PREDICTING ACADEMIC ACHIEVEMENT: THE ROLE OF PARENTING, NONVERBAL INTELLIGENCE, AND GOAL ORIENTATION IN TURKISH CHILDREN

A Dissertation

by

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ABSTRACT

The purpose of this research is to examine parenting, child goal orientation, and child nonverbal intelligence as predictors of academic achievement among fifth grade Turkish children. The influence of intelligence, parenting style, and goal orientation on academic achievement is well established in the literature around the world. However, this study aims to contribute to the existing literature by examining those variables in the Turkish cultural context. Additionally, Turkish parenting, including whether parenting differ by child's gender, were explored. Examining those variables in the Turkish cultural context is important, because Turkey is presently undergoing major socio-economical changes. Data from Istanbul, Turkey was used in this dissertation. The Cattell Culture Fair Intelligence Test, Achievement Goal Orientation, Parental Autonomy Support, and Parental Control questionnaires were used to collect data from 123 fifth grade children. The contribution of parenting, goal orientation, and nonverbal intelligence to academic achievement were investigated using regression analysis. Any difference in parenting by the child's gender was examined by *t*-test. Finally, descriptive statistics were conducted to provide information on Turkish parenting styles in the 21st century.

The present study resulted that nonverbal intelligence predicted academic achievement. Promotion of independence (one aspect of parental autonomy support) predicted Mathematics achievement but not Language Arts achievement. Promotion of

volitional functioning (another aspect of parental autonomy support), parental psychological control, and achievement goal orientation did not have statistically significant unique contributions to students' academic achievements. However, positive correlation between academic achievement and achievement goal orientation as well as autonomy support, and negative correlation between achievement and psychological control were detected. The present study also found that children living in Turkey view their parents as using high levels autonomy support and low levels of psychological control with them. In regards to whether parenting styles differed across sons and daughters, results indicate no gender differences for parental autonomy support, but gender differences were found for parental psychological control with sons perceiving their parents as applying greater psychological control over them than daughters. Study results have implications for both parents and educators in socialization factors that have influence on children's healthy development and achievement.

DEDICATION

To my beloved mom and dad

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It is my pleasure that I acknowledge the love, help, and endless support of individuals who were there for me during my education. I would like to express my deepest gratitude to my dissertation Chair Dr. Jeffrey Liew, who generously helped me throughout my doctoral education, especially for the writing process of my dissertation. I appreciate his invaluable feedback and suggestions. I also would like to thank my Co-Chair Dr. Joyce Juntune for her support and help. I am also sincerely thankful to my dissertation committee members, Dr. Bugrahan Yalvac and Dr. Krystal Cook, for their time and support.

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NOMENCLATURE

TurkStat	Turkish Statistical Institute

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CHAPTER I

INTRODUCTION

Researchers have made significant progress in explaining the factors that influence children's academic achievement. Some of the correlated factors with students' academic achievement are students' intelligence (e.g., Gagne & St Pere, 2001; Mayes, Calhoun, Bixler, & Zimmerman, 2009; McGrew, Keith, Flanagan, & Vanderwood, 1997), the goal orientation of students (e.g., Elliot & McGregor, 2001; Midgley, Kaplan, & Middleton, 2001; Pintrich, 2000), and the parenting style of students' parents (e.g., Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Grolnick & Ryan, 1989). This study aims to examine parenting, child nonverbal intelligence, and child goal orientation as predictors of academic achievement (specifically in school subjects of Mathematics and Language Arts) among fifth grade Turkish children aged 10 to 11 years. In addition, the parenting styles of Turkish parents, including whether parenting styles differ by child's gender, were examined.

Statement of the Problem

The influence of intelligence, parenting styles, and achievement goal orientation on academic achievement is well established in the current literature. However, no known studies have examined whether similar patterns of results are found in the Turkish cultural context. Given that Turkey is a developing country and experiencing economic and sociocultural development, developmental and educational research is urgently needed. As Kagitcibasi (2007) argued, demographical characteristics of the

society have been affected by a change that influences the parenting styles of Turkish parents as well (e.g., Dedeoglu, 2004; Murray, 2012). An updated study of the parenting styles of Turkish parents is necessary.

The Need and the Purpose of the Study

The reasons for the need of the present study are presented in this paragraph. Turkey is experiencing sociocultural and economic changes. Social and cultural beliefs and values impact parenting, and Turkish parenting is expected to change due to the sociocultural and economic changes taking place in Turkey (e.g., Ataca, Kagitcibasi, & Diri, 2005; Dedeoglu, 2004; Murray, 2012). Therefore, there is a necessity to inspect how Turkish parenting styles are updated. Importantly, the existing parenting research in Turkey primarily focused on high school or college students, and there is considerably less research on middle childhood and early adolescents. The present study address this research gap by examining the perceived parenting styles and academic achievement in Turkish children aged 10 to 11 years. Existing research on Turkish parenting has examined Turkish parenting attitudes (e.g., Kagitcibasi, 1990), parenting and children's wellbeing (e.g., Sunar, 2002), and cross cultural comparisons (e.g., Dwairy & Achoui, 2010; Kagitcibasi, Ataca, & Diri, 2010). To date, there have been no published studies on Turkish parenting and children's academic achievement. Yet, this research topic has been well studied and documented in other countries, such as the US, Europe, and Asian countries (e.g., Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Murray, 2012; Wei, 2012). Thus, there is a need to examine how Turkish parenting styles influence children's academic achievement. Considering the sociocultural shift in Turkey, and the

gap in the literature, it is timely and important to investigate the role of Turkish parenting practices in children's achievement. In addition to parenting, children's achievement goal orientation was tested as a predictor of academic achievement because previous studies have found that achievement goal orientation is related both to parenting and academic achievement (e.g., Astone & McLanahan, 1991; Baumrind, 1971; Hoffmann & Saltzsein, 1967; Joshi & Acharya, 2013).

The influence of intelligence on children's academic achievement is well known (e.g., Gottfredson, 1997; Mayes, Calhoun, Bixler, & Zimmerman, 2009). There is already a consistent pattern of results from previous research on achievement-intelligence relation in other countries (e.g., Deary, Strand, Smith, & Fernandes, 2007; Rohde & Thompson, 2007), and there is no reason to expect that such relations will differ for Turkish children. However, intelligence scores were included as a covariate in the analyses because research indicates that it is related to achievement. Therefore, including intelligence as a covariate allow determining if the other variables in the present study predict achievement above and beyond intelligence.

There is no standard definition of intelligence, and there are many theories of intelligence. Charles Spearman had an early definition of intelligence which was general intelligence, otherwise known as 'g' factor (Spearman, 1904). Raymond Cattell and John Horn, expanded Spearman's 'g' factor theory and Louis Thurnstone's factor analytic work on intelligence to develop the Gf-Gc theory of intelligence (Horn, & Cattell, 1967; Flanagan, Ortiz, Alfonso, & Dynda, 2008). The Gf-Gc theory represents fluid

intelligence (Gf), often measured nonverbally, and crystallized intelligences (Gc), primarily measuring individuals' verbal abilities.

The present study assessed intelligence from the perspective of Cattell-Horn model of intelligence using the Catell Culture Fair Intelligence Test. The obtained nonverbal intelligence scores were used as one of the predictors in this study because of the retrieval difficulty of both of the verbal and nonverbal intelligence scores (or *g* factor). Although most of the standardized intelligence tests include both of the verbal and nonverbal cognitive abilities measures, such as the Wechsler Intelligence Scale for Children-Revised (WISC-R) (Wechsler, 1974), The Cattell Culture Fair Intelligence Test was chosen to minimize administration time. For instance, one of the popular standardized intelligence tests used in Turkey is the WISC-R. The application of WISC-R takes 60 to 80 minutes per child, while the Cattell Culture Fair Intelligence Test takes 25 minutes for a group of children. It is important to note that the WISC is on its fifth edition as of 2014; however, the WISC-R is the most updated version of the WISC battery that has been translated in and adapted to the Turkish language and culture yet. In addition to administration time, some recommend using intelligence tests based on non-verbal measures to minimize bias and administer a "culture-free" test of intellectual abilities for non-English speaking and minority populations (Sattler, 2008). Therefore, the Cattell Culture Fair Intelligence Test was chosen to minimize the duration of testing and any cultural bias that may occur in measuring intellectual ability. The Cattell Culture Fair Intelligence Test can be applied to groups. The original researchers only had access to Cattell Culture Fair Intelligence Test as a group intelligence test in Turkey. For these

reasons, the only intelligence score that could be retrieved was the nonverbal intelligence.

The intelligence literature documented that the predictive validity of nonverbal intelligence tests to grades and standardized achievement tests is averaging r=.3 to r=.6; whereas verbal intelligence tests is approximately r=.6 to r=.8 (Powers & Barkan, 1986). In addition, correlation between a nonverbal intelligence test score and SAT-9 reading section score is ranging from r=.4 to r=.6; whereas correlation between a nonverbal intelligence test score and SAT-9 mathematics section scores range from r=.6 to r=.7 (Naglieri & Ronning, 2000). The literature documented that the correlation between nonverbal intelligence and mathematics achievement is stronger than reading/language achievement. The contributions of intelligence to students' Mathematics and Language Arts (Turkish) achievement were evaluated using nonverbal intelligence scores instead of using both verbal and nonverbal intelligence scores.

The primary purpose of this study is to examine whether Turkish parenting, students' nonverbal intelligence, and goal orientation predict academic achievement among Turkish fifth grade students.

Specifically the main objectives of this study are:

a. To examine the unique contributions of nonverbal intelligence, goal orientation, and parenting to Turkish fifth grade students' Mathematics grades.
b. To examine the unique contributions of nonverbal intelligence, goal orientation, and parenting to Turkish fifth grade students' Language Arts (Turkish) grades.

c. To provide an update about Turkish parenting styles, including whether parenting styles differ by child's gender.

Research Questions and Hypotheses

Four main questions and twelve hypotheses were examined in this study:

1. What are the unique variances of mathematics grade explained by nonverbal intelligence, goal orientation, and parenting in fifth grade children? In other words, do the study predictors (i.e., measures of nonverbal intelligence, goal orientation, and parenting) provide unique prediction of mathematics grades?

Hypothesis 1: It is hypothesized that fifth grade Turkish students' Mathematics grades are predicted by students' nonverbal intelligence.

Hypothesis 2: It is hypothesized that fifth grade Turkish students' Mathematics grades are predicted by student's achievement goal orientation.

Hypothesis 3: It is hypothesized that fifth grade Turkish students' Mathematics grades are predicted by parental autonomy support and parental psychological control.

Figure 1 included below for a visual understanding of the research question 1.

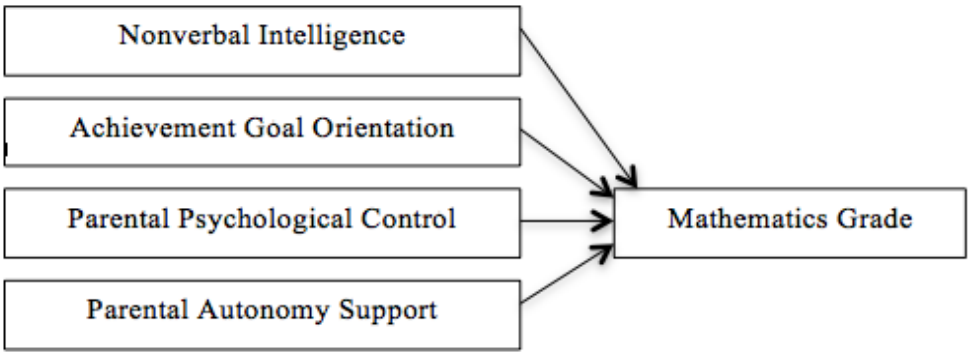

Figure 1. Relations tested in research question 1.

2. What are the unique variances of Language Arts (Turkish) grades explained by nonverbal intelligence, goal orientation, and parenting in fifth grade children? In other words, do the study predictors (i.e., measures of nonverbal intelligence, goal orientation, and parenting) provide unique prediction of Language Arts (Turkish) grades?

Hypothesis 4: It is hypothesized that fifth grade Turkish students' Turkish grades are predicted by students' nonverbal intelligence.

Hypothesis 5: It is hypothesized that fifth grade Turkish students' Turkish grades are predicted by student's achievement goal orientation.

Hypothesis 6: It is hypothesized that fifth grade Turkish students' Turkish grades are predicted by parental autonomy support and parental psychological control.

Figure 2 included below for a visual understanding of the research question 2.

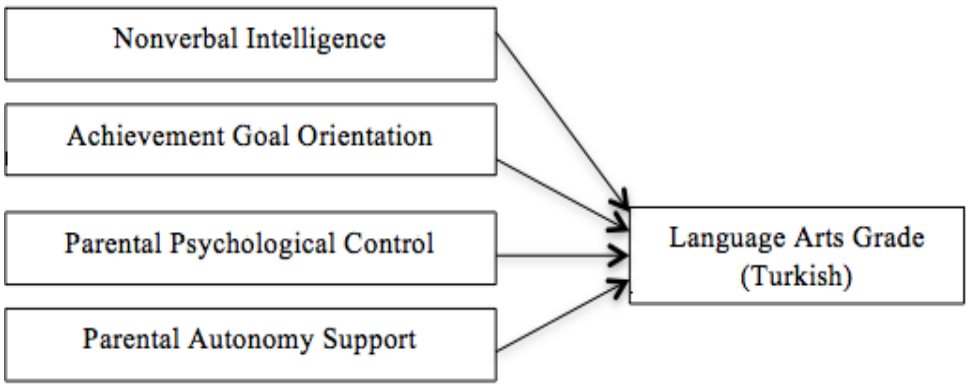

Figure 2. Relations tested in research question 2.

