

THE RELATIONSHIP AMONG EMOTIONAL INTELLIGENCE,  
PSYCHOLOGICAL ADJUSTMENT AND BEHAVIOR PROBLEMS  
DURING ADOLESCENCE

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THE RELATIONSHIP AMONG EMOTIONAL INTELLIGENCE,  
PSYCHOLOGICAL MALADJUSTMENT AND BEHAVIOR PROBLEMS  
DURING ADOLESCENCE

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## Thesis Abstract

Şengül Hafizoğlu, “The Relationship Among Emotional Intelligence, Psychological Adjustment and Behavior Problems During Adolescence”

The aim of the current study was to investigate the relationship among emotional intelligence, psychological adjustment/ maladjustment and teacher-reported behavior problems of adolescents between ages 16 and 17 years. There were 84 adolescents (41 females, 43 males). The study also looked at the possible predictors of behavior problems.

Emotional intelligence was measured by Bar-On Emotional Quotient Inventory, Bar-On EQ-i (Bar-On, 1997), psychological adjustment/ maladjustment was measured by Personality Adjustment Questionnaire, PAQ (Rohner, 1971) and behavior problems was measured by Conners’ Teachers’ Rating Scale CTRS-28 (Conners, 1969).

Results of the study displayed that there was a significant negative correlation between emotional intelligence and behavior problems ( $r = -.25, p < .05$ ). However the relationship between emotional intelligence and psychological adjustment, and psychological adjustment and behavior problems were not statistically significant.

Intercorrelations among subtests of emotional intelligence (measured by Bar-On EQ-i) and subtests of psychological adjustment/ maladjustment (measured by PAQ) revealed significant results as well.

Stepwise regression analysis showed that GPA was the strongest predictor of behavior problems, followed by interpersonal relationships subtest of Bar-On EQ-i, self regard subtest of Bar-On EQ-i and optimism subtest of Bar-On EQ-i.

Referring to the significant negative relationship between emotional intelligence and behavior problems, the study results may be utilized in emphasizing emotional literacy and emotional intelligence in the school curriculum. Those students with higher scores in emotional intelligence are better in understanding their feelings and others' feelings, better in interpersonal relationships, in dealing with problem situations and in controlling their impulses (Goleman,1995). Counselors and school psychologists may focus on emotional intelligence in their counseling programs to reduce the prevalence of behavior problems and to foster good interpersonal relationships, empathic skills and effective problem solving abilities.

## Tez Özeti

Şengül Hafizoğlu, “Ergenlerde Duygusal Zeka, Ruhsal Uyum ve Davranış Problemleri Arasındaki İlişki”

Bu çalışmanın amacı, 16-17 yaş grubu ergenlerde duygusal zeka, ruhsal uyum/uyumsuzluk ve davranış problemleri ilişkisini araştırmaktır. Buna ilaveten, çalışmada davranış sorunlarının olası belirleyici etmenlerine de bakılmıştır. Toplam 84 katılımcıdan 41 tanesi kadın, 43 tanesi erkektir.

Duygusal zeka Bar-On tarafından 1997’de geliştirilen Bar-On Duygusal Zeka Envanteri (Bar-On EQ-i) ile, genel ruhsal uyum/uyumsuzluk Rohner’in 1971 yılında geliştirdiği Kendini Değerlendirme Envanteri (PAQ) ile ve davranış sorunları Connors’ın 1969 yılında geliştirdiği Connors’ Öğretmen Derecelendirme Ölçeği (CTRS-28) ile ölçülmüştür.

Çalışmadan elde edilen sonuçlarda; duygusal zeka ve davranış sorunları arasında anlamlı ve negatif bir ilişki saptanmıştır ( $r = -.25, p < .05$ ). Analizlerde, duygusal zeka ve ruhsal uyum, ve ruhsal uyum ve davranış sorunları arasındaki ilişki anlamlı değildir.

Bar-On EQ-i ile ölçülen duygusal zeka ve PAQ ile ölçülen ruhsal uyum/uyumsuzluk alt ölçekleri arasında anlamlı ilişkiler bulunmuştur. Yapılan regresyon analizlerinde davranış sorunlarını belirlemede, genel not ortalamasının en güçlü değişken olduğu, onu sırası ile kişilerarası ilişkiler alt testi (Bar-On EQ-i), öz saygı alt testi (Bar-On EQ-i) ve iyimserlik alt testi (Bar-On EQ-i) takip etmektedir.

Çalışmanın sonuçları eğitim-öğretim programlarının düzenlenmesinde duygusal okuryazarlık ne duygusal zeka dikkate alınabilir. Duygusal zeka puanı daha yüksek olan öğrenciler, kendilerinin ve diğerlerinin duygularını anlamada, kişiler

arası ilişkilerde, sorunları en etkin şekilde çözüme ve dürtülerini kontrol etmede diğerlerine göre daha iyidir (Goleman, 1995). Psikolojik danışmanlar ve rehberler, yaptıkları programlarda duygusal zekaya daha fazla yer vererek, davranış sorunlarının görülme sıklığını azaltabilir, olumlu kişiler arası ilişkiler, empati ve etkin problem çözme becerilerini destekleyebilirler.

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# CONTENTS

	Page
Thesis Abstract .....	ii
Tez Özeti .....	iv
Acknowledgements.....	vi
Contents.....	ix
Tables.....	xi
CHAPTER 1: INTRODUCTION.....	1
The Current Study .....	4
Research Questions.....	5
CHAPTER 2: LITERATURE REVIEW.....	7
Emotional Intelligence.....	7
Models of Emotional Intelligence.....	8
Assessment of Emotional Intelligence.....	11
Emotional Intelligence and Success in Life.....	12
Psychological Maladjustment.....	15
Psychological Maladjustment and Well-Being.....	19
Emotional Intelligence and Psychological Maladjustment.....	20
Behavior Problems.....	23
Correlates of Behavior Problems.....	25
Emotional Intelligence and Behavior Problems.....	27
CHAPTER 3: METHOD.....	38
Participants.....	38
Design.....	39
Procedure.....	39
Instruments.....	40
Bar-On Emotional Quotient Inventory (Bar-On EQ-i).....	40
Personality Assessment Questionnaire (PAQ).....	43
The Conners' Teachers Rating Scale (CTRS-28).....	45
Data Analysis.....	50
CHAPTER 4: RESULTS.....	51
Overview: Organization of Results.....	51
Presentation of Results.....	51
Frequencies Regarding Demographic Characteristics of the Sample.....	51
Descriptive Analyses of Associated Measures.....	52
Research Question 1,2,3:Relationship Among Emotional Intelligence Psychological Maladjustment and Behavior Problems.....	54
Research Question 1a.Correlations between Subtests of PAQ and Bar-On Dimensions.....	55
Research Question 1b.Correlations between Subtests of PAQ and Subtests of Bar-On EQ-i.....	58
Research Question 4:Contribution of Demographic Variables, GPA,Emotional Intelligence and Psychological Maladjustment on Behavior Problems .....	61
Research Question 5:Differences in Emotional Intelligence and Behavior Problems According to Scoring Above or Below	

	Sample Mean of Psychological Maladjustment.....	65
	Research Question 6: Differences in Psychological Maladjustment and Behavior Problems According to Scoring Above or Below Sample Mean of Emotional Intelligence.....	65
CHAPTER 5: DISCUSSION.....		66
	Organization of Discussion.....	66
	Purpose of the Study.....	66
	Review of Findings.....	68
	Research Question One- Relationship Between Emotional Intelligence and Psychological Maladjustment.....	68
	1a. Correlations Between Dimensions of Emotional Intelligence and Subtests of Psychological Maladjustment.....	70
	1b. Correlations Between Subtests of PAQ and Subtests of Bar-On EQ-i.....	72
	Research Question Two- Relationship Between Emotional Intelligence and Behavior Problems.....	76
	Research Question Three- The Relationship between Psychological Maladjustment and Behavior Problems.....	79
	Research Question Four- Relative Contribution of Emotional Intelligence, Psychological Maladjustment, GPA and Demographic Variables to the overall Prediction of Behavior Problems.....	
	Research Question Five: Differences in Emotional Intelligence and Behavior Problems According to Gender and Those Scoring Above and Below Sample Mean of Emotional Intelligence....	82
	Research Question Six: Differences in Psychological Maladjustment and Behavior Problems According to Scoring Above or Below Sample Mean of Emotional Intelligence .....	82
	Implications of the Study.....	83
	Strengths of the Study.....	85
	Limitations of the Study and Directions for Future Research.....	85
CHAPTER 6: APPENDICES.....		88
	A. Official Consent.....	89
	B. Demographic Information Form.....	91
	C. Bar-On Emotional Intelligence Quotient (Bar-On EQ-i) .....	91
	D. Personality Assessment Questionnaire (PAQ).....	98
	E. Conners' Teachers Rating Scale (CTRS-28).....	102
CHAPTER 7: REFERENCES.....		104

## TABLES

Table 1. Models of Emotional Intelligence.....	10
Table 2. Demographic Characteristics .....	52
Table 3. Means, Standart Deviations and Minimum/Maximum Scores for the Measures.....	53
Table 4. Correlations Between Emotional Intelligence, Psychological Maladjustment and Behavior Problems .....	54
Table 5. Partial Correlations Controlling for Psychological Maladjustment.....	55
Table 6. Correlation Matrix Between Subtests of PAQ and Dimensions of Bar-On EQ-i.....	57
Table 7. Correlations Between Subtest of PAQ and Subtests of Bar-On EQ-i .....	60
Table 8. Stepwise Regression for the Prediction of Behavior Problems .....	62
Table 9. Hierarchical Regression Analysis for Predicting Behavior Problems .....	63
Table 9. Continued. Hierarchical Regression Analysis for Predicting Behavior Problems .....	64

## CHAPTER 1

### INTRODUCTION

The major component of children's emotional understanding is the way that they cope with external and internal demands (Lazarus and Folkman, 1984). Studies have shown that children may have tendency to manifest negative behaviors, such as aggression and hostility because of not having appropriate coping strategies with unwanted and stressful situations (Gjerde, Block and Block, 1988) or they may internalize the distress and may show problems in moods such as being sad and depressive (Cole, Zahn-Waxler, Fox, Ulser and Welsh, 1996). Being able to regulate mood and emotions implies that the individual possesses the abilities to identify and name emotions, not only in him/herself but also in others. These mentioned abilities are combined to formulate a construct termed "emotional intelligence" (Bar-On, 1997).

Emotional intelligence (EI) is defined as "the ability to identify, express, understand and assimilate emotions in thought and regulate both positive and negative emotions in self and in others" (Matthews et al., 2002 p. 3). Emotional intelligence (EI) has been a popular area of investigation both in popular media and academic psychology since the 1980s when the concept of EI was introduced (Matthews, Zeidner and Roberts, 2002). At the beginning, emotion was not thought to be a part of intelligence by researchers. However possible interaction between emotions and intellect was first emphasized by Humanistic thought in 1960s (Heubner, 2004). The history of emotional intelligence can be extended to include studies of Thorndike who introduced the concept of social intelligence (Acar, 2001)

and defined it as the ability to understand others and act wisely in interpersonal relationships (Acar, 2001; Thorndike, 1920 cited in Petrides, Frederickson and Furnham, 2004; Bar-On, 2005). Current emotional intelligence researchers, Mayer and Salovey accepted EI as part of social intelligence (1990 cited in Bar-On, 2005). Bar-On (2005) also states that social intelligence is an important component of emotional intelligence and suggests the concept to be renamed as “emotional social intelligence”.

Another theorist, Howard Gardner (1983 cited in Bar-On, 2005) defines personal intelligence as composed of interpersonal and intrapersonal intelligences. According to Gardner, intrapersonal intelligence is recognizing one’s own emotions; interpersonal intelligence is understanding other’s emotions (Schutte, Malouf, Hall, Haggerty, Cooper, Golden and Dornheim, 1998).

Applications of EI may also be seen in schools (Bodine and Crawford, 1999). EI may be seen as an essential factor in reducing the behavior problems of students. Expressing oneself, success at interpersonal relationships, ability to regulate emotions, coping with stressful situations effectively in a more internal level without displaying behavior problems (Gjerde, Block and Block, 1988) and sensitivity to others’s needs and expectations are important EI skills that can be practised at schools.

Behavior problems, is defined as displaying behavior that affect environment and self, such as demanding constant attention, displaying aggression against oneself and others, excessive crying, displaying noncompliant behaviors, lying, damaging property and having temper tantrums (Schroeder and Gordon, 2002). In recent years, it is a widespread accepted recognition that youth are more emotionally troubled than in the past, which can not be kept independent of the educational attainment of

individuals (Bodine and Crawford, 1999). There are individuals with different abilities, motivations and problems in the schools (Greenberg, Weisberg, O'Brien, Zins, Fredericks, Resnik and Elias, 2003). Almost 20% of students encounter mental health problems during an academic year and nearly 80% of them do not benefit from any intervention (U.S. Department of Health and Human Services, 1999 cited in Greenberg et al., 2003). Individuals with mental health problems, learning difficulties and social-emotional problems in the classrooms affect the education process (Benson, Scales, Leffert and Roehlkepartain, 1999 cited in Greenberg et al., 2003). The classroom is a group composed of individuals; even if one of the members' problem such as behavior problems or lack of social emotional skills, affect other members. If one of the members is not functioning well it is unavoidable that there will be some problems in that interaction, eventually the learning process will be disrupted by members experiencing difficulties with each other. In a study by Petrides, Frederickson and Furnham (2004), 650 adolescents with a mean age of 16.5 participated in the study. Those with lower scores on emotional intelligence were more likely to have behavior problems. Behavior problems in the study was measured by truancy or exclusions from school. The study of Petrides et al., (2004) emphasized that those with good emotion regulation and social skills, as a sign of EI, did not experience and externalize the stress too much and had less behavior problems reported by the school.

EI is related to skills such as: having a better understanding of oneself and others, establishing good social relationships, being successful at school and at life. The individuals with those EI skills are expected to have good mental health (Bar-On, 2005). Good mental health, is the psychological well-being of an individual which is described as psychological adjustment in Rohner's Theory (2003).

Psychological adjustment is defined as emotional security, self- knowledge and acceptance, success in interpersonal relationships, ability to be happy and having a purpose and direction in life (Klohen, 1993 cited in Eryiğit, 2004). Psychological adjustment by definition is very close to psychological well-being, upon presence or absence of which, mental health is defined (Rohner, 2004).

In a study conducted by De Lazzari (2001), 155 adolescents attending 9th and 12th grades participated in their study, to investigate the relationship of EI and psychological adjustment. EI was measured by the Emotional Intelligence Questionnaire (Schutte, Malouff, Hall, Cooper, Golden and Dornheim, 1998 cited in De Lazzari, 2001), psychological well-being was measured by the Satisfaction With Life Scale (by Diener, Emmons, Larson and Griffin, 1985 cited in De Lazzari et al, 2001) and by the Well-Being Manifestation Measure Scale (Masse, Poulin, Dassa, Lambert, Belair and Battaglini, 1998 cited in De Lazzari, 2001). The results showed that EI was related to psychological well-being and it explained some of the change ( $\Delta R^2=1.6$  ) in psychological well-being.

### The Current Study

The current study aims at examining the relationship among EI, psychological maladjustment and teacher reported behavior problems of individuals aged 16 and 17 years old. The importance of the study comes from its preliminary nature in the field because it attempts to involve emotional intelligence construct, which originally evolved from psychology but extensively utilized in human resources studies, to educational psychology domain. In the current study, EI is expected to have a mediating role between behavior problems as reported by teachers and overall

psychological maladjustment levels of individuals, as reported by themselves.

### Research Questions

1. What is the relationship between total emotional intelligence scores in adolescents (as measured by the Bar-On EQ-i) and the self-report of total psychological maladjustment scores (as measured by PAQ)?
  - a) Is there any relationship between dimensions of Bar-On EQ-i and subtests of PAQ?
  - b) Is there any relationship between subtests of Bar-On EQ-i and subtest of PAQ?
2. What is the relationship between total emotional intelligence scores in adolescents (as measured by Bar-On EQ-i) and total scores of teacher-reported behavior problems of adolescents (as measured by CTRS-28)?
3. What is the relationship between total scores of self-reported psychological maladjustment (as measured by PAQ) and total scores of teacher-reported behavior problems (as measured by CTRS-28)?
4. What is the relative contribution of demographic variables (age, gender), GPA, total emotional intelligence score and total psychological maladjustment score to the overall prediction of total teacher-reported behavior problems score (as measured by CTRS-28)?
5. Is there any significant difference in total emotional intelligence score (as measured by Bar-On EQ-i) and total behavior problems score (as measured by CTRS-28) according to those scoring above or below sample mean of psychological maladjustment (measured by PAQ)?

6. Is there any significant difference in total psychological maladjustment score (measured by PAQ) and behavior problems score (measured by CTRS-28) according to scoring below or above sample mean of EI (measured by Bar-On EQ-i)?

CHAPTER 2  
LITERATURE REVIEW  
Emotional Intelligence

Peter Salovey and John Mayer were the first to use the term “emotional intelligence” (Bar-On, 2005). Their definition of the construct was “the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion and regulate emotion in self and others” (Mayer, Salovey and Caruso, 2000, p.396). Emotional intelligence, according to Salovey and Mayer was seen as the part of social intelligence, where, not only understanding one’s own emotions and others’ emotions, but acting in accordance with this awareness is also emphasized (Acar, 2002).

After Mayer and Salovey’s definition, Daniel Goleman (1996) extended emotional intelligence research to business life. He is also known as the author of the best seller “Emotional Intelligence”. Goleman (1996, p.xiv) stated that emotional intelligence is related to every aspect of life: success at school, success at work. It is that through which “civility and caring” in communal life is obtained. Goleman’s definition of the concept includes five main points: (1) Control of impulses (2) Motivation (3) Regulation of emotions (4) Managing interpersonal relationships (5) Awareness of others’ emotions (Acar, 2002). In other words, emotional intelligence comprises “the including abilities of controlling impulses and persisting in the face of frustration to delay gratification, to regulate one’s moods and keep distress from swamping the ability to think; to empathize and to hope” (Goleman, 1996, p.34).

Bar-On (2005, p.3), as one of the leading researchers in the field, defined EI

as the ability “to understand oneself and others, to express oneself effectively, to maintain good relations with others, effectively and successfully cope with pressures, challenges and daily demands”. Bar-On 's perspective on EI is closer to that of Goleman’s. Mayer and Salovey’s definition stresses “the abilities” that compose EI. However Bar-On (2005) and Goleman’s (1996) perspective includes personality characteristics such as hope, optimism, motivation.

### Models of Emotional Intelligence

Researchers’ conceptualizations of emotional intelligence can be grouped under two basic models: ability and mixed models.

Ability model refers to cognitive-emotional ability in which individual’s actual ability to process, recognize and use emotional information is emphasized (Petrides, Frederickson and Furnham, 2004). Mayer and Salovey’s (Mayer, Salovey and Caruso, 2000) model is the ability model of emotional intelligence that emphasizes the distinct mental abilities of; (1) Perceiving emotions (2) Using emotion to initiate thought (3) Understanding the meaning of emotions (4) Regulating emotions in oneself and others.

Mixed model comprises both mental abilities and personality traits such as, empathy, impulsivity, assertiveness, optimism, well-being, motivation etc. (Petrides at al., 2004; Bracket, Mayer and Warner, 2003). Bar-On and Goleman’s emotional intelligence models fall under this conceptualization. According to Bar-On (2005), the five competencies in the definition of EI are: (1) To recognize, understand and express emotions (2) To control and regulate emotions (3) To understand how others feel and how to relate to them (4) To adapt to change and to solve problems (5) To

have positive affects and to be self motivated. Goleman's (1995) model emphasizes the following five components: knowing one's emotions, managing-controlling emotions effectively, motivating oneself especially in delaying gratification for a goal, recognizing emotional state of others and acting accordingly, effectively handling social interactions.

Table 1 summarizes ability and mixed models of emotional intelligence.

Table1. Models of Emotional Intelligence

Models	Description	Reference
<i>Ability Model</i>	Emotional intelligence is composed of competencies and skills such as;	Mayer, Salovey and Caruso (2000)
<i>Mixed Models</i>	<ol style="list-style-type: none"> <li>1.Ability to perceive and express emotions (identifying and expression of one’s own and other’s emotion)</li> <li>2.Ability to use emotions to facilitate thought (relating emotions to basic sensations, using emotions for judgement and memory).</li> <li>3.Ability to understand emotions and their meanings (understanding complex emotions and shifts from one feeling to another).</li> <li>4.Ability to regulate emotions (monitoring and managing emotions in self and others for contributing to personal growth).</li> </ol> <ol style="list-style-type: none"> <li>A.               <ol style="list-style-type: none"> <li>1.Intrapersonal skills (emotional self-awareness, assertiveness, self-regard, self-actualization, independence)</li> <li>2.Interpersonal skills (social relationships and responsibility, empathy)</li> <li>3.Adaptability (problem solving, reality testing, flexibility).</li> <li>4.Stress management (stress tolerance, impulse control).</li> <li>5.General mood (happiness, optimism).</li> </ol> </li>   <li>B.               <ol style="list-style-type: none"> <li>1.Self-awareness (recognizing and monitoring one’s feelings).</li> <li>2.Regulation of emotions (ability to control oneself, ability to soothe oneself)</li> <li>3.Motivation (delaying gratification, controlling emotions for a goal).</li> <li>4.Empathy (being sensitive to other’s feelings)</li> <li>5.Social relationships (establishing good relations with others, managing emotions of others).</li> </ol> </li> </ol>	<p>Bar-On (2005)</p> <p>Goleman (1996)</p>

## Assessment of Emotional Intelligence

Since the concept of EI has been put forward, there have been attempts to assess the concept as well. One of the most widely used instruments in emotional intelligence research is the first assessment tool for EI, Bar-On Emotional Quotient Inventory (Bar-On EQ-i) developed by Reuven Bar-On (1997). In the current study Bar-On EQ-i is utilized for the assessment of EI.

Bar-On EQ-i, is a self-report assessment tool with Likert type response. The questionnaire originally had 133 items but short forms are also available. Bar-On EQ-i measures five domains of EI. The first one is *intrapersonal intelligence*; this includes emotional self-awareness, assertiveness, self-regard, self-actualization and independence subscales. Secondly *interpersonal intelligence* including empathy, interpersonal relationship and social responsibility subscales. The third domain is *adaptability* which is composed of problem solving, reality testing and flexibility subscales. The fourth one is *stress management*, that includes stress tolerance and impulse control; the fifth and the last domain of Bar-On EQ-i is *general mood* that is composed of happiness and optimism subscales.

Shutte, Malouff, Hall, Haggerty, Cooper, Golden and Dornheim (1998) developed the “EQ Map” which was based on both the ability model of Mayer and Salovey and the more popular approaches that include personality characteristics. The scale includes 33 self report items. Authors also mentioned that the scale should be used cautiously in employee selection (Schutte et al., 1998).

Another assessment tool that is intended to measure EI is Goleman and Boyatzis’s Emotional Competencies Inventory (ECI), which was based on assessment studies of effective managers (Boyatzis, 1982 cited in Mayer, 2001). The

scale assessed the strengths and weaknesses of individuals and gave feedback about competencies that needed to be improved for success in business life (Boyatzis and Sala, 2005). The scale was developed from the Self-Assessment Questionnaire which was originally aimed at measuring competency at work (Boyatzis and Sala, 2005). Goleman and Boyatzis worked together on the scale and added new items. Their revision of the original scale resulted in a 72 item scale with 18 competencies, each competency measured by 4 questions (Boyatzis and Sala, 2005).

Multifactor Emotional Intelligence Scale (MEIS) and Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) are assessment tools that take EI as a form of intelligence. EI is introduced to be different from cognitive intelligence (Mayer, 2001). In these assessment tools, participants are presented with tasks to perform just like standardized intelligence tests (Mayer, 2001). Mayer states that this is the best way of measuring EI, neither self reports nor other's reports are reliable measures of the construct (Mayer, 2001; Salovey, Mayer and Caruso, 2002).

### Emotional Intelligence and Success in Life

According to Segal (1997), EI is essential for success in life. Segal (1997) added that individuals with higher cognitive intelligence may be more successful in academic life compared to those with lower cognitive intelligence, but without EI individuals may not move ahead much in life. EI and cognitive intelligence are complementary as Acar (2001) puts forward and EI is to a large extent the probable correlate of success in life. According to Goleman (1996), a student's success in school may be best predicted by EI because of the following characteristics: knowing what kind of behavior is expected; ability to control impulses; ability to wait; following directions;

requesting help from teachers when needed; and getting along with peers.

Contrary to Goleman's argument, Mayer does believe that EI is not more important than cognitive intelligence and even states that there is little or no evidence to support the claim of Goleman (Mayer, 2001). Mayer says that findings of the studies about EI and academic achievement relationship are not significant. The study which is conducted by Wells, Torrie and Prindle (2000) is also parallel to Mayer's argument. In their study the relationship between EI and academic achievement was studied. EI was assessed by Bar-On EQ-i (Bar-On, 1997 cited in Wells et al., 2000) academic achievement was assessed by grades at the end of the year. The sample consisted of 1st year Automotive Service Technology students (n=12) and 2nd year Automotive Services Technology students (n=9). EI scores and total grades assigned by instructors at the end of the first year had correlation approaching zero ( $r = .08$ ), second year grades in the program correlated, but at  $r = .55$  level which was not significant. However as the drawback of the study; the very small sample size which limited the generalizability of the findings and the uncontrolled confounding factors such as age and experience were stated (Wells et al., 2000).

On the other side, Bar-On (2005) stated that emotional intelligence, success at school and the workplace were closely related. The Bar-On model suggested that, ability to regulate emotions, ability to solve personal and interpersonal problems, ability to set goals and work through them, being self-motivated, being optimistic about attainment of goals were all related to success in an academic setting (Bar-On, 2005). Parallel to Bar-On's claims, research study conducted in Canada, examined the relationship between EI and academic achievement, in a sample of 667 high school students. Results showed that there was a moderate and significant ( $r = .41$ )

relationship between EI and academic success (Parker, Creque, Barnhart, Haris, Majesk, Wood, Bond and Hogan, 2004 cited in Bar-On, 2005). In another study, 106 university students' emotional intelligence scores were taken at the beginning of the year. At the end of first semester, their grade point averages (GPAs) were taken. Multiple regression analyses revealed significant relation ( $r = .45$ ). (Marchessault, 2005 cited in Bar-On, 2005).

Another study investigated the relationship of EI and work performance for 1,171 Air Force recruiters (Bar-On, Handley and Fund, 2005 cited in Bar-On, 2005). At the end of the evolution year they were divided into two groups according to Air Force criteria: "high performance" (100% success) and "low performance" (80% success). Bar-On EQ-i scores of the participants and their performance were found to be correlated at .53 level (Bar-On, 2005).

Bar-On (2005) also states that leadership styles and EI were also highly related. In a study conducted in Turkey, the leadership style (person oriented versus task oriented) of 329 bank managers was related to EI, those who were person oriented had higher EI scores (Acar, 2001). Person oriented leaders are sensitive to the group's needs and emotions, however, task oriented leaders are only interested in the task itself (Acar, 2001). Effective understanding and dealing with other people's emotions is part of EI (Mayer, Salovey and Caruso, 2000, Bar-On, 2005). Accordingly, task oriented leaders lacked the essential characteristics of EI, by disregarding the person factor in the task. The results of Acar's study showed that those with higher EI were likely to be person oriented leaders (Acar, 2001).

In the study of Petrides, Frederickson and Furnham (2004), the relationship between EI and academic success was studied. The participants were 650 adolescents with a mean age of 16.5, balanced according to gender, residing in the

UK. Academic success was assessed through a nationwide exam attended at the end of the secondary education. Results displayed that EI was moderating between academic performance and IQ. Disadvantaged students (those with learning disabilities and those with low cognitive intelligence) need to rely more on EI than other children without these disadvantages (Petrides et al., 2004). In the study, those with low cognitive intelligence and high EI were better in academic attainment, according to those with low cognitive intelligence and low EI; however in the high cognitive intelligence group there was no difference between low and high EI on academic achievement (Petrides et al., 2004). Disadvantaged students were more prone to face stress and emotional difficulties throughout their academic studies, and they needed emotional resources to compensate for their disadvantages (Petrides et al., 2004). The demands of the educational system and the discrepancy between their abilities created pressure and high EI was helpful in coping effectively with stress and anxiety (Petrides et al., 2004).

### Psychological Maladjustment

Psychological maladjustment is defined by Rohner within Parental Acceptance-Rejection Theory (PART). Parental Acceptance Rejection Theory is a theory of development and socialization that tries to predict the antecedents, consequences and correlates of parental acceptance and(or) rejection (Rohner, 2004). Parental acceptance is considered one end of the warmth dimension which is the quality of affection between the parent and the child (Rohner, Khaleque and Cournoyer, 2003). Parental acceptance is described by behaviors such as kissing, hugging, fondling, praising, complimenting which are indicators of warmth as well. At the other end,

parental rejection dimension identifies the perception of rejection through expressions, such as; cold and unaffectionate, hostile and aggressive, indifferent and neglecting, undifferentiated rejection (the person's belief that the parent is rejecting him/her even though there may not be a concrete evidence). The behaviors displayed by a rejecting parent are hitting, biting, scratching, pinching, curse, sarcasm, belittling, saying cruel things, the physical and psychological unavailability of the parent (Rohner, Khaleque and Cournoyer, 2003). Psychological adjustment is defined as having, emotional security, self- knowledge and acceptance, purpose and direction in life and success in interpersonal relationships (Klohen, 1993 cited in Eryigit, 2004).

Psychological maladjustment/adjustment is one of the correlates of perceived rejection/ acceptance that predict mental health (Rohner and Khaleque, 2005). Parental Acceptance Rejection Theory (PART) equates psychological adjustment with mental health (Rohner, 2004). Mental health is primarily defined as the absence of symptoms that hinder effective functioning (Qualls, 2002). Another definition, mental health is defined as functioning in many areas of life and coping and/or adapting to stressful events (Robbins and Kliever, 2000) additionally mental health is the capacity to establish good interpersonal relationships, to think, to have different perspectives and to have a good judgement of events and life (Wilkerson, 2005).

Perceived parental acceptance-rejection is presented as a good predictor of psychological and behavioral adjustment, and it is found to be related to many psychological disorders such as depression, anxiety disorders and behavior problems(Rohner, Khaleque and Cournoyer, 2003). The theory was constructed after research in the area initiated by the claim of Western social scientists that parental

love is very important, and is necessary, for the healthy development of children both emotionally and socially (Rohner, Khaleque and Cournoyer, 2003).

The theory has three subtheories; Coping, Sociocultural Subsystems and Personality. Rohner (2004) explains that Coping Subtheory is concerned with the individual differences in coping with the perceived rejection; some individuals can cope better while others can not cope effectively with rejection. Sociocultural Subsystems Subtheory aims at predicting and explaining why some parents are cold and rejecting while others are warm and accepting considering the society as a whole and its patterns of child rearing affected by social factors like: religious beliefs, family structure, household organization, economic organization, political organization, systems of defense (Rohner, 2004). Personality theory tries to predict and explain the psychology/ personality related consequences of perceived parental rejection, especially focusing on mental health related issues such as depression, behavior problems and substance abuse. Perceived rejection leads to resulting conditions such as dependence aggression/hostility, negative world view, negative self esteem, negative self adequacy and emotional stability which are personality related outcomes that constitute psychological adjustment.

According to PART, the emotional well-being of individuals is related to perceived rejection from parents. Perceived rejection is related to psychological maladjustment and personalities of people (Rohner, Khaleque and Cournoyer, 2003). Seven personality dispositions in the theory describe well adjusted versus maladjusted individuals. Positive and high dimensions of the characteristics (high self esteem, emotional responsiveness, positive world-view) are associated with high psychological adjustment. On the other hand, low dimensions of the characteristics (low self esteem, low self adequacy) and hostility/ aggression, dependence/defensive

independence are indicators of psychological maladjustment. Rohner described personality dispositions that made up psychological adjustment or maladjustment (Rohner and Khaleque, 2005; Rohner, 2004). The seven characteristics assessed for determining psychological adjustment or maladjustment are:

(a) Hostility/ aggression: difficulty in managing hostile feelings and aggressive acts is one of the characteristics of psychological maladjustment. Hostility is the internal feeling of anger, enmity and aggression is the externalized expression of hostility.

(b) Dependence or defensive independence: relying too much on others' positive response or totally refusing it. Defensively independent people do not recognize their need for love, care and warmth and reject others' emotional support. This rejection can lead to problems in interpersonal relationships and may even lead to violence. On the contrary, dependent people may not do without others' support of others.

(c) Self esteem; the extent to which one finds himself/herself worth of respect. Positive self esteem is liking oneself and thinking high of oneself.

(d) Self adequacy: feelings of competency in dealing with the stress and demands of daily life. High self adequacy means an individual's positive perception with regard to how strong s/he can stand problems, low self adequacy means an individual finds her/himself unsuccessful, inadequate in dealing with problems.

(e) Emotional responsiveness: the extent to which a person shares his/her feelings with people, especially feelings about themselves and establishes warm, intimate relationships. Emotional responsiveness does not only include expressing feelings but the ability to accept others' feelings.

(f) Emotional stability: the stability of the feelings and mood, how changeable

it is. Because of having low capacity to dealing with stress due to perceived rejection, those individuals are often easily upset, tearful when they face a problem.

(g) Worldview: how a person sees life; having a negative worldview versus having a positive worldview. Self esteem, self adequacy, emotional responsiveness are all contributing to people's beliefs about life and the world.

### Psychological Maladjustment and Well- Being

Well-being and mental health are closely related; psychological well-being is the basis on which mental health is defined and measured by its presence (Christopher, 1999). Well-being is the ultimate aim of counseling which helps clients relieve stress, have a purpose in life, find meaning and fulfillment (Christopher, 1999).

Each theory has its own conceptualization of well-being. Maslow's self-actualization, Allport's maturity, Roger's fully functioning person, Jung's individuation concepts all describe a mentally healthy person (Ryff et al., 1995). Rohner's (2004) theory is no exception: on the one side there is perceived rejection and its relation to many internalizing, externalizing psychological problems; on the other side there is perceived acceptance and its positive contribution to individual's well-being.

Studies that focused on personality characteristics presume that personality is the most important determinant of well-being (Robbins and Kliever, 2000). In a study, where well-being and the Big Five personality characteristics are studied, extraversion, agreeableness and conscientiousness positively correlated, however neuroticism was negatively correlated and openness to experience did not correlate significantly with well-being. (McCrae and Costa, 1991 cited in Robbins and

Kliewer, 2000). In another study, of personality traits and well being, trust, emotional stability, locus of control, self esteem, positive affect were found to be positively correlated with well-being (DeNeve and Cooper, 1998, cited in Robbins and Kliewer, 2000). Robbins and Kliewer (2000) state that self efficacy and optimism are also related to well-being.

### Emotional Intelligence and Psychological Maladjustment

Bar-On (2005) assumes that well-being is related to effective emotional and social functioning. Bar-On conducted a study with army recruits in Israel in 2003 (Bar-On, 2005). There were three groups of participants: those who were eliminated because of psychiatric reasons, those who were accepted with mild psychological disturbances and those who had no psychological disturbances. Regression analyses revealed that emotional-social intelligence measured by Bar-On EQ-i significantly predicted mental health (Bar-On, 2005). According to this study, Bar-On (2005) concluded that ability to regulate emotions and to cope with stress, motivation to attain personal goals, and ability to confirm one's feelings and thinking are the most prominent abilities that impact on psychological well-being. Absence of these abilities may lead to anxiety, depression and difficulties with reality testing (Bar-On, 2005). Ryff and Keyes (1995) also state that psychological well-being literature should focus on the following domains in defining the concept: whether people have a purpose in life, whether they actualize their potential, effectiveness in interpersonal relationships and the degree to which they feel in control of their own lives.

In the Schmidt and Andrykowski study (2004), psychological adjustment to stressful life events was found to be strongly correlated with EI. The participants

were 210 women with a breast cancer diagnosis. Study results showed that higher scores on EI was a protective factor against negative social impact and low social support from family and friends. Another finding of the study was the negative relationship between psychological distress level and EI. Those women with high scores on EI showed better adjustments to breast cancer; they were better in overcoming the negative impact of environment, such as lack of social support (Schmidt and Andrykowski, 2004). EI was shown as an important factor that helped them feel better and overcome negative psychological effects of the disease. Higher scores in EI in patients was associated with less depressive symptoms, less anxiety symptoms and less breast cancer related talk avoidance. Study results also suggested that higher scores in EI helped patients to identify, attend to, and regulate emotion about having breast cancer.

De Lazzari, (2001) looked at the relationship between emotional intelligence and psychological well-being in adolescents. Psychological well-being in the study was defined as including self-control, control over events, happiness, social involvement, self-esteem, mental balance and sociability. Study results revealed that EI was moderately correlated with psychological well-being; and EI significantly explains some of the variance ( $\Delta R^2=1.6$ ) in psychological well-being (De Lazzari, 2001). One possible interpretation of the result in De Lazzari (2001) suggests that high scores in EI means being apt at understanding one's own and others' emotions. People know that someone with high emotional intelligence, is the one they can trust, they can talk to. The positive socialization makes people feel good which leads to psychological well-being. Another interpretation for the results, is with regard to social reciprocity. Those with high EI are better in establishing friendships and they are better in meeting at their needs from those relationships which made them feel

good. The third explanation is about establishing boundaries in life. Those with high EI know when to say yes and when to say no to things that may trigger stressful situations, so that they keep stress levels low and have higher scores for psychological well-being (De Lazzari, 2001).

Bar-On (2005) stated that high emotional/social intelligence was related to psychological well-being. According to the research deficiencies in stress tolerance and interpersonal skills were particularly related to psychopathology for most women and men (Bar-On, 2005). Mayer and Salovey (1997 cited in Lance, 2003) after defining EI as being sensitive to one's own emotions and utilizing this information in following acts and thoughts, add that a person having these abilities is emotionally well-adjusted.

An emotionally intelligent person is expected to be well-adjusted as Mayer and Salovey (1997 cited in Lance, 2003) comment. Skills included in the definition and assessment of EI such as stress tolerance, self control, good social contacts, reality awareness, happiness, optimism, assertiveness are all positive qualities which arose the expectations that person having these should have maintain emotional well-being. It is significant to note that low stress tolerance, impulsivity, losing contact with reality, negative world view and having an isolated life are characteristics associated with many disorders (Mash and Wolfe, 2001). For instance, impulsivity is associated with many behavior problems; negative world view is associated with depression; losing contact with reality is characteristics of many psychotic disorders (Mash and Wolfe, 2001). On this ground, psychological health and EI of the individual are expected to be related to each other.

## Behavior Problems

One big challenge in raising children is, to teach socially acceptable ways of behaving, to deal effectively with unwanted events and stressful events (Schroeder and Gordon, 2002). When children's behavior does not fit with expectations, it is usually regarded as behavior problems. Behavior problems are defined as displaying behaviors that affect the environment and self, such as demanding constant attention, displaying aggression against oneself and others, excessive crying, displaying noncompliant behaviours, lying, damaging property and having temper tantrums (Schroeder and Gordon, 2002). Children's lack of control and regulation of their own behaviors according to social expectations, anger, negativity, impulsivity are also included in the definition of behavior problems by many researchers (Oltmanns and Emery, 2001; Cole, Fox, Zahn-Waxler, Usher and Welsh, 1996).

Behavior problems are the precursors of behavior disorders which are clinically significant behavior patterns that are observed across different settings (Sart, 2003). There is no systematic way to classify these problematic behaviors; however, they are generally considered as uncontrolled behaviors and are put into the category of conduct disorders, in a more generalized way called externalizing disorders (Plomin, Nitz & Rowe, 1999).

Externalizing problems are one of two dimensions of behavior problems, the other dimension being internalizing (Oltmanns and Emery, 2001). However when behavior problems are mentioned it is commonly referred to as externalizing problems (Oltmanns and Emery, 2001). Externalizing and internalizing problems were cited as indicators of maladjustment (Gerard and Buehler, 2004). Accordingly, the adjustment of youth is defined in terms of absence of any internalizing or

externalizing disorder. Internalizing problems (such as symptoms of depression and anxiety) affect the child's internal world, however, externalizing problems affect other people as well (Oltmanns and Emery, 2001). Externalizing behavior problems in childhood may lead to behaviour disorders such as: Attention Deficit Hyperactivity Disorder (ADHD), Conduct Disorder (CD), Oppositional Defiant Disorder (ODD) (Campbell, 1994).

Children's disruptive behavior problems are accepted as normal at some points in the developmental pathway (Campbell, 1994). However; by this time, behavior problems are expected to lessen through the children's increasing self control. The development of self control in children progresses from external control of parents through child rearing practices to internalized self control (Oltmanns and Emery, 2001). At first, children avoid doing something because the parents are there; when the parents are out of sight, it is all right. However by the time children internalize the rules of their parents and begin to control their own behavior, even when they are alone, they know what to do and what not to do because they have internalized the rationale for avoiding the act. Socialization of children has the ultimate purpose of regulation of behavior through internalized self control (Oltmanns and Emery, 2001). Oltmanns and Emery state that externalizing problems and self control are related to each other (2001). Those with externalizing problems are less able to delay gratification through self-control (Oltmanns and Emery, 2001).

Family is the most important socialization agent in a child's life. After family, the second important agent in socialization of children is attending school. Academic life increases demands of students; both the academic and social skills of the students are needed to meet the demand in a structured environment. They are expected to be academically successful and also behave in a socially appropriate way, especially

when dealing with unwanted and stressful life events. Indeed these two demands of academic life are not totally independent; aggressive behavior and academic achievement relationship is mediated by impulsivity, attention deficit problems and hyperactivity (Connor, 2004). Impulsive, hyperactive behaviors and inattention are characteristics of adolescents with behavior problems and these characteristics may hinder their scholastic abilities. After all, academic success is obtained through persistent work, ability to delay gratification and focusing attention (Kelly and Moon, 1998).

### Correlates of Behavior Problems

Moffit (1993) proposes that behavior problems are related to verbal and cognitive deficits, as assessed by neuropsychological tests. Neurological impairments of executive cognitive functions explain deficiencies in self-control, inappropriate response to environment, impulse control and attention control (Moffit 1993). For instance; as one of the prevalent forms of behavior disorders, antisocial behavior is related to poor communication skills, inability to delay gratification and self-control (Moffit, 1993). In a study carried out in New Zealand, boys with Conduct Disorder (CD) and Attention Deficit Hyperactivity Disorder (ADHD) symptoms had lower scores on verbal and executive functions of neuropsychological tests (Moffit, 1993). The deficits in verbal skills affect receptive listening, reading, expressive speech and writing, memory and problem solving (Moffit, 1993). Accordingly, those with behavior problems have difficulties in understanding others, expressing themselves, effectively dealing with unwanted events and they have problems with academic skills. Some of the difficulties encountered by those with behavior problems may

stem from difficulties in understanding social situations and appropriately expressing themselves in those situations (Friedman, Rapport, Lumley, Tzelepis, Voorhis, Stettner and Kakaati, 2003). Those difficulties may hinder one of their basic needs which is socialization. While one of their basic needs is not met, asking them to function successfully in school seems not feasible or possible.

Self-control is another important correlate of behavior problems. A self-control deficit that displays itself as inattention, overactivity and the impulsivity symptoms of ADHD, and language/ verbal skill deficits is related to behavior problems such as aggressive antisocial behavior (White, Moffit, Caspi, Bartusch, Needless and Loeber, 1994). White et al. (1994) collected data on self control and impulsivity from 430 youths by using multiple informants: mothers, teachers, self-report and observers. Impulsivity and self control were assessed through multiple methods: ratings scales, computer games, performance scales, Q sorts and videotaped observations. Research results showed that impulsivity was significantly correlated to antisocial behavior which is among the most common behavior problems ( $r = .44$ ,  $p < .001$ ). Delinquent boys aged between 10 to 13 had significantly higher impulsivity scores compared to non-delinquent boys. Results of the study suggested that poor self-control might be related to delinquency due to resulting inability to monitor one's own behavior (White et al., 1994).

Those children displaying behavior problems also have difficulties in their social lives. Children with aggressive behaviors and impulsive behaviors and/or poor self-control are usually rejected by others (Coie, Belding and Underwood, 1988 cited in Moffit, 1993). As with learned helplessness, those children who expect rejection in social situations because of prior experiences, behave in a way which elicits rejecting behavior (Dodge and Newman, 1981 cited in Moffit, 1993). ADHD as one of the

most prevalent forms of behavior disorders is also associated with deficits in the social domain (Mash and Wolfe, 2002). Impulsivity, inattention and hyperactivity symptoms of ADHD are associated with social skills deficits which may be perceived by others as rude, inappropriate, indifferent and uncaring behavior (Friedman, Rapport, Lumley, Tzelepis, Voorhis, Stettner and Kakaati, 2003). Problems in social relations arise from difficulty in understanding social situations as well (Rapport, Friedman, Tzelepis, Van Voorhis, 2002; Friedman et al., 2003). Rapport et al., examined the social and emotional competence of adults with ADHD focusing on receptive deficits (2002). The sample consisted of 56 participants: half were a group of individuals diagnosed to have ADHD, and the other half were a control group without diagnosis of ADHD. Participants were assessed on experienced emotion intensity and affect recognition. Those in the ADHD group reported to experience affect more than the control group, however the control group was better in recognizing affect of others. Barkley (1997 cited in Rapport et al., 2002) stated that impairments on behavioral inhibition resulted in high emotional reactivity. According to results of their study, extreme sensitivity to one's own emotions negatively correlated with sensing emotions of others (Rapport et al., 2002).

### Emotional Intelligence and Behavior Problems

Behaviors are fundamental in understanding EI, because EI is not directly measured but indirectly assessed as it is reflected in the behavior of the individual. Bar-On (2005) adds that emotional (social) intelligence is a combination of many skills that determine human behavior. Impulse control, good social relationships, assertiveness

are among the subdimensions in assessing emotional intelligence and all are observed through behavior. Impulse control is especially stressed in the Goleman model of EI for its strong connection with behavior (Goleman, 1996).

Obiakor (2001) in his article states that behavior problems of students should be viewed in light of EI. The behavior problems that are inappropriate responses in social situations result from an inability to control one's emotions (Goleman, 1996; Obiakor, 2001).

Students identified with behavior problems are shown to behave in a way that may disregard social norms (Obiakor, 2001). Successful socialization requires developing acceptable ways of expressing one's negative emotions when one is upset and frustrated (Schroeder and Gordon, 2002). A doctoral student who killed his advisor because he believed he was being treated unfairly is a striking example of dealing with negative feelings in socially inappropriate ways (Obiakor, 2001). Obiakor (2001) evaluated the student as intelligent when looked at from the level of educational achievement. However, he added what the student lacked was emotional intelligence. The inability to control his behavior, the inability to express his disappointment in socially acceptable ways and not to consider the results of his act was what made the act of the student emotionally unintelligent. Every problem has an opportunity to be resolved in an acceptable manner; it is the individual who decides which course of action to follow (Bodine and Crawford, 1999).

Behavior problems such as aggression, cursing, teasing, punching, threatening, harrassing, bullying, intimidating are all signs of poor management of emotional regulation (Obiakor et. al, 2000 cited in Obiakor, 2001). Emotional regulation is one of the important aspects of emotional intelligence (Bar-On, 2005). Definition of behavior disorders include difficulties with emotional regulation. Being

hot tempered, irritable, annoying, easily frustrated, hostile and moody are difficulties experienced resulting from poor emotional regulation (American Psychiatric Association, 1994 cited in Cole et al., 1996). Emotional and behavioral regulation deficits are associated with aggression, peer rejection, academic failure and emotional distress in students (Schwartz, 1999).

In addition to poor emotion regulation, personal characteristics like impulsivity, poor self-control and inability to delay gratification may directly or indirectly affect an individual's life by pushing him/her to become involved in antisocial delinquent activities (Moffit, 1993). Personal characteristics that are associated with behavior problems at school hinder the academic achievement of students (Moffit, 1993). Failure at school limits the acquisition of skills demanded in employment, thus these students to a great extent lose their chances to get a job to earn their living and they are rewarded by joining antisocial acts (Moffit, 1993). Failure at school may also contribute adversely to a child's self-worth which may lead to the adoption of self-defeating attitudes for the rest of his/her life. The direct influence of these characteristics can be observed through the inability to control one's own behavior; and in disregarding the possible results of his/her acts which may lead to delinquent behaviors.

In the study of Stevens, Charman and Blair (2001 cited in Lance, 2003), participants aged between 9 and 15 years old who were identified as having emotional and behavior problems and who were attending a special school for children with emotional and behavioral difficulties, were unable to read the facial expressions (fear, anger, sadness and happiness) of others. In the study, those with emotional and behavior problems, failed to recognize basic feelings in other people, which imply a deficiency in EI (Stevens et al. 2003, cited in Lance, 2003)

Another finding that supports the relationship of EI and deviant behavior is that of the study of Petrides et al. (2004). Deviant behaviors were assessed through truancy and exclusions from school due to breaking discipline. According to results of the study those students with low scores on EI were more likely to be expelled and they were more involved in truancy compared to their peers with high scores on EI (2004). The results of the study emphasized the importance of emotional well-being in adolescence and suggested that low emotional intelligence, poor social skills and impulsivity were possible correlates of deviant and antisocial behaviors (Petrides et al., 2004). Petrides et al. (2004), state that those with good social skills, and those with better emotion regulation skills, do not experience and externalize stress too much. Other studies have also suggested a link between emotional deficits and deviant behaviors (Cohen and Strayer, 1996; Eisenberg, 2000; Williamson and Cullingford, 1998 cited in Petrides et al., 2004). Good emotion regulation skills are a buffer to behavior problems such as impulsivity.

Brackett et al. (2004) found that EI was correlated with maladjustment and negative behaviors for males. In their study, EI was measured by Mayer-Salovey-Caruso Emotional Intelligence test (MSCEIT, Mayer, Salovey, Caruso, 2002 cited in Brackett et al., 2004). College Student Life Space Scale (CSLSS; Brackett, 2001 cited in Brackett et al., 2004) was utilized for assessing everyday behavior. Deviant Behavior (fights, damaging property) scale was among the scales of CSLSS. Participants were 330 university students aged between 17-20. According to the results of their study, deviant behavior was significantly negatively correlated with emotional intelligence. The study results implied that low EI may be a predictive of poor interpersonal relationships and deviant behaviors, especially males with low EI

in the study were involved in more harmful behaviors such as: illegal drugs, alcohol abuse, aggressive acts.

Staub (1986) hypothesized that there is a negative relationship between emotional sensitivity and aggression (cited in Lafferty, 2004). Emotional sensitivity helps foster an awareness of the negative effects of aggressive acts on others (like pain) and potential effects on the self (guilt, anxiety) (Staub, 1986 cited in Lafferty, 2004).

The relationships among social intelligence, empathy and aggression (physical, verbal, indirect) were studied with participants aged 10,12, and 14 (Kaukianen et al. 1999 cited in Lafferty, 2004). According to the results of their study, empathy was negatively correlated with physical and verbal aggression for all age groups, except indirect aggression for 12 years old participants.

Another study by Lance (2003) investigated the relationship between adolescent deviant behaviors and EI. A total of 152 participants aged between 14 and 18 years old attending high school took part in the study. The Normative Deviancy Scale (NDS; Vazsonyi and Pickering, 2000 cited in Lance, 2003) was used for the assessment of deviant behavior; for assessing EI, the Emotional Intelligence Inventory (EII; Tapia, Burry-Stock, 1998, cited in Lance, 2003) was used. Against the expectations of the researcher, the results of the study did not reveal a significant relationship between overall deviancy score and EI scores. But there was a negative correlation between facilitating emotional thinking and deviant behavior of adolescence. Self-control and deviant behaviors were also negatively correlated according to results of the study.

EI is the combination of two different concepts; emotions and intellect (Bar-On, 2005). We have two minds: one feels (emotional mind); the other thinks (rational

mind) (Goleman,1996). Neurologically, the emotional mind is located in the amygdala, the rational mind is in the prefrontal cortex. The emotional mind gives very fast decisions; it is impulsive and sometimes illogical, but very strong; on the other hand, the rational mind, first thinks and then reacts, it is slower according to the emotional mind, but definitely has better judgement abilities (Goleman, 1996). Emotionally intelligent behavior is the end product of the communication between the rational and emotional mind. According to Mayer, Salovey and Caruso (2000), by definition EI requires utilizing emotions in constructing thoughts and in making judgement .

The common point in deviant behavior and emotional intelligence research is impulsivity/self control deficiency (Petrides et al, 2004; Lance, 2003; Henley and Long, 1999, Goleman, 1996). Impulse control is also a significant aspect of EI; exerting control over impulses, ability to delay gratification, considering the further results of one's acts are all mentioned as the hallmarks of emotionally intelligent behavior.

Children with behavior problems lack self control and have difficulty in the regulation of their behaviors according to social expectations, and this is called "impulsivity" (Oltmanns and Emery, 2001). Impulsivity is included in the definition of many behavior problems of children with Attention Deficit Hyperactivity Disorder (ADHD), Conduct Disorder (CD), Oppositional Defiant Disorder (ODD) (Oltmanns and Emery, 2001). Most people believe that it is totally in our hand to control our behavior, however it has a neurological basis.

Impulsivity reveals itself in different forms; stimulation seeking, impatience, difficulty in delaying gratification and difficulty in waiting one's turn (Korkmaz, 2000). Although impulsivity is described in terms of behavioral symptoms it has a

neurological explanation as well. Neurologically impulsivity is located in the amygdala which is the part of the brain responsible for emotions and behaviours (Henley and Long, 1999). The amygdala very quickly evaluates sensory input and sends signals to the frontal lobe which is the “decision maker” (Henley and Long, 1999). The frontal lobe is the center that chooses the rational act to be performed, whereas the amygdala gives impulsive responses without further evaluation of the frontal lobe (Henley and Long, 1999). That “quick decision making” quality of the amygdala has served the humans during early days; at that time a quick evaluation of a situation and acting without further evaluation saved time and life (Henley and Long, 1999).

The amygdala pushes people into action without considering further consequences which Goleman (1996) calls “emotional hijacking”. The link between the amygdala and the frontal lobe is the least used one by an impulsive person (Henley and Long, 1999). The decisions given are fast but not the best ones. The individual risks himself/herself or others without thinking much about the possible results of his/her acts. Goleman describes the impulsive person as having no empathy, lacking of understanding of another person’s situation and not caring at all, having no compassion; these are among the essential characteristics of emotional intelligence (1996).

Longitudinal studies on impulse control with four year old children at Stanford University in the 1960s, showed that emotional and social competence and even academic competence could be predicted by control of impulses, delaying gratification at the age of four (Goleman, 1996 p. 81-82). Children in the study were attending the kindergarten of Stanford University. Children were put in a room where they were told by the experimenter that if they wanted they could take one

marshmallow right now, or if they preferred to wait a few minutes they would get two marshmallows instead. Some children took the time and waited for the experimenter, trying not to look at the one marshmallow in front of them. Some preferred the instant reward. Those who could delay gratification were more socially competent, assertive, able to deal with frustrations, dependable and did not give up when challenged and could still delay gratification in adolescence. The other group who preferred instant but less reward were more socially withdrawn, indecisive, adversely affected by stress and were immobilized, over-reacted to frustrations and provoked fights in adolescence. Unsurprisingly they were still not controlling their impulses. Another result of the study is that academic competence was also in favour of these groups who delayed gratification, and their Scholastic Aptitude Test (SAT) scores were higher than the other group. The first third adolescents (with least waiting time) of the group who wanted an immediate reward had an average verbal score of 524 and an average math score of 528 on SAT; however the three adolescents who waited longest for the reward had an average verbal score of 610, and average math score of 652. In total there was a 110 point difference between the two group's SAT scores (Goleman, 1996).

An important part of impulse control is understanding the difference between behavior and feeling; impulse is a feeling that expresses itself through behavior (Goleman, 1996). Making better decisions comes in controlling impulses through considering the consequences of acts (Goleman, 1996). For example the child who pushes his/her wet fingers into an electric socket just because s/he wonders how it feels to have electric current in his/her body is not acting with emotionally intelligence. Neither is a student in the classroom who yells at the teacher, or who

attacks the teacher when s/he is mad at him/her considering the results of the act, and this definitely is not giving the best decision at that moment.

Decision making is related to self control, and Goleman (1996) stated that better decision making would be through self-control, in other words, exercising control over impulses. Self control was studied through its absence, that was expressed as impulsivity and deviant behavior (delinquency and criminality). Self-control is related to emotional intelligence in a way that good self control is an essential characteristics of high EI (Goleman, 1996). Self control reflects social conformity, and the ability to delay gratification, to work through plans and step by step acts that may need a long time to implement and to see the results (Matthews et al. 2002). Those with good self control, keeping the ultimate purpose on mind, motivate themselves to go on so that they get bigger rewards instead of a smaller but instant one. Worldwide successful people have the abilities to focus their attention, persist in continuing the task for reaching their aim (Kelly and Moon, 1998).

Decision making, judgement and emotional intelligence relationship is studied by Bar-On, Tranel, Denburg and Bechara (2003). Researchers conducted a study to see whether those with lesions to the amygdala or the ventromedial prefrontal cortex differed from other patients without damage to the amygdala or the ventromedial prefrontal cortex (Bar-On et al., 2003). The ventromedial prefrontal cortex is related to judgement, and decision making quality (Bar-On et al., 2003). Patients in the experimental group had lesions to the ventromedial prefrontal cortex (VM) or the amygdala; the control group patients had lesions outside of the emotional circuitry that affect decision making and judgement (Bar-On et al., 2003). Participants were tested for cognitive intelligence, perception, memory and executive functioning, psychopathology signs, social functioning, personal judgement and

decision making, and EI (Bar-On et al., 2003). Results of the study showed that control and experimental groups did not differ in cognitive intelligence, executive functioning, perception, memory or psychopathology signs. However as to the decision making, the experimental group gave wrong decisions as time passed compared to the control group; they could not benefit from learning from experience. Patients with lesions to the VM or the amygdala had lower scores on emotional and social intelligence measured by Bar-On EQ-i (Bar-On et al., 2003). It is significant to note that there were no differences between the two groups regarding demographic characteristics, cognitive intelligence, perception, memory, signs of psychopathology or executive functioning: the differences between the two groups were on emotional and social intelligence. The study results suggested that EQ and IQ are not related in clinical population: decision making and judgement abilities are related to emotional and social intelligence (Bar-On et al., 2003).

Behavior problems at school, if untreated, may result in greater problems for both the individual and the society. Obiakor (2001) suggests that school programs include emotional intelligence skills in their curriculum. Self management programs to teach internal the regulation of behavior and feeling, social skills programs, mentorship programs to help students with behavior problems, partnership programs to facilitate cooperative learning should be part of emotional intelligence education at schools (Obiakor, 2001). School is not just a preparation for life, it is life itself, and accepting this view recognizes school as a great chance to teach emotionally intelligent behaviors (Bodine and Crawford, 1999). It is through learning that we behave in certain ways in certain situations; we learn to behave in a way that it is socially acceptable or not, then we take it as a reference point in our future life. Therefore teaching more acceptable, responsible ways of behaving through schooling

is very important in reducing behavior problems (Bodine and Crawford, 1999). As is reported, most behavior problems are the result of socially inappropriate ways of dealing with stressful and conflicting situations (Schroeder and Gordon, 2002). Emotionally intelligent behaviors require dealing effectively with conflict and stress. The classroom and school is a place where students may find a chance to develop emotional competencies like listening to and understanding each other, expressing oneself, cooperation, behaving in a socially responsible way (Bodine and Crawford, 1999). Thus, schools may be places where behavior that helps effective responses to conflicts and stressful situations is learned and practised (Bodine and Crawford, 1999). Students will experience school as not just a preparation for life, but school life is relevant to their daily lives as well. The transfer of learning at school to students' lives may increase the commitment of students to school as well.

## CHAPTER 3

### METHOD

#### Participants

Participants of the study were students from a private boarding school in İstanbul. The school is supported by a charity foundation established in 1863 to support the education of students whose fathers and/or mothers have died. The academic language in the school is English. Students have opportunities to participate in sports, arts and cultural activities. Although it is a private school, students do not pay tuitions with acceptance to the school students are automatically considered to have a scholarship. Students all over Turkey can apply at the end of the 3rd grade between ages of 10 to 11. As a policy students should enter an exam to be accepted to the school. After the exam and interviews, students are accepted by the school and they continue their education from the 4th grade. Those students accepted to school will continue from the 4th grade through 11th grade (now because of the change in the educational system in the 12th grade).

There are 405 students attending the primary and secondary school, 285 students attending to the high school program. In the current study, a total of 104 high school students, aged between 16 and 17, took part. All of the students attending 9th and 10th grades, except those who were absent during administration of the instruments, completed the instruments. Those who were attending 11th grade did not take part in the study because they were busy due to university entrance exam. Then

those who have taken discipline penalties (n=20) were eliminated and analyses were carried on for 84 participants. Because, the current study has a preventive approach, those who already had discipline penalty are not suitable for preventive purposes. Those who have discipline penalties may have behavior disorders as well since they are officially labelled to have behavior problems. However in the current study, we are interested in elevations in behavior problems, not clinical disorders. The analyses were carried on for those who have not get any discipline penalties. Six homeroom teachers of each class also joined the study by evaluating each student's behaviors. Participants were selected according to convenience sampling.

### Design

The current study is an example of descriptive research. The study was correlational. No variables were manipulated, the existing relationship among variables; EI, psychological maladjustment and behavior problems were studied. The study was also designed as causal-comparative; examining factors (demographic characteristics, GPA, EI, dimensions of EI, subtests of EI, psychological maladjustment and subtests of psychological maladjustment) affecting behavior problems, and examining group differences in EI, psychological maladjustment and behavior problems according to scoring above or below sample mean of EI and psychological maladjustment.

### Procedure

Firstly, an official permission from Province of İstanbul Governor's Office of the Director of National Education (Appendix A), then consents from the school principal were obtained. With the collaboration of the counseling office, the instruments were given to students in their counseling hour. They were informed about the study. The confidentiality issue is explained and the Bar-On EQ-i and Personality Assessment Questionnaire (PAQ) measures, attached to each other, were given together. The counseling office helped the administration process, the researcher visited all classes in order to answer any questions about the administration process. After students completed the instruments, those who were absent in the class, or who failed to complete the instruments were omitted from the class list. For those students who completed the instruments, homeroom teachers were given the Conners' Teachers Rating Scale (CTRS-28). Due to the teachers' busy schedule they were given one week time to complete the instruments.

## Instruments

### Bar-On Emotional Quotient Inventory (Bar-On EQ-i)

The Bar-on EQ-i is a 133 item self report instrument developed in 1997 by Reuven Bar-On. The instrument assesses socially, and emotionally intelligent behavior and gives an estimate of the individual's emotional intelligence, and is used with individuals aged sixteen and above (Bar-On, Tranel, Denburg and Bechara, 2003).

There are five possible answers to each question scaled according to Likert type (1. Very Seldom or not true of me 2. Seldom true of me 3. Sometimes true of me 4. Often true of me 5. Very often true of me or true of me).

The instrument has five scales. The intrapersonal scale assesses self awareness and self expression. There are a total of 40 questions that assess self-regard, emotional self awareness, assertiveness, independence and self-actualization subscales. The interpersonal scale measures social awareness and interpersonal relationships through empathy, social responsibility and interpersonal relationships subscales in 28 items. The stress management scale is composed of stress tolerance and impulse control subscales. Emotional management and regulation is measured in this scale through 18 items. The adaptability scale measures the change management of the individual with 26 items. Reality testing, flexibility and problem solving are in the subscales. The last scale is general mood which measures self-motivation. Optimism and happiness are the subscales that include a total of 17 questions

The test-retest reliability of the Bar-On EQ-i was assessed for a month and four months. The coefficients ranged between .78 to .92 and from .55 to .82 respectively (Bar-On, 1997 cited in Mumcuoğlu, 2002).

Construct validity was assessed by correlating the test results with Sixteen Personality Factor Questionnaire (16 PF) (Bar-On, 1997 cited in Mumcuoğlu, 2002). Coefficients of subtests and 16 PF ranged between .40 (Social Responsibility) to .60 (Assertiveness) (Bar-On, 1997 cited in Mumcuoğlu, 2002). Convergent validity results show that the correlation between Bar-On EQ-i and self-reports and observer evaluations were .57 and .52 respectively (Bar-On, 1997 cited in Mumcuoğlu, 2002). Divergent validity results showed that Bar-On EQ-i and intelligence tests correlated with a coefficient of .12. (Bar-On, 1997 cited in Mumcuoğlu, 2002). Discriminant validity results displayed that Bar-On EQ-i can discriminate between clinical sample and control group by a coefficient of .90 (Bar-On, 1997 cited in Mumcuoğlu, 2002).

Validity studies suggest that Bar-On EQ-i is predicting, academic and occupational success (Bar-On, 1997 cited in Mumcuoğlu, 2002).

### Turkish Form of Bar-On EQ-i

The first adaptation to Turkish was done by Füsün Acar in her doctoral dissertation (2001). A reliability study was carried out in the thesis. The next year transliteral equivalence, reliability and validity studies of the instrument were undertaken by Mumcuoğlu (2002).

Bar-On QE-i was translated into Turkish by two bilingual psychologists, one English Linguist specialist and the researcher (Mumcuoğlu, 2002). The instrument was back translated by two English Linguists. The final form was obtained after the items were evaluated by the researcher, bilingual psychologists and English Linguists (Mumcuoğlu, 2002). The transliteral equivalence study revealed a correlations between  $r=.71$  ( $p<.01$ ) and  $r=.95$  ( $p<.01$ ).

For internal consistency of the instrument 125 volunteer participants who were university students, or working adults, participated in the study. Cronbach alpha ranged between .48 and .84 ( $p<.01$ ). Test-retest reliability was calculated for 57 participants aged between 19-51. The Pearson Moment Correlation was between  $r=.71$  and  $r=.93$  ( $p<.01$ ). Reliability was studied by Acar by correlating each scale and total score. The Cronbah Alpha coefficient was at a level of .92 (Acar, 2001). The coefficient of scales ranged between .65 (General Mood) to .83 (Intrapersonal Intelligence) (Acar, 2001).

Construct validity was studied through factor analysis with 125 participants (Mumcuoğlu, 2002). The factor analysis checked whether each item correlated with the related dimension. Item total correlation changed between .48 (independence subdimension) to .84 (impulsivity). All results were significant at  $p < .01$  level (Mumcuoğlu, 2002). For criterion validity, study test results were correlated with The Cattell Intelligence Test. The Pearson Moment Correlation revealed a coefficient of  $r = .00$  to  $r = .16$  and results were not significant except impulsivity and self-awareness (Mumcuoğlu, 2002). Another criterion validity study was done by correlating Bar-On EQ-i, and the 16PF questionnaire revealed significant relationships.

#### Personality Assessment Questionnaire (PAQ)

PAQ is a self-report instrument aimed at assessing how individuals view themselves in terms of personality dimensions (Rohner, 2004). The dimensions assessed by the instrument are Hostility/Aggression, Dependency, Self-Esteem, Self Adequacy, Emotional Responsiveness, Emotional Stability, Worldview.

PAQ has an adult version and child version. The child version is used with children aged from 7 to 12 years old. Adolescents use the adult version of the scale, however in the Turkish adaptation adolescents use the child version. Individuals attending high school are considered as children in Turkish culture.

Scoring is done by the 4 point Likert type scale. Some items are reverse scored and the higher total score is a sign of psychological maladjustment. The minimum score is 42 and the maximum score is 168 for child PAQ. For the adult version, scores range between 63 to 252. For the child version 105, for the adult

version 158 is the cut off score. Those scoring above this point are interpreted as displaying more maladjustment than adjustment (Rohner, 2004).

Internal consistency for the adult version ranged between .73 to .85, median reliability coefficient was .81. For the child version, coefficients were between .46 and .74, median reliability was .63.

Criterion validity was done by correlating scales of PAQ with different scales. Hostility and aggression was correlated with Buss and Durkee's hostility scale; Dependency was correlated with the Help Seeking Scale. The results revealed coefficients of .68 and .78 respectively for adults, .56 and .38 for the child version. For negative self esteem, Rosenberg's Self Esteem Scale (Rosenberg, 1965 cited in Rohner and Khaleque, 2005) was used. The correlation coefficients for adults and children were -.75 (adult) and -.67 (child). Negative self adequacy scale of PAQ was correlated with Shostrom's Self-Regard Scale (Shostrom, 1966 cited in Rohner and Khaleque, 2005); emotional instability was correlated with Relaxed vs Anxious; negative worldview was correlated with Trust vs Mistrust scales. Correlation coefficients were as follows: -.53, -.83, -.50 respectively for adults and -.53, -.40 and -.25 respectively for the child version. (Rohner and Khaleque, 2005).

Factor analysis with oblique rotation resulted in six factors: self evaluation, dependency, emotional instability, hostility-aggression, emotional unresponsiveness and negative world view. In the adult version, the first factor (self evaluation) accounted for 17% of the variance; the second factor (dependency) was responsible for 11%; the third factor (emotional instability) was explaining 10% of the variance. The fourth factor (hostility-aggression) was responsible for 9% of the variance. The fifth factor (emotional unresponsiveness) was responsible for 6 % and the last one

(negative world view) was responsible for 6% of the variance. In the child version however, the first factor (self evaluation) accounted for 20 % of the variance; the second factor (dependency) 12 % of the variance; the third factor (emotional instability) explained 6% of the variance; the fourth factor (hostility-aggression) explained 6% of the variance; the fifth factor (emotional unresponsiveness) explained 5% of the variance and the sixth factor (negative world view) explained 4% of the variance.

### Turkish Form of Personality Assessment Questionnaire- PAQ

PAQ was adapted into Turkish by Varan in 2000 (cited in Eryiğit, 2004). A reliability study was done when some changes were made in the instruction of the instrument. A total of 1,821 youth, between ages 10 and 14 years participated in the reliability study conducted by Erkman (2003). Cronbach Alpha was found as the .81 ( $p < .001$ ). The dependency subscale has the lowest reliability value at  $\alpha = .51$ , emotional unresponsiveness is at  $\alpha = .61$  level, emotional stability at  $\alpha = .62$ , negative self esteem about  $\alpha = .64$ , negative self adequacy has an alpha value of .71, hostility has an alpha level of .73, negative world view has an alpha value of .78 which is the highest value among the subtests (Erkman, 2003).

The validity of PAQ was done by correlating the results with perceived maternal and paternal rejection. Correlation coefficients were  $r = .33$  for perceived maternal rejection,  $r = .33$  for perceived paternal rejection (Erkman, 2003).

The minimum score obtained from the Turkish version of the questionnaire is 42 and the maximum score is 168. The higher scores are an indicator of psychological maladjustment as in the original scale (Rohner, 2005).

### The Conners' Teachers Rating Scale (CTRS-28)

The Conners' rating scales were firstly developed in 1969 by Keith Conners as a measure of child behavior at home (Conners Parent Rating Scale-CPRS) and at school (Conners Teachers Rating Scale-CTRS). In 1978, a revised version of the original Conners' scales were published. CPRS had 48 items and CTRS had 39 items (Al-Awad and Sonuga-Barke, 2002). CTRS-28 is short version of CTRS-39; the items are reworded and reduced to 28 (Wiedenhoff, A. R. C., 1993).

CTRS-28 is scored in 4 point Likert format (not at all-0, just a little-1, pretty much-2, very much-3). The scale consists of three factors: conduct problem, hyperactivity index and inattentive-passive (Wiedenhoff, 1993; Fantuzzo, Grim, Mordell and McDermott, 2001). CTRS-28 has been used with children aged between 3-17 (Fantuzzo et al., 2001).

The test-retest correlation of CTRS-28 over one week period was found to be .94. (Edelbrock et. al., 1985 cited in Wiedenhoff, 1993). In another study, in Australia, the test-retest reliability over a year period was found to be .55. French translations of CTRS-39 in Canada were given with one months' interval; and test-retest reliabilities were established for 37 items. Interrater reliabilities resulted in moderate correlations of .50 to .76. (Wiedenhoff, 1993). Trites et al. conducted a study with 1,107 participants and found high interrater agreements (1981, cited in Wiedenhoff, 1993). Interrater agreement for 33 boys aged between 6.5 to 7.5 years, were found to be between .67 -.99 in Canada (Schachter, Sandberg and Rutter, 1986 cited in Wiedenhoff, 1993). CTRS-28 is very similar in factor structure to CTRS-39, so interrater reliabilities were expected to be similar (Wiedenhoff, 1993).

Construct Validity was done by exploratory factor analysis. The three factor structure (Conduct, Hyperactivity and Passivity) accounted for 58% of the item variance. Internal consistency for the three factors of Conduct, Hyperactivity and Passivity were found to be .94, .92 and .75 respectively.

Interfactor correlations were .75 for Conduct and Hyperactivity, .39 for Passivity and Hyperactivity and .51 for Conduct and Hyperactivity.

Wrigley-Neuhaus (WN) coefficients compare all possible factor combinations. The resultant coefficient is the degree of similarity between the, hypothesized, like factors and unlike factors (Fantuzzo et al., 2001). The like factor coefficients were calculated for the sample of the study that included the Head Start Program (a program for children and their families coming from a low socioeconomic level, providing nutrition, health, parental involvement services) children and a sample of a former study by Miller, Koplewich and Klein (1997 cited in Fantuzzo et al, 2001). WN coefficients for like-factors were .97, .95 and .96 for Conduct, Hyperactivity and Passivity, for unlike factors WN coefficients were between .02 and .16 (Fantuzzo et al, 2001).

Convergent validity was established through the Penn Interactive Peer Play Scale (PIPPS) at home and at school; Conduct and Hyperactivity dimensions were associated with disruptive peer interactions and disruptive emotional regulation; Passivity dimension was associated with lack of initiative and social disconnection (Fantuzzo et al, 2001).

Divergent Validity was assessed through correlations between CTRS-28 and The California Child Q-Sort (CCQ) that measured Emotion Regulation and Autonomy. There was negative correlation between Conduct and Hyperactive dimensions of CTRS-28 and CCQ (Fantuzzo et al, 2001).

### Turkish Form of Conners' Teachers Rating Scale (CTRS-28)

The CTRS was adapted into Turkish by Arslan (1989). The CTRS has 39 items which are answered in a 4 point Likert type format.

Factor analysis revealed six factors: (1) hyperactivity/conduct problems, (2) aggressive impulsive, (3) reserved sensitive (introverted), (4) interpersonal problems, (5) attention seeking and (6) suggestible. Internal consistency of the scale was assessed by Cronbach Alpha. Factors 1, 2 and 3 had the highest internal consistency by coefficients of .92, .89, .74 respectively. The lowest coefficient was .41 for the sixth factor.

Regression analyses were conducted separately to find the predictors of hyperactivity in boys and in girls. For boys: low ability in spare time activities at school, age of the child, birth order, family income, father's age, language achievement at school accounted for 18% of the variance. For girls: spare time achievement, age of the child, weight at birth, duration of knowledge, using nipple at night, thumb sucking, age of talking, nocturnal and diurnal enuresis, having sinusitis, were all predicted hyperactivity/conduct problems factor. The variables accounted for 40% of the change in factor. Predictors of aggressive/impulsive factor were: age, family income, birth weight, achievement on handwork activity, nocturnal enuresis, constipation, painful urination of the mother during pregnancy. These variables accounted for the .19 of the variance. Reserved/Sensitive factor was predicted in the following factors that accounted for .13 of variance: familiarity to teacher, age of the child, age of toilet training, father's education, hand work activities and spare time activity achievement. Interpersonal problems factor accounted for .19 of the variance

by the following factors: familiarity to teacher, hand work activities and achievement in play at school, respiratory system illness frequency, frequency of accidents, later born than expected, bottle sucking at night, bleeding of uterus during pregnancy. For the attention seeking factor: surgical operation rate, familiarity to teacher, fever during pregnancy, respiratory system illness, birth weight, achievement in crossword activity at school, spare time activity achievement, explained .16 of the variance. The suggestible factor was predicted by familiarity to teacher, age of toilet training, handwork activity achievement, music activity achievement accounted for .08 of variance.

In another study carried out in Ankara, the internal consistency of CTRS-28 was found to be .95 (Personal Contact, Şahnur Şener, 2006). Two standard deviations above the mean was accepted as the cut-off point to separate, the normal sample from those with behavior problems as rated by teachers (Hinshaw, 1987 cited in Dereboy, Şener, Dereboy and Sertcan, 1997).

In the study of Dereboy et al. (1997), items especially in conduct problems subscales loaded on different subscales than the original form (1997). There were four groups of participants; girls and boys were divided into two groups according to age (younger/ elder). A total of 1,504 participants aged between 6-12 participated in the study. Attention deficit mean score for the sample was 6.46 (sd= 5.57), the mean hyperactivity score for the sample was 6.87 (sd= 4.35), the mean conduct problems score was 3.87 (sd=3.95). Logistic regression analysis for the conduct problems group showed that being male, having parents divorced, and low educational attainment of father are predictors of high scores on conduct problems subscale (Dereboy et al., 1997). Attention deficit and conduct problems group membership was predicted by older age, being male, and low educational attainment of fathers

(Dereboy et al., 1997). Hyperactivity and Conduct problems group membership was predicted by high educational attainment of mothers (Dereboy, et al., 1997).

### Data Analyses

Statistical analyses were done by SPSS 14 for Windows. Frequencies and percentages of demographic variables of the sample were displayed.

First, second and third research questions were analyzed through the Pearson Moment Correlation to see the existing relationship between variables. For the fourth question regression analysis was conducted to identify predictors of behavior problems. The fifth question was analyzed through independent samples t-test to see whether there is a difference in EI and behavior problems between those scoring above and below sample mean of psychological maladjustment. The sixth research question was analyzed through independent samples t-test to see whether there is a difference in psychological maladjustment and behavior problems between those scoring below and above sample mean of EI.

## CHAPTER 4

### RESULTS

#### Overview: Organization of Results

Results are presented in six sections: (1) frequencies regarding demographic characteristics of the sample and (2) descriptive analyses of associated measures (3) relationship among emotional intelligence, psychological maladjustment and behavior problems (4) contribution of demographic variables, GPA, emotional intelligence and psychological maladjustment on the prediction of behavior problems (5) differences in emotional intelligence and behavior problems according to gender and to scoring above or below sample mean of psychological maladjustment (6) differences in psychological maladjustment and behavior problems according to scoring above or below sample mean of EI.

#### Presentation of Results

##### Frequencies Regarding Demographic Characteristics of the Sample

Participants in the study were high school students with a mean age of 16.4, and standart deviation of .49. Students were attending a boarding school in İstanbul,

which accepted students through an exam. Table 1 presents detailed information about the demographic characteristics of the sample. Data were gathered in May, 2006.

Table 2. Demographic characteristics

Characteristic	<i>n</i>	%
<b>HAVING RECEIVED DISCIPLINE PENALTY</b>		
Yes	23	21.5
No	84	78.5
<b>GENDER</b>		
Female	41	48.8
Male	43	51.2
<b>AGE</b>		
16	50	59.5
17	34	40.5
<b>GPA</b>		
1.00-2.00	3	3.6
2.00-3.00	30	35.4
3.00-4.00	44	52.4
4.00-5.00	7	8.3

The number of males and females in the study are almost equal. However gender was not a significant factor in either EI, behavior problems, nor psychological maladjustment. According to the results there is no significant difference between males and females according to teacher reported behavior problems as measured by CTRS-28 [ $t(82)=-.42$ ;  $p>.05$ ], in total emotional intelligence (measured by Bar-On EQ-i) and psychological maladjustment (measured by PAQ) scales [ $t(82)=-.35$ ;  $p>.05$ ] and [ $t(82)=.04$ ,  $p>.05$ ].

### Descriptive Analyses of Associated Measures

Means and standard deviations of every measure and subscale is presented in the following table together with minimum and maximum scores (Table 3).

Table 3. Means, Standart Deviations and Minimum/Maximum Scores for the Measures.

Measure	Min	Max	Mean	(SD)
TOTbaron	181	263	225.9	(17.5)
General Mood(Bar-On)	21	35	27.8	(3.1)
Stress Management(Bar-On)	21	63	35.1	(6.6)
Adaptability(Bar-On)	28	49	40.6	(4.7)
Interpersonal Subscales(Bar-On)	30	61	43.3	(5.1)
Intrapersonal Subscales(Bar-On)	60	94	77.1	(6.5)
Optimism(General Mood/Bar-On)	5	15	9.5	(2.1)
Happiness(General Mood/Bar-On)	14	23	18.3	(1.9)
Impulse Control(Stress Management/Bar-On)	6	26	17.1	(4.3)
Stress Tolerance(Stress Managenement/Bar-On)	10	47	18.1	(4.6)
Flexibility(Adaptability/Bar-On)	6	18	12.7	(2.4)
Reality Testing(Adaptability/Bar-On)	9	27	15.8	(2.6)
Problem Solving(Adaptability/Bar-On)	8	19	12.0	(2.3)
Social Responsibility(Interpersonal/Bar-On)	7	22	14.0	(2.4)
Interpersonal Relationships(Interpersonal/Bar-On)	7	27	17.1	(2.8)
Empathy (Interpersonal/Bar-On)	8	23	11.9	(2.3)
Independence(Intrapersonal/Bar-On)	10	25	17.4	(3.1)
Self Actualization(Intrapersonal/Bar-On)	9	21	14.2	(2.5)
Self-Regard(Intrapersonal/Bar-On)	9	21	14.2	(2.5)
Assertiveness(Intrapersonal/Bar-On)	10	22	14.8	(2.6)
Emotional Self Awareness(Intrapersonal/Bar-On)	10	22	14.8	(2.6)
TOTpaq	67	123	96.2	(12.9)
Hostility(PAQ)	6	23	14.3	(3.6)
Dependency(PAQ)	6	23	15.6	(3.8)
Negative Self Esteem(PAQ)	6	19	13.1	(2.8)
Negative Self Adequacy(PAQ)	6	18	11.0	(3.6)
Emotional Unresponsiveness(PAQ)	6	21	12.3	(3.7)
Emotional Instability(PAQ)	12	24	17.5	(2.9)
Negative Worldview(PAQ)	6	23	12.5	(3.9)

TOTcon 0 50 15.98 (13.8)

TOTbaron (Total Bar-On score) TOTpaq (Total PAQscore) TOTcon (Total CTRS-28 score)  
 General Mood, Stress Management, Adaptability, Interpersonal Scales, Intrapersonal Scales (Five dimensions of Bar-On under which there are 15 subscales). Hostility, Dependency, Negative Self Esteem, Negative Self Adequacy, Emotional Unresponsiveness, Emotional Instability, Negative Worldview (Seven subscales of PAQ)  
 Optimism, Happiness, Impulse Control, Stress Tolerance, Flexibility, Reality Testing, Problem Solving, Social Responsibility, Interpersonal Relationships, Empathy, Independence, Self Actualization, Self Regard, Assertiveness, Emotional Self Awareness (The 15 subscales of Bar-On presented together with which dimension they belong to).

Research Question 1,2,3. Relationship Among Emotional Intelligence, Psychological Maladjustment and Behavior Problems

For the research questions 1, 2 and 3, Pearson Moment Correlations were conducted (Table 4). The correlation matrix of total emotional intelligence (measured by Bar-On EQ-i) scores, total psychological maladjustment score (measured by PAQ) and total behavior problems score (measured by CTRS-28) shows that there is a significant negative correlation between emotional intelligence and behavior problems. EI and psychological maladjustment may have a tendency to correlate negatively; however results of the current study did not reveal significant relationship.

Table 4. Correlations Between Emotional Intelligence, Psychological Maladjustment and Behavior Problems.

Measure	1	2	3
1.TOTbaron	_____	-.141	-.245*
2.TOTpaq		_____	.002
3.TOTcon			_____

Note. TOTbaron (Bar-On EQ-i total score)  
 TOTpaq (PAQ total score)  
 TOTcon (CTRS-28 total score)  
 \* p<.05

Table 5 shows partial correlations for total emotional intelligence score (measured by Bar-On EQ-i) and total behavior problem score (measured by CTRS-28) conducted to see whether there still exists a significant negative relationship between EI and behavior problems controlling for psychological maladjustment (measured by PAQ). Results show that there is a significant negative correlation between total emotional intelligence score and total behavior problems score.

Table 5. Partial Correlations Controlling for Psychological Maladjustment.

Measure	1	2
1.TOTbaron	_____	-.247*
2.TOTcon		_____

Note. TOTbaron (Bar-on EQ-i total score)

TOTcon (CTRS-28 total score)

\*p<.05

#### Research Question 1a. Correlations Between Subtests of PAQ and Bar-On EQ-i

##### Dimensions

Table 6 shows the correlations between subtests of PAQ (measuring psychological maladjustment) and five dimensions of Bar-On EQ-i (measuring emotional intelligence) under which there are 15 subscales. The hostility subscale of the PAQ correlated significantly with emotional instability ( $r=.44$ ,  $p<.01$ ) as well as with the stress management ( $r=-.34$ ,  $p<.01$ ) and the adaptability ( $r=-.29$ ,  $p<.05$ ) dimensions of Bar-On EQ-i.

The dependency subscale (PAQ) correlated significantly with interpersonal scales of Bar-On EQ-i dimension ( $r=-.25$ ,  $p<.05$ ).

The negative self esteem subscale (PAQ) correlated significantly with negative self adequacy ( $r=.56$ ,  $p<.01$ ), emotional unresponsiveness ( $r=.57$ ,  $p<.01$ ), negative

worldview ( $r=.44$ ,  $p<.01$ ) subscales of PAQ and interpersonal scales dimension of Bar-On EQ-i ( $r=.37$ ,  $p<.01$ ).

Negative self adequacy (PAQ) correlated significantly with emotional unresponsiveness ( $r=.49$ ,  $p<.01$ ) and negative worldview ( $r=.49$ ,  $p<.01$ ) of PAQ and interpersonal scales ( $r=.29$ ,  $p<.01$ ) of Bar-On EQ-i.

Emotional unresponsiveness (PAQ) correlated significantly with interpersonal scales ( $r=.23$ ,  $p<.05$ ) of Bar-On EQ-i.

Emotional instability (PAQ) correlated negatively and significantly with mood ( $r=-.23$ ,  $p<.05$ ), stress management ( $r=-.50$ ,  $p<.01$ ), adaptability ( $r=-.24$ ,  $p<.05$ ), interpersonal scales ( $r=-.30$ ,  $p<.01$ ) and intrapersonal scales ( $r=-.27$ ,  $p<.05$ ) of Bar-On EQ-i.

Table 6. Correlation Matrix Between Subtests of PAQ and Dimensions of Bar-On EQ-i

Measure	1	2	3	4	5	6	7	8	9	10	11	12
1.Hostility (PAQ)	_____	.017	-.106	.014	-.046	.435**	.214	-.196	-.340**	-.285**	-.190	-.129
2.Dependency (PAQ)		_____	-.243*	-.102	-.226*	.313**	-.304*	-.057	-.185	-.159	-.251*	-.079
3.Negative Self Esteem (PAQ)			_____	.563**	.566**	-.114	.439**	.015	.176	-.038	.369**	.127
4.Negative Self Adequacy (PAQ)				_____	.492**	.214	.494**	.136	.049	-.031	.290**	-.084
5.Emotional Unresponsiveness (PAQ)					_____	.105	.463**	-.053	.122	-.016	.232*	.097
6.Emotional Instability (PAQ)						_____	.213	-.226*	-.496**	-.241*	-.297**	-.268*
7.Negative World View (PAQ)							_____	-.036	.039	-.171	.130	-.058
8.General Mood (Bar-On EQ-i)								_____	.258*	.391**	.347**	.273*
9.Stress Management (Bar-On EQ-i)									_____	.306**	.242*	.284**
10.Adaptability (Bar-On EQ-i)										_____	.258*	.364**
11.Interpersonal Scales (Bar-On EQ-i)											_____	.378**
12.Intrapersonal Scales (Bar-On EQ-i)												_____

PAQ : Personality Assessment Questionnaire. Bar-On EQ-i: Bar-On Emotional Quotient Inventory

\*p<.05

\*\*p<.01

### Research Question 1b. Correlations Between Subtests of PAQ and Subtests of Bar-On EQ-i

There was a significant negative correlation between hostility subscale (PAQ) and happiness subscale (Bar-On EQ-i) ( $r = -.26, p < .05$ ), as well as hostility (PAQ) and impulse control (Bar-On EQ-i) subscales ( $r = -.41, p < .01$ ). Flexibility (Bar-On EQ-i) ( $r = -.26, p < .05$ ), reality testing (Bar-On EQ-i) ( $r = -.24, p < .05$ ) and social responsibility (Bar-On EQ-i) ( $r = -.25, p < .05$ ) did also correlate significantly with hostility (PAQ).

Dependency subscale (PAQ) correlated negatively with problem solving ( $r = -.23, p < .05$ ), empathy ( $r = -.31, p < .01$ ) and self-regard ( $r = -.31, p < .01$ ) subscales of Bar-On EQ-i.

Negative self esteem (PAQ) had a significant correlation with interpersonal relationship ( $r = .39, p < .01$ ), with independence ( $r = -.30, p < .01$ ) and with self-regard ( $r = .52, p < .01$ ) subtests of Bar-On EQ-i.

Negative self adequacy (PAQ) correlated significantly with optimism ( $r = .29, p < .01$ ), with interpersonal relationship ( $r = .40, p < .01$ ), with independence ( $r = -.48, p < .01$ ) and with self-regard ( $r = .54, p < .01$ ) subtests of Bar-On EQ-i.

Emotional unresponsiveness (PAQ) had a significant correlation with problem solving ( $r = .23, p < .05$ ), with interpersonal relationships ( $r = .34, p < .01$ ), independence ( $r = -.29, p < .01$ ) and with self-regard ( $r = .53, p < .01$ ) subtests of Bar-On EQ-i.

Emotional instability (PAQ) correlated significantly with happiness ( $r = -.34, p < .01$ ) and impulse control ( $r = -.55, p < .01$ ), flexibility ( $r = -.25, p < .05$ ), reality testing ( $r = -.26, p < .05$ ), social responsibility ( $r = -.24, p < .05$ ) as well as self-actualization ( $r = -.27, p < .05$ ) subtests of Bar-On EQ-i.

Negative worldview (PAQ) correlated negatively with reality testing ( $r=-.27, p<.05$ ); positively with interpersonal relationship ( $r=.23, p<.05$ ), independence ( $r=-.19, p<.05$ ) and with self-regard ( $r=.29, p<.01$ ) subtests of Bar-On EQ-i.

Table 7 shows correlations between subtests of PAQ and subtests of Bar-On EQ-i.

Table 7. Correlations Between Subtest of PAQ and Subtests of Bar-On EQ-i.

Measure	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1.HostilityP	___	.017	-.106	.014	-.046	.435**	.214	.051	-.257*	-.412**	-.107	-.261*	-.244**	-.034	-.248*	-.163	.040	.168	-.105	-.160	-.091	-.180
2.DependencyP		___	-.243*	-.102	-.226*	.313**	-.304**	.105	-.019	-.187	-.092	.007	-.089	-.230*	-.096	-.107	-.313**	.052	.013	-.313**	-.039	.074
3.Negative Self EsteemP			___	.563**	.566**	-.114	.439**	.071	-.050	.176	.090	.013	-.166	.098	.140	.388**	.187	-.298**	.067	.518**	.074	.027
4.Negative Self AdequacyP				___	.492**	.214	.494**	.286**	-.083	.073	.002	-.034	-.199	.199	.003	.401**	.144	-.478**	-.166	.537**	-.126	.103
5.Emotional UnresponsivenessP					___	.213	.463**	.014	-.099	.113	.070	-.085	-.151	.227*	.045	.337**	.051	-.294**	-.130	.525**	.029	.172
6.Emotional InstabilityP						___	.101	-.017	-.343**	-.545**	-.208	-.245*	-.261*	.059	-.235*	-.167	-.195	-.117	-.266*	.024	-.190	-.125
7.Negative World ViewP							___	.101	-.163	-.092	-.029	-.098	-.272*	-.062	-.126	.226*	.140	-.191	-.123	.289**	-.011	-.076
8.OptimismB								___	.207	.085	.109	.336**	.010	.266*	.054	.286**	.235*	-.072	.011	.211	.109	.136
9.HappinessB									___	.154	.250*	.244**	.223*	.102	.095	.247*	.134	.086	.142	.126	.140	.210
10.Impulse ControlB										___	.111	.294**	.196	-.110	.076	.072	-.067	.027	.036	.138	.114	.008
11.Stress ToleranceB											___	.258*	.037	.200	.164	.209	.240*	.203	.233*	-.085	.243*	.126
12. FlexibilityB												___	.203	.131	.374**	.038	-.003	.099	.048	-.044	.088	.018
13.Reality TestingB													___	.015	-.080	-.040	-.048	.315**	.052	.049	-.004	.214
14.Problem SolvingB														___	.256*	.199	.386**	.092	.107	.375**	.227*	.073
15.Social ResponsibilityB															___	.100	.135	-.163	.149*	.138	.149	.075
16.Interpersonal RelationB																___	.256*	-.245*	.101	.371**	.049	.284**
17.EmpathyB																	___	.012	.228*	.216*	.263*	.343**
18.IndependenceB																		___	.174	-.272*	.183	.065
19.Self ActualizationB																			___	-.075	.170	.067
20.Self RegardB																				___	.041	.131
21.AssertivenessB																					___	.117
22.Self AwarenessB																						___

Note.P (PAQ subtest), B (Bar-OnEQ-i subtest)

\*p<.05

\*\*p<.01

Research Question 4. Contribution of Demographic Variables, GPA, Emotional Intelligence and Psychological Maladjustment on the Prediction of Behavior Problems

The fourth aim of the study is to find out the relative contribution of demographic variables of participants (gender, age), GPA, psychological maladjustment and EI to the overall prediction of behavior problems reported by homeroom teachers. Simultaneous multiple regression analysis was conducted. Demographic variables, GPA, total Bar-On EQ-i, PAQ scores together with subtests were entered as predictors (independent variables) and total CTRS-28 scores were entered into the equation as dependent variable. All of the variables accounted for 45% of variance in the dependent variable-behavior problems-as measured by CTRS-28. On the variable level, GPA was found to be the only significant predictor of behavior problems reported by teachers ( $\beta=-.27$ ,  $t=-2.21$ ,  $p<.05$ ).

Secondly, a stepwise regression analysis was conducted to see which variables contributed most to the prediction of behavior problems (Table 8). Total emotional intelligence score (measured by Bar-On EQ-i), subtests of EI (measured by Bar-On EQ-i), total psychological maladjustment score (measured by PAQ), subtests of psychological maladjustment, demographic variables and GPA were entered into the equation. GPA ( $\beta=-.27$ ,  $t=-2.73$ ,  $p<.05$ ) was the strongest predictor with  $\Delta R^2=.10$ , followed by interpersonal relationships subscale ( $\beta=-.28$ ,  $t=-2.60$ ,  $p<.05$ ) of Bar-On EQ-i with  $\Delta R^2=.06$ , self-regard subscale ( $\beta=-.25$ ,  $t=-2.35$ ,  $p<.05$ ) of Bar-On EQ-i with  $\Delta R^2=.04$  and optimism subscale ( $\beta=-.22$ ,  $t=-2.11$ ,  $p<.05$ ) of Bar-On EQ-i with  $\Delta R^2=.04$ . All of the variables accounted for 24% of the variance in behavior problems.

Table 8. Stepwise Regression for the Prediction of Behavior Problems.

Model	$\beta$	R <sup>2</sup>	$\Delta R^2$
1. GPA	-.320	.102	.102*
2. GPA interpersonalB	-.269 -.255	.165	.062*
3. GPA interpersonalB regardB	-.264 -.338 .222	.207	.043*
4. GPA interpersonalB regardB optimismB	-.271 -.285 .248 -.216	.247	.042*

*Note.* interpersonalB(interpersonal relationships subtest of Bar-On EQ-i)

regardB(self regard subtest of Bar-On EQ-i)

optimismB(optimism subtest of Bar-On EQ-i)

\*p<.05

Hierarchical regression analysis was conducted to obtain the unique contribution of each variable to predict behavior problems (measured by CTRS-28). Gender was entered first; in the literature there was evidence that gender was an important variable in behavior problems (Santesso et al., 2006). GPA was entered as the second variable, followed by the total emotional intelligence score (measured by Bar-On EQ-i) in the third step (Santesso et al., 2006), in the fourth step, five dimensions of Bar-On EQ-i were entered as a set, followed by the subtests of Bar-On EQ-i in the fifth step, the rest of the variables were entered as follows: in the sixth step total psychological maladjustment score was entered, in the seventh step subtests of psychological maladjustment (measured by PAQ) were entered lastly for the eighth step, age variable was entered into the equation. Results of the analysis revealed that all of the variables accounted for 45% of the change in behavior problems. On the variable level GPA ( $\beta=-.27$ ,  $t=-2.21$ ,  $p<.05$ ) was found to be the only significant predictor of behavior problems. Results are displayed in Table 9.

Table 9. Hierarchical Regression Analysis for Predicting Behavior Problems

Model	$\beta$	R <sup>2</sup>	$\Delta R^2$
1. gender	.046	.002	.002
2. gender GPA	-.008 -.321	.102	.100*
3. gender GPA TOTbaron	.005 -.292 -.207	.144	.042*
4. gender GPA TOTbaron Mood Management Adaptability Interpersonal Intrapersonal	.027 -.323 .461 -.153 -.288 -.225 -.362 .004	.206	.062*
5. gender GPA TOTbaron Mood Management Adaptability Interpersonal Intrapersonal happinessB impulseB flexibilityB problemB socialB empathyB selfactB regardB assertivenessB awarenessB	.075 -.280 1.033 -.322 -.238 -.285 -.735 .037 .193 -.326 -.187 -.194 .357 007 -.221 .213 -.163 -.199	.386	.180*
6. gender GPA TOTbaron Mood Management Adaptability Interpersonal Intrapersonal happinessB impulseB flexibilityB problemB socialB empathyB selfactB regardB assertivenessB awarenessB TOTpaq	.081 -.295 1.520 -.394 -.401 -.493 -.830 -.168 .154 -.368 -.145 -.166 .300 -.026 -.209 .285 -.160 -.178 -.144	.395	.009*

Table 9 Continued. Hierarchical Regression Analysis for Predicting Behavior Problems

7. gender	.021		
GPA	-.281		
TOTbaron	1.539		
Mood	-.402		
Management	-.438		
Adaptability	-.508		
Interpersonal	-.826		
Intrapersonal	-.092		
happinessB	.184		
impulseB	-.339		
flexibilityB	-.146		
problemB	-.200		
socialB	.322		
empathyB	-.060		
selfactB	-.207		
regardB	.175		
assertivenessB	-.153		
awarenessB	-.192		
TOTpaq	-.098		
hostilityP	-.051		
dependencyP	-.223		
esteemP	-.095		
adequacyP	.132		
unresponsiveP	-.044		
instabilityP	.091	.429	.034*
8. gender	.030		
GPA	-.270		
TOTbaron	1.483		
Mood	-.342		
Management	-.390		
Adaptability	-.503		
Interpersonal	-.777		
Intrapersonal	-.058		
happinessB	.129		
impulseB	-.332		
flexibilityB	-.150		
problemB	-.218		
socialB	.295		
empathyB	-.090		
selfactB	-.218		
regardB	.164		
assertivenessB	-.139		
awarenessB	-.205		
TOTpaq	-.058		
hostilityP	-.074		
dependencyP	-.237		
esteemP	-.086		
adequacyP	.114		
unresponsiveP	-.046		
instabilityP	.109		
age	.167	.452	.023*

Note:TOTbaron (Total Bar-On score) TOTpaq (Total PAQscore),mood(General Mood dimesion of BAR-On EQ-i) management(Stress Management dimension of Bar-On EQ-i),adaptability(Adaptability dimension of PAQ), interpersonal(Interpersonal Scales of Bar-On EQ-i),intrapersona(Intrapersonal Scales of Bar-On EQ-i)happinesB(Happiness subtest of Bar-On EQ-i),impulseB(ImpulseContro subtest of Bar-On EQ-i),flexibilityB (Flexibility subtest of Bar-On EQ-i), problem(Problem Solving subtest of Bar-On EQ-i),socialB( Social Responsibility subtest of Bar-On EQ-i), empathyB(Empathy subtest of Bar-On EQ-i),selfactB(Self Actualization subtest of Bar-On EQ-i) regardB( Self Regard subscale of Bar-On EQ-i),assertiveness(Assertivens subscale of Bar-On EQ-i), awarenessB( Emotional Self Awareness subscale of Bar-On EQ-i). hostilityP(Hostilitysubtest of PAQ),dependencyP(dependency subtest of PAQ),esteemP(Negative Self Esteem subtest of PAQ) adequacyP(Negative Self Adequacy subtest of PAQ), unresponsiveP(Emotional Unresponsiveness subtest of PAQ),instabilityP(Emotional Instability subtest of PAQ) \*p<.05

### Research Question 5. Differences in Emotional Intelligence and Behavior Problems

#### According to Those Scoring Above or Below Sample Mean of Psychological Maladjustment

Independent samples t-test was carried out to see whether there is a difference in EI and behavior problems between those scoring above and below sample mean of psychological maladjustment. Sample mean score was 96.2 (sd=12.9). Results of the analysis revealed that there was not a significant difference in EI, according to scoring above or below sample mean of psychological adjustment [ $t(82)=-.05$ ,  $p=.96$ ]. Behavior problems in the current sample, did not differ significantly according to scoring above or below sample mean of psychological maladjustment [ $t(82)=.40$ ,  $p=.69$ ].

### Research Question 6. Differences in Psychological Maladjustment and Behavior Problems According to Scoring Above or Below Sample Mean of Emotional Intelligence

For the sixth question, independent samples t-test was carried out. Sample mean score for EI was 225.9(sd=17.5). Results displayed that there is a significant difference in psychological maladjustment between those who scored below sample mean of EI and those who scored above sample mean of EI [ $t(82)=2.13$ ,  $p=.04$ ], however there was not a significant difference in behavior problems according to scoring below or above the sample mean of EI [ $t(82)=1.28$ ,  $p=.20$ ].

## CHAPTER 5

### DISCUSSION

#### Organization of Discussion

Discussion was presented under two main headings: the purpose of the study and the review of findings. The review of findings section is composed of the discussion of findings of six research questions, followed by the implications of the study, the strengths of the study, the limitations and the future directions of the study.

#### Purpose of the Study

The current study aimed at questioning the relationship among EI, behavior problems and psychological maladjustment in adolescents attending high school aged 16-17. Correlations between subtests of EI and psychological maladjustment as well as total scores of emotional intelligence, psychological maladjustment and behavior problems were taken into consideration for the purposes of the research.

According to PARTheory, psychological adjustment and mental health are related to each other, in such a way that the mentally healthy individual is the one with psychological adjustment (Rohner, 2004). Psychological maladjustment may reveal itself in many forms such as depression, anxiety and behavior problems (Rohner, 2004). A person with psychological adjustment is able to deal effectively with stressors of life and avoid problems like anxiety, depression and behavior problems.

CTRS-28 is utilized to assess the behavior problems score of the participants.

Thirty-nine point three per cent of participants (39.3 %) scored above the sample mean, displaying more behavior problems compared to other participants as reported by their homeroom teachers.

In terms of EI (as measured by Bar-On EQ-i) those who scored below the mean and those who scored above the mean are close to each other in number: 51.2% scored below the sample mean, 48.8% scored above the sample mean.

GPA's of the students which were obtained from school records. GPA in the current study is calculated over 5 points. Most of the participants had GPA's between 3 and 4 (52.4%). The second most frequent GPA range was 2 to 3 (%35.4). Only three students had GPA's in the lowest range, 1 to 2 (%1.74), and seven students had GPA's in the highest range 4 to 5 (%8.3).

Another characteristics of the study is that; both genders are represented almost equally in the sample. Females constitute 48.8%, males 51.2% of the sample. The preliminary analyses revealed no significant gender differences in behavior problems. There are conflicting results in literature in terms of gender. Previous research findings suggest that there is no significant difference between males and females in externalizing problems (Santesso et al., 2006). However there are studies with findings contradicting to the results of the current study as well, which suggest that females experience less externalizing behavior problems compared to males (Aunola, Stattin and Nurmi, 2000; Schroeder and Gordon, 2002).

There was no mean difference in behavior problems as measured by CTRS-28 between males and females in the current study. However, when we look at the discipline records, there is a significant difference between males and females in favour of males. Results imply that males and females do not differ in behavior problems as exhibited in the classroom and reported by the homeroom teacher, but

when it comes to school regulation rules; males violate rules of the school more than females do.

There are contradictory findings concerning the gender differences in emotional intelligence. In some studies, there is a gender difference in favour of females in EI (Bracket et al., 2004; Santesso et al., 2006). However, Bar-On (2005) stated that there is not a statistically significant difference between males and females in terms of EI. Results of the study support this finding, there was no significant difference in EI (measured by Bar-On EQ-i) according to gender in the sample.

There are studies that found a significant gender difference in psychological adjustment (Nolen- Hoeksema cited in Extremera et al., 2006; Extremera et al., 2006). However, in the literature there is also some evidence showing that there is no significant difference in the scores of psychological adjustment between males and females (Veneziano and Rohner, 1998). Supporting that finding, the current study, revealed no significant difference in psychological maladjustment or adjustment as measured by PAQ according to gender.

## Review of Findings

### Research Question One- Relationship Between Emotional Intelligence and Psychological Maladjustment

Psychological adjustment as stated in Rohner's theory (2005) is a positive state in which the person is; able to deal with frustrations, responsive to the needs of others and self, independent, self accepting, with self adequacy and high self esteem, with a positive and optimistic look at the world.

Psychological adjustment and EI both require a positive attitude towards self and others. The ability to deal effectively with problems and negative feelings are essential components of both EI and psychological adjustment. Those with higher EI were better able to keep their positive state in spite of facing negative situations (Schutte, Malouff, Simunek, McKenley and Holander, 2002). Theoretically, there is an expectancy that there will be a correlation between EI and psychological maladjustment.

The results of the study display no significant correlation between EI and psychological maladjustment. However results might be interpreted as; there is a tendency for EI and psychological maladjustment to correlate negatively. Higher scores on PAQ imply more maladjustment than adjustment. Accordingly, those with hostile feelings and acts, dependence or defensive independence in relationships, lower self esteem and self adequacy, emotional unresponsiveness and instability, and negative world view tend to have lower emotional intelligence. Psychological adjustment is the emotional well-being in Rohner's Theory (2004). In the literature, there was a significant positive relationship between EI and well-being, as scores in EI increased, scores in well-being also increased (De Lazzari, 2001). In the current study, as the scores became lower on PAQ, which means an increase in psychological adjustment, the scores were getting higher in EI as measured by Bar-On EQ-i.

Extremera, Duran and Rey (2006) suggest that, it is important to understand one's own feelings for psychological well-being, which is psychological adjustment in the current study. Those with the ability to understand and regulate one's own emotions are better in dealing with stressful events, and have a better look on life and have better psychological adjustment (Schutte et al.; Extremera et al., 2006). In the

study of Extremera et al. (2006) association between psychological adjustment and perceived emotional intelligence was investigated. Participants were volunteer adolescents, living in Spain with a mean age of 15.76 (sd=1.6). Perceived emotional intelligence was measured by Trait-Meta Mood Scale (TMMS; Salovey, Stroud, Woolery and Epel, 2002 cited in Extremera et al., 2006), psychological adjustment was measured by The Perceived Stress Scale (PSS;Cohen, Kamarck and Mermelstein, 1983 cited in Extremera et al., 2006) and Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen and Griffin, 1985 cited in Extremera et al., 2006). Hierarchical regression analyses were conducted where perceived stress and life satisfaction were dependent variables. In their findings, perceived emotional intelligence accounted for 21% of variance in perceived stress, and 14% of variance in life satisfaction. The results of the study suggest that those adolescents with higher perceptions of their EI were better in psychological adjustment. The study underlines the importance of understanding one's own emotions in psychological adjustment (Extremera et al., 2006).

#### 1a. Correlations Between Dimensions of Emotional Intelligence and Subtests of Psychological Maladjustment

The five dimensions of EI measured by Bar-On EQ-i; general mood, adaptability, stress management, interpersonal relationships and intrapersonal relationships scales were correlated with subtests of psychological maladjustment as measured by PAQ. The results are as follows;

Those with hostile feelings as measured (by PAQ-hostility subscale) were weak in stress tolerance, impulse control (as measured by stress tolerance-Bar-On

EQ-i) and problem solving abilities, reality testing and flexibility (as measured by adaptability dimension of Bar-On EQ-i). Hostility correlates with EI negatively ( $r = -.33, p < .01$ ).

Those with dependency (as measured by PAQ dependency subscale), were in a constant need of others' approval, were not good at establishing empathy and were not good at social responsibility and interpersonal relationships (as measured by interpersonal relationships dimension of Bar-On EQ-i).

Those with negative self esteem (as measured by PAQ- negative self esteem subscale) have a tendency to have good interpersonal relationships, empathy and social responsibility (as measured by interpersonal relationships dimension of Bar-On EQ-i).

Those with negative self adequacy (measured by PAQ negative self adequacy subscale) have a tendency to have good interpersonal relationships, empathy and social responsibility (as measured by interpersonal relationships dimension of Bar-On EQ-i).

Those with emotional unresponsiveness (measured by emotional unresponsiveness subscale of PAQ) have a tendency to have good interpersonal relationships, empathy and social responsibility (as measured by interpersonal relationships dimension of Bar-On EQ-i).

Those with emotional instability (measured by emotional instability subscale of PAQ) have a tendency not to be happy and optimistic (as measured by the general mood dimension of Bar-On EQ-i): they were also not good at problem solving, or reality testing, or flexibility (as measured by the adaptability dimension of Bar-On EQ-i); were not good at impulse control and stress tolerance (measured by stress tolerance dimension of Bar-On EQ-i); were not good at interpersonal relationships,

empathy and social responsibility (as measured by interpersonal relationships scales dimension of Bar-On EQ-i); and they lacked emotional self awareness, assertiveness, self-regard, self-actualization and independence (measured by intrapersonal scales dimension of Bar-On EQ-i). Emotional instability is the only subtest of PAQ that correlated negatively at significant levels with all subdimensions of Bar-On EQ-i. This result propose a relationship between EI (measured by Bar-On EQ-i) and emotional instability; as emotional instability increased EI scores decreased. The emotional instability subtest of PAQ correlates negatively with total emotional intelligence scores as well ( $r=-.46, p<.01$ ). Effective emotional management, control and expression of emotions are important parts of emotional intelligence construct. Emotionally intelligent behaviors require one to effectively manage one's own emotions, avoiding unpredictable behavior, sudden and sharp changes in emotional state, which can not be acquired without emotional stability (Bar-On, 1997).

#### 1b. Correlations Between Subtests of PAQ and Subtests of Bar-On EQ-i

Correlations between subtests of PAQ and Bar-On EQ-i revealed significant results as well. As hostility subscale of psychological maladjustment measured by PAQ increased; happiness, impulse control, flexibility, reality testing and social responsibility subscales of emotional intelligence measured by Bar-On EQ-i decreased. Those with hostile feelings and aggressive acts were lower on happiness scale which may be interpreted as; they had the tendency to worry, dissatisfaction with one's life, feelings of guilt and have symptoms typical of depression (Bar-On,1997).

In the current study, those with hostile feelings and aggressive acts (measured by

PAQ) were not good at impulse control (measured by Bar-On EQ-i). Lower scores on impulse control mean low frustration tolerance, anger management problems, impulsive acts and unpredictable behavior (Bar-On, 1997).

Hostility (PAQ) and flexibility were (Bar-On EQ-i) negatively correlated, so was hostility (PAQ) and reality testing (Bar-On EQ-i). According to Bar-On (1997) those with hostile feelings and aggressive acts were not open to new ideas and acts, were rigid and unable to adapt to new, changing circumstances and withdrew from the outside world, were lack of perceptual clarity and objectivity .

In the current study, those with hostility and aggressive acts (measured by PAQ) were also lower on the social responsibility scale (Bar-On EQ-i). Social responsibility is dependent upon positive feelings for others (Bar-On,1997) thus the result of the study is in the expected direction. Lack of social responsibility means lack of social consciousness, concern for other people and not using their talent for other people, expecting nothing in return (Bar-On, 1997).

Those who are in constant need of others' support and approval scored high on the dependency subscale of psychological maladjustment, PAQ. The dependency subscale of PAQ correlated negatively with problem solving (Bar-On EQ-i). According to Bar-On (1997) this means:lack of discipline and method in solving problems, inability to sense and deal with problems effectively. Dependency (PAQ) also correlated negatively with empathy and the self-regard subscales of Bar-On EQ-i. Thus, those participants with a wish to get approval from others, and dependent upon others' support also lacked the effective problem solving ability, awareness of others' feelings and felt inadequate and inferior to others.

Negative self esteem as measured by PAQ was negatively correlated with interpersonal relationships, independence and self-regard (as measured by Bar-On

EQ-i). Accordingly those participants with negative self-esteem were not good at establishing intimate relationships with others, were clinging on to others, lacked self confidence and autonomy, felt inferior and inadequate (Bar-On, 1997).

Negative self adequacy, as measured by PAQ, correlated positively with optimism, interpersonal relationships and self-regard (as measured by Bar-On EQ-i). The results might be interpreted as follows: the participants who did not feel themselves adequate to deal with problems and demands, may made efforts to establish good social relations with others and were optimistic that this strategy will help them overcome deficiencies in their personal adequacy. The high self-regard might be interpreted as acceptance of oneself with all limitations (Bar-On, 1997). Participants with higher scores in negative self adequacy seemed to accept themselves and have good feelings about themselves, even though they were not adequate to themselves.

Negative self adequacy (as measured by PAQ) also correlated negatively with independence (as measured by Bar-On EQ-i) as expected. Those with an inability to deal with problems by themselves are dependent on others to satisfy their needs (Bar-On).

Emotional unresponsiveness (as measured by PAQ) correlated positively with problem solving, self-regard and interpersonal relationships (as measured by Bar-On EQ-i). High scores in emotional unresponsiveness were indicators of not sharing one's own feeling with others. Those participants with high emotional unresponsiveness had high self-regard, good interpersonal relationships and were good at problem solving (Bar-On, 1997). Emotional unresponsiveness (as measured by PAQ) had negative correlation with independence (as measured by Bar-On EQ-i).

Emotionally unresponsive participants were dependent on others especially in

making important decisions (Bar-On, 1997).

Emotional instability (as measured by PAQ) correlated negatively with happiness, impulse control, flexibility, reality testing, social responsibility and self actualization (as measured by Bar-On EQ-i). Accordingly, the results might be interpreted as follows: those participants with unsteady mood and who were failing to cope with stressors, might not be happy and satisfied with their lives, they might be unable to control their impulses and acted unpredictably, might be rigid and closed to new ideas and acts, might have distorted perceptions of reality, might be socially insensitive and lacking the concern for others and the motivation toward maximum development of one's own potential according to Bar-On (1997).

Negative worldview (as measured by PAQ) correlated negatively with reality testing and independence (as measured by Bar-On EQ-i), correlated positively with interpersonal relationships and self-regard (as measured by Bar-On EQ-i). Findings of the current research imply that the sample saw the world as an unpredictable and bad place, thus they might get support from close and trustworthy friends. It is important to note that the sample consisted of adolescents who had lost their fathers or/ fathers and mothers at early ages. When one of, or sometimes two of the primary caregivers pass away at an early age, one's worldview may be negatively affected. The quality of the relationship between parent and the child is important, for it constitutes the foundations of personality and risk for psychopathology (Connor, 2004). Participants of the study seemed to rely on interpersonal relationships to establish a sound world and they appreciate their own effort, by regarding themselves. When one has lost his/her positive attitude to the world, one also seems to have lost his/her objectivity: the degree of correspondence between what really happens and what is perceived (Bar-On, 1997).

## Research Question Two- Relationship Between Emotional Intelligence and Behavior Problems

The relationship between emotion and behavior exists in every aspect of human life: emotions can turn into acts such as: anger, love, violence or caring (Smith, 2000). EI is the intelligent use of emotions (Bodine and Crawford, 1999), as shown in behavior. Higher scores in EI was assumed to positively correlate with positive behaviors, better relationships and negatively correlate with social deviance, behavior problems (Brackett et al., 2004). The current study findings are in line with these presumptions.

Pearson Moment Correlations show that there is a significant negative relationship between EI (measured by Bar-On EQ-i) and behavior problems (measured by CTRS-28). Those students with higher emotional intelligence were reported to be displaying less behavior problems by their teachers. When partialing out psychological maladjustment, statistically, there still exists a significant relationship between EI (as measured Bar-On EQ-i) and behavior problems (as measured by CTRS-28) in the current study. The findings of the current study support results of the Petrides et al. (2004) study. In the study, deviant behavior was assessed by truancy and exclusions from school because of discipline breaking. EI was measured by the Trait Emotional Intelligence Questionnaire (TEIQue) which was constructed by taking some parts of the existing questionnaires (Affective Communication Test, Emotional Empathy, the Trait Meta Mood Scale, Bar-On EQ-i cited in Petrides et al., 2004). Results displayed a negative and significant relationship between EI and deviant behavior among adolescents. On the other hand there are studies in which there was not a significant relationship between EI and

deviant behavior, as in the following study by Lance (2003). Participants were 152 students aged between 14 and 18, attending high school in the USA. Emotional intelligence was measured by the Emotional Intelligence Inventory (EII; Tapia, Burry-Stock, 1998, cited in Lance, 2003), deviant behavior was measured by the Normative Deviancy Scale (NDS; Vazsonyi and Pickering, 2000 cited in Lance, 2003). The Pearson Moment Correlation was conducted to see the relationship between EI and deviant behavior. Study results showed a negative correlation between EI and deviant behavior ( $r=-.08$ ), which was not statistically significant. In the same study, empathy as a subscale of emotional intelligence measured by (EII), was included in the analyses. Empathy and deviant behavior in adolescents had a negative correlation ( $r=-.05$ ), but the results are not statistically significant. The other subscales of emotional intelligence measured by (EII) and their correlation coefficients with deviant behavior measured by (NDD) were: handling relationships ( $r=-.14$ ), utilization of feelings ( $r=.06$ ), and self control ( $r=-.12$ ). None of the correlations were at significant level.

Empathy is the essential characteristics of understanding others' emotions, which is part of EI by definition (Bar-On,1997). Bar-On (1997) added empathy as a subscale under interpersonal relationships dimension in Bar-On EQ-i. Empathy has been an important part of emotional intelligence and behavior problems studies. There has been evidence that empathy reduced aggressive behavior and increased prosocial behavior in children and adults (Bryant, 1982; Eisenberg and Miller, 1987; Eisenberg-Berg and Lennon, 1980; Fesbach, 1979; Fesbach and Fesbach, 1982; Miller and Eisenberg, 1982; Poole, 1992; Baston, Fultz and Schoenrade, 1987; Davis, Hull, Young and Warren, 1987; Mehrabian and Epstein, 1972 cited in Cohen and Strayer, 1996).

Empathy correlated negatively with antisocial and aggressive attitudes in a study by Cohen and Strayer (1996). In their study, empathy, was found to be significantly lower for youth with conduct disorders (n=30) compared to a group of comparison youth (n=32). The Jesness Inventory (Jesness, 1969 cited in Cohen and Strayer, 1996) was utilized for assessing conduct problems. Empathy was measured by obtaining answers of the participants to vignettes, and by questionnaires (Empathy Index, Bryant, 1982 cited in Cohen and Strayer, 1996; Empathic Concern Scale from IRI, Davis, 1983 cited in Cohen and Strayer, 1996). According to the results of their study, the ability to identify others' emotions was lower for those with conduct disorder compared to those without conduct disorder. The study underlined the importance of awareness and understanding of others' emotions in social interactions, which was included in EI definition (Bar-On, 1997). Smith (2000) proposed that behavior problems is a demonstration of lack of emotional awareness of others and self, and added that EI may help people recognize negative behavior with its consequences for the self and others, finally leading to effective social interactions and dealing with stress. In the study of Smith (2000), EI and criminal behavior relationship was investigated by 56 volunteer participants who were prisoners on parole. Bar-On EQ-i was administered to assess EI of the participants. No control group was used, instead Bar-On EQ-i standard scores as presented in the manual were taken as a reference to make comparisons. The scores ranging between 90 and 109 were accepted as average/adequate EI. The mean score of the participants were below the population average.

Behavior problems in the current study referred to externalizing behaviors as observed by teachers. Those people with externalizing behaviors may lack empathy, social skills, social responsibility and impulse control (Santesso, Reker, Schmidt and

Segalowitz, 2006). In the study of Santesso et al., relationships among EI and externalizing behavior problems and frontal electroencephalogram activation assymetry for 10 year olds were studied. Scores of emotional intelligence and externalizing behavior were obtained through maternal reports of the participants. EI was measured through Bar-On EQ-i youth verion (Bar-On EQ-i :YV-O), externalizng behavior was measured by Child Behavior Check List (CBCL; Achenbach,1991 cited in Santesso et al., 2006). The results of the study are in line with the expectation of the literature; higher (mother-reported) externalizing behaviors were related to lower (mother-reported) EI. Results support findings of the current study by establishing a negative correlation between EI and behavior problems.

### Research Question Three- The Relationship between Psychological Maladjustment and Behavior Problems

Psychological maladjustment reveals itself in the quality of the relationship between the individual and the environment (Eryiğit, 2004). Psychological adjustment is an inner state of well-being that reveals itself through behavior; it is the happy, contended state in which the person is functioning optimally. On the other hand, psychological maladjustment is a state where the person is more prone to experience problems. Expressions of the problems may be in internalizing manner; such as depression or in an externalizing manner; such as behavioral problems. Individuals with psychological adjustment are referred as copers, and those with more psychological maladjustment are referred to as troubled in PARTheory (Rohner, 2004). Mental problems, personality/developmental problems, intellectual problems

and interpersonal relationship problems (Eryigit, 2004), depression, conduct problems, behavior disorders and substance abuse are among those problems experienced by those with more psychological maladjustment (Khaleque and Rohner, 2002).

The results of the current study, against expectations, reveal almost no correlation between psychological maladjustment and behavior problems. Higher scores on psychological maladjustment as measured by PAQ mean more maladjustment than adjustment; higher scores on behavior problems as measured by CTRS-28 mean more teacher reported behavior problems. Accordingly there is not a meaningful relationship between psychological maladjustment or adjustment and displaying behavior problems.

Research Question Four-Relative Contribution of Emotional Intelligence,  
Psychological Maladjustment, GPA and Demographic Variables to the Overall  
Prediction of Behavior Problems

There are studies showing that low scores on emotional intelligence was related to externalizing problems (Liau, Liau, Teah and Liau, 2003 cited in Santesso et al., 2006). Externalizing problem behaviors in preschool girls were found to be related to poor emotion regulation skills, which are considered to be an important part of emotional intelligence (Hill, Degnan, Calkins and Keane, 2005).

EI was found to be a significant predictor of behavior problems (Perkins, 2003). In another study by Santesso et al., (2006) low scores in emotional intelligence (measured by Bar-On EQ-i: YV-O) was predicting higher scores in

externalizing behavior problems. In the current study, results did not support this finding; the total score of emotional intelligence was not found to be a significant predictor of behavior problems.

However, the results of the current study showed that when all variables were entered into the equation, GPA, interpersonal relationships subscale of Bar-On EQ-i, self-regard subscale of Bar-On EQ-i, optimism subscale of Bar-On EQ-i, respectively contributed at most to the prediction of behavior problems. GPA alone accounted for 10 % of variance, interpersonal relationships subscale of Bar-On EQ-i accounted for 6 % of the variance and self-regard subscale of Bar-On EQ-i accounted for 4.3 % of the variance and lastly optimism subscale of Bar-On EQ-i accounted for 4.2% of variance in behavior problems. Totally they accounted for 24% of the variance in behavior problems as measured by CTRS-28.

In a study carried out by Sullivan (2001), interdisciplinary study improvement program was implemented for one year with tenth grade students. At the end of the year, as GPAs of the students increased, behavior problems of students decreased. Another study by Tobin and Sugai (1999), was conducted by 526 high school students. Results of their study suggested that GPA was negatively related to behavior problems.

When variables (gender, GPA, total emotional intelligence score, subdimensions and subscales of emotional intelligence, total psychological maladjustment score, subtests of psychological maladjustment and age) were entered with order in hierarchical analysis they all accounted for 45% of the variance in behavior problems as measured by CTRS-28 ( $R^2=.45$ ).

Research Question Five: Differences in Emotional Intelligence and Behavior  
Problems According to Those Scoring Above and Below Sample Mean of  
Psychological Maladjustment

The current research question aimed to see whether there was a significant difference in EI and behavior problems according to sample mean scores of psychological maladjustment. Sample mean scores for psychological maladjustment was 96.2 (sd=12.9). According to the results, scoring above or below sample mean of psychological maladjustment did not make any difference in EI and behavior problems. It seems that being more psychologically adjusted did not make any difference in EI or behavior problems.

Research Question Six: Differences in Psychological Maladjustment and Behavior  
Problems According to Scoring Above or Below Sample Mean of Emotional  
Intelligence

Sixth research question was aimed at examining the differences in behavior problems and psychological maladjustment of adolescents according to the level of emotional intelligence scores. Sample mean for EI was 225.9 (sd=17.5) in the current study. Results displayed significant differences in psychological maladjustment between those who scored above the sample mean of EI and between those who scored below the sample mean of EI. Accordingly, having higher EI made a difference in psychological adjustment. Those who had scores above sample mean of EI were less likely to have psychological maladjustment compared to those who had scores below sample mean of EI. However, there was not any significant difference in behavior

problems between those who scored above and below sample mean of EI.

### Implications of the Study

There has been an increase in school related violence and disciplinary problems in the last years (Bodine and Crawford, 1999) which is an indicator of a new generation that is aggressive and that lacks constructive conflict resolution. In order to succeed in the structured environment of the school, students need both academic and social-emotional skills since they are expected to be successful in the academic domain and behave in socially acceptable ways. Behavior and academic achievement are dependent of each other (Conner, 2004), as Moffit (1993) pointed out aggressive and negative behaviors hinder the academic attainment of students. Since human being is a social creature, besides academic attainment of students, schools should give them a chance to learn and practice responsible behavior which is socially acceptable behavior with concern and respect for others (Bodine and Crawford, 1999). School is the last collective experience of students before participating in society as citizens, and may act as an important agent in developing social and emotional competencies (Bodine and Crawford, 1999). Ability to understand, manage and express emotions, effective management of problems, establishing caring interpersonal relationships and ability to adapt to new situations are the social and emotional competences necessary for citizens with responsible behavior (Bodine and Crawford, 1999). These competencies constitute what is called EI.

The results of the current study underlined the importance of the relationship between emotional intelligence and behavior problems. As EI increased, behavior problems decreased that is why schools should adopt curricula that focus on skills

emphasized by EI. EI and psychological maladjustment of students were related as well; as EI increased psychological adjustment of students also increased. Including EI in school curricula will help raise better citizens who are less aggressive, more in control and expression of negative emotions, better in social relationships, better adjusted to life and higher in psychological well-being.

In the study of Petrides et al. (2004) those disadvantaged students with lower IQ, learning disabilities needed to rely on EI more than other children. Disadvantaged students may benefit from curricula that will foster their emotional intelligence skills to compensate for the discrepancy between their abilities and the demands of the school.

The importance of school has been emphasized so far in reducing behavior problems, increasing EI and psychological adjustment of students. It is through a counselor that schools will integrate EI into their curriculum and foster emotional and development of students as well as academic development. Counselors may work on programs, and activities to emphasize EI development. At first, teachers may benefit from these counselor programs, since they are in touch with children most of the time at schools. Large group guidance, small group activities by counselors, for increasing the EI of students may be arranged as a first step in preventing behavior problems and teaching effective ways of dealing with stressful situations. Those with disadvantages (lower IQ, learning disabilities) may be detected in early years at school; they may be included in an EI program. Thus, while their academic studies continue they may learn ways of compensating for, and effectively dealing with their disadvantages. Through programs emphasizing EI counselors as a first step in helping students adjust to school and then life, to changes and problems in their lives, to better understand themselves and others, to establish

better interpersonal relationships and be in harmony with society, behaviorally and emotionally.

### Strengths of the Study

The current study is an attempt to involve a popular, well known construct of emotional intelligence in the educational psychology domain. Although there have been studies including the construct in human resources area, there has not been any study in educational psychology with EI in Turkey. In the international arena, EI research is novel as well. Studies attempting to establish a link between emotional intelligence, behavior problems and psychological adjustment are rare.

EI research has been guided by those researchers who developed their instruments and developed their theories of the construct. Reuven Bar-On is one of the pioneers in the area that developed Bar-On EQ-i, which has a well developed theoretical background and empirical research. Psychological maladjustment is measured by PAQ, which has a strong theoretical and empirical basis established over studies carried out worldwide. The measure was adapted to the Turkish population as well and has been a valuable measure studying psychological maladjustment construct.

### Limitations of the Study and Directions for Future Research

First and foremost limitation of the study comes from the Turkish adaptations of the scales. CTRS-28 is adapted into Turkish but the factorial structure of the adaptation does not fit to the original scale (Dereboy et al., 1997). Conners' scale has a wide age

range (3-18), such a wide range brings questions about validity. Accuracy of assessing 18 year old with the same measure of 3 year old is questionable. However there was no better alternative to the scale at the time of administration.

Secondly Bar-On adaptation of Acar (2001) is reduced to 88 items by eliminating vague items, items belonging to no dimension but aimed at determining the response validity of the participants. Lastly, PAQ is adapted to the Turkish sample in a way that adolescents take the child form of the inventory. However, originally adolescents are given adult form. It is meant that the adaptation considered cultural differences. Adolescents of the same age are considered as adult in some countries. However in Turkey they are still considered as “children” until they separate from their families for university. According to unicef the definition of child includes those below 18 (Co, 2001).

Because of the restrictions of the measures, the age range of the participants was very small (16-17). The last year students did not participate in the study because they were preparing for the University Entrance Exam. The number of participants are limited to the students of the particular school, in order to maintain the homogeneity of the sample. This reduced the chances to collect data from a large sample, because there was no similar schools. In data analyses, those students who received discipline penalties were eliminated from the data. Since the study is not interested in severe behavior problems or disorders; participants that have been labeled as having behavior problems by the discipline records are discarded. The study focused on elevated scores versus lower scores on behavior problems in a community school.

The source of information is not the same in the inventories. The assessment tool for behavior problems is a teacher reported instrument, however instruments

utilized for emotional intelligence and psychological maladjustment are self-reporting and measuring perceptions of emotional intelligence and psychological maladjustment. Externalizing problems are usually measured by the report of other individuals, since in the case of externalizing problems it is others who experience problems with the participants' behaviors.

The future research may be aimed at investigating the relationship of emotional intelligence, psychological maladjustment with both internalizing and externalizing problems being experienced. The age range may be changed, examining the same relationship with children or adults. A larger sample may yield more significant results. The Turkish adaptations of the instruments need further validity and reliability support.

CHAPTER 7  
APPENDICES

APPENDIX A  
Official Consent

Sayın İlgili,

Boğaziçi Üniversitesi Eğitim Fakültesi, Eğitim Bilimleri Bölümü Rehberlik ve Psikolojik Danışmanlık Yüksek Lisans programı kapsamında “Ergenlerde Duygusal Zeka ve Genel Uyum Düzeyleri” konulu bir tez çalışması yönetmek ve gözetmekteyim. Tez çalışması, Boğaziçi Üniversitesi Rehberlik ve Psikolojik Danışmanlık Yüksek Lisans öğrencisi Şengül Hafızoğlu tarafından yapılmaktadır.

Bireylerin davranışını değerlendirirken, duygularını davranışlarına yön vermede nasıl kullandığını anlamak önemli bir yer tutmaktadır. Son yıllarda üzerine pek çok araştırma yapılan “duygusal zeka” kavramı, bireylerin sadece zihinsel değil, duygusal işlevlerini nasıl yönlendirdiklerini anlamada oldukça yaygın olarak kullanılmaktadır. Duygusal zeka kavramı, ruh sağlığı, okul ve iş başarısı, davranış problemleri gibi çeşitli alanlarda açıklayıcı bir faktör niteliğini taşımaktadır.

Yurtdışında yapılan çalışmalarda, duygusal zeka; öğrencilerin sağlıklı sosyalleşmelerine, uyumlu, üretken, kendine güvenli bireyler olmalarına yönelik çalışmalar ve projeler geliştirilmektedir. Ancak ülkemizde bu alanda yapılan ender çalışmalardan biri olarak, tez çalışmasının eğitime olumlu katkıları olması umulmaktadır.

Tez çalışmasında, ergenlerden, genel uyum düzeylerini ve duygusal zekalarının değerlendirmeleri ve sınıf öğretmenlerinden de ergenlerin davranış durumları hakkındaki gözlemlerini anket uygulaması yoluyla belirtmeleri istenecektir. Tez çalışmasında kullanılacak ölçekler ve ilgili çalışmanın yapılacağı okulların listesi ekte verilmiştir. Anket ve ölçeklerin değerlendirilerek uygulanması için gereken onayın verilmesini, gereğinin yapılmasını arz ederim.

Saygılarımla,

Yard. Doç. Z. Hande Sart

Tez Danışmanı

APPENDIX B

Demographic Information Form

(Demografik Bilgi Formu)

## Bilgi Formu

1.İsim Soyad:

2.Sınıf:

3.Okul No:

4.Doğum Tarihi:

5.Cinsiyet: K( ) E( )

6.Sınıf öğretmeninizin sizi yeterince tanıdığını düşünüyor musunuz?

1) Hiç tanımıyor 2) Çok az tanıyor 3) Yeterince tanıyor 4) Çok iyi tanıyor

7.Not ortalaması:

8.Hiç disiplin cezası aldınız mı? 1) Evet 2) Hayır

## APPENDIX C

Bar-On Emotional Quotient Inventory (Bar-On EQ-i)

(Bar-On EQ-i) Duygusal Zeka Ölçeđi

Sayın Katılımcı,

Aşağıdaki ifadelere vereceğiniz yanıtları 1'den 5'e kadar sıralanan;

1) Tamamen Katılıyorum 2) Katılıyorum 3) Kararsızım 4) Katılmıyorum 5) Kesinlikle Katılmıyorum ifadelerinden birini seçiniz. Doğru veya yanlış cevap yoktur. Size en fazla uyduğunu düşündüğünüz seçeneği işaretleyiniz.

	Tamamen Katılıyorum	Katılıyorum	Kararsızım	Katılmıyorum	Kesinlikle Katılmıyorum
	1	2	3	4	5
1. Zorluklarla baş edebilme yaklaşımım adım adım ilerlemektir					
2. Duygularımı göstermek benim için kolaydır					
3. Çok fazla strese dayanmam					
4. Hayallerimden çok çabuk sıyrılabilir ve o anki durumun gerçekliğine dönebilirim.					
5. Zaman zaman ortaya çıkan tersliklere rağmen, genellikle işlerin düzeleceğine inanırım					
6. Üzücü olaylarla yüz yüze gelmek benim için zordur					
7. Biriyle aynı fikirde olmadığımda bunu ona söyleyebilirim					
8. Kendimi kötü hissettiğimde beni neyin üzdüğünü bilirim					
9. Başkaları benim iddiasız biri olduğumu düşünürler					
10. Çoğu durumda kendimden eminimdir					
11. Huysuz bir insanımdır					
12. Çevremde olup bitenlerin farkında değilimdir					
13. Derin duygularımı başkaları ile kolayca paylaşamam					
14. İyi ve kötü yanlarıma baktığım zaman kendimi iyi hissederim					
15. Yaşamımı elimden geldiğince anlamlı hale getirmeye çalışırım					
16. Sevgimi belli edemem					
17. Tam olarak hangi konularda iyi olduğumu bilmiyorum					
18. Eski alışkanlıklarımı değiştirebilirim					
19. Hoşuma giden şeyleri elimden geldiğince sonuna kadar öğrenmeye çalışırım					
20. Başkalarına kızdığımda bunu onlara söyleyebilirim					
21. Hayatta neler yapmak istediğime dair kesin bir fikrim yok					
22. Yapacaklarımın bana sık sık söylendiği bir işte çalışmayı tercih ederim					
23. Bir problemi çözerken her bir olasılığı inceler, daha sonra en iyisine karar veririm					

	Tamamen Katılıyorum 1	Katılıyorum 2	Kararsızım 3	Katılmı- yorum 4	Kesinlikle Katılmıyorum 5
24. Bir liderden çok, takipçiyimdir					
25. Doğru ifade etmeseler de, başkalarının duygularını çok iyi anlarım					
26. Fiziksel görüntümden memnunum					
27. İnsanlara ne düşündüğümü kolayca söyleyebilirim					
28. İlgimi çeken şeyleri yapmaktan hoşlanırım					
29. Sabırsız bir insanım					
30. Diğer insanların duygularını incitmemeye özen gösteririm					
31. İşler gittikçe zorlaşsa da genellikle devam etmek için motivasyonum vardır					
32. Başkalarıyla iyi ilişkiler kurarım					
33. Güç bir durumla karşılaştığımda konuyla ilgili olabildiğince çok bilgi toplamayı isterim.					
34. İnsanlara yardım etmekten hoşlanırım					
35. Son birkaç yılda çok az başarı elde ettim					
36. Öfkemi kontrol etmem zordur					
37. Hayattan zevk almıyorum					
38. Duygularımı tanımlamak benim için zordur					
39. Haklarımı savunamam					
40. Oldukça neşeli bir insanımdır					
41. Düşünmeden hareket edişim problemler yaratır					
42. İnsanlar benim sosyal olduğumu düşünürler					
43. Kurallara uyan bir vatandaş olmak çok önemlidir					
44. Kendimi olduğum gibi kabul etmek bana çok zor geliyor					
45. Aynı anda başka yerde bulunmak zorunda olsam da, ağlayan bir çocuğun anne ve babasını bulmasına yardım ederim					
46. Arkadaşlarım bana özel şeylerini anlatabilirler					
47. Kendi başıma karar veremem					
48. Başka insanlara saygı duyarım					
49. Başkalarına neler olduğunu önemserim					
50. Bazı şeyler hakkında fikrimi değiştirmem zordur					
51. Problemlerin çözümüne ilişkin farklı çözüm yolları düşünmeye çalışınca genellikle tıkanır kalırım					

	Tamamen Katılıyorum 1	Katılıyorum 2	Kararsızım 3	Katılmı- yorum 4	Kesinlike Katılmıyorum 5
52.Fanteziler ya da hayaller kurmadan her şeyi gerçekte olduğu gibi görmeye çalışırım					
53.Neler hissettiğimi bilirim					
54.Benimle birlikte olmak eğlencelidir					
55.Sahip olduğum kişilik tarzından memnunum					
56.Hayal ve fantezilerime kendimi kaptırırım					
57.Yakın ilişkilerim benim ve arkadaşlarım için çok önemlidir					
58.Yeni şeylere başlamak benim için zordur					
59.Eğer yasaları benim çiğnemem gerekirse, bunu yaparım					
60.Endişeliyimdir					
61.Yeni şartlara ayak uydurmak benim için kolaydır					
62.Kolayca arkadaş edinebilirim					
63.Can sıkıcı problemlerle nasıl baş edebileceğimi bilirim					
64.Başkaları ile çalışırken kendi fikirlerimden çok onlarınkine güvenirim					
65.Kendimi çok sık, kötü hissederim					
66.Konuşmaya başlayınca zor susarım					
67.Çevremdekilerle iyi geçinemem					
68. Zor şartlarda serin kanlılığımı nasıl koruyacağımı bilirim					
69.Kendimi takdir ederim					
70. İnsanlarla tartışırken, bana sesimi alçaltmamı söylerler					
71.Tarzımı değiştirmem zordur					
72.Hayatımdan memnunum					
73.Başkalarının bana ihtiyaç duymalarından çok, ben başkalarına ihtiyaç duyarım					
74.Hafta sonlarını ve tatilleri severim					
75.Çok sinirlenmeden stresle baş edebilirim					
76.Çok zor durumların üstesinden gelebileceğime eminim					
77.Acı çeken insanların farkına varamam					
78.Genellikle en iyisini ümit ederim					
79.Başkalarına göre, bana güvenmek zordur					
80. Endişemi kontrol etmemin zor olduğunu biliyorum					
81.Başkalarının duygusal ihtiyaçlarını, kolaylıkla fark ederim					

	Tamamen Katılıyorum 1	Katılıyorum 2	Kararsızım 3	Katılmı- yorum 4	Kesinlikle Katılmıyoru m 5
82.Abartmayı severim					
83.Gülümsemek benim için zordur					
84.Uygun zamanda negatif duygularıyla yüzleşir,onları gözden geçiririm					
85.Yeni bir şeylere başlamadan önce genellikle başarısız olacağım hissine kapılırım.					
86.İstediğim zaman "hayır" demek benim için zordur					
87.Bir problemle karşılaştığımda önce durur ve düşünürüm					
88.Yukarıdaki ifadelere samimi bir şekilde cevap verdim.					

APPENDIX D

Personality Assesment Questionnaire (PAQ)

Kendini Deęerlendirme leęi (KİDÖ)

Aşağıdaki cümleleri dikkatlice okuyun ve sizi ne kadar iyi anlattığını düşünün. Her madde için aklınıza ilk gelen düşünceye göre yanıt verin ve sonraki maddeye geçin. Bütün maddeler için dört kutu vardır. Her maddedeki cümlenin sizi ne kadar anlattığına göre o dört kutudan birinin içine X işareti koyunuz. Hiçbir ifadenin doğru veya yanlış bir yanıtı yoktur. Her ifadeyi olmak istediğiniz kişi gibi değil, gerçekte olduğunuz kişi gibi yanıtlayınız.  
Örnek: Eğer kendin hakkında hemen hemen her zaman iyi duygular besliyorsanız, “hemen hemen her zaman” kutusuna X koyunuz.

	BENİM İÇİN DOĞRU		BENİM İÇİN DOĞRU DEĞİL	
	Hemen hemen her zaman doğru	Bazen doğru	Nadiren doğru	Hemen hemen hiçbir zaman doğru değil
Kendim hakkında iyi duygular beslerim	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\*\*\*\*\*

Şimdi aşağıdaki soruları kendinize göre yanıtlayınız

	BENİM İÇİN DOĞRU		BENİM İÇİN DOĞRU DEĞİL	
	Hemen hemen her zaman doğru	Bazen doğru	Nadiren doğru	Hemen hemen hiçbir zaman doğru değil
1.İçimden kavga etmek veya birine bir kötülük yapmak geliyor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.Hastalandığımda annemin benim için üzülmesi hoşuma gider	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.Kendimi beğenirim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.Yapmak istediğim şeyleri herkes kadar iyi yapabilirim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.İnsanlara duygularımı göstermekte zorlanırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.Yapmaya çalıştığım bir şeyi yapamayınca kendimi kötü hisseder yada sinirlenirim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.Yaşamın güzel olduğunu düşünüyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.İçimden bir şeye veya birisine vurmaya geliyor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.Anne ve babamın bana çok sevgi göstermelerini isterim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.Bir işe yaramadığımı ve hiçbir zaman da yaramayacağımı düşünüyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.Birçok şeyi iyi yapamadığımı hissediyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.Anne ve babama sevgimi göstermek benim için kolaydır.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.Önemli bir neden olmamasına rağmen sinirli ve aksiyim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.Yaşamı tehlikelerle dolu görüyorum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	BENİM İÇİN DOĞRU		BENİM İÇİN DOĞRU DEĞİL	
	Hemen hemen her zaman doğru	Bazen doğru	Nadiren doğru	Hemen hemen hiçbir zaman doğru değil
15.Öyle sinirlenirim ki, bir şeyleri fırlatır ya da kırarım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.Mutsuz olduğum zaman sorunlarımı kendim çözmekten hoşlanırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.Tanımadığım biri ile tanıştığımda, onun benden daha iyi olduğunu düşünürüm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.İstediğim şeyler için başarılı bir şekilde mücadele edebilirim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.İyi arkadaşlıklar kurmak ve bu arkadaşlıkları sürdürmekte zorlanıyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.İşler ters gittiğinde canım sıkılır.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.Dünyanın iyi ve mutlu bir yer olduğunu düşünüyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.Aptalca şeyler yapan insanlarla dalga geçerim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.Annemin benimle çok ilgilenmesini isterim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.İyi bir insan olduğumu düşünüyor ve başkalarının da öyle düşünmesini istiyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.Başarısız biri olduğumu düşünüyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26.Aileme sevgim göstermek benim için kolaydır.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.Bir an neşeli ve mutlu oluyorum, bir sonraki an üzgün ve mutsuz.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.Benim için dünya mutsuz bir yerdir.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.Kızdığım zaman suratımı asar, somurturum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.Bir şeyde zorlandığımda, birinin bana moral vermesini isterim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31.Kendimden oldukça memnunum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32.Yapmaya çalıştığım birçok şeyi beceremediğimi düşünüyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.Hoşlandığım birine duygularımı göstermeye çalışmak benim için zordur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	BENİM İÇİN DOĞRU		BENİM İÇİN DOĞRU DEĞİL	
	Hemen hemen her zaman doğru	Bazen doğru	Nadiren doğru	Hemen hemen hiçbir zaman doğru değil
34.Kolay kolay ne kızarım ne de bir şeye canım sıkılır.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.Dünyayı tehlikeli bir yer olarak görüyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.Kızgınlığımı kontrol etmekte zorlanırım.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37.Canım yandığında ya da hastalandığımda annemle babamın üzerime düşmeleri hoşuma gider.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38.Kendimden memnun değilim.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39.Yaptığım şeylerde başarılı olduğumu düşünüyorum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40.Arkadaşlarıma onları gerçekten sevdiğimi göstermek benim için kolaydır.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41.Zor sorunlarla karşılaştığımda hemen canım sıkılır.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42.Benim için yaşam güzel bir şeydir	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPENDIX E

Conners' Teachers Rating Scale (CTRS-28)

Conners Öğretmen Derecelendirme Ölçeđi

Sayın .....Lisesi Öğretmeni;

Elinizdeki bu ölçek, Boğaziçi Üniversitesi, Rehberlik ve Psikolojik Danışmanlık Bölümünde yürütülmekte olan bir yüksek lisans çalışmasının parçasıdır. Söz konusu öğrenciler hakkında hiçbir soruyu BOŞ BIRAKMADAN yanıtlanmanız verdiğiniz yanıtların değerlendirmeye alınması açısından önemlidir. Çalışma gizlilik prensibi ile yürütülmekte olup araştırmacı dışında kimse verdiğiniz yanıtları görmeyecektir. Katılımınız için teşekkürler.

Danışman

Yard. Doç. Dr. Z. Hande Sart

Şengül Hafizoğlu

### CONNERS' ÖĞRETMEN DERECELENDİRME ÖLÇEĞİ\*

Öğrencinin adı- soyadı:

Tarih:..../..../200

Yaşı:

Cinsiyeti:

Sınıf:

	Hiçbir Zaman 0	Nadiren 1	Sıklıkla 2	Her Zaman 3
1. Kıpır kıpırdır yerinde duramaz				
2. Zamansız ve uyumsuz sesler çıkarır.				
3. İstekleri hemen yerine getirilmelidir.				
4. Bilmiş tavırları vardır, bilgiçlik taslar.				
5. Aniden parlar, ne yapacağı belli olmaz.				
6. Eleştiriyi kaldıramaz.				
7. Dikkati dağınıktır, uzun sürmez.				
8. Diğer çocukları rahatsız eder.				
9. Hayallere dalar.				
10. Somurtur, surat asar.				
11. Bir anı bir anını tutmaz. Duyguları çabuk değişir.				
12. Kavgacıdır.				
13. Büyüklerin sözünden çıkmaz.				
14. Hareketlidir. Dur otur bilmez.				
15. Heyecana kapılıp, düşünmeden hareket eder.				
16. Öğretmenin ilgisi hep üzerinde olsun ister.				
17. Görüldüğü kadarıyla arkadaş grubuna alınmıyor.				
18. Görüldüğü kadarıyla başka çocuklar tarafından kolaylıkla yönlendiriliyor.				
19. Oyun kurallarına uymaz.				
20. Görüldüğü kadarıyla liderlik özelliğinden yoksundur.				
21. Başladığı işin sonunu getiremez.				
22. Olduğundan küçükmüş gibi davranır.				
23. Hatalarını kabul etmez, suçu başkalarının üzerine atar.				
24. Diğer öğrencilerle iyi geçinemez.				
25. Sınıf arkadaşlarıyla yardımlaşmaz.				
26. Zorluklardan hemen yılar.				
27. Öğretmenle işbirliğine girmez.				
28. Zor öğrenir.				

## REFERENCES

- Acar, F. T. (2001). *Duygusal zeka yeteneklerinin göreve yönelik ve insana yönelik liderlik davranışları ile ilişkisi: banka şube müdürleri üzerine bir alan araştırması*. Unpublished Doctoral Dissertation. İstanbul: İstanbul University Social Sciences Institute.
- Acar, F. (2002). Duygusal zeka ve liderlik. *Sosyal Bilimler Enstitüsü Dergisi*, 12, 53-68.
- Arslan, L. B. (1989). *Hyperactivity: factor structure of Conners' Teacher Rating Scale and predictors of hyperactivity among Turkish nursery school children*. Unpublished Master's Thesis. Ankara: Middle East Technical University.
- Austin, E., Saklofske, D. H. and Egan, V. (2005). Personality, well-being and health correlates of trait emotional intelligence. *Personality and Individual Differences*, 38, 547-558.
- Awad, A. M. E. and Sonuga-Barke, E. J. S. (2002). The application of the Conners' Rating Scales to a Sudanese sample: An analysis of parents' and teachers' ratings of childhood behavior problems. *Psychology and Psychotherapy*, 75, 177-187.
- Barkley, R. A. (1990). *Attention Deficit Hyperactivity Disorder: A Handbook for Diagnosis and Treatment*. New York: Guilford.
- Bar-On, R. (1997). *Bar-On Emotional Quotient Inventory. User's Manual*. Toronto: Multi-Health Systems Inc.
- Bar-On, R., Tranel, D., Denburg, N.L. and Bechara, A. (2003). Exploring the neurological substrate of emotional and social intelligence. *Brain*, 126(8), 1790-1800.
- Bar-On, R. (2005). *The Bar-On model of emotional-social intelligence (ESI)*. In P. Fernandez-Berrocal and N. Extremera (Guest Editors), Special Issue on Emotional Intelligence, *Psicothema*, 17.
- Bodine, R. J. and Crawford, D. K. (1999). *Developing Emotional Intelligence: A guide to Behavior Management and Conflict Resolution in Schools*. Illinois: Reseach Press.
- Brackett, M. A., Mayer, J. D. and Warner, R. M. (2004). Emotional intelligence and its relation to everyday behavior. *Personality and Individual Differences*, 36 (2004), 1387-1402.
- Campbell, S.B. (1994). Behavior problems in preschool children: A review of recent research. *Journal of Child Psychology and Psychiatry*, 36(1), 113-149.

- Christopher, J. C. (1999). Situating psychological well-being: Exploring the cultural roots of its theory and research. *Journal of Counseling and Development*, 77(2), 141-153.
- Ciarrochi, J., Deane, F. P. and Anderson, S. (2002). Emotional intelligence moderates the relationship between stress and mental health. *Personality and Individual Differences*, 32, 197-209.
- Co, B. (2001). CRC Quantitative study in Iran. Final report. Retrieved 12 June 2007, from, [http://www.unicef.org/evaldatabase/files/IRN\\_2001\\_006\\_CRC\\_Quantitative.pdf](http://www.unicef.org/evaldatabase/files/IRN_2001_006_CRC_Quantitative.pdf)
- Cohen, D. And Strayer, J.(1996). Empathy in conduct disorder and comparison youth. *American Psychological Association*, 988-998.
- Cole, P. M., Teti, L. O., and Zahn-Waxler, C. (2003). Mutual emotion regulation and the stability of conduct problems between pre-school and early school age. *Development and Psychopathology*, 15, 1-18.
- Cole, P. M., Fox, N. A., Zahn-Waxler, C., Usher, B. A. and Welsh, J. D. (1996). Individual differences in emotion regulation and behavior problems in preschool children. *Journal of Abnormal Psychology*, 105 (4), 518-529.
- Connor, D. (2004). *Aggression and Antisocial Behavior in Children and Adolescents. Research and Treatment*. New York; The Guilford Press.(p.113- 161).
- De Lazzari, S. A. (2001). *Emotional intelligence, meaning, and psychological well being: A comparison between early and late adolescence*. Unpublished Master's Thesis. Canada; Trinity Western University.
- DeKlyen, M.(1996). Disruptive behavior disorder and intergenerational attachment patterns: A comparison of clinic-referred and normally functioning preschoolers and their mothers. *Journal of Consulting and Clinical Psychology*, 64 (2), 357-365.
- Dereboy, Ç., Şener, Ş., Dereboy, İ. F. and Sertcan, Y. (1997). Connors öğretmen derecelendirme ölçeği Türkçe uyarlaması-2. *Çocuk ve Gençlik Ruh Sağlığı Dergisi*, 4(1),10-18.
- Egan, G. J., Brown, R. T., Goonan, L., Goonan, B. T. and Celano, M. (1998). The development of decoding of emotions in children with externalizing behavioral disturbances and their normally developing peers. *Archives of Clinical Neuropsychology*, 13(4), 383-396.
- Eryiğit, S. (2004). *Turkish adolescents' level of psychological adjustment in relation to adolescents' perception of parental psychological maltreatment and physical punishment*. Unpublished Master's Thesis. İstanbul: Boğaziçi University.

- Extremera, N. Duran, A. and Rey, L. (2006). Perceived emotional intelligence and dispositional optimism-pessimism: Analyzing their role in predicting psychological adjustment among adolescents. *Personality and Individual Differences*, doi:10.1016/j.paid.2006.09.014.
- Fantuzzo, J., Grim, S., Mordell, M. and McDermott, P. (2001). A multivariate analysis of the revised Conners' Teacher Rating Scale with low-income, urban preschool children. *Journal of Abnormal Psychology*, 29(2), 141-153.
- Friedman, S. R., Rapport, L. J., Lumley, M., Tzelepis, A., VanVoorhis, A., Stettner, L. and Kakaati, L. (2003). Aspects of Social and Emotional Competence in Adult Attention Deficit/Hyperactivity Disorder. *Neuropsychology*, 17 (1), 50-58.
- Gerard, J. M and Buehler, C. (2004). Cumulative environmental risk and youth problem behavior. *Journal of Marriage and Family*, 66(3), 702-721.
- Gjerde, P. F., Block, J. and Block, J. H. (1988). Depressive symptoms and personality during late adolescence: Gender differences in the externalization-internalization of symptoms of depression. *Journal of Abnormal Psychology*, 97, 475-486.
- Goleman, D. (1995). *Emotional Intelligence: Why It Can Matter More Than IQ?*. London: Bloomsbury, (pp. 193-195).
- Goleman, D. (2000). *İşbaşında Duygusal Zeka*. İstanbul: Varlık.
- Henley, M. and Long, N. J. (1999). Teaching emotional intelligence to impulsive-aggressive youth. *Reclaiming Children and Youth*, 7(4), 224-229.
- Hill, A. L., Degnan, K. A., Calkins, S. D. and Keane, S. P.(2006). Profiles of externalizing behavior problems for boys and girls across preschool: The roles of emotion regulation and inattention. *Developmental Psychology*, 42 (5), 913-928.
- Huebner, P. S. (2004). *Emotional intelligence as basis of treatment for adolescents diagnosed with oppositional defiant disorder*. Unpublished Doctoral Dissertation: USA: University of Hartford.
- Kelly, K. R. and Moon, S. M. (1998). Personal and social talents. *Phi Delta Kapan*, 79(10), p.743-747.
- Khaleque, A. and Rohner, R.(2002). Perceived parental acceptance-rejection and psychological adjustment: A meta analysis of cross-cultural and intracultural studies. *Journal of Marriage and Family*, 64(1), 54-65.
- Korkmaz, B. (2000). *Pediatric Davranış Nörolojisi*. İstanbul: İstanbul Üniversitesi Yayınevi.

- Lafferty, J. (2004). *The relationship between gender, empathy and aggressive behaviors among early adolescents*. Unpublished Doctoral Dissertation. San Diego; Alliant International University.
- Lance, J. R. (2003). *The relationship between emotional intelligence and adolescent deviant behavior*. Unpublished Master's Thesis. Utah: Utah State University.
- Lazarus, R. S. and Folkman, S. (1984). *Stress, Appraisal and Coping*. New York: Springer.
- Mash, E. J and Wolfe, D. A (2002). *Abnormal Child Psychology. Second Edition*. The USA; Wadsworth Thomson Learning.
- Matthews, G., Zeidner, M. and Robertd, R. D. (2002). *Emotional intelligence: science and myth*. Cambridge: MIT Press.
- Mayer, J.D. (2001). A field guide to emotional intelligence. In J.Ciarrochi, J. P. Forgas and J. D. Mayer (Eds). *Emotional Intelligence and Everyday Life*. (pp. 3-24). New York: Psychology Press.
- Mayer, J. D., Salovey, P. and Caruso, D. R. (2000). Models of emotional intelligence. In R. J. Sternberg (Ed.). *Handbook of intelligence*.(pp.396-420). Cambridge, England: Cambridge University Press.
- Mumcuoğlu, Ö. (2002). *Bar-On Duygusal Zeka testi (Bar-On Emotional Quotient Inventory- Bar-On EQ-i) 'nin Türkçe dilsel eşdeğerlik, güvenilirlik ve geçerlik çalışması*. Unpublished Master's Thesis. İstanbul: Marmara University.
- Obiakor, F. E. (2001). Developing emotional intelligence in learners with behavioral problems: Refocusing special education. *Behavioral Disorders*, 26(4), 321-331.
- Oltmanns, T.F. and Emery, R.E.(2001). *Abnormal Psychology. 3rd Edition*. (pp. 548-583). New Jersey: Prentice Hall.
- Petrides, K. V., Frederickson, N. and Furnham, A.(2004). The role of trait emotional intelligence in academic performance and deviant behavior at school. *Personality and Individual Differences*, 36, 277-293.
- Perkins, D. M.(2003). *Effects of parenting, emotional intelligence, hostile attributional bias, and peer status on problem behavior*. Unpublished Doctoral Dissertation. USA: University of New Hampshire.
- Plomin, R., Nitz, K. and Rowe, D. C. (1999). Behavioral genetics and aggressive behavior in childhood. In M. Lewis & S. M. Miller (Eds). *Handbook of developmental psychopathology* (pp119-133). New York: Plenum Press.
- Qualls, S. H. (2002). Defining mental health in later life. *Generations*, 26(1), 9-13.

- Rapport, L.J., Friedman, S. L., Tzelepis, A. and Van Voorhis, A. (2002). Experienced emotion and affect regulation in adult attention deficit hyperactivity disorder. *Neuropsychology*, 16(1), 102-110.
- Reker, D. L. (2003). *Children's emotional intelligence as a mediator between children's attachment security and their internalizing and externalizing behaviors*. Unpublished Doctoral Dissertation. Canada: Trinity University.
- Robbins, S. B. and Kliewer, W. L. (2000). Advances in theory and research on subjective well-being. In S. D. Brown and R. W. Lent (Eds). *Handbook of Counseling Psychology. Third Edition*. New York: John Wiley and Sons (pp.310-346).
- Rohner, R. (2004). The parental acceptance-rejection syndrome: universal correlates of perceived rejection. *American Psychologist*, 59(8), 827-840.
- Rohner, R. P. and Khaleque, A. and Cournoyer, D. E. (2003). *Handbook for the Study of Parental Acceptance and Rejection*. Center for the study of parental acceptance and rejection. Connecticut: Storrs University, pp.1-20.
- Rohner, R. Khaleque, A. and Cournoyer, D. (2005). *Parental acceptance-rejection theory, methods, evidence, and implications*. Retrieved 29 December 2006, from <http://www.cspar.uconn.edu/>
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069-1081.
- Ryff, C.D. and Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69(4), 719-727.
- Salovey, P., Mayer, J. D. and Caruso, D. (2002). The positive psychology of emotional intelligence. In C. R. Snyder and S. J. Lopez (Eds). *The Handbook of Positive Psychology* (pp.159-171). New York: Oxford University Press.
- Santesso, D., Rekers, D., Schmidt, L and Segalowitz, S. J. (2006). Frontal electroencephalogram activation asymmetry, emotional intelligence, and externalizing behaviors in 10 year- old children. *Child Psychiatry and Human Development*, 36(3), 311-328.
- Sart, Z. H. (2003). *Stability and change in behavior problems in preschool years*. Unpublished Doctoral Dissertation. Pittsburgh: University of Pittsburgh.
- Schroeder, C. S and Gordon, B.N. (2002). *Assesment and Treatment of Childhood Problems*. 2nd Edition. A Clinician's Guide. The Guilford Press; NY.
- Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J. and Dornheim, L. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences*, 25, 167-177.

- Schutte, N., Malouff, J. M., Simunek, M., McKenley, J. and Hollander, S. (2002). Characteristics emotional interlligence and emotional well-being. *Cognition and Emotion*, 16(6), 769-785.
- Schwartz, D. (1999). Subtypes of victims and aggressors in children's peer groups. *Journal of AbnormalChild Psychology*, 28(2), 181-192.
- Segal, J. (1997). *Raising Your Emotional Intelligence: A Practical Guide* (pp.11-20). New York: Henry Holt and Company,
- Smith, J. E. (2000). *Emotional intelligence and behavior: an exploratory study of people on parole*. Unpublished Doctoral Dissertation. Kansas: Kansas State University.
- Spence, G., Oaders, L. G. and Caputi, P. (2004). Trait emotional intelligence and goal self-integration: important predictors of emotional well-being. *Personality and Individual Differences*, 37, 449-461.
- Steinberg, L. (1999). *Adolescence*. Boston: McGraw-Hill College.
- Sullivan, J. M. (2001). *A study of the effect of an interdisciplinary study improvement program on academic achievement and classroom behavior among tenth-grade students*. Unpublished Doctoral Dissertation. Massachusetts: University of Massachusetts Lowell.
- Tobin, T. J. and Sugai, G. M. (1999). Using sixth-grade school reports to predict school violence, chronic discipline problems, and high school outcomes. *Journal of Emotional and Behavioral Disorders*, 7(1), 40-53.
- Trinidad, D. R. and Johnson, C. A.(2002). The association between emotional intelligence and early adolescent tobacco and alcohol use. *Personality and Individual Differences*, 32, 95-105.
- Van Ijzendoorn, M. H., Schuengel, C. and Bakermans-Kranenburg, M. J.(1999). Disorganized attachment in early childhood: Meta-analysis of precursors, concomitants and sequale. *Developmental Psychology*, 11, 225-249.
- Wells, D., Torrie, J. and Prindle, L. (2000). Exploring emotional intelligence correlates in selected populations of college students. *ERIC Digest Number: 447 739*.
- Wiedenhoff, A. R. C. (1993). *Use of two behavior rating scales with mothers and teachers in the evaluation of children with attention deficit- hyperactivity disorder*. Unpublished Doctoral Dissertation. Texas: Texas Women's College.
- Wilkerson, B. (2005). The roadmap to mental health and excellence at work in Canada. *Benefits Canada*, 29 (8), pp.F2.

White, J. L., Moffit, T. E., Caspi, A., Bartusch, D. J., Needles, D. J., and Stouthamer-Loeber, M. (1994). Measuring impulsivity and examining its relation to delinquency. *Journal of Abnormal Psychology*, 103(2), 192-205.