Mindset, Future and the Family: Interactions between Context and Belief in Change in Predicting Self-Efficacy and Goal Orientations

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STATEMENT OF AUTHORSHIP

This thesis contains no material which has been accepted for any award or any other degree or diploma in any university or other institution. It is affirmed by the candidate that, to the best of her knowledge, the thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

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ABSTRACT

Mindset, also known as implicit intelligence and personality beliefs or theories, is known to be an important determinant of positive cognitive and behavioral outcomes, such as academic achievement and persistence in the face of failure. This study examined mindset within a positive youth development (PYD) framework, looking at how it predicted positive youth development outcomes, namely promotion goal orientation and self-efficacy. Employing a relational developmental systems theories (RDST) approach where development is assumed to be co-created through bidirectional interactions between individual←→context, and in the light of Kağıtçıbaşı's family change and autonomous-related self theories, we investigated the moderating role of parents as a contextual factor on the relationship between mindset and PYD outcomes.

In a sample of Turkish early adolescents (6^{th} graders) from nine middle schools in Istanbul (N=929), we found that growth mindset predicted prevention-oriented goals and self-efficacy. Parental behaviors were significant moderators, and we also observed their moderation effects to vary across SES and gender. We discuss these findings in the light of Kağıtçıbaşı's family change and autonomous-related self theories, as well as within an RDST and a PYD framework.

Keywords: mindset, implicit intelligence/personality beliefs/theories, goal orientation, self-efficacy, parenting, family change theory, autonomous-related self, positive youth development, early adolescence

ÖZET

Örtük zekâ ve kişilik kuramları veya inançları olarak da bilinen başarıya / başarısızlığa dair zihniyetin olumsuz olaylar karşısındaki kararlılık ve çaba gösterme ve akademik başarı gibi önemli bilişsel ve davranışsal sonuçları etkilediği bilinmektedir. Bu çalışma, başarıya / başarısızlığa dair zihniyeti pozitif ergen gelişimi çerçevesinde ele alarak, amaçlara karşı geliştirme yönelimi ve özyeterlik gibi ergenlikte olumlu gelişimi belirleyen değişkenleri nasıl yordadığını araştırmıştır. İlişkili gelişimsel sistemler teorilerinin yaklaşımını temel alarak, Kağıtçıbaşı'nın aile değişimi ve özerk-ilişkili benlik teorilerinin de ışığında, başarıya / başarısızlığa dair zihniyet ve ergenlikte olumlu gelişim değişkenleri arasındaki ilişkinin bağlamsal bir faktör olan ebeveynler tarafından nasıl etkilendiği de araştırılmıştır.

İstanbul'daki dokuz ortaokulda altıncı sınıf öğrencisi olan erken ergenlerden oluşan bir örneklemde (N=929), başarıya / başarısızlığa dair gelişime inanan bir zihniyetin amaçlarda engelleme yönelimini ve özyeterliği olumlu yordadığı bulunmuştur. Ebeveyn davranışlarının bu ilişkileri etkilediği gözlenirken, bu etki cinsiyetler ve sosyoekonomik statü grupları arasında fark göstermiştir. Bulgular Kağıtçıbaşı'nın aile değişimi ve özerk-ilişkili benlik teorileri ışığında, ilişkili gelişimsel sistemler teorileri ve pozitif ergen gelişimi teorisi çerçevesinde tartışılmaktadır.

Anahtar Kelimeler: başarıya / başarısızlığa dair zihniyet, örtük zekâ / kişilik kuramları / inançları, amaçlara yönelim, özyeterlik, ebeveynlik, aile değişimi teorisi, özerk-ilişkili benlik, pozitif ergen gelişimi, erken ergenlik

DEDICATION

To my mother

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Chapter 1

INTRODUCTION

Motivational beliefs, values and goals constitute an essential part of psychology research, as well as the human experience. The word "motivation" comes from the Latin root of "mot-," which means "move," and shares this etymological background with words like "motion," "motive" and "emotion" (Eccles & Wigfield, 2002). Therefore, it follows naturally that multiple disciplines, including evolutionary theory, study of learning and psychoanalytic theory, have looked at motivation as the prime "mover," the ultimate cause of behavior (Gollwitzer & Oettingen, 2004). In the last several decades, however, a wide range of motivational concepts has primarily been investigated by social, educational, and developmental psychology, in pursuit of the antecedents, correlates, and outcomes of these constructs.

Since very closely-related constructs have been addressed from different angles, a plethora of distinct but similar concepts exist in the psychology literature regarding motivational beliefs, values, and goals (see Eccles & Wigfield, 2002 for review). This paper aims to investigate the relationship between three of such concepts, namely *mindset*, *goal orientation*, and *self-efficacy*. In so doing, we aim to disentangle the mechanisms through which these concepts are related, how these mechanisms interact with contextual factors, primarily the family, as we observe these interactions particularly in early adolescence, a crucial time for these beliefs, values, and goals to stabilize (Wigfield, Eccles, Roeser, & Schiefele, 2008). Extant research on the above-noted constructs is also mainly of Western origin, conducted in North American or European countries, with much less work on these constructs coming from the Majority World (Kağıtçıbaşı, 2007). Therefore, this body of

research is inadequate, in that it does not capture much of the picture outside the Western world.

Following the argument above, we can say the existing research does not shed light on how context and the individual participate in this process simultaneously. The consideration of person ←→ context relations has been voiced as a necessity by researchers in this field (Eccles & Wigfield, 2002). As well, the concern voiced above regarding the lack of cross-cultural work with such social and developmental constructs awaits to be addressed, as part of the effort for presenting an accurate picture of the above-noted mechanisms for the whole world's adolescent population (Kağıtçıbaşı, 2007). Therefore, this study aims to address these shortcomings in extant research by (1) examining interactions between the individual and context, and (2) reporting the observed relationships in a non-Western culture, in an effort to contribute to a more cross-cultural endeavor on the study of motivational constructs.

Speaking of person ←→ context interactions, the study of contextual factors in the development of motivational beliefs, values, and goals has remained narrow in focus where, although the influence of the school context has been more widely studied, other contexts, such as the family, have not received equal attention (Eccles & Wigfield, 2002). Perhaps due to a dominantly individualistic view of adolescence as the period of "separation" from the family, the role of parents, who in fact continue to be influential throughout adolescence, has not been adequately assessed (Kağıtçıbaşı, 2007; Laursen & Collins, 2009). Accordingly, a different approach to the study of motivational constructs is needed. This paper presents such an approach, one framed by the theoretical model suggested by several researchers in the field (e.g., Eccles & Wigfield, 2002).

To fill this representational gap in social and developmental psychology research, this study brings a novel approach to the study of the interrelations between motivational constructs, as well as the person←→context interactions taking place in the development of

such constructs. To begin with, the research questions are posed within a relational developmental systems theories (RDST) framework, assuming dynamic interactions between the individual and the context of culture, family, and socioeconomic status (Lerner, 2006; Kağıtçıbaşı, 2007). Secondly, in the light of Kağıtçıbaşı's (2007) theories of family change and autonomous-related self, the investigation of motivational constructs is framed within a contextual developmental perspective. In so doing, this study aims to provide this field of research with findings from the Turkish culture, more specifically from a sample of low- to mid-socioeconomic status (SES) 6^{th} grade students living in an urban setting (in the city of Istanbul). Parental behaviors are taken as a contextual variable, and explored in regards to how they moderate the interrelations between motivational constructs, namely mindset, goal orientation and self-efficacy (Steinberg, 2001). Lastly, we bring a Positive Youth Development (PYD) approach to the study of above-noted constructs, where we look at how the strengths of youth, i.e., mindset about success/failure, readily align with their ecological assets, i.e., parents, to predict positive outcomes, i.e., promotion-oriented goals and self-efficacy (Lerner, Lerner, Lewin-Bizan, Boyd, Mueller, Schmid, Warren, & Bowers, 2011).

In the following section, we present a review of literature on mindset, goal orientation and self-efficacy (predictor and outcome variables), along with parenting, SES and gender (moderator variables) as explored within the study of these motivational constructs. We also review previous work on the relationships between these constructs, including work from Turkey, as well as our novel approach in studying these relationships, and the underlying theoretical framework. Finally, we report and discuss the findings of our study.

Chapter 2

LITERATURE REVIEW

Research on motivational constructs, including the targeted constructs of this study, spans several research disciplines, such as social, developmental, and educational psychology, and employs multiple approaches. We will review research on our predictor variable, mindset, and our outcome variables, goal orientation, and self-efficacy, focusing mainly on studies that are relevant to our research questions. We will follow this literature review with our primary moderator variable, parenting behaviors, and the two other moderators, SES and gender. For these moderator/contextual variables, we will mainly cover work that has investigated their relationship to the motivational constructs in our model.

Following a review of our constructs, we will briefly explain the theoretical background of our approach through a short overview of the conceptual frameworks that have guided this approach. Lastly, we present our research questions and hypotheses, before reporting our results.

2.1 Mindset (Implicit Theories/Beliefs of Intelligence/Personality)

Mindset, a concept elaborated by Dweck (2006), denotes the implicit beliefs people have regarding growth, improvement, and effort. Initially categorized by Dweck (2000) into *implicit theories of intelligence* and *personality* (shortly *self-theories*), the concept of mindset refers to one's view of these attributes as being stable versus changeable. In an *entity theory of intelligence* / *personality* or a *fixed mindset,* one believes that intelligence and personality are stable, given from birth, and unaffected by one's actions. Dweck (2000) further explains the consequences of holding such theories as leading to a *performance goal orientation,* where one tries to "perform well" in order to "look good" or "look smart", so as to keep up with the belief that one was, is, and will always be smart. On the other end of the spectrum is

the *incremental theory of intelligence* / *personality* or a *growth mindset*, where intelligence and personality are seen as changeable, and dependent upon one's actions, specifically one's effort on the specific task. This self-theory / mindset, in turn, leads to a *mastery goal orientation*, as the goal becomes improvement through effort, since one does not define failure as "looking bad / inept", but rather sees it as an opportunity to discover areas for improvement. Therefore, the theory of mindset is, in fact, two-fold, spanning one's beliefs about stability versus growth as well as one's goal orientations. We will elaborate on the discussion of different goal orientations under the definition of that construct.

Olson and Dweck (2008) offer a