Figure 3 included below for a visual understanding of the heuristic model of the study.

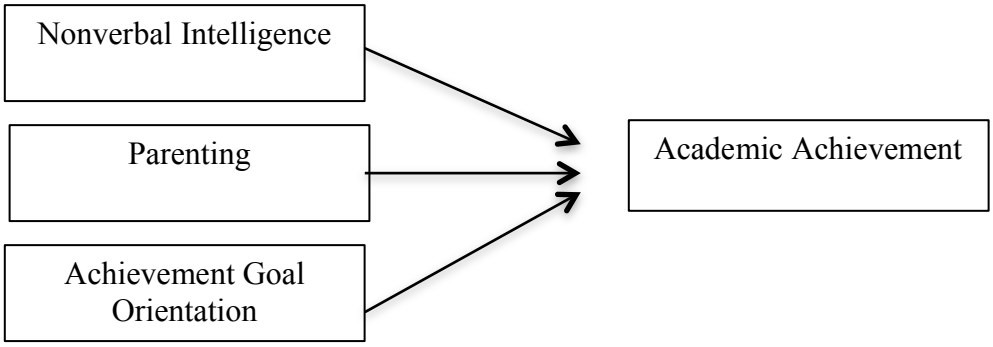

Figure 3. Heuristic model of the study.

3. What are the Turkish parents' parental control and parental autonomy support as of 2013?

Hypothesis 7: It is hypothesized that Turkish parents provide a low level of volitional functioning to their children.

Hypothesis 8: It is hypothesized that Turkish parents provide a low level of independence to their children.

Hypothesis 9: It is hypothesized that Turkish parents provide a high level of parental psychological control to their children.

4. Whether Turkish parents' parenting styles differ by child's gender?

Hypothesis 10: It is hypothesized that Turkish parents' promotion of volitional functioning will differ by child's gender by being that boys experience higher promotion of volitional functioning than girls.

Hypothesis 11: It is hypothesized that Turkish parents' promotion of independence will differ by child's gender by being that boys experience higher parental promotion of independence than girls.

Hypothesis 12: It is hypothesized that the Turkish parents' parental psychological control will differ by child's gender by being that girls experience higher parental control than boys.

CHAPTER II

LITERATURE REVIEW

Parenting

Parenting is a major factor in the socialization of children. There are four styles of parenting: authoritarian, authoritative, permissive, and uninvolved. The four parenting styles are considered under the two broader concepts: warmth/responsiveness and discipline/demandingness/control (Baumrind, 1967; Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Maccoby & Martin, 1983). The authoritarian parents have low warmth, and strict discipline. The permissive parents have high warmth, and rare discipline. The uninvolved parents have low warmth, and rare discipline. The authoritative parents have high warmth, moderate discipline, and high communication (Baumrind, 1967; Maccoby & Martin, 1983; Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994).

Parental autonomy support can be defined from two different perspectives: promotion of independence (PI) or promotion of volitional functioning (PVF) (Soenens et al., 2007). PI is defined when parents promote independent expression and decision-making (Gray & Steinberg, 1999; Silk, Morris, Kanaya, & Steinberg, 2003; Soenens et al., 2007; Steinberg & Silk, 2002) while PVF is defined when parents provide choices for the children's interests, and a space to act as themselves (Grolnick, 2003; Soenens, Vanteenkistie, & Sierens, 2009; Soenens et al., 2007). Children may be forced to be independent or may be volitionally functional (Ryan, Deci, Grolnick, & La Guardia,

2006). When children have to make a decision on their own, without their parents' assistance, even if the children wanted or needed assistance, those parents' perspective is promotion of independence (PI). On the other hand, parents with high PVF encourage their children to make autonomous decisions that reflect the children's own interests, and then provide guidance and support if needed (Soenens, Vansteenkiste, & Sierens, 2009). While children make a decision, parents high on PVF may or may not promote assistance depending on the children's wishes. If children ask for assistance from their parents, the parents high on PVF are there to provide guidance for their children to discover their children's own interests (Soenens, et al., 2009). Autonomy is conceptualized as volitional functioning within the Self Determination Theory (STD) (Ryan & Deci, 2000b). According to Ryan and Deci (2000a), "autonomy refers not to being independent, detached, or selfish but rather to the feeling of volition that accompany any act, whether dependent or independent, collectivist or individualist" (p. 74). According to STD, people need to experience a sense of autonomy in their action in order to enhance their functioning (Ryan & Deci, 2000b). On the other hand, separation-individuation theory defines autonomy as PI (Soenens, et al., 2009; Steinberg & Silk, 2002). In this theory, promoting dependence is the opposite of PI (Steinberg & Silk, 2002). Soenens et al. (2007) made three studies to provide empirical evidence for the separation of PI and PVF, and their relation to adolescents' adjustment. In their study, the factor analysis revealed that PI and PVF are separate. The results also indicated that while PVF was predicting the adolescents' adjustment, PI did not predict adjustment (Soenens et al., 2007).

In summary, PI and PVF differ in what was promoted (independence or dependence) or how children make decision (either be forced or volitional). Parents high on PVF create an environment for children to function volitionally versus parents high on PI tends to force their children to be independent. Both PI and PVF were used as predictors of academic achievement in the present study. The cultural effects on parenting will be presented in the next section.

Culture, Parenting, and Family Interactions

Kagitcibasi (2005) explained three prototypical family interaction designs based on psychological and material domains: the traditional family, based on both psychological and material interdependence between generations; the individualistic family, based on both psychological and material independence between generations; and the dialectical model, based on material independence but psychological interdependence between generations. The traditional family is common in urban low socioeconomic status (SES), and in rural agricultural society, especially in collectivist societies; while the individualistic family seen mostly in Western industrial society when the level of education is higher (Kagitcibasi, 2005).

Children are seen as assets in the traditional families. Since children are expected to contribute to the family's finances, their economic value is very high (Kagitcibasi, 2005). The children are also seen as insurance for the parents when the fathers and mothers become old. The traditional family does not support the autonomy of children because the parents do not want their children to leave the house. On the other hand, when there is a continuing shift from collectivist society to the individualist society, and

the parents find alternative sources of care-taking when they get older; the children's economic value decreases (Kagitcibasi, 2005). Children do not need to provide financial support to the family in the individualistic families; thus the parents do not think that the autonomy of children is a threat (Kagitcibasi, 2005). Parents support children's autonomy development in the individualistic cultures whereas the traditional families do not support children's autonomy.

Culture and traditional values affect parenting practices (e.g., Murray, 2012). Parenting performances would differ by culture (Cakir & Aydin, 2005; Garcia & Gracia, 2009; Rudy & Grusec, 2006) depending on the traditional principles, social standards, and sociocultural concepts such as the economic value of children and psychological value of children (Trommsdorf & Nauck, 2005). For instance, according to Taylor & Oskay (1995), parental control was practiced more among Turkish parents than the American parents. Additionally, according to the parenting literature, same parenting styles (e.g. authoritarian) might result in a completely different effect on children from different cultures (e.g. minorities or western-nonwestern culture) (Ang & Goh, 2006; Baumrind, 1972; Lamborn et al., 1991; Rudy & Grusec, 2006).

Consistent with Taylor and Oskay (1995), Kagitcibasi, Ataca, and Diri (2010) found that parental control have been perceived highest by Turkish adolescents among Germany, Israel, Palestine, and Turkey. Kagitcibasi, et al. (2010) studied intergenerational relationships in families from four different cultures, specifically, mother-adolescents dynamics. The study concluded that Turkish adolescents perceived highest degree of both parental control and parental acceptance, whereas German

adolescents perceived lowest parental control and high parental acceptance. Kagitcibasi, et al. (2010) reported that parental control was not seen as parental rejection in interdependent families, such as in Turkey. The authors suggested that parental control might be seen as parental acceptance in interdependent families. Supporting that conclusion, Dwairy & Achoui (2010) stressed parental control might be perceived as care and love expressions in collectivist cultures.

Studies from different countries suggested that the optimum parenting style is varied by culture. For instance, a parenting study that investigated the effects of parenting on academic achievement on adolescents indicated that the correlation between authoritative parenting and academic achievement was positive for all groups while African-American group had a significantly lower correlation score than adolescents from the rest of the ethnicities (Asian-, European-, and Hispanic-Americans) (Steinberg, Lamborn, Dornbusch, & Darling, 1992). In another parenting study, Garcia and Gracia (2009) studied with 1,416 adolescents from Spain. The study documented that the optimum parenting style for Spanish adolescents is indulgent parenting. This style scored more positively on all of the outcomes of the study. Authoritative parenting was also associated with one outcome (grade point average) as high as indulgent parenting style; however, not necessarily higher on the other outcomes. In a cultural context, Spanish culture has been categorized as a horizontal collectivistic culture (Garcia & Gracia, 2009). These two studies emphasize the importance of approaching the parenting practices in the cultural context, which is crucial in order to make valid conclusions.

Parental control is perceived as positive control in collectivist cultures and as negative control in individualistic cultures (e.g., Chao, 2001; Dwairy & Achoui, 2010; Kagitcibasi, Ataca, & Diri, 2010). Dwairy & Achoui (2010) examined parental control and children's psychological adjustment in nine countries (France, Poland, Argentina, Kuwait, Algeria, Saudi Arabia, Arabs/Israel, Jordan, and India). 2,884 adolescents participated to the study. Dwairy & Achoui (2010) concluded that parental control differs across cultures; specifically, lowest in France and Argentina than other countries. Mothers were more controlling than fathers. They concluded that parental control with culture, gender, and family connectedness were correlated. The authors suggested the parental control should not be considered negatively if the family is in harmony, in collectivistic cultures (Dwairy & Achoui, 2010).

> For example, if parents value independence and curiosity and want their children to be well behaved, they will most likely engage in parenting behaviors consistent with authoritative parenting. In contrast, if parents value obedience and authority, they are likely to behave in an authoritarian style. Understanding not only behaviors but also how beliefs and cultural values affect parenting will aid in the understanding of differential socialization effects. (Morris, Cui, Steinberg, 2013, p. 50)

In summary, parenting styles are affected by culture and need to be examined in cultural context. Parenting in the Turkish cultural context is presented in the next section.

Turkish Parenting, Family Structure, and Cultural Values: From Past to Today

In the present section, the cultural context and background about Turkey is provided to understand the way of living for Turkish parents and children. The average size of the household in Turkey was 3.7 in 2012 (TurkStat, 2013d). The cities that had the greatest average of the household members were from the east side of Turkey which were Sirnak (7.9), Hakkari (7.4), Mus (6.6), Siirt (6.5), and Van (6.4). The cities that had the least average were from the west side of Turkey which were Canakkale (2.8), Balikesir (2.9), Eskisehir (2.9), Burdur (3), and Mugla (3). Slightly over three-quarters (75.6%) of households were families with children in Turkey in 2012 (TurkStat, 2013b).

Table 1
Type of Households 2006 to 2012 %

Years	Total (N)	One person households	One parent family households	Households : couples, with children	Households : couples, without children	Three generation households
2006	17 284 150	6.1	7.2	57.0	13.1	16.6
2007	17 802 358	6.5	7.3	56.2	13.8	16.3
2008	18 251 713	6.9	7.3	54.7	14.7	16.4
2009	19 207 941	7.7	7.6	53.7	16.1	15.0
2010	19 321 205	7.5	7.6	54.7	15.4	14.7
2011	19 658 387	7.9	7.8	55.1	14.9	14.4
2012	20 220 578	8.6	8.1	54.0	15.8	13.5

Note. Adapted from TurkStat (2013b).

The household composition in Turkey from 2006 to 2012 is shown at the Table 1 above. The three-generation households decreased 3.1% from 2006 to 2012 (TurkStat,

2013b). The typical Turkish family is structured as a nuclear family and functions as an extended family (Kagitcibasi, 1990). The relationship between close relatives is highly intimate. Children live with their parents until they get married (Bastug, 2002) or enter to a college located in another city. Kagitcibasi (2007) refers to the Turkish culture as a culture of relatedness.

Turkish parenting style is traditional, authoritarian, and patriarchal (Fisek & Sunar, 2005; Palut, 2009). However, the parenting style is changing due to the westernization, industrialization, and urbanization impacts on parenting in Turkey (Ataca, Kagitcibasi, & Diri, 2005; Dedeoglu, 2004). According to the most recent Turkish Statistical Institute National Population Census System results, the 91.3% of the Turkish population (N=76,667,864) live in cities (TurkStat, 2014). Urbanization increased 14% from the year 2012 and 67.1% since 1927 (TurkStat, 2013a; 2014).

In addition to the urbanization, westernization is also infiltrating into the Turkish population, especially in the cities (Fisek & Sunar, 2005). According to Nauck & Klaus (2005), a social change process affects the family structure and parenting. Thus, the Turkish parenting is expected to show some changes over time.

Today's Turkish parents tend to support their children's autonomy more than previous generations (Sunar, 2002). Additionally, recent parenting studies presented that the Turkish parenting showed more democratic characteristics comparing to the previous characteristics of parenting (e.g., Ataca, Kagitcibasi, & Diri, 2005; Kagitcibasi,1982). Democratic parenting can be referred to as authoritative parenting (Mupinga, Garrison, & Pierce, 2002). Authoritative parents respect their children's opinions and support their

children's autonomy (Baumrind, 1971). According to the recent Turkish literature (Ataca et al., 2005; Sunar, 2002), Turkish parenting is becoming less authoritarian and more authoritative.

Ecirli (2012) studied Turkish parenting among the traditional families living abroad. Ecirli (2012) interviewed 64 individuals (31 male and 33 female) from 30 traditional Turkish families living in Bucharest. The Turkish families are father-dominant as verified by the study. Fathers bring the food, and lead the family by ensuring that the family spends a quality time together. During the quality time, children express their ideas. It can be concluded that Turkish families who live in Romania have the characteristics of both authoritarian and authoritative parenting.

Traditional Turkish families are parent dominant, especially father dominant. Mothers do the housework and take care of the children while fathers take care of the financial matters, and lead the family (Schonpflug, 2001). According to the survey results of TurkStat (2013c), children aged between 0 to 5 years have been taken care of mostly by mothers (89.6%) in 2012 in Turkish families. Consistent with Schonpflug (2001)'s discussion, TurkStat (2013c) reported the percentages of who was doing housework in 2006. The result documented that cooking (87.1%), ironing (84.3%), and preparing the meal (74.1%) are mostly done by women, whereas paying bills (69.1%) and fixing jobs (68.4%) are mostly done by men. In result, the tasks for housework are mainly as expected by traditional Turkish culture.

Sunar (2002) studied change and continuity in middle class urban Turkish families by comparing three generations (14-16 years old child generation, parent

generation, and grandparent generation) from 113 families. In the study, each generation showed an increase in encouraging emotional expression, questioning, independence, and achievement comparing to the previous generation (Sunar, 2002) supporting to the idea of psychological value of children is increasing in today's Turkey. Parent-child conflict, physical punishment, and authoritarian control have decreased comparing to the previous generations (Sunar, 2002). A more recent study (Ataca, Kagitcibasi, & Diri, 2005) revealed that children's economical value decreases and the psychological value increases. Sunar's (2002) study revealed that all three generations supported the importance of family, and were close emotionally, which means emotional interdependency and family keep their value among Turks. In addition to emotional interdependency, a general discouragement of autonomy, suppression of discord, and preservation of family reputation were pointed (Sunar, 2002).

Kagitcibasi (2007) views the Turkish culture as the culture of relatedness. The Turkish people are still considered as collectivistic, despite the changes. According to Nauck & Klaus (2005), Turkish parents expect their children to take care of them when they are old. Supporting the study of Nauck & Klaus (2005), according to the most recent TurkStat Family Structure Survey results, established in 2006 in Turkey, the 89.3% of males and 87.4% of females agree that children should look after their parents when the parents become old (TurkStat, 2007). In addition, 75.8% of males and 77.4% of females agreed that children should provide financial support to the family when they are grown up (TurkStat, 2007). Children have still been highly economically valued

among the Turkish society when it is asked. However, the economical value is decreased in practice.

Kagitcibasi (1982) documented that Turkish parents present more authoritarian parenting during the late childhood period. Kagitcibasi, Sunar, and Bekman (2001) reported the disciplinary techniques of Turkish parents and found that the physical and verbal punishments were the most common parenting methods for disobedience to the parents or misbehaviors. This study shows that beating was a common form of punishment. Findings from more recent studies contradict those from Kagitcibasi and her colleagues' (2001) study. In a descriptive study of 50 mothers with children ages 4-6 who were enrolled in a preschool, Kircaali-Iftar (2005) found that mothers apply a variety of techniques to reinforce desirable behaviors. The most common techniques were verbal praise (74%), activity reinforcers (46%), edible reinforcers (38%), social reinforcers (38%), tangible reinforcers (24%) and token reinforcers (2%). However, according to Kircaali-Iftar (2005), Turkish mothers are less competent when discouraging inappropriate behavior. The techniques that the mothers used were verbal explanations (74%), punishment (36%), shouting (30%), physical punishment (20%), and threatening (18%), redirecting attention (10%), and ignoring (8%). Turkish parents' punishment methods also have been changed, as literature documented.

In summary, the parenting needs to be evaluated in the cultural context. Turkey is considered as a collectivistic culture, but there is ongoing demographical change in Turkey toward urbanization (Ataca, Kagitcibasi, & Diri, 2005) as well as westernization and industrialization (Ataca et al., 2005; Dedeoglu, 2004). Turkish parenting has been

affected by the ongoing cultural, economical, and social changes of the country. Economical and psychological value of children; parental disciplinary techniques; concepts of independence, autonomy, and achievement; and reasons of parent-child conflicts has been shifting that lead to Turkish parenting become less authoritarian and more authoritative. While the social change is positively affecting the parenting, the main characteristics of the traditional Turkish parenting are slightly more dominant to the parenting practices, which are authoritarian, traditional, and patriarchal. Because cultural, social, and economical change is in progress in Turkey, research on Turkish parenting and its influence on children's development and learning is a commodity to Turkish society.

Parenting and Academic Achievement of Children

Researchers agree that parenting impacts children's academic achievement (e.g., Ryan, Adams, Gullotta, Weissberg, & Hampton, 1995). Different types of parenting styles have different effects on children's learning and achievement, such as literacy skills. Specifically, studies on parenting indicate that children whose parents are authoritative perform better academically than children of either permissive or authoritarian parents (Dornbusch, Ritter, Leiderman, Roberts, Fraleigh, 1987; Grolnick & Ryan, 1989).

Both permissive and authoritarian parenting styles are negatively correlated with grades (Baumrind, 1978; Steinberg, Elemn, & Mounts, 1989). Parental warmth, verbalization, protectiveness (e.g., Padhi & Desh, 1994; Wagnor & Phillip, 1992) are positively correlated with academic achievement; while, privilege deprivation, pressure,

or threats (e.g., Bar-Tal, Nadler, & Blechman, 1980) are negatively related or nonrelated with academic achievement. Authoritative parenting helps children increase their academic success because of the close relationship between parent and child (Chao, 2001).

According to the literature, parenting plays an important role on influencing the educational attainment of children. Parental support is one of the predictive factors of students' achievement (Ferry, Fouad, & Smith, 2000). Mo and Singh (2008) studied the effects of parenting styles and parental involvement on academic achievement. The study revealed that parent-child relationship and parental involvement significantly affected the student's academic performance (Mo & Singh, 2008). Specifically, parents' PVF is found as a strong predictor of children's academic performances (Grolnick, 2003; Grolnick, Ryan, & Deci, 1991). Baumrind (1971) worked with 146 preschool children. Her study found that authoritative parenting was positively associated with high achievement for girls. However, authoritarian or permissive parenting with nonconformity was associated with high achievement for boys (Baumrind, 1971). Related studies are summarized in the following paragraphs.

Children who have authoritative parents perform better academically than children of either permissive or authoritarian parents. For instance, Lamborn, Mounts, Steinberg, and Dornbusch (1991) studied with 4,081 adolescents; and found that adolescents from authoritative homes had significantly higher academic competence. However, there was no statistically significant difference in GPA between the adolescents whose parents are authoritative and authoritarian. As a follow up study,

Steinberg, Lamborn, Dornbusch, & Darling (1992) investigated 6,357 adolescents for the parental effects on achievement of adolescents. The sample included African American, Asian American, European American, and Hispanic American adolescents. Steinberg and his colleagues (1992) indicated the significant impact of parenting on adolescent achievement. The study showed that authoritative parenting leads the adolescents to higher achievement. The authors also found that authoritative parental practice moderated the impact of parental involvement on adolescents' achievement (Steinberg et al., 1992). One of the results of the study was that parental involvement was positively correlated with students' achievement; however, this correlation for the adolescents with non-authoritative parents had smaller magnitude. The study concluded that authoritative parenting significantly influenced the school performance of adolescents and school engagement of parents (Steinberg et al., 1992).

Another study also found a positive relationship between authoritative parenting and high achievement; however, cultural differences resulted in varied conclusions. Steinberg, Lamborn, Darling, Mounts, and Dornbuchs (1994) studied 2,353 students in two school years (1987-88 and 1988-89). The results indicated that there was significant parenting style main effect on academic self-conception and school orientation pattern changes over the year (Steinberg et al., 1994). There was significant parenting style x ethnicity interaction effect on grade point average, academic self-conception, and school orientation (Steinberg et al., 1994). For the Hispanic-American and European-American adolescents, authoritative parenting was advantageous, and neglectful parenting was disadvantageous. Authoritarian parenting was more advantageous for Asian American

adolescents and more disadvantageous among European American youth. For the African American adolescents, parenting style was unrelated (Steinberg et al., 1994). The authors explained those dissimilarities with cultural and home-environment differences. Steinberg et al. (1994) suggested that the meaning of any parenting style would be moderated by cultural context, and would differ by children from different cultural and socioeconomic backgrounds.

Another study also confirmed that authoritative parenting positively related to high achievement and cultural differences diversify the results (Dornbusch, Ritter, Leiderman, Roberts, and Fraleigh, 1987). The study was with 7,836 high school students. The authors found that there was a positive relationship between authoritative parenting and school achievement, while there was a negative association between school achievement and both authoritarian and permissive parenting. Dornbusch et al. (1987) also found that there was a difference in Hispanic adolescents. The authoritarian parenting had no correlation with grades for the Hispanic students (Dornbusch et al., 1987).

In a cross cultural study, Leung, Lau, and Lam (1998) studied the relationship between children's academic achievement and parenting styles among the European American (n=142), Australian (n=133), and Chinese (n=107) adolescents, and found that academic authoritarian parenting was negatively correlated with academic achievement in all three cultures, while academic authoritative parenting showed no relationship with achievement. The researchers found that general authoritarian parenting was positively related to academic achievement in Hong Kong and also among students from less

educated parents in the United States and Australia. Furthermore, the results indicated that general authoritative parenting was positively related with academic achievement in the United States and Australia regardless of the parental education level, but not in China (Leung, Lau, & Lam, 1998). This study confirms that authoritative parenting is positively related to academic achievement among European Americans and Australians, whereas authoritarian parenting is positively related to academic achievement among Chinese adolescents.

In another study, the negative effect of authoritarian and permissive parenting on school related activity was represented. Blondal and Adalbjardotir (2009) studied the parenting style and parental involvement in relation to school dropouts. The participants were 427 adolescents in Iceland. The researchers found that the parenting style predicted the school dropouts. The students with non-authoritative parents were more likely to dropout than adolescents with authoritative parents, even though previous academic achievement was controlled.

A study that had taken place in a non-US country found that parent-child communication is crucial. Wei (2012) studied the parental support, pressure, help, monitoring, and communication with 266 students from grades 4 to 6 in China. The study found that the most important factor that promotes learning was the parent-child communication. Parental help was not as helpful and related negatively with achievement. Wei (2012) suggested parental help might prevent children to become autonomous learners, thus reduce achievement.

Murray (2012) studied the relationship between parenting style and academic achievement in middle childhood. The study was conducted in Ireland with 9 year-old children. Authoritative parenting was correlated with higher mathematics and reading scores comparing to the neglectful and uninvolved parenting, including with mediating factors of homework completion and self-concept (Murray, 2012). Contradicting the adolescent studies on parenting (e.g., Baumrind, 1971, 1978; Chen, Dong, & Zhou, 1997; Steinberg, Elemn, & Mounts, 1989), authoritarian parenting did not affect the academic achievement negatively in this middle childhood study. Rather, there was a positive relation between cognitive skills and authoritarian parenting. Murray (2012) suggested that the result might be the influence of the culture, specifically the Irish context.

The parenting studies that considered the parental control/demandingness generally discussed the effect of psychological control on children's well being, such as anxiety, depression, and low self-esteem (e.g., Silk, Morris, Kanaya, & Steinberg, 2003). Liew, Kwok, Chang, Chang, & Yeh, (2014) studied if parental autonomy support predicts academic achievement in 92 Chinese American adolescents versus parental control. Liew et al. (2014) included emotion-related self-regulation and adaptive skills to the study. The results of their study indicated that both parental autonomy support and emotion-related self-regulation predict academic achievement in Chinese American adolescents. The authors concluded that even though the traditional Chinese culture requires strictness, PVF is also another way to help children to achieve academically without damaging children's wellbeing as psychological control does.

Steinberg, Elmen, and Mounts (1989) studied the relationship between parental behavior control and academic achievement and found that there is a negative relationship. In a cross-cultural study, Stolz et al. (2004) examined the parenting and children's school achievement relationship in 10 countries. They found that maternal and paternal psychological control was not very affective among 20 samples (nationality/sex of youth).

In conclusion, the literature has confirmed that parenting predicts the academic achievement. Specifically, the general pattern is that authoritative (moderate level control and high level of warmth) parenting predicts the academic achievement and helps children and adolescents higher their grades, while authoritarian (overly strict) parenting relates to low academic achievement, especially for the European American children and adolescents (e.g., Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987). PVF also found to be related with higher academic achievement (e.g., Grolnick, 2003; Grolnick, Ryan, & Deci, 1991; Liew, Kwok, Chang, Chang, & Yeh, 2014). In addition, if the parent-child communication is efficient, it promotes learning (e.g., Wei, 2012; Mo & Sing, 2008). Moreover, parental control linked academic achievement negatively (e.g., Kramer, 2012; Steinberg, Elmen, & Mounts, 1989). However, the literature suggested that parenting should be evaluated in cultural context (e.g., Murray, 2012). Particularly, some of the parenting studies from different cultural context found that authoritarian parenting has a positive relationship with academic achievement, such as Chinese (e.g., Chao, 2001; Leng, Lau, & Lam, 1998), or Irish (e.g., Murray, 2012) cultural context. The relationship between academic achievement and PI, PVF, and

parental control were investigated in Turkish cultural context in this study. The achievement goal orientation will be discussed in the following section.

Achievement Goal Orientation

Goal orientation is another predictor of academic achievement. Achievement goal orientation has been studied for more than 28 years, but advances in contemporary goal orientation theory and research continue to be made (e.g., Elliot & McGregor, 2001). In general, goal theory focuses on two types of goals: mastery and performance. Hulleman, Schrager, Bodmann, & Harackiewicz (2010) defined achievement goal as 'a future-focused cognitive representation that guides behavior to a competence-related end state that the individual is committed to either approach or avoid' whereas the original achievement motivation definitions included a single achievement factor instead of including mastery and performance aspects separately (p. 423). In addition, the early achievement motivation theorists focused on approach and avoidance in general rather than separately (Hulleman et al., 2010). For these two reasons, the achievement goal conceptions are differentiated more than achievement motivation (Hulleman et al., 2010). In their meta-analysis, Hulleman, Schrager, Bodmann, and Harackiewicz (2010) reviewed 243 articles that measured achievement goals. They summarized that a diverse achievement goals measurement and conceptualization existed in the literature as of 2006. Elliot & McGregor (2001) created 2X2 Achievement Goal Framework, which has four achievement goal orientations: performance-approach goal, which is gaining a positive competence valuation; performance-avoidance goal, which is avoiding the negative competence valuation; mastery-approach goal, which is gaining success; and

mastery-avoidance goal, which is avoiding failure. The present research used the 2X2 Achievement Goal Framework. The relation between the achievement goal orientation and academic achievement is discussed in the next section.

Achievement Goal Orientation and Academic Achievement

The existing literature reveals inconsistencies in the associations between achievement goal orientation and academic achievement. Although some of the studies found that mastery goal orientations produced higher achievement, other studies found performance goal orientations produced higher achievement (Harackiewicz, Barron, Pintrich, Elliot, & Trash, 2002; Kaplan, & Middleton, 2002; Midgley, Kaplan, & Middleton, 2001; Pintrich, 2000). The linkages between goal orientations and academic achievement require further investigation. Furthermore, no published studies have examined the achievement goal orientations of Turkish children with the Elliot & McGregor (2001)'s 2X2 Achievement Goal Framework inventory. This study aims to address this gap in the research literature by examining fifth grade students living in Turkey.

The existing academic achievement and achievement motivation studies with Turkish samples as well as achievement goal orientation studies are discussed in this and the following few paragraphs. For instance, Ergene (2011) studied the relationship between academic achievement and the following variables: test anxiety, study habits, and achievement motivation. The sample was 510 high school students. To measure the achievement motivation, from the Self Evaluation Inventory, an 18-item 2-subscales (mastery and aspiration) instrument, was used. The study result showed no correlation

between achievement motivation and academic achievement. However, there was a significant correlation between achievement motivation and study habits. Study habits had a positive relation to academic achievement. The author suggested that achievement motivation could be mediating factor in his study, and this topic requires further investigation.

Verkuyten, Thijs, & Canatan (2001) studied Dutch, Turkish, and another minority group of adolescents' academic motivation live in Netherlands. The study revealed that Turkish adolescents' academic achievement was predicted by both individual motivation and family-influenced motivation that are related to each other (Verkuyten, Thijs, & Canatan, 2001). Turkish adolescents' achievement motivation is highly influenced by their family (Verkuyten, Thijs, & Canatan, 2001). According to Verkuyten and his collogues (2001), when the family motivation of Turkish adolescents was high, the task-goal orientation was also high, which leads to better academic achievement. The authors also found that there was no statistically significant difference between Turkish and Dutch individual motivation.

In a recent study, the mediating role of motivational beliefs in relation to teacher support, learning strategy use, and mathematics achievement was explored (Yildirim, 2012). The study used Program for International Student Assessment 2003 (PISA) questionnaire and mathematics scores. The achievement motivation consisted of mathematics self-efficacy, anxiety, intrinsic value, and instrumental value. The study revealed that mathematics self-efficacy and anxiety predicted the mathematics achievement whereas the intrinsic value and instrumental value did not predict

mathematics achievement. Moenica and Zahed-Babelan (2010) studied the relationship between mathematics achievement and mathematics attitude, academic motivation, and intelligence with the sample of 1670 high school students. The results revealed that mathematics attitude, academic motivation, and intelligence predicted mathematics achievement (Moenica & Zahed-Babelan, 2010).

In another study, Keys, Conley, Duncan, & Domina (2012) used trichotomous goal framework that includes mastery-approach, performance-approach, and performance-avoidance goal orientations. The sample was 2231 7th and 8th grade students in California. The study revealed that there was a correlation between all of the three achievement goals and mathematics achievement. Mastery goal orientation predicted mathematics achievement whereas performance-approach and performance-avoidance goal orientations did not predict mathematics achievement (Keys et al., 2012).

Cultural effects on motivation research were examined in a recent literature review (Kimmel & Volet, 2010). The authors discussed the goal orientation has similar structures across cultures. In a longitudinal study, performance achievement goal predicted academic achievement (Daniels, Stupnisky, Pekrun, Haynes, Perry, & Newall, 2009). The emotions (anxiety, enjoyment, and boredom) significantly mediated the achievement goals (mastery and performance) to predict achievement both in course level and general level (Daniels et al., 2009).

In summary, the relationship between achievement goal orientation and academic achievement is well established in literature. However, the studies revealed inconsistent results for the specific goal orientations (performance-approach goal, performance-

avoidance goal, mastery-approach goal, and mastery-avoidance goal). The present study used the 2X2 Goal Orientation Framework as one of the predictors of Mathematics and Language Arts achievements of Turkish children in 5th grade. Parenting and achievement goal orientation relation will be discussed in the next section.

Parenting and Achievement Goal Orientation

Researchers have found that parental desires and values are correlated with their children's academic goals and school accomplishments (e.g., Astone & McLanahan, 1991; Crandall, Dewey, Katkovsky, & Preston, 1964). There is a positive relationship between achievement motivation and nurturance, and a negative correlation between achievement motivation and permissiveness (Joshi & Acharya, 2013). There is a negative correlation between achievement motivation and parents' use of power assertion (Hoffmann & Saltzsein, 1967). When parents use more power assertion, students get lower grades. Baumrind (1971) specified that when parents who usually use non-power assertion and warmth use the power assertion in a limited way, their children have high achievement motivation. Additionally, authoritative parenting is found to be correlated with mastery goal orientation (Gonzalez & Wolters, 2006). Related research in the Turkish cultural context is documented in the following few paragraphs.

Turkish adolescents are highly affected by their traditional culture which is defined as culture of relatedness. Guneri, Sumer, and Yildirim (1999) interviewed 6 Turkish adolescents about the sources of identity. The participants indicated that belonging to a group was essential. The authors denoted that the Turkish adolescents' self-definition was influenced from family and social groups. Even though having some

problems with the familial authority, the participants agreed that the parents do what is needed to be done (Guneri, Sumer, & Yildirim, 1999). According to Guneri et al., (1999), Turkish adolescents retrieved high parental control yet perceived it as necessary.

Consistent with Guneri, Sumer, and Yildirim's (1999) study, Cansever (1968) studied with 282 late-adolescents and found that the army officers' children who are strictly disciplined, the youngest siblings who are dominated by elders, and students from strict educational school systems had highest achievement recommending that Turkish youths needed external force. Cansever (1968) also suggested that a democratic educational system however, had a positive effect on Turkish female, whereas without promoting motivation or achievement for Turkish male.

In a cross-cultural study, Phalet & Claes (1993) studied individualistic-collectivistic value orientation for personal achievement motivation in Turkish (n=309 living in Istanbul and n=100 living in Belgium) and Belgian (n=481 living in Belgium) adolescents. There was no statistically significant difference between Turkish and Belgian adolescents' achievement motivation. However, the study revealed that the personal motivation beliefs of the Turkish adolescents tied highly to social group, especially to family (Phalet & Claes, 1993).

In summary, the literature found that parenting and achievement goal orientations are correlated. Though parental control (permissiveness, power assertion) negatively correlated with achievement motivation in the United States, Turkish individuals' motivation characteristics are affected by their culture. Highly controlling environments bring high achievement for Turks. Both parenting and achievement goal orientation were

included in this study as predictors of academic achievement. Intelligence is discussed in the following section.

Intelligence

Intelligence has been linked to academic achievement and is included as one of the predictors in this study. Intelligence plays an important role in achievement in all professional domains including mathematics and reading (Mayes, Calhoun, Bixler, & Zimmerman, 2009). There is no true consensus on the definition of intelligence. According to Sternberg (2003), definitions of intelligence vary depending on the perspective of the person who defines it. According to Woodrow, intelligence is "the capacity to acquire capacity" (Sternberg, 2003, p. 6). Gottfredson (1997) summarized conclusions about intelligence from existing literature and stated a widely accepted definition by 52 professors who are expert in intelligence:

> Intelligence is a very general mental capability that, among other things, involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience. It is not merely book learning, a narrow academic skill, or test-taking smarts. Rather, it reflects a broader and deeper capability for comprehending our surroundings-"catching on," "making sense" of things, or "figuring out" what to do. (p.13)

Regarding the notion of the intelligence, there are many different theories about the intelligence types such as, Spearman's *g* factor, Thurstone's seven primary abilities in addition to *g* factor, three stratum theory by B. Carroll in 1993 that includes many

abilities putting the *g* factor as the top of them (Gottfredson, 2011), Gardner's non-*g* multiple intelligence, and triarchic intelligence theory. There are two main components of *g*: verbal and nonverbal cognitive abilities.

As it is hard to define intelligence, measuring intelligence is also challenging. Intelligence can be measured by many available standardized tests (Gottfredson, 1997). Alfred Binet found the first practical intelligence quotient (IQ) test in 1904 (Gottfredson, 2011). Gottfredson (1997) argued that the intelligence tests measure the intelligence well. There are many intelligence tests that are different yet measure the same intelligence: *g* (Gottfredson, 1997). Gottfredson (2011) especially recommended the 'orally administered, one-on-one' IQ tests, such as Standford-Binet and Wechsler (p. iii). Verbal and nonverbal abilities are measured by most of the standardized intelligence tests. Nonverbal measures are one of the suggested intelligence retrieval sources (Erwin & Worrell, 2012; Lohman & Gambrell, 2012; Tyler-Wood & Carri, 1993). Although nonverbal intelligence tests do have some disadvantages, such as a lack of construct validity when only figural symbols are used, they have several advantages, such as better measurement for nonnative speakers and the ability to measure fluid reasoning (Lohman & Gambrell, 2012). Gottfredson (1997) suggested that the individuals who do not understand English should either take a nonverbal intelligence test or an intelligence test that is in their native language.

Measuring intelligence with the current intelligence tests is especially challenging in Turkey because there are not many standardized intelligence tests created that specifically consider Turkish culture and belief systems. However, there are some

intelligence tests that are adapted to apply to the Turkish sample such as, Cattell (Culture Fair Intelligence Test) (Togrol, 1974), WISC, WISC-R, Standford-Binet 4, Thurstone Primary Mental Abilities, WAIS, KIT Experimental Intelligence Test, Raven's Progressive Matrices, Porteus Maze Test, and Bayley Infant Scales of Mental and Motor Development (Kagitcibasi & Savasir, 1988).

The Turkish studies are mainly about multiple intelligence theory. A content analysis was done about the multiple intelligence studies in Turkey (Saban, 2009). Saban (2009) reported that there were 97 studies (primarily master's thesis), and 65 of them were about the multiple intelligence and academic achievement relationship (Saban, 2009). However, nonverbal intelligence-academic achievement relation studies could not be found.

Intelligence is strongly related to many educational, economical, and social outcomes (Gottfredson, 1997). Nonverbal intelligence is included as one of the predictors of academic achievement for the present study, in order to examine the effect of nonverbal intelligence as a covariate in the analysis in a Turkish sample. Therefore, whether or not the two variables (parenting and achievement goal orientation) in the current study predict academic achievement above and beyond the nonverbal intelligence presented.

In conclusion, the current study examines the prediction of academic achievement of Turkish fifth graders through student's nonverbal intelligence, parental promotion of independence, parental promotion of volitional functioning, parental

controlling, and student's achievement goal orientation. Methodology of the present study will be discussed in the following chapter.

CHAPTER III

METHOD

The following chapter describes method and procedures used to address the research questions and test the hypotheses of the present study. This chapter is organized into the following sections: participants, instrumentation, data collection, and data analysis.

Participants

Participants were 123 fifth grade students (65 females and 58 males) living in Istanbul, Turkey. Participants were recruited from three schools. Thirty-eight (30.9%) of the students were recruited from school 1, 21 (17.1%) of the students were recruited from school 2, and 64 (52.0%) of the students were recruited from school 3.

Fifth graders were the target sample, because fifth grade is the transition from elementary school to middle school. This study targeted Turkish school children for important historical and sociocultural reasons; it is the first time in modern Turkish history that fifth graders transition to middle school. Beginning in the 2012 to 2013 academic year, the Turkish educational system underwent educational reforms. The primary schools (1st to 8th grades) had been divided into elementary schools (1st to 4th grade) and middle schools (5th to 8th grade). Before the 2012 to 2013 academic year, the 5th grade students had a classroom teacher who taught all of the subjects from 1st to 5th grade. It is the first time of Turkish Republic's history that 5th grade students are in middle school, which means that fifth grade students have subject teachers instead of one classroom teacher teaching all school subjects.

Instrumentation

In this study, measures were administered to assess students' achievement goal orientations (performance-approach, performance-avoidance, mastery-approach, and mastery-avoidance), parental autonomy support (i.e., PI and PVF), parental control (personal attack, erratic emotional behavior, guild induction, and love withdrawal), and nonverbal intelligence. In addition, students' final course grades in Mathematics and Language Arts (Turkish) were used as two indices of students' academic achievement.

The Achievement Goal Orientation, Parental Autonomy Support, and Parental Control questionnaires (Barber, 1996; Elliot & McGregor, 2001; Soenens et al., 2007) were translated into Turkish, the participants' native language, using a translation-back translation procedure involving three different research assistants (Hambleton, 1994). First, a bilingual research assistant translated all items into Turkish. Then, a second bilingual research assistant back translated the items. Next, a third bilingual research assistant, who had not seen the original questionnaires before, matched the items that were translated into English and the original items that were in English. All items in the all three questionnaires were confirmed that they correctly matched.

Both of the Parental Autonomy Support and Parental Control questionnaires' youth versions were used for the current study in order to assess Turkish fifth grade children's perceptions of Turkish parents' childrearing. Studies have shown that parents' and children's ratings of parenting practices often correspond with one another; children's ratings of parenting practices are significantly correlated to parents' ratings of their own and their spouses' parenting practices (e.g., Liew, Kwok, Chang, Chang, &

Yeh, 2014). For the purpose of brevity, the term parenting is used to refer to children's perceptions of parenting in this study.

Achievement Goal Orientation Questionnaire (AGQ)

The AGQ is a 12-item instrument that measures four achievement goals with three items for each of the goals: (1) performance-approach goals measured by items 1, 2, and 3, such as "It is important for me to do well compared to other students;" (2) performance-avoidance goals measured by items 4, 5, and 6, such as "The fear of performing poorly this semester is what motivates me;" (3) mastery-avoidance goals measured by items 7, 8, and 9, such as "I worry that I may not learn all that I possibly could this semester;" and (4) mastery-approach goals measured by items 10, 11, and 12, such as "I want to learn as much as possible this semester." A Likert type scale ranging from 1 (not at all true of me) to 5 (very true of me) was used. Cronbach's alpha for the instrument for this study was .721. Elliot and McGregor (2001) conducted the Exploratory Factor Analysis (EFA) showing that every item in the AGQ loaded above .70 on the item's primary factor. The four goals that are measured by the AGQ are internally consistent.

Parental Autonomy Support Questionnaire (PI and PVF) – Youth Version (PAS)

Using the items from Silk, Morris, Kanaya, and Steinberg (2003) and Grolnick et al. (1991), Soenens et al. (2007) developed a scale that measures PI and PVF. Soenens et al. (2007) conducted EFA and Confirmatory Factor Analysis (CFA) and confirmed that there is a distinction between PI and PVF. The current study used Soenens et al.'s (2007) Parental Autonomy Support scale that has 17 items (9 items for PI and 8 items for PVF).

Items were scored on a 5-point Likert scale ranging from 1 (never) to 5 (always). Two items in the instrument that are “My mother/father isn’t very sensitive to many of my needs” and “My mother/father insists upon doing things her/his way” were reversely coded to make their meaning positive. The students rated the items separately for their mothers (a = .785) and fathers (a = .800). Cronbach’s alpha of the overall instrument (34 items) for this study was .891.

Items 1 to 9 measure PI, such as “My mother/father pushes me think independently” or “My mother/father often says I have to think about life myself.” To calculate children’s perceptions on their parent’s PI, 18 items (9 for mother and 9 for father) were summed for aggregated parental score. For the PI score that was used in the regression analysis, the aggregated score divided into half.

While answering the instrument, students were directed to leave the column blank, if they do not interact with one or both of their parents on a usual basis. 3 students left the father column blank. None of the mother column was blank. For the parent’s PI score of the students that left the father column blank, mother’s PI scores were considered as parental PI score.

For the PI score that was used in the third question (for frequency), the aggregated score divided into 18, in order to be categorized as following: 1 to 1.80 were coded as 1; 1.81 to 2.60 were coded as 2; 2.61 to 3.40 were coded as 3; 3.41 to 4.20 were coded as 4; and 4.21 to 5 were coded as 5 (1 = never, 2 = once in a while, 3 = about half of the time, 4 = very often, and 5 = always).

Items 10 to 17 measure PVF, such as “My mother/father lets me make my own plans for things I want to do” or “My mother/father allows me to choose my own direction in life”. The same method was followed to calculate parental PVF score as PI score. The calculations were based on 16 (8 for mother and 8 for father) items.

Parental Control Scale (PCS) – Youth Version

PCS was adapted from Barber (1996). PCS is an 11-item instrument. The students rated their mothers (a = .764) and fathers (a = .737) separately, by using a 5-point Likert scale ranging from 1 (never) to 5 (always). Cronbach’s alpha of the overall instrument (22 items) for this study was .872. PCS measures four parental controlling ways: (1) personal attack measured by the items “My parent brings up my past mistakes when criticizing me” and “My parent tells me that my behavior was dumb or stupid;” (2) erratic emotional behavior measured by the items “My parent shows impatience with me”, “My parent doesn't like to be bothered by me”, and “My parent changes mood when with me,” (3) guild induction measured by the items “My parent acts disappointed when I misbehave,” “My parent tells me that I should be ashamed when I misbehave,” “My parent tells me that he/she gets embarrassed when I do not meet their expectations,” and “My parent tells me that I am not as good as other children;” and (4) love withdrawal measured by the items “If I hurt my parent’s feelings, my parent stops talking to me until I please my parent again” and “My parent is less friendly with me when I do not see things my parent’s way.”

The same method was followed to calculate parental psychological control subscale scores. The summed scores from 4 (2 for mother and 2 for father) items were

for personal attack; 6 (3 for mother and 3 for father) items were for erratic emotional behavior; 8 (4 for mother and 4 for father) items were for guilt induction; and 4 (2 for mother and 2 for father) items were for love withdrawal for cumulative parental scores. Then, the scores were divided into half to get the final parental control subscale scores. Those scores were divided into 2, 3, 4, and 2 respectively to run the frequency analysis. The scores were coded as described for PI and PVF scores for research question three.

Cattell Culture Fair Intelligence Test (CCFIT)

The CCFIT is a group intelligence test. CCFIT is a paper-pencil instrument that measures nonverbal intelligence. R. B. Cattell developed the test in 1957. B. Togrol adapted CCFIT to Turkish sample in 1974. 2A form was used for the current study. The test can be applied to individuals aged between 7,6 and 14,0. There are total of 46 items. Togrol (1974) and his 26 colleagues investigated Cattell Culture Fair Test 2A and 2B forms outcomes for 1300 Turkish students and both forms correlations. Participants were 650 female and 650 male students, age range of 7.5 to 14 in Istanbul. The lowest IQ mean from the sample was 82.6 from 2B form for 13-year-old female students, and highest IQ mean was 126.38 from 2A form for 10 years old female students. Experience of students and sample selection of 1300 students was stated as a possible reason of the results. The highest frequency of Cattell Culture Fair Intelligence Test test result was between 90 to 109 nonverbal intelligence scores. Two thirds of the correlation coefficient (rho) results between Cattell 2A and 2B was over .80. In the study, one more intelligence test (Porteus) was used besides Cattell Culture Fair Intelligence Test. However, it was understood that the Cattell Culture Fair Intelligence Test's results were

more valid for a Turkish sample. Porteus intelligence test yielded overestimated results. Especially 2A was the most valid one to the sample according to the distribution of results. Togrol (1974) also analyzed the difficulties of items in 2A and 2B Cattell Culture Fair Intelligence Test test. For lower grades, the difficulty of the test started with the 4th questions, whereas it started with the 5th and 6th question for upper grades.

Before applying the instrument, the examiner explains that the CCFIT is going to be four sections; there will be a certain time frame for each section; and there is an example item at the beginning of each section. Examiner explains the example items before the each section to the students and gives the answer. Then, the examiner asks students to circle the correct response of the example items each time. After every students circle the correct response for the example item, the examiner give students a certain time frame to respond to the sections. Students are given 4 minutes for the first section that has 12 items, 3 minutes for the second section that has 14 items, 4 minutes for the third section that has 12 items, and 3 minutes for the fourth section that has 8 items.

Data Collection

This study used archival data from a study conducted in Turkey. A Turkish researcher administered the Achievement Goal Orientation, Parental Autonomy Support, and Parental Control surveys. The researcher is a teacher in a school in the Fatih district in Turkey. A school counselor who works at the same school and has the certificate to administer intelligence tests administered the Cattell Culture Fair Intelligence Test (CCFIT). The Mathematics and Language Art (Turkish) final grades were gathered from

the school administration. All of the instruments were administered in a 55-minute period (approximately 1.5 class section) in June of 2013. The approximate time for administration of the CCFIT was 25 minutes. This instrument was administered during a half-class period. The remaining instruments for this study were administered in one half-class period and 10 minutes of another class period. Data collection spanned 1 week for the 123 participants.

Data was collected from fifth grade students from 3 different middle schools in Fatih, Turkey. Fatih is a central district in Istanbul. Fatih is considered the downtown, and often referred to as the "real Istanbul" or "the first Istanbul" (Fatih Municipality, 2014). The population of Fatih was 425,875 in 2013. 212,114 people were male and 213,761 people were female (Turkiye Istatistik Kurumu (TUIK), 2014). In 2012, 23% (99131 out of 428854) of the people live in Fatih were originally from Istanbul. Four percent of the population was from another country. There are 7 census regions in Turkey. Two percent of the people lived in Fatih in 2012 was originally from Aegean region, 4% was from Mediterranean region, 9% was from Central Anatolia region, 20% was from Black Sea region, 7% was from Marmara region (people from Istanbul is not included), 17% was from Southeastern Anatolia region, and 14% was from Eastern Anatolia region (TUIK, 2012). The average number of students per classroom is approximately 56 for the school district (Fatih Ilce Milli Egitim Mudurlugu, 2014). The schools and the students were selected as a convenient sample. The sizes of the study body across the three schools where participants were recruited from for this study were 1,115, 638, and 1,283.

Data Analysis

This section presents analytical methods used to answer each research question. The data was analyzed using IBM SPSS Statistics 21 software. Means, and other descriptive statistics were calculated and reported for achievement goal orientation, parenting, nonverbal intelligence, Mathematics grades, and Turkish (Language Arts) grades. The range of nonverbal intelligence scores was 61to 152 in the present study. Table 2 shows the descriptive statistics of all major variables in this study.

Table 2
Means and Standard Deviations of Major Variables

	N	Mean	SD	Skewness	Kurtosis
Mathematics	122	62.54	17.76	-.051	-.823
Language Arts	122	71.58	14.47	-.528	-.083
Nonverbal Intelligence	110	112.89	19.26	-.124	-.300
PI	121	29.88	6.19	-.465	-.002
PVF	121	30.75	5.79	-.559	-.366
Personal Attack	121	4.22	1.87	.418	-.590
Erratic Emotional Behavior	121	3.17	2.69	.799	.182
Guilt Induction	121	10.05	3.57	.380	-.148
Love Withdrawal	121	3.80	2.02	1.178	.666
Performance Approach	106	13.19	2.18	-2.146	6.402
Performance Avoidance	106	12.10	2.96	-1.248	.898
Mastery Avoidance	106	10.44	3.43	-.619	-.373
Mastery Approach	106	14.13	1.43	-2.297	6.380
Valid N (Listwise)	98				

Note: PI is Promotion of Independence. PVF is Promotion of Volitional Functioning

As shown in the Table 2, for all measures, there was some degree of missingness in the data because data was collected in a naturalistic setting. Mathematics and Language Arts grades were collected for 122 students from school records. Nonverbal intelligence scores were collected from 110 students, and 121 students provided data on

their perceptions of parenting while 106 students provided data on their achievement goal orientations. As it is an often case in social research conducted in naturalistic settings as such in the schools, missing data occurs whenever participants were not present during the day of data collection (i.e., students who were absent on a given day of data collection had missing data). We considered missing data due to students' absence from school attributable to data missing at random (MAR). Missing data were handled using the Multiple Imputation (MI) technique within SPSS. In order to get non-biased results from MI, highly skewed love withdrawal, performance avoidance, performance approach, and mastery approach were transformed using square root transformation for love withdrawal and antilog transformation for the rest of the three variables. After the transformations of the four variables, skewness of the all of the variables became within the range of ± 1. Multiple imputation for the missing data resulted twenty imputed datasets. The transformed variables were back transformed to their original versions after the imputation. Regression analysis was done for all of the 20 imputed data files. The results displayed in this study are the pooled results that SPSS calculate for the regression analysis. The estimates that were not calculated by SPSS, such as R Square, average of the twenty imputed data files was taken.

The gender differences on Mathematics and Language Arts grades were investigated by using independent-samples *t*-test. Female students (M=66.77, SD=16.55) had significantly higher grades than male students (M=59.85, SD=17.92) in Mathematics class $t(120)=2.216$, p=.029. However, no gender difference were found in Language Arts grades between girls (M=73.24, SD=14.03) and boys (M=70.91,

SD=14.46), *t*(120)=.901, p=.369. Gender was included to the analysis of research question 1, because there was a gender difference in Mathematics grades.

Research question: 1. What are the unique variances of mathematics grade explained by nonverbal intelligence, goal orientation, and parenting in fifth grade children? In other words, do the study predictors (i.e., measures of nonverbal intelligence, goal orientation, and parenting) provide unique prediction of mathematics grades?

Regression analysis was conducted to answer the first research question. The independent variables were nonverbal intelligence, performance-approach, performance-avoidance, mastery-approach, mastery-avoidance, PI, PVF, personal attack, erratic emotional behavior, guilt induction, love withdrawal, and gender. The dependent variable was student's final cumulative course grade in fifth grade Mathematics. The significance level was set as 0.05.

2. What are the unique variances of language arts (Turkish) grades explained by nonverbal intelligence, goal orientation, and parenting in fifth grade children? In other words, do the study predictors (i.e., measures of nonverbal intelligence, goal orientation, and parenting) provide unique prediction of language arts (Turkish) grades?

Regression analysis was conducted to answer the second research question. The independent variables were nonverbal intelligence, performance-approach, performance-avoidance, mastery-approach, mastery-avoidance, PI, PVF, personal attack, erratic emotional behavior, guilt induction, and love withdrawal. The dependent variable was

student's final cumulative course grade in fifth grade Language Arts. The significance level was set as 0.05.

3. What are the Turkish parents' parental control and parental autonomy support as of 2013?

To address the third research question, description statistics such as the means and frequencies were conducted.

4. Are there differences in Turkish parenting styles for male and female students?

To examine whether gender differences exist in Turkish parenting styles, an independent-samples *t*-test was calculated to compare the mean levels of parental control and autonomy support measures for male and female students.

CHAPTER IV

RESULTS

The purpose of the study was to investigate parenting, child goal orientation, and child nonverbal intelligence as predictors of academic achievement among fifth grade Turkish children. In addition, children's perceptions of Turkish parenting and whether parenting styles differ by child's gender were examined. This chapter presents descriptive statistics followed by findings for the four research questions. Table 3 presents correlation results for the study variables.

Table 3
Correlation Results for the Study Variables for Research Question 1 and 2

	1	2	3	4	5	6	7	8	9	10	11	12
1. Mathematics												
2. Language Arts	.806***											
3. Nonverbal Intelligence	.586***	.508***										
4. PI	.293***	.258**	.103									
5. PVF	.261***	.318***	.127	.440***								
6. Personal Attack	-.082	-.012	-.021	.087	-.077							
7. Erratic Emotional Behavior	-.214*	-.204*	-.210*	.047	-.276**	.481***						
8. Guilt Induction	-.172*	-.027	-.166*	.075	-.070	.352***	.497***					
9. Love Withdrawal	-.230**	-.185*	-.288**	.037	-.220**	.298***	.553***	.461***				
10. Performance Approach	.163	.156	.145	.044	.129	-.158	-.032	-.017	.000			

Table 3 Continued

	1	2	3	4	5	6	7	8	9	10	11	12
11. Performance Avoidance	.174	.206*	.204*	.009	.138	.074	-.073	-.003	-.207	.380***		
12. Mastery Avoidance	.008	.044	-.010	-.029	-.017	-.076	-.096	-.008	-.062	.102	.213**	
13. Mastery Approach	.145	.120	.088	.084	.044	.014	-.108	.025	-.157	.050	.059	.001

Note: *p<.05. **p<.01. ***p<.001.

PI is Promotion of Independence. PVF is Promotion of Volitional Functioning

Tests to see if the data met the assumption of collinearity indicated that multicollinearity was not a concern, as seen in Table 4.

Table 4

Collinearity Statistics for Research Question 1 and 2

Model	Tolerance	VIF
Nonverbal Intelligence	0.792	1.141
PI	0.701	1.289
PVF	0.641	1.409
Personal Attack	0.634	1.425
Erratic Emotional Behavior	0.469	1.926
Guilt Induction	0.622	1.451
Love Withdrawal	0.528	1.712
Performance Approach	0.698	1.299
Performance Avoidance	0.674	1.342
Mastery Avoidance	0.862	1.048
Mastery Approach	0.810	1.118

Note: PI is Promotion of Independence. PVF is Promotion of Volitional Functioning

Findings for Research Question 1

The first research question for this study was: What are the unique variances of mathematics grade explained by nonverbal intelligence, goal orientation, and parenting in fifth grade children? In other words, do the study predictors (i.e., measures of nonverbal intelligence, goal orientation, and parenting) provide unique prediction of Mathematics grades? Linear regression analysis was conducted to test if nonverbal intelligence, performance-approach, performance-avoidance, mastery-approach, mastery-avoidance, PI, PVF, personal attack, erratic emotional behavior, guilt induction, love withdrawal, and gender significantly predicted Mathematics achievement.

Using the simultaneous forced entry (or enter) regression analysis method, it was found that Mastery Approach, Mastery Avoidance, Personal Attack, PI, Nonverbal Intelligence, Guilt Induction, Gender, Performance Avoidance, PVF, Performance Approach, Love Withdrawal, and Erratic Emotional Behavior level explain a significant amount of the variance in the Mathematics grade ($F(12,110) = 7.380$, $p<.001$, $R^2 = .445$). As indicated in Table 5, the coefficient of determination is moderate.

Table 5
Model Summary[b] *of the Multiple Regression Analysis for Research Question 1*

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	0.667[a]	0.445	0.384	13.720

a. Predictors: (Constant), Mastery Approach, Mastery Avoidance, Personal Attack, Promotion of Independence, Nonverbal Intelligence, Guilt Induction, Performance Avoidance, Promotion of Volitional Functioning, Performance Approach, Love Withdrawal, Erratic Emotional Behavior, Gender
b. Dependent Variable: Mathematics Grade

The results of the regression analysis indicated that nonverbal intelligence (b=.507, $t(122)=6.19$, $p<.001$) and PI (b=.203, $t(122)=2.267$, $p<.05$) significantly predicted students' Mathematics grades. Table 6 shows the unique contributions of predictor variables to students' Mathematics achievement.

Table 6
Coefficients[a] of Predictor Variables for Research Question 1

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	*t*	Sig.
(Constant)	-27.049	19.507		-1.387	.167
Nonverbal Intelligence	.446	.075	0.507	5.977	.000
PI	.568	.245	0.203	2.317	.021
PVF	.276	.268	0.092	1.030	.303
Personal Attack	-.342	.865	-0.036	-.395	.693
Erratic Emotional Behavior	-.137	.676	-0.021	-.203	.839
Guilt Induction	-.351	.437	-0.072	-.804	.422
Love Withdrawal	.331	.885	0.038	.374	.708
Performance Approach	.257	.723	0.043	.356	.722
Performance Avoidance	.142	.593	0.025	.239	.811
Mastery Avoidance	.060	.423	0.012	.141	.888
Mastery Approach	.894	1.021	0.084	.875	.385
Gender	2.486	2.932	0.071	.848	.396

Note: [a]. Dependent Variable: Mathematics
PI is Promotion of Independence.
PVF is Promotion of Volitional Functioning.

Findings for Research Question 2

The second question for this study was: What are the unique variances of language arts (Turkish) grades explained by nonverbal intelligence, goal orientation, and parenting in fifth grade children? In other words, do the study predictors (i.e., measures

of nonverbal intelligence, goal orientation, and parenting) provide unique prediction of Language Arts (Turkish) grades? Linear regression analysis was conducted to test if nonverbal intelligence, performance-approach, performance-avoidance, mastery-approach, mastery-avoidance, PI, PVF, personal attack, erratic emotional behavior, guilt induction, and love withdrawal significantly predicted Language Arts (Turkish) achievement.

Using the enter method it was found that Mastery Approach, Mastery Avoidance, Personal Attack, PI, Nonverbal Intelligence, Guilt Induction, Performance Avoidance, PVF, Performance Approach, Love Withdrawal, Erratic Emotional Behavior level explain a significant amount of the variance in the Language Arts grade ($F(11,111) = 5.799$, $p<.001$). As indicated in Table 7, the coefficient of determination is moderate ($R^2 = .364$).

Table 7
Model Summary[b] *of the Multiple Regression Analysis for Research Question 2*

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.603[a]	.364	.301	11.873

a. Predictors: (Constant), Mastery Approach, Mastery Avoidance, Personal Attack, PI, Nonverbal Intelligence, Guilt Induction, Performance Avoidance, PVF, Performance Approach, Love Withdrawal, Erratic Emotional Behavior
b. Dependent Variable: Language Arts Grade

The results of the regression analysis indicated that nonverbal intelligence ($b=.426$, $t(122)=5.197$, $p<.001$) significantly predicted students' Language Arts grades.

Table 8 shows the unique contributions of predictor variables to students' Language Arts grade.

Table 8
Coefficients[a] *of Predictor Variables for Research Question 2*

Model	Unstandardized Coefficients		Standardized Coefficients	*t*	Sig.
	B	Std. Error	Beta		
(Constant)	.473	15.319		.031	.975
Nonverbal Intelligence	.321	.062	0.426	5.197	.000
PI	.286	.206	0.120	1.393	.164
PVF	.416	.227	0.162	1.830	.067
Personal Attack	.158	.729	0.020	.217	.828
Erratic Emotional Behavior	-.635	.580	-0.116	-1.096	.273
Guilt Induction	.383	.373	0.092	1.028	.304
Love Withdrawal	.112	.738	0.014	.152	.879
Performance Approach	.238	.582	0.036	.409	.683
Performance Avoidance	.267	.454	0.053	.589	.556
Mastery Avoidance	.130	.337	0.030	.384	.701
Mastery Approach	.393	.717	0.047	.547	.585

Note: [a]. Dependent Variable: Language Arts
PI is Promotion of Independence. PVF is Promotion of Volitional Functioning

Findings for Research Question 3

The third question for this study was: What are the Turkish parents' parental control and parental autonomy support as of 2013? To address this question, descriptive statistics was conducted to examine the means, frequencies, and other descriptive statistics for PI, PVF, and Psychological Control (see Table 9).

Table 9
Descriptive Statistics for PI, PVF, and Psychological Control for Research Question 3 on a 1 to 5 Scale

	N	Mean	SD	Variance	Min	Max
PI	121	3.46	.904	.817	1.00	5.00
PVF	121	4.04	.889	.790	2.00	5.00
Psychological Control	121	2.00	.867	.750	1.00	4.00

Note: PI is Promotion of Independence. PVF is Promotion of Volitional Functioning

As shown in Table 9, the mean score of parents' PI is 3.46 (SD=.094), PVF is 4.04 (SD=.889), and Psychological Control is 2 (SD=.867) on a 5 point scale (2 = once in a while; 3 = about half of the time; 4 = very often). Table 10 indicates the frequencies and percentages of parenting.

Table 10
Frequencies and Percentages for PI, PVF, and Psychological Control for Research Question 3 on 5 Point Scale

		Never (1)	Once in a While (2)	About half of the Time (3)	Very Often (4)	Always (5)
PI	Frequency [Percent]	2 [2%]	13 [11%]	48 [40%]	43 [35%]	15 [12%]
PVF	Frequency [Percent]	-	7 [6%]	24 [20%]	47 [39%]	43 [35%]
Psychological Control	Frequency [Percent]	38 [31%]	52 [43%]	24 [20%]	7 [6%]	-

Note: PI is Promotion of Independence. PVF is Promotion of Volitional Functioning

As seen in Table 10, students reported that 40% of parents showed PI characteristics about half of the time, 35% of the parents presented promotion of independence very often. 74% of the parents were described as parents who displayed

promotion of volitional functioning characteristics very frequently. Students stated that they received parental psychological control very rare (74%). Table 11 presents the descriptive statistics for the subscales of psychological control.

Table 11
Descriptive Statistics for Subscales of Psychological Control for Research Question 3 on a 1 to 5 Scale

	N	Mean	SD	Variance	Min	Max
Personal Attack	121	1.97	1.036	1.074	1.00	5.00
Erratic Emotional Behavior	121	1.95	1.047	1.098	1.00	5.00
Guilt Induction	121	2.39	1.090	1.190	1.00	5.00
Love Withdrawal	121	1.75	1.157	1.338	1.00	5.00

As shown in Table 11, the mean level in parents' personal attack is 1.97 (SD=1.036), erratic emotional behavior is 1.95 (SD=1.047), guilt induction is 2.39 (SD=1.09), and love withdrawal is 1.75 (SD=1.157) on a 5-point scale (1 = never; 2 = once in a while; 3 = about half of the time). Table 12 indicates the frequencies and percentages of parental psychological control subscales. As shown in Table 12, children reported the most frequent psychological control method that they received as guilt induction (31% about half of the time or 14% frequently). The least reported psychological control was love withdrawal (79% once in a while or never).

Table 12
Frequencies and Percentages for Subscales of Psychological Control for Research Question 3

		Never (1)	Once in a While (2)	About half of the Time (3)	Very Often (4)	Always (5)
Personal Attack	Frequency	52	32	27	8	2
	[Percent]	[43%]	[26%]	[22%]	[7%]	[2%]
Erratic Emotional Behavior	Frequency	52	38	18	11	2
	[Percent]	[43%]	[31%]	[15%]	[9%]	[2%]
Guilt Induction	Frequency	29	38	38	10	6
	[Percent]	[24%]	[31%]	[31%]	[9%]	[5%]
Love Withdrawal	Frequency	74	22	12	7	6
	[Percent]	[61%]	[18%]	[10%]	[6%]	[5%]

Findings for Research Question 4

The fourth question for this study was: Whether Turkish parent's parenting style differ by child's gender? An independent-samples *t*-test was computed to compare parenting based on student's gender. Table 13 indicates the descriptive statistics for students' gender for parenting.

Table 13
Descriptive Statistics for Gender

	Gender	N	M	SD
Promotion of Independence	Male	56	30.77	5.858
	Female	65	29.12	6.419
Promotion of Volitional Functioning	Male	56	31.02	5.227
	Female	65	30.52	6.260
Personal Attack	Male	56	4.58	1.816
	Female	65	3.90	1.873
Erratic Emotional Behavior	Male	56	6.98	2.851
	Female	65	5.47	2.340
Guilt Induction	Male	56	10.80	3.608
	Female	65	9.41	3.448
Love Withdrawal	Male	56	4.68	2.411
	Female	65	3.04	1.164

As seen in Table 14, males reported that their parents used significantly higher levels of parental psychological control than females on all of the parental control subscales (personal attack $t(119)=2.02$, p=.046; erratic emotional behavior $t(107)=3.16$, p=.002; guilt induction $t(119)=2.17$, p=.032; and love withdrawal $t(77)=4.64$, p=.000.

Table 14
Comparison of the Parenting Styles for Children's Gender

		Mean Difference	Std. Error Difference	95% CI	*t*	*df*	Sig. (2-tailed)	Cohen's *d*
PI	Male-Female	1.645	1.124	[-.58, 3.87]	1.463	119	.146	.268
PVF	Male-Female	0.502	1.058	[-1.59, 2.60]	.475	119	.636	.087
Personal Attack	Male-Female	0.680	0.337	[.01, 1.35]	2.020	119	.046	.370
Erratic Emotional Behavior	Male-Female	1.512	0.479	[.56, 2.46]	3.157	106.54	.002	.612
Guilt Induction	Male-Female	1.395	0.642	[.12, 2.67]	2.172	119	.032	.398
Love Withdrawal	Male-Female	1.640	0.353	[.94, 2.34]	4.646	76.63	.000	1.061

Note. CI = Confidence Interval.
PI = Promotion of Independence.
PVF = Promotion of Volitional Functioning.

CHAPTER V

DISCUSSION AND CONCLUSION

The present study examined parenting, child goal orientation, and child nonverbal intelligence as predictors of academic achievement among fifth grade Turkish children, and provided a present-day perspective on Turkish parenting, which was missing in the extant research literature, including whether parenting styles differ by child's gender. This chapter provides summary and interpretations of results for the research questions, as well as discussion, limitations, direction for future studies, and a general conclusion.

Predicting Academic Achievement, and Its Relation to Parenting, Nonverbal Intelligence and Goal Orientation

Results for the correlations amongst major variables are displayed in Table 4 in the results chapter. There was a positive and statistically significant correlation between students' mathematics achievement and nonverbal intelligence, PI, and PVF. There was a negative and statistically significant correlation between students' mathematics grades and erratic emotional behavior, guilt induction, and love withdrawal. Table 4 also indicated that there was a statistically significant, positive correlation between students' language arts grades and nonverbal intelligence, PI, PVF, and performance-avoidance. There was a negative and statistically significant correlation between students' language arts grades and erratic emotional behavior, and love withdrawal.

Past studies have found that nonverbal intelligence is more strongly related to mathematics achievement than reading/language achievement (e.g., Naglieri & Ronning, 2000). However, results from the present study did not find such a difference. Rather, nonverbal intelligence is related to both achievement in mathematics and language arts in similar ways; the relationships between nonverbal intelligence and mathematics achievement as well as language arts achievement (*rs*=.59 and .51, ps<.001, respectively) in the present study.

A brief summary of the results of the first two questions can be found in the following two paragraphs. The first question was: What are the unique variances of mathematics grade explained by nonverbal intelligence, goal orientation, and parenting in fifth grade children? It was hypothesized that parenting, students' nonverbal intelligence, and achievement goal orientation would predict fifth grade Turkish students' Mathematics achievement. The results of the analysis indicated that measures of predictors explain almost half of the variance (46%) in Mathematics achievement. Potential unique contributions of parenting, nonverbal intelligence, and achievement goal orientation to students' Mathematics grades were examined. Results from the multiple regression analysis (Table 6) indicate that nonverbal intelligence and one of the parental autonomy support dimension, PI, predicted Mathematics achievement. Rest of the predictors on the other hand did not significantly predicted students' Mathematics grades.

The second question was: What are the unique variances of Language Arts (Turkish) grades explained by nonverbal intelligence, goal orientation, and parenting in

fifth grade children? It was hypothesized that parenting, students' nonverbal intelligence, and achievement goal orientation would predict fifth grade Turkish students' Language Arts achievement. The analysis results (Table 7) showed that predictors explain 36% of the variance in Language Arts grades. Potential unique contributions of parenting, nonverbal intelligence, and achievement goal orientation to students' Language Arts grades were examined. Multiple regression analysis (Table 8) results indicate that nonverbal intelligence significantly predicted fifth grade Turkish students' Language Arts grades. The results (Table 8) also revealed that parenting and achievement goal orientation did not have a statistically significant effect on fifth grade Turkish students' Language Arts (Turkish) achievement.

There is a consensus among researchers that intelligence predicts educational outcomes (e.g., Lohman, 2005). Results from the first two questions show that nonverbal intelligence has a unique contribution to academic achievement. This finding was expected as intelligence has consistently shown to be a significant predictor of academic achievement (e.g., Jensen, 1998). The present study also revealed a positive correlation between nonverbal intelligence and academic achievement. Previous research documented different magnitudes in the correlation between intelligence and achievement (Herrnstein & Murray, 1994). For instance, a study reported a correlation between intelligence and school grades ranging from .4 to .7 (Macintosh, 1998). In another study, it is discussed that the correlation in the literature is usually published around .5 (Gustafsson & Undheim, 1996). The present study found Pearson r correlations of .51 and .59 that are within the range that literature documented. Thus,

findings from the present study are consistent with what is already known about the associations between intelligence and academic achievement in Turkish context.

In regard to the role of parenting in achievement, study results show that parental autonomy support (PI) provided unique prediction of Mathematics, but not Language Arts achievement. The difference in PI's relation to Mathematics versus Language Arts achievement was unexpected, and may reflect differences between Mathematics and Language Arts classes including how the school subjects are taught. In fifth grade Mathematics classes, students need to solve problems. In Turkish (Language Arts) classes, majority of coursework consists of readings. Children need to understand the readings and answer the questions related to those readings as well as write compositions. Looking at the results closely, PVF was approaching or near statistical significance (p = .067, Table 8) in predicting language arts achievement. Replication of this would be important with a larger sample size, because PVF would likely predict Language Arts achievement if there was greater statistical power to detect the effect. Furthermore, the difference in the results for PI and PVF as well as for Mathematics and Language Arts call for further investigation in the Turkish context.

Many studies have documented that autonomy support is positively correlated with academic competence and school achievement (Levesque, Zuehlke, Stanek, & Ryan, 2004; Soenens & Vansteenkiste, 2005). Particularly, PVF is found to be a strong predictor of academic performance (Grolnic, 2003; Grolnick, Ryan, & Deci, 1991). Results from the present study confirm this, because both PI and PVF had a positive and statistically significant correlation with Mathematics and Language Arts grades.

Previous research has not examined the unique contributions between PI and PVF to achievement in Turkish children. Thus, present study results are novel and contribute to the existing literature on the role of autonomy support in learning and achievement for Turkish children. In the present study, children's perceptions of their parents were used. In future studies, it is important to conduct further research to understand the meaning of PI and PVF in the Turkish culture including the use of both children's and parents' views of parenting practices.

While there is a statistically significant contribution of parental autonomy support to achievement, parental psychological control did not predict academic achievement in the present study. In past research, one study found that psychological control did not predict children's school achievement (Stolz et al., 2004), even though, multiple other studies found that psychological control predicted academic achievement (e.g, Bean, Bush, McKenry, & Wilson, 2003). Literature documented that parental psychological controlling relates to academic achievement negatively (Benware & Deci, 1984; Kramer, 2012). Present study examined parental psychological control in terms of personal attack, erratic emotional behavior, guilt induction, and love withdrawal. Results from correlational analyses showed that all four dimensions of psychological control were negatively, but not strongly, correlated with academic achievement and not all dimensions were statistically significant. Thus, while parental psychological control did not predict academic achievement, specific dimensions of psychological control were negatively correlated with academic achievement. Importantly, no previous studies have examined the issue of parental psychological control and achievement in Turkish

children. Thus, this appears to be the first study to address the role of parental psychological control and achievement in Turkish culture and future studies need to further explore relations between parental control and schooling outcomes.

In regard to achievement goal orientation, present study results found that child achievement goal orientation did not uniquely contribute to academic achievement. None of the goal orientations (performance-approach, performance-avoidance, mastery-approach, and mastery-avoidance) predicted academic achievement. However, previous studies documented that both performance goal orientation (e.g, Daniels, Stupnisky, Pekrun, Haynes, Perry, & Newall, 2009) and mastery goal orientation (e.g., Keys, Conley, Duncan, & Domina, 2012) predicted academic achievement. Present study found that achievement goal orientation has a positive correlation with achievement; however, the magnitudes are small. In summary, achievement goal orientation did not predict academic achievement in a Turkish sample. Importantly, results need to be interpreted carefully and might pertain primarily to Turkish students in Istanbul. Further research is needed on the achievement goal orientations of Turkish children, including those living in rural areas.

In summary, present study findings show that nonverbal intelligence and PI both provide unique prediction of academic achievement of fifth grade Turkish students. When taking both nonverbal intelligence and PI into account, neither parental control nor achievement goal orientation provided additional prediction of academic achievement of fifth grade Turkish children.

Turkish Parenting and Gender Differences

The third question for this study was: What are children's perceptions of Turkish parents' parental control and parental autonomy support as of 2013? As shown in Table 10, Turkish children in this sample reported that their parents often provided them with opportunities for volitional functioning (M = 4.04, SD = .90) as well as independence (M = 3.46, SD = .89). Students reported that 47% of their parents frequently supported their independence, and 74% of parents showed PVF characteristics frequently (Table 11). Previous research documented that mean levels of autonomy support was lowest in collectivistic cultures such as China, and highest in individualistic cultures such as the United States (e.g., Supple, Ghazarian, Peterson, & Bush, 2009). In a study of Turkish families that spanned three generations, Sunar (2002) compared parenting and children's autonomy across three generations and concluded that even though parental support of children's autonomy increased from one generation to the next, a general discouragement of autonomy was still preserved across generations. Similar patterns were found in studies by Kagitcibasi who reported that even though Turkish parents recognized the importance of autonomy for their children (Kagitcibasi, 2007), autonomy in children is still viewed as more aligned with individualistic cultural values than traditional and collectivistic cultural values found in Turkey (Kagitcibasi, 2005). Present study results may reflect in parenting practices in the year 2013, and children feel that their parents often support their autonomy and independence. The inconsistency of the present study with the past studies might suggest that Turkey has undergone cultural changes from more collectivistic to more individualistic values, which may especially

true for cities such as Istanbul. Recall that data for this study was collected from Istanbul, the largest city in Turkey. Further, the schools where participants were recruited from for this study were located in Fatih, a central or downtown district. Thus, study results need to be interpreted in light of the fact that children in this study are living in an urban and modern Turkish city.

In contrast to children's reports that their parents often supported their autonomy and independence, fifth grade Turkish children reported that their parents rarely used psychological control on them (M = 2, SD = .87, Table 9). Children reported that 31% of their parents never used psychological control, and 43% of parents used psychological control once in a while (Table 10). Only, 7% of parents were reported by their children to have used psychological control very often. Examining the specific dimensions within psychological control, the most frequently reported use of psychological control was guilt induction (M = 2.39, SD = 1.09, Table 11), and it was used once in a while. Children stated that Turkish parents almost never applied love withdrawal (M = 1.75, SD = 1.16, Table 11). Majority (61%) of parents never used love withdrawal as psychological control, and majority (62%) of Turkish parents used guilt induction once in a while or about half of the time, and this was the most used control method among parental psychological control subscales (personal attack, erratic emotional behavior, guilt induction, and love withdrawal). While study findings suggest that Turkish parents do not generally use psychological control with their children, this finding was not expected because past cross-cultural studies have documented that Turkish parental control was high. For instance, a study found that parental control was practiced more

among Turkish parents than American parents (Taylor & Oskay, 1995). A more recent study also documented that Turkish children perceive parental control as highest compared to children in Germany, Israel, and Palestine (Kagitcibasi, Ataca, & Diri, 2010). Just as mentioned for the finding on the relatively high level of parental autonomy support in this sample, the finding of relatively low parental psychological control suggests that Turkey has undergone cultural changes, and the movement toward more individualistic cultural values may be especially salient in Istanbul, the largest city in Turkey.

The fourth question was: Whether Turkish parents' parenting styles differ by child's gender. Past studies have found that parenting differed for sons and daughters in Turkey (Sunar, 2002). Present study results confirm a significant difference between daughters and sons on parental psychological control, but not in the way that was expected because son perceived greater psychological control from their parents than daughters. Specifically, results indicate that fifth grade male students perceived more personal attack, erratic emotional behavior, guilt induction, and love withdrawal than female students. Previous research documented that daughters were controlled and supervised more than sons were (e.g., Sunar, 2002), but present study results are not consistent with this pattern of findings. It is unclear why males reported greater parental psychological control than females, but this pattern of finding call for a need to consider changing gender roles and gender expectations in Turkish culture, similar to the change toward individualistic cultural values. Another possibility of the result might be an expression of Turkish parent's harsher or more directive demands from their sons than

daughters to take on future leadership roles. Alternatively, it may reflect not so much the parent but the child's attitudes so that sons reported more parental psychological control and daughters reported less psychological control because of their own attitudes. It is plausible that the male students in this study needed more control from their parents because of being rebellious children, so the parents exerted greater psychological control as a means of discipline. And perhaps, the daughters perceived less parental control and were behaving in obedient ways. It is plausible that sons may have exhibited greater rebelliousness than daughters during middle childhood and emerging adolescence. These results require further exploration, including use of mixed methods (qualitative and quantitative method together) to gain a deeper understanding of what it means for parents to be psychologically controlling for sons and for daughters in Turkey.

According to extant literature on middle class families living in Istanbul, Turkish parents gave more autonomy to their sons than their daughters but there was still an overall discouragement of autonomy in children, especially for daughters (Sunar, 2002). However, present study findings show no significant difference in parental autonomy support (in promotion of independence and promotion of volitional function) between daughters and sons. Additionally, present study found that Turkish parents provide high autonomy support to both sons and daughters. Traditionally, parents preferred sons for economical and cultural reasons. However, the preference has been changing towards daughters because daughters are valued as caregivers when the parents become old (Ataca & Sunar, 1999), and offer parents more emotional fulfillment than boys (Ataca, Kagitcibasi, & Diri, 2005). Present study findings might reflect these socio-cultural and

economical changes in Turkey, including greater equality between males and females. Considering the contribution of autonomy support to academic achievement, parents and educators should focus on parenting that ensure equality in the provision of autonomy support to both sons and daughters.

In summary, nonverbal intelligence predicted students' academic achievement as expected. Promotion of independence predicted students' mathematics achievement above and beyond nonverbal intelligence, but not language arts achievement. Even though, PVF had a statistically significant and positive relationship with academic achievement, PVF did not uniquely contribute to achievement. None of the achievement goal orientations predicted academic achievement in the present study. In addition to the goal orientation measures, parental psychological control did not predict academic achievement for fifth grade Turkish children. The present study revealed that Turkish parents provided frequent autonomy support but rarely used psychological control on their children. Furthermore, gender differences were found in parental psychological control with sons perceiving greater control from parents than daughters which appears to contradict findings from older studies. Overall, the present study provide insight into Turkish children's perspectives on parenting and the pattern of findings suggest that individualistic cultural values are increasingly salient relative to collectivistic cultural values, and there appears to be a movement toward gender equality or valuing autonomy for daughters as much as for sons. According to the present study, today's Turkish parents seems to provide increasingly more autonomy support to their children,

especially to their daughters, that create more independent individuals who are then empowered to pursue their own goals and achievements.

Limitations and Future Directions

Present study results contribute to the existing literature on the roles of parenting in academic achievement of Turkish children in the 21st century. One strength of this study is that extremely limited research has been conducted on Turkish parenting, autonomy support, and academic achievement. However, this study has limitations that could be improved upon in future studies. First, the small sample size reduces statistical power to detect potential effects and study results that were approaching significance could be significant and meaningful findings. Future studies need to replicate findings with a larger sample that provides appropriate statistical power to detect hypothesized effects. A qualitative or mixed method methodology may also provide greater meaning to help interpret and understanding study results within Turkish cultural framework.

Using only nonverbal intelligence scores instead of both verbal and nonverbal intelligence scores is a limitation of the present study because assessment of intelligence requires measuring both of the verbal and nonverbal intelligence components (Warne, 2009; Lohman, 2005). So, using a complete intelligence score would be more appropriate for the future research.

The updated norms should be used for the intelligence tests to account for the Flynn effect which is the increase of the fluid and crystallized intelligence scores over the years (Flynn, 1984). The Cattell Culture Fair Intelligence Test 2A form was used in the present study that was adapted to Turkish culture in 1974. Future research that

include the use of intelligence tests need to carefully consider the measurement properties of tests along with appropriate norming of scores for use with specific populations to ensure appropriate interpretation of scores. The present study included intelligence scores as a covariate in order to determine if measures of parenting and goal orientation predicted the achievement above and beyond intelligence.

Present study was conducted with only fifth graders aged 11 to 12 for historic and sociocultural reasons as discussed in the first chapter. Future studies are recommended to include students from other grades to examine whether parental autonomy support and psychological control differ by students' age. Palut (2009) argued that parental restrictions become stricter as daughters become older. Future research may explore whether age and gender intersect so that parents' expectations and parenting practices differs depending not only across children's ages but also by gender. Other cultural and demographic factors such as parents' cultural beliefs and endorsement of individualism or collectivism, family socioeconomic status, parental education, or being from urban or rural schools may influence parenting practices and achievement. The complex intersection between cultural, socio-demographic, parent, and child factors require further attention in future studies to understand what factors contribute to children's development of autonomy and academic performance.

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APPENDIX A

Parental Autonomy Support Questionnaire (PI and PVF) - Youth Version

Please read each statement, and rate how frequently your mother and father do these things on a 5-point scale. If you do not interact with one of those parents on a usual basis, please leave that column blank.

1	**2**	**3**	**4**	**5**
Never	Once in a while	About half of the time	Very often	Always

My mother/father…	**MOTHER**	**FATHER**
Emphasizes that every family member should have some say in family decisions		
Emphasizes that it is important to get my ideas across even if others don't like it		
Says that you should always look at both sides of the issue		
Talks at home about things like politics or religion, taking a different side from others		
Pushes me to think independently		
Gives me more freedom to make my own decisions when I get good grades at school		
Admits that I know more about some things than adults do		
Often says I have to think about life myself		
Encourages me to be independent from her/him		
Listens to my opinion or perspectives when I've got a problem		
Lets me make my own plans for things I want to do		
Is usually willing to consider things from my point of view		
Isn't very sensitive to many of my needs		

My mother/father…	**MOTHER**	**FATHER**
Whenever possible, allows me to choose what to do		
Allows me to decide things for myself		
Insists upon doing things her/his way		
Allows me to choose my own direction in life		

APPENDIX B

Parental Autonomy Support Questionnaire (PI and PVF) - Youth Version

(In Turkish) - Aile Anketi 1

Lütfen her cümleyi okuyup annenizin ve babanızın ne kadar sıklıkla bunları yaptığını 5 puanlı ölçekle derecelendiriniz. Eğer anne ya da babanız ile çoğunlukla iletişim kurmuyorsanız, o sütunu boş bırakınız.

1	2	3	4	5
Asla	**Arada bir**	**Yarı yarıya**	**Sıklıkla**	**Her zaman**

Annem /Babam…	**Anne**	**Baba**
1. Her aile üyesinin ailenin kararlarında söz sahibi olması gerektiğini vurgular.		
2. Başkaları hoşlanmasa bile, benim fikirlerimi almanın önemli olduğunu vurgular.		
3. Her zaman meselenin iki tarafına da bakmam gerektiğini söyler.		
4. Evde, politika veya din gibi şeyler hakkında diğerlerinden farklı bir taraf alarak konuşur.		
5. Beni, bağımsız düşünmeye iter.		
6. Okulda iyi notlar aldığım zaman, bana kendi kararlarımı almada daha fazla özgürlük verir.		
7. Bazı şeyler hakkında yetişkinlerden daha fazla bildiğimi itiraf eder.		
8. Çoğu kez, hayat hakkında kendim düşünmem gerektiğini söyler.		
9. Beni kendinden bağımsız olmaya yüreklendirir.		
10. Bir sorunum olduğunda benim düşünce veya bakış açımı dinler.		

Annem /Babam…	**Anne**	**Baba**
11. Yapmak istediğim şeyler hakkında kendi planlarımı yapmama müsaade eder.		
12. Genellikle bir şeyleri benim bakış açımdan değerlendirmeye gönüllüdür.		
13. Benim birçok ihtiyacıma çok duyarlı değildir.		
14. Mümkün olduğu zaman, ne yapmak istediğimi seçmeme izin verir		
15. Kendim için olan şeylerin kararını almama izin verir		
16. Bir şeyleri onun yoluyla/yöntemiyle yapmaya zorlar.		
17. Hayatta kendi yönümü seçmeme izin verir.		

Öğrenci Numarası:

Cinsiyet:

APPENDIX C

Parental Control Scale (PCS) – Youth Version

Please read each statement, and rate how frequently your mother and father do these things on a 5-point scale. If you do not interact with one of those parents on a usual basis, please leave that column blank.

1	2	3	4	5
Never	Once in a while	About half of the time	Very often	Always

	MOTHER	FATHER
My parent brings up my past mistakes when criticizing me.		
My parent tells me that my behavior was dumb or stupid.		
My parent shows impatience with me.		
My parent doesn't like to be bothered by me.		
My parent changes mood when with me.		
My parent acts disappointed when I misbehave.		
My parent tells me that I should be ashamed when I misbehave.		
My parent tells me that he/she gets embarrassed when I do not meet their expectations.		
My parent tells me that I am not as good as other children.		
If I hurt my parent's feelings, my parent stops talking to me until I please my parent again.		
My parent is less friendly with me when I do not see things my parent's way.		

APPENDIX D

Parental Control Scale (PCS) – Youth Version

(In Turkish) - Aile Anketi 2

Lütfen her cümleyi okuyup annenizin ve babanızın ne kadar sıklıkla bunları yaptığını 5 puanlı ölçekle derecelendiriniz. Eğer anne ya da babanız ile çoğunlukla iletişim kurmuyorsanız, o sütunu boş bırakınız.

1	2	3	4	5
Asla	**Arada bir**	**Yarı yarıya**	**Sıklıkla**	**Her zaman**

Annem /Babam…	**Anne**	**Baba**
1. Beni eleştirirken benim eski hatalarımı gündeme getirir.		
2. Davranışımın aptal ya da budala olduğunu söyler.		
3. Bana sabır göstermez.		
4. Benim tarafımdan rahatsız edilmek istemez.		
5. Benimleyken farklı davranır / modu değişir.		
6. Yaramazlık yaptığımda hayal kırıklığına uğrar.		
7. Yaramazlık yaptığımda utanmam gerektiğini söyler.		
8. Beklentisini karşılamadığımda benden utandığını söyler.		
9. Diğer çocuklar kadar iyi olmadığımı söyler.		
10. Eğer onu kırarsam, tekrar memnun edene kadar benimle konuşmaz.		
11. Bir şeyleri onun yolu ile görmediğimde, bana daha az cana yakın davranır.		

Öğrenci Numarası:

Cinsiyet:

APPENDIX E

Goal Orientation Questionnaire

1	2	3	4	5
Not at all true of me	Not true of me	Neutral	True of me	Very true of me

1.My goal this semester is to get better grades than most of the other students.

2. It is important for me to do well compared to other students.

3.I want to do better than other students this semester.

4. I just want to avoid doing poorly compared to other students this semester.

5. The fear of performing poorly this semester is what motivates me.

6. My goal this semester is to avoid performing poorly compared to the other students.

7. I am afraid that I may not understand the content of my classes as thoroughly as I'd like.

8. I worry that I may not learn all that I possibly could this semester.

9. I am definitely concerned that I may not learn all that I can this semester.

10. Completely mastering the material in my courses is important to me this semester.

11.I want to learn as much as possible this semester.

12. The most important thing for me this semester is to understand the content in my courses as thoroughly as possible.

APPENDIX F

Goal Orientation Questionnaire

(In Turkish) - Amaçlar Anketi

	Bu dönem:	Bana çok uygun	Bana uygun	Kararsızım	Bana uygun değil	Bana hiç uygun değil
1	Amacım; diğer öğrencilerin çoğundan daha yüksek not almaktır.					
2	Diğer öğrencilerden daha yüksek not almak benim için önemlidir.					
3	Diğer öğrencilerden daha başarılı olmak istiyorum.					
4	Diğer öğrencilerden daha düşük not almamak için çalışacağım.					
5	Düşük not alma korkusu beni çalışmaya teşvik ediyor.					
6	Amacım; diğer öğrencilerden daha düşük not almamaktır.					
7	Dersleri istediğim gibi (tamamıyla) anlayamamaktan korkuyorum.					
8	Bu dönem öğrenmem gerekenleri öğrenemezsem diye korkuyorum					
9	Bu dönem öğrenmem gerekenleri öğrenemezsem diye çok endişeliyim.					
10	Derslerdeki konuları tamamen öğrenmek benim için önemlidir.					
11	Bu dönem, dersleri mümkün olduğunca çok öğrenmek istiyorum.					
12	Benim için en önemli şey; derslerdeki konuları tamamen anlamaktır.					

Öğrenci Numarası: Cinsiyet: