relevant literature; and limitations of the study, projections for future research, clinical implications will be provided.

Before the testing of hypotheses on differences in level of CF and depression in high school and university students, psychometric properties of Cognitive Flexibiliy Inventory for Turkish adolescents was examined. In the current study, PCA was performed to test the first hypotheses whether the two-factor structure of

Cognitive Flexibiliy Inventory (CFI, Gülüm & Dağ, 2012) is a valid model for Turkish adolescents. It was found that the two-factor structure of Cognitive Flexibiliy Inventory (CFI, Gülüm & Dağ, 2012) is verified for Turkish high school (adolescent) sample. And the results of the current study were compared with the findings of the previous studies that obtained from university students (Dennis & Wal, 2009; Gülüm & Dağ, 2012) in terms of the psychometric properties of the scale for high school sample.

4.1. Findings Concerning Psychometric Properties Of CFI For Adolescents

The first hypotheses of the study was that for Turkish adolescents, the psychometric properties of CFI (CFI, Gülüm & Dağ, 2012) might be similar to previously reported findings for adults (Dennis & Wal, 2009; Gülüm & Dağ, 2012; Sapmaz & Doğan, 2013).

The findings of the current study concerning the internal consistency was in line with the literature. The results of the present study showed that CFI has a good internal reliability for adolescent (high school-age group) participants in this study. In terms of reliability and validity, similar findings were obtained with the original version (Dennis & Wal, 2009), and Turkish version of CFI (Gülüm & Dağ, 2012; Sapmaz & Doğan, 2013).

The findings concerning the factor structure were consistent with the literature. In the present study, an exploratory factor analysis was performed to determine the structural validity of the Cognitive Flexibility Scale for high school students. Initially, exploratory factor analysis revealed a five-factor solution. When these findings of the analysis were examined, it was concluded that the findings of

exploratory factor analysis may support two and three factor solution. And also, considering the literature, it was decided to conduct explanatory factor analysis with two and three factor solution as a next step. In order to the analysis to discover the pattern of the factor solution of the CFI for adolescents, two and three factor soltuions were compared.

According to the findings of the current study, the explained variances for the two factors were similar with previous research (Sapmaz & Doğan, 2013). And, the factor loadings of the two subscales of the current study show similarities with literature (Dennis & Wal, 2009; Sapmaz & Doğan, 2013; Gülüm & Dağ, 2012). In our adolescent sample, can be contributed to discover that in our Turkish version of CFI can reveal two subscales as CF-Alternatives and CF-Control for adolescents. Although for three factor solution total variance was higher than two factor solution, the two factor solution was preferred in the current study. As one of the first reasons, it was seen that explanatory analysis with two factor solution was consistently to previous theoretical support of cognitive flexibility. CFI (Dennis & Wal, 2009) was developed to assess the two main dimensions of cognitive flexibility. Secondly, the literature seemed suggests two factor solution. In the present study, all item factored as in studies (Dennis & Wal, 2009; Gülüm & Dağ, 2012; Sapmaz & Doğan, 2013). When we comparing the findings of the psychometric properties of CFI with previous studies, it can be concluded that in terms of psychometric properties of CFI, the findings of this study were similar with the literature, where CFI was revealed two factor; Alternatives and Control. The third reason we prefer the two-factor structure, in the analysis of three factor solution, new factor structure revealed but this new pattern was not considered as a significant in terms of the content and integrity.

4.2. Findings Concerning Age And Cognitive Flexibility

The second aim of the study and related hypotheses were about age and cognitive flexibility. In the current study, CF of high school and university students were assessed via self-report Cognitive Flexibility Inventory (Gülüm & Dağ, 2012). The CFI scale was used for high school students because the current study results depicted that CFI was a reliable and valid instrument that can be utilized in the Turkish culture. In the literature, there are only a few self-report studies that were specifically conducted with high school students and addressed the CF in terms of the developmental perspective. In the light of theoretical perspectives such as Piaget's cognitive developmental theory and the neuropsychological perspective, a significant positive relationship between age and cognitive flexibility was predicted. The findings of the current study did not support our hypotheses that are based on these theoretical perspectives. When the CF was considered as a subcategory of executive functions, there are many research that addressed the executive functions on developmental perspectives via using the specific performance based tasks. Executive processes begin to develop by the end of the first year of life and continue to develop throughout childhood and adolescence and then decline in late adulthood (Anderson, 2002; Zelazo, Craik, & Booth, 2004). Advances in cognitive flexibility continue as children get older (Stevens, 2009). In the present study, this developmental pattern in terms of the comparison between adolescents and adults was not observed. According to the findings, there was no significant relationship between age and CF, differences between high school and university groups regarding cognitive flexibility scores were not statistically significant. To our knowledge, only two self-report studies have examined the developmental aspect of

cognitive flexibility. Similarly, the first study (Altunkol, 2011) that compared university students within an age range of 17 and 25, stated that there was not a significant relationship between cognitive flexibility and age, which is consistent with the findings of the present study (Altunkol, 2011). These findings were also inconsistent with theoretical predictions and with the other results of performance based studies. This can be explained by utilization of self report measurement that differentiates from performance-based measurements in terms of assessing different constructs without significant overlap. The neuropsychological measure of cognitive flexibility was conducted via performence based tasks. On the other hand, self report scale measures a different aspect of cognitive flexibility. It assess a qualitative aspect of flexible thinking (Dennis, 2009; Johnco, 2013). Neuropsychological assessment of cognitive flexibility generally shows positive relationship with age but self-report measures do not, except the second study (Diril, 2011) that compared high school students according to their grade levels. In that study, there is a significant difference between the grade levels of students and their levels of cognitive flexibility. The results of that study depicted that CF of 9th grade students was higher than 11th grade students (Diril, 2011). This finding was also inconsistent with findings of current study. As mentioned before, this finding was explained by Diril (2011) as the relation between increasing age and exposure to more negative experiences. In other words, as adolescents get older, they may get,exposed to more negative experiences or frustrations in their relationship. In this way, their cognitive interpretations may get affected by these experiences and they may perceive the world around them in a more negative and rigid way.

Diril (2011) claimed that negative cognitions may increase with age which is inconsistent with the literature. Unlike Diril (20111), Garber, Weiss, and Shanley

(1993) stated that between 7th and 12th grades, there was no significant relation between age and negative cognitions. Also, age did not moderate the relation between negative cognitions (Garber, Weiss, and Shanley, 1993). In addition to this, in the current study, it was concluded that there was a negative relationship between age and depression. Therefore, it could be said that as the students grew up, there was a tendecy to report less depression. As depression decreases, an increase in cognitive flexibility can be expected due to the fact that there was a negative correlation between depression and cognitive flexibility. Unlike Diril (2011), as the students get older, a rise in their cognitive flexibility can be expected. However, this pattern was not observed in the present study. This unexpected finding may be due to wide range of the ages of the compared groups. In this study we had two groups and in these groups the age range was between 14-18 for adolescents and 18-27 for adults. Therefore, limiting age distribution in future research may reveal the possible significant differences of age and cognitive flexibility sufficiently.

4.3. Findings Concerning Cognitive Flexibility And Depression

In the present study, a significant negative relationship between depression and cognitive flexibility was found as in line with other studies in the literature. The studies of Dennis and Vander Wal (2009), Fresco, Rytwinski and Craighead (2007), and Gündüz (2013) supported the findings of the current study. In the literature, the negative relationship between depression and cognitive flexibility are addressed by some studies indirectly. The findings indicate that irrational beliefs and psychological symptoms are important in terms of predicting cognitive flexibility (Gündüz, 2013; Dağ & Gülüm, 2012). According to the Stevens (2009), children with stronger cognitive flexibility abilities tend to show appropriate social skills in

terms of peer acceptance, prosocial behavior, cooperating, inviting others to play, showing appropriate self-restraint, and positive assertiveness. It was claimed that they have less problem behavior (Stevens, 2009). In the face of negative life events, being flexible facilitate individuals to generate multiple perspectives and solutions to the factors that are unique to the current situation (Fresco, Rytwinski, Craighead, 2007). Rigidity play an important part in what makes individuals vulnerable to dysphoric reactions ,therefore, inflexibility was associated with higher levels of depression (Fresco, Rytwinski, Craighead, 2007). Owens and Derakshan (2013) claimed that for effective goal directed behavior, flexible behaviour is necessary and rumination is maladaptive one. Cognitive inflexibility in dysphoric rumination leads to cognitive deficits and expose longer and more severe episodes depression, anxiety and destructive behaviors. Those perspectives are compatible with the findings of inverse relationship between CF and depression and cognitive behavioral theories. Therefore, these results help clarify previous research that revealed consistent findings.

4.4. Findings Concerning Age And Depression

The third aim of the study and related hypotheses were about age and depression. There are a number of studies which showed the significant relationship between age and depression among adolescents and adults. It was hypothesized that the levels of depression will be higher in high school students compared to university students in this study. As expected, the difference between adolescent and adult participants' depression scores are statistically significant. The current study showed consistent results with previous findings (Hankin, Abraham, Moffitt, Silva, MCGee

& Angell, 1998; Wight, Sepu'lveda & Aneshensel, 2004; Blazer, Kessler, McGonagle & Swartz, 1994).

In the current study, it was found that adolescents are more prone to depression than adults and also, depression had negative relationship between cognitive flexibility. This findings would be evaluated according to the prediction that the level of cognitive flexibility of adolescents might be poorer than adults. Therefore, they tend to report more depression. However, a significant relationship between age and cognitive flexibility was not found and this may be due to formation of age groups as explained in Section 4.2.

With 13–14 years of age, it was stated that depression increase approximately two-fold. And after 18 to 21, the new cases of depression begin to decrease (Merikangas et al., 2010). This situation can be explained by the fact that the pubertal transition is a critical and challenging developmental period of life. In the stage of transition to adulthood, the development of identitiy and self concept via new experiences, efforts to independence from parents, forming stable intimate relationships, making career decisions were observed (Roscoe & Peterson, 1984). There are challenges and efforts to adaptation of biological, social, familial, and academic transitions especially in the early years of adolescence. In this period of life, it can be thought that the stressors that are faced in adolescence can increase depressive experiences.

4.5. Limitations of the Current Study and Future Directions

The current study has contributed to the literature by addressing the developmental aspect of cognitive flexibility. However, the present study has some limitations that should be considered while interpreting the findings. The first

limitation is about the sample. The sample was relatively small and the sample size of high school and university students are not equal in our dataset. Data was collected from İstanbul; two different high schools and a university. The present sample might not represent the high school and university students population all throughout Turkey. With a larger number of school from different areas, generalization of the findings would be easier and reliable.

Turkish adaptation study of Cognitive Flexibility Scale was made with 17-25 years of age university students by limiting age to a certain age group and level of education. Although the sample consisted of 14-27 years of age in the current study, it can be claimed that there was limited/small variation in the age groups of participants. This situation potentially reduce the ability to generalize our results. Therefore, the age range should be kept wider and different age groups should be included to determine the relationship between age and cognitive flexibility sufficiently.

The current study was carried out with the high school and university students who don't have any psychological or psychiatric problems. The sample consisted of relatively high functioning students whose level of cognitive flexibility might be generally high. Therefore, the diversity of age and educational status was not observed in the sample sufficiently. In addition, the CF also evaluated in terms of cognitive behavioral theories of depression. The levels of depression may be relatively low compared to clinical populations in the study. Therefore, the variables of the study should be investigated in a clinical sample to obtain a deeper understanding of severe psychopathology. Moreover, a comparison can be made with participants who has psychiatric symptoms (clinical sample) and the participants who don't have any psychiatric symptoms (non-clinical sample).

In the present study, data were collected via group session administrations in classrooms. This can be considered potential bias for this study. The other limitation was collecting data via self-reporting measures. In addition, Dennis and Vander Wal (2009) stated that self-report and performance-based measurements of cognitive flexibility may assess different constructs without significant overlap. Self report scale measures a different aspect of cognitive flexibility compared with neuropsychological testing (Johnco, 2013).

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APPENDICES

APPENDIX A (Demographic Form)

DEMOGRAFİK SORULAR:

Aşağıdaki ifadeleri dikkatlice okuyunuz. Size en uygun olan cevabı veriniz ya da en uygun seçeneği işaretleyiniz.

CİNSİYET: ☐ KADIN ERKEK ☐

YAŞ:_____ **DOĞUM TARİHİ (gün/ay/yıl):** **_____**

SINIF DÜZEYİ:

☐ Lise 1. Sınıf ☐ Üniversite 1. Sınıf

☐ Lise 2. Sınıf ☐ Üniversite 2. Sınıf

☐ Lise 3. Sınıf ☐ Üniversite 3. Sınıf

☐ Lise 4. Sınıf ☐ Üniversite 4. Sınıf

☐ Lisans Üstü

BÖLÜMÜ : **_____**

ANNE-BABA EĞİTİM DURUMU:

	Anne	Baba
İlkokul (0-5 yıl)	☐	☐
Ortaokul (6-8 yıl)	☐	☐
Lise (9-11 yıl)	☐	☐
Yüksek Öğrenim (11 yıldan fazla)	☐	☐

APPENDIX B (Cognitive Flexibility Inventory)

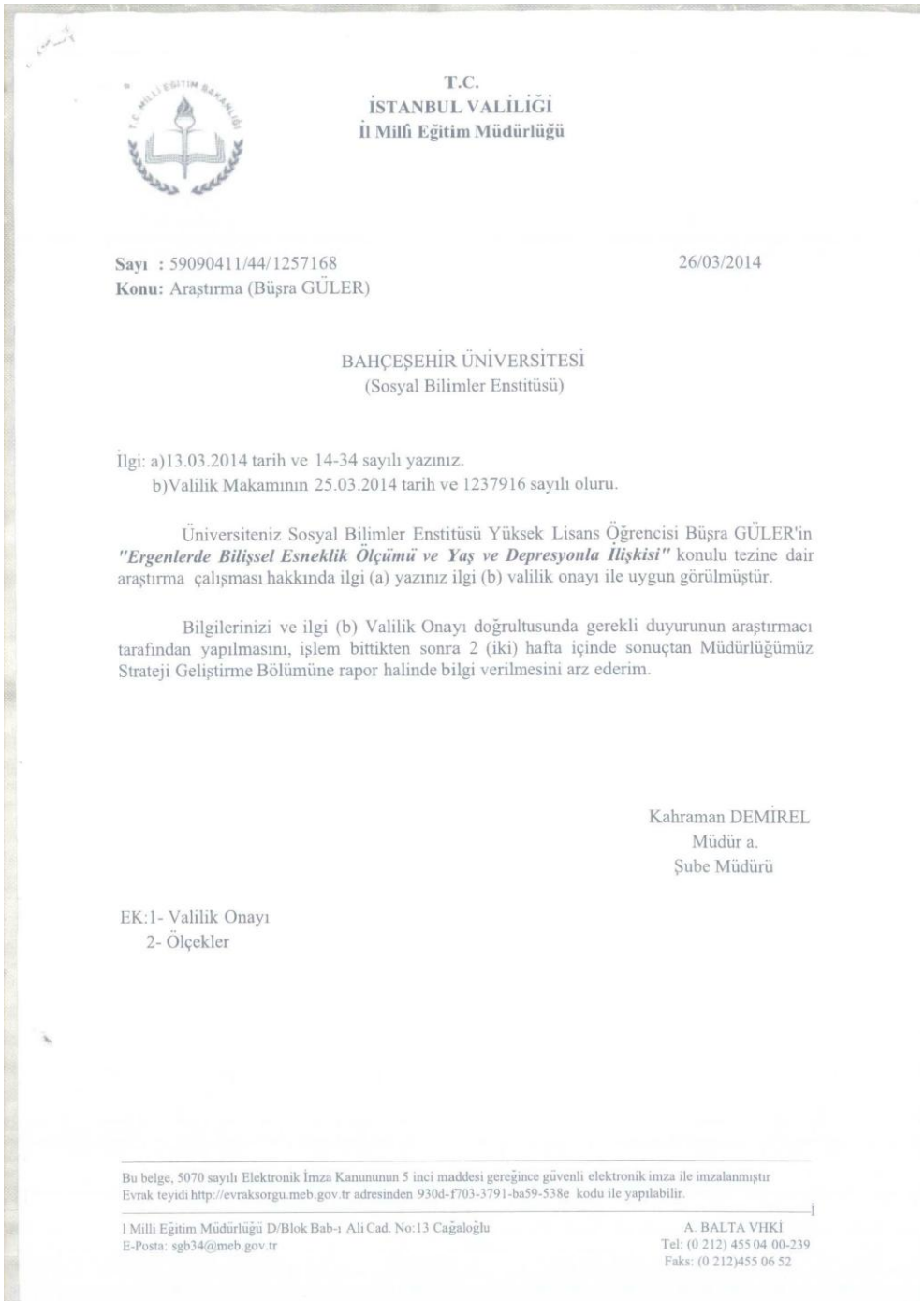
	Aşağıdaki ifadelerin size ne kadar uygun olduğunu göstermek için lütfen ifadelerin solunda yer alan ölçeği kullanınız.	Hiç uygun değil	Pek uygun değil	Kararsızım	Uygun	Tamamen uygun
1.	Durumları "tartma" konusunda iyiyimdir.	1	2	3	4	5
2.	Zor durumlarla karşılaştığımda karar vermekte güçlük çekerim.	1	2	3	4	5
3.	Karar vermeden önce çok sayıda seçeneği dikkate alırım.	1	2	3	4	5
4.	Zor durumlarla karşılaştığımda kontrolümü kaybediyormuşum gibi hissederim.	1	2	3	4	5
5.	Zor durumlara değişik açılardan bakmayı tercih ederim.	1	2	3	4	5
6.	Bir davranışın nedenini anlamak için önce, elimdekinin dışında ek bilgi edinmeye çalışırım.	1	2	3	4	5
7.	Zor durumlarla karşılaştığımda öyle strese girerim ki sorunu çözecek bir yol bulamam.	1	2	3	4	5
8.	Olaylara başkalarının bakış açısından bakmayı denerim.	1	2	3	4	5
9.	Zor durumlarla baş etmek için çok sayıda değişik seçeneğin olması beni sıkıntıya sokar.	1	2	3	4	5
10.	Kendimi başkalarının yerine koymakta başarılıyımdır.	1	2	3	4	5
11.	Zor durumlarla karşılaştığımda ne yapacağımı bilemem.	1	2	3	4	5
12.	Zor durumlara farklı açılardan bakmak önemlidir.	1	2	3	4	5
13.	Zor durumlarda nasıl davranacağıma karar vermeden önce birçok seçeneği dikkate alırım.	1	2	3	4	5
14.	Durumlara farklı bakış açılarından bakarım.	1	2	3	4	5
15.	Hayatta karşılaştığım zorlukların üstesinden gelmeyi becerebilirim.	1	2	3	4	5
16.	Bir davranışın nedenini düşünürken mevcut bütün bilgileri ve gerçekleri dikkate alırım.	1	2	3	4	5
17.	Zor durumlarda, şartları değiştirecek gücümün olmadığını hissederim.	1	2	3	4	5
18.	Zor durumlarla karşılaştığımda önce bir durup çözüm için farklı yollar düşünmeye çalışırım.	1	2	3	4	5
19.	Zor durumlarla karşılaştığımda birden çok çözüm yolu bulabilirim.	1	2	3	4	5
20.	Zor durumlara tepki vermeden önce birçok seçeneği dikkate alırım.	1	2	3	4	5

APPENDIX C (Beck Depression Inventory)

Bu form **SON BİR HAFTA** içersinde kendinizi nasıl hissettiğinizi araştırmaya yönelik 21 maddeden oluşmaktadır. Her maddenin karşısındaki dört cevabı dikkatlice okuduktan sonra, size en çok uyan, yani sizin durumunuzu en iyi anlatanı işaretlemeniz gerekmektedir.	
1.	(0) Kendimi üzüntülü ve sıkıntılı hissetmiyorum. (1) Kendimi üzüntülü ve sıkıntılı hissediyorum. (2) Hep üzüntülü ve sıkıntılıyım. Bundan kurtulamıyorum. (3) O kadar üzüntülü ve sıkıntılıyım ki artık dayanamıyorum.
2.	(0) Gelecek hakkında mutsuz ve karamsar değilim. (1) Gelecek hakkında karamsarım. (2) Gelecekten beklediğim hiçbir şey yok. (3) Geleceğim hakkında umutsuzum ve sanki hiçbir şey düzelmeyecekmiş gibi geliyor.
3.	(0) Kendimi başarısız bir insan olarak görmüyorum. (1) Çevremdeki birçok kişiden daha çok başarısızlıklarım olmuş gibi hissediyorum. (2) Geçmişe baktığımda başarısızlıklarla dolu olduğunu görüyorum. (3) Kendimi tümüyle başarısız biri olarak görüyorum.
4.	(0) Birçok şeyden eskisi kadar zevk alıyorum. (1) Eskiden olduğu gibi her şeyden hoşlanmıyorum. (2) Artık hiçbir şey bana tam anlamıyla zevk vermiyor. (3) Her şeyden sıkılıyorum.
5.	(0) Kendimi herhangi bir şekilde suçlu hissetmiyorum. (1) Kendimi zaman zaman suçlu hissediyorum. (2) Çoğu zaman kendimi suçlu hissediyorum. (3) Kendimi her zaman suçlu hissediyorum.
6.	(0) Bana cezalandırılmışım gibi geliyor. (1) Cezalandırılabileceğimi hissediyorum. (2) Cezalandırılmayı bekliyorum. (3) Cezalandırıldığımı hissediyorum.
7.	(0) Kendimden memnunum. (1) Kendi kendimden pek memnun değilim. (2) Kendime çok kızıyorum. (3) Kendimden nefret ediyorum.
8.	(0) Başkalarından daha kötü olduğumu sanmıyorum. (1) Zayıf yanların veya hatalarım için kendi kendimi eleştiririm. (2) Hatalarımdan dolayı ve her zaman kendimi kabahatli bulurum. (3) Her aksilik karşısında kendimi hatalı bulurum.
9.	(0) Kendimi öldürmek gibi düşüncelerim yok. (1) Zaman zaman kendimi öldürmeyi düşündüğüm olur. Fakat yapmıyorum. (2) Kendimi öldürmek isterdim. (3) Fırsatını bulsam kendimi öldürürdüm.
10.	(0) Her zamankinden fazla içimden ağlamak gelmiyor. (1) Zaman zaman içindem ağlamak geliyor. (2) Çoğu zaman ağlıyorum. (3) Eskiden ağlayabilirdim şimdi istesem de ağlayamıyorum.
11.	(0) Şimdi her zaman olduğumdan daha sinirli değilim. (1) Eskisine kıyasla daha kolay kızıyor ya da sinirleniyorum. (2) Şimdi hep sinirliyim.

	(3) Bir zamanlar beni sinirlendiren şeyler şimdi hiç sinirlendirmiyor.
12.	(0) Başkaları ile görüşmek, konuşmak isteğimi kaybetmedim. (1) Başkaları ile eskiden daha az konuşmak, görüşmek istiyorum. (2) Başkaları ile konuşma ve görüşme isteğimi kaybetmedim. (3) Hiç kimseyle konuşmak görüşmek istemiyorum.
13.	(0) Eskiden olduğu gibi kolay karar verebiliyorum. (1) Eskiden olduğu kadar kolay karar veremiyorum. (2) Karar verirken eskisine kıyasla çok güçlük çekiyorum. (3) Artık hiç karar veremiyorum.
14.	(0) Aynada kendime baktığımda değişiklik görmüyorum. (1) Daha yaşlanmış ve çirkinleşmişim gibi geliyor. (2) Görünüşümün çok değiştiğini ve çirkinleştiğimi hissediyorum. (3) Kendimi çok çirkin buluyorum.
15.	(0) Eskisi kadar iyi çalışabiliyorum. (1) Bir şeyler yapabilmek için gayret göstermem gerekiyor. (2) Herhangi bir şeyi yapabilmek için kendimi çok zorlamam gerekiyor. (3) Hiçbir şey yapamıyorum.
16.	(0) Her zamanki gibi iyi uyuyabiliyorum. (1) Eskiden olduğu gibi iyi uyuyamıyorum. (2) Her zamankinden 1-2 saat daha erken uyanıyorum ve tekrar uyuyamıyorum. (3) Her zamankinden çok daha erken uyanıyor ve tekrar uyuyamıyorum.
17.	(0) Her zamankinden daha çabuk yorulmuyorum. (1) Her zamankinden daha çabuk yoruluyorum. (2) Yaptığım her şey beni yoruyor. (3) Kendimi hemen hiçbir şey yapamayacak kadar yorgun hissediyorum.
18.	(0) İştahım her zamanki gibi. (1) İştahım her zamanki kadar iyi değil. (2) İştahım çok azaldı. (3) Artık hiç iştahım yok.
19.	(0) Son zamanlarda kilo vermedim. (1) İki kilodan fazla kilo verdim. (2) Dört kilodan fazla kilo verdim. (3) Altı kilodan fazla kilo vermeye çalışıyorum. Evet ..... Hayır .....
20.	(0) Sağlığım beni fazla endişelendirmiyor. (1) Ağrı, sancı, mide bozukluğu veya kabızlık gibi rahatsızlıklar beni endişelendirmiyor. (2) Sağlığım beni endişelendirdiği için başka şeyleri düşünmek zorlaşıyor. (3) Sağlığım hakkında o kadar endişeliyim ki başka hiçbir şey düşünemiyorum.
21.	(0) Son zamanlarda cinsel konulara olan ilgimde bir değişme fark etmedim. (1) Cinsel konularla eskisinden daha az ilgiliyim. (2) Cinsel konularla şimdi çok daha az ilgiliyim. (3) Cinsel konular olan ilgimi tamamen kaybettim.

APPENDIX D (Official Permission of Istanbul Provincial Directorate of National Education)



T.C.
İSTANBUL VALİLİĞİ
İl Millî Eğitim Müdürlüğü

Sayı : 59090411/44/1257168 26/03/2014
Konu: Araştırma (Büşra GÜLER)

BAHÇEŞEHİR ÜNİVERSİTESİ
(Sosyal Bilimler Enstitüsü)

İlgi: a)13.03.2014 tarih ve 14-34 sayılı yazınız.
b)Valilik Makamının 25.03.2014 tarih ve 1237916 sayılı oluru.

Üniversiteniz Sosyal Bilimler Enstitüsü Yüksek Lisans Öğrencisi Büşra GÜLER'in ***"Ergenlerde Bilişsel Esneklik Ölçümü ve Yaş ve Depresyonla İlişkisi"*** konulu tezine dair araştırma çalışması hakkında ilgi (a) yazınız ilgi (b) valilik onayı ile uygun görülmüştür.

Bilgilerinizi ve ilgi (b) Valilik Onayı doğrultusunda gerekli duyurunun araştırmacı tarafından yapılmasını, işlem bittikten sonra 2 (iki) hafta içinde sonuçtan Müdürlüğümüz Strateji Geliştirme Bölümüne rapor halinde bilgi verilmesini arz ederim.

Kahraman DEMİREL
Müdür a.
Şube Müdürü

EK:1- Valilik Onayı
2- Ölçekler

Bu belge, 5070 sayılı Elektronik İmza Kanununun 5 inci maddesi gereğince güvenli elektronik imza ile imzalanmıştır
Evrak teyidi http://evraksorgu.meb.gov.tr adresinden 930d-f703-3791-ba59-538e kodu ile yapılabilir.

İl Milli Eğitim Müdürlüğü D/Blok Bab-ı Ali Cad. No:13 Cağaloğlu
E-Posta: sgb34@meb.gov.tr

A. BALTA VHKİ
Tel: (0 212) 455 04 00-239
Faks: (0 212)455 06 52

T.C.
İSTANBUL VALİLİĞİ
İl Millî Eğitim Müdürlüğü

Sayı : 59090411/20/1237916 25/03/2014
Konu: Araştırma (Büşra GÜLER)

VALİLİK MAKAMINA

İlgi:a)Bahçeşehir Üniversitesinin 13.03.2014 tarih ve 14-34 sayılı yazısı.
b)MEB. Yen. ve Eğt. Tek. Gn Md. 07.03.2013 tarih ve 316 sayılı 2012/13 nolu genelgesi.
c)Milli Eğitim Araştırma ve Anket Komisyonunun 24.03.2014 tarihli tutanağı.

Bahçeşehir Üniversitesi Sosyal Bilimler Enstitüsü Yüksek Lisans Öğrencisi Büşra GÜLER'in ***"Ergenlerde Bilişsel Esneklik Ölçümü ve Yaş ve Depresyonla İlişkisi"*** konulu tezine dair araştırma çalışmasını Kartal Anadolu Lisesi, Semiha Şakir Anadolu Lisesi, Süleyman Demirel Anadolu Lisesinde; demografik soruları bilişsel esneklik envanteri, beck depresyon envanteri uygulama istemi hakkındaki ilgi (a) yazı ve ekleri Müdürlüğümüzce incelenmiştir.

Araştırmacının; söz konusu talebi; bilimsel amaç dışında kullanılmaması, veri toplama araçlarının eğitim -öğretimi aksatmayacak şekilde katılımcıların gönüllülük esasına göre seçilmesi, araştırma sonuç raporunun müdürlüğümüzden izin alınmadan kamuoyuyla paylaşılmaması koşuluyla, okul idarelerinin denetim, gözetim ve sorumluluğunda ilgi (b) Bakanlık emri esasları dâhilinde uygulanması, sonuçtan Müdürlüğümüze rapor halinde (CD formatında) bilgi verilmesi kaydıyla Müdürlüğümüzce uygun görülmektedir.

Makamlarınızca da uygun görülmesi halinde olurlarınıza arz ederim.

Dr.Muammer YILDIZ
Milli Eğitim Müdürü

OLUR
25/03/2014

Yusuf Ziya KARACAEV
Vali a.
Vali Yardımcısı

Bu belge, 5070 sayılı Elektronik İmza Kanununun 5 inci maddesi gereğince güvenli elektronik imza ile imzalanmıştır
Evrak teyidi http://evraksorgu.meb.gov.tr adresinden b43b-6d10-3f66-92ea-673a kodu ile yapılabilir.

İ
l Milli Eğitim Müdürlüğü D/Blok Bab-ı Ali Cad. No:13 Cağaloğlu
E-Posta: sgb34@meb.gov.tr
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Faks: (0 212)455 06 52

APPENDIX E (Parent Consent Form)

Veli Onay Kodu:

Bahçeşehir Üniversitesi Klinik Psikoloji Programı
Tez Araştırması
Bilgilendirilmiş Onay Formu

BİLGİ

Bilişsel esneklik; zor durumlarda alternatif, uyumlu, uygun, dengeli düşünceler üretebilme becerisidir. Ergenlerde bilişsel esneklik ölçümü ve ergen-yetişkinlerde bilişsel esneklik ve depresyon düzeyi arasındaki ilişkisini ele alan bir araştırma yapmaktayım. Çocuğunuzun araştırmaya katılmasını kabul ediyorsanız, çocuğunuzdan okul saatleri içerisinde yaklaşık 15 dakika sürecek ölçekler takımını yanıtlaması istenecektir. Çocuğunuzdan isim, okul numarası ve iletişim bilgileri alınmayacaktır. Verilen tüm cevaplar gizli tutulacaktır. Çocuk kendisi katılmak istemez ise zorlanmayacaktır.

Bilgilendirilmiş Onay

Yukarıda araştırma ile ilgili yazılanları okudum. Çocuğumun katılacağı bu araştırma için hiçbir zorlama olmadan gönüllü olmaktayım. Bu çalışma kapsamında çocuğuma sunulacak olan ölçekler takımını yanıtlaması isteneceğini biliyorum. Araştırmada elde edilecek bilgilerin kimlik bilgilerimi içermemek şartıyla yayınlanabileceği veya eğitim amaçlı kullanılabileceğini kabul ediyorum.

Tarih :…….

İmza :…….

APPENDIX F (Official Permission Of Bahcesehir University Research and Publication Ethics Committee)

Bahçeşehir Üniversitesi
Bilimsel Araştırma ve Yayın Etiği Komisyonu

RAPOR

Bilimsel Araştırma ve Yayın Etiği Komisyonu'nun 21 Şubat 2014 tarihli toplantısında aşağıda tanımı verilen Yüksek Lisans Tez projesi incelenmiş, bilimsel araştırma ve yayın etiğine aykırı unsur içermediği anlaşılmıştır.

Tez Adı: Ergenlerde Bilişsel Esneklik Ölçümü ve Yaş ve Depresyonla İlişkisi

Tez Öğrencisi: Büşra Güler

Tez Danışmanı: Doç. Dr. Serap Özer

Rapor Tarihi: 21 Şubat 2014

Prof. Dr. Gülsen Güneş
Hukuk Fakültesi

Prof. Dr. Orhan Tekelioğlu
İletişim Fakültesi

Doç. Dr. Metehan Irak
Fen-Edebiyat Fakültesi

Prof. Dr. Oktay Özcan
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Prof. Dr. H. Kadircan Keskinbora
Tıp Fakültesi

Prof. Dr. Filiz Polat
Eğitim Bil. Fakültesi

Prof. Dr. M. Bülent Uluengin
Mim. ve Tasarım Fakültesi

Prof. Dr. Niyazi Berk
İkt. ve İdari Bil.Fakültesi

Prof. Dr. Zehra Durna
Sağlık Bil. Fakültesi

APPENDIX G (Informed Consent Form)

ARAŞTIRMA KATILIMI İLE İLGİLİ BİLGİLENDİRİLMİŞ ONAM

Araştırmanın adı: Ergenlerde Bilişsel Esneklik Ölçümünün Yaş ve Depresyonla İlişkisi
Araştırmacının adı: Psikolog Büşra Güler
E-mail adresi: busra.guler@stu.bahcesehir.edu.tr
Sayın Katılımcı,
Tanıtım/Amaç: Bahçeşehir Üniversitesi Klinik Psikoloji yüksek lisans öğrencisi Psikolog Büşra Güler, Doç.Dr.Serap Özer'in danışmanlığında yürüttüğü tez çalışmasında ergenlerde bilişsel esneklik ölçümünün yaş ve depresyonla ilişkisi araştırmaktadır. Bu sebeple, yetişkinlerde uygulanan Bilişsel Esneklik Envanterinin Türk ergenler için psikometrik özellikleri araştırılacaktır. **Bununla beraber, ergen ve yetişkinlerde bilişsel esneklik ve depresyon düzeyi arasındaki ilişki de ele alınacaktır**.
Çalışmaya katılmayı kabul ettiğiniz takdirde, sizden size sunulan ve yaklaşık 10 dakika sürecek ölçekler takımını yanıtlamanız istenecektir. Araştırmanın bilimsel niteliği açısından her bir soruyu dikkatlice okumanız ve samimi ve dürüst bir şekilde yanıtlamanız son derece önemlidir.
Anketlerde kendinizi kişisel olarak tanıtan hiç bir bilgi sorulmamaktadır. Aşağıda bilgilerin gizliliği konusunda daha detaylı bilgi verilmektedir.

Olası rahatsızlık ve riskler: Bu araştırmaya katılımınız çok minimal risk içermektedir. Soruların bazıları sizlerde duygusal olarak rahatsızlık yaratabilir. Eğer böyle bir rahatsızlık duyarsanız araştırmacılardan biri ile temasa geçerek bu konuda destek için yönlendirilmenizi sağlayabilirsiniz.

Gönüllü katılım: Bu çalışmaya katılımız tamamen gönüllülük ilkesine dayanır. Hiç bir olumsuz sonuç, önyargı veya hakkınız olan yarar kaybı yaşamadan, istediğiniz anda katılımdan vazgeçebilirsiniz.
Gizlilik: Araştırma kapsamında tüm kişisel bilgileriniz ve verdiğiniz cevaplar gizli tutulacaktır. Tüm yanıtlanmış anketler korunarak muhafaza edilecektir. Araştırmada doldurduğunuz anketler kişisel bilgi içermeden numara ile kodlanacaktır. Anketlerden elde edilen veriler bir SPSS dosyası olarak bilgisayar ortamına girilecek ve bu verilerin bulunduğu taşınabilir bellek de dikkatle korunacaktır.
Temas Kişileri/Sorular: Eğer araştırma ile ilgili şu anda veya ilerde herhangi bir noktada sorunuz olursa araştırmayı yürüten Psikolog Büşra Güler ile iletişime geçiniz. (E-posta: busra.guler@stu.bahcesehir.edu.tr). Eğer bu araştırmanın katılımcısı olmanızla ilgili haklarınızla ilgili sorunuz varsa Bahçeşehir Üniversitesi Psikoloji Bölüm başkanı Doç.Dr.Serap Özer ile (nurserap.ozer@bhacesehir.edu.tr) temasa geçebilirsiniz.

Ergenlerde Bilişsel Esneklik Ölçümünün Yaş ve Depresyonla İlişkisi Araştırması

Bilgilendirilmiş Onam

"Yukarda araştırma ile ilgili bilgileri okudum ve anladım. Araştırmanın yararları ve olası riskleri konusunda bilgilendirildim ve beni tatmin edecek düzeyde sorularım yanıtlandı. Ayrıca, daha fazla sorum olursa araştırmacı tarafından yanıtlanacağı konusunda güvence aldım. Kendi isteğimle bu araştırmaya katılmayı Kabul ediyorum.

Bu formu imzalayarak yasal haklarımdan feragat etmemekteyim.
Bu bilgilendirilmiş onam formunun bir kopyası bana verilecektir.
Katılımcının İmzası:.....
Tarih:.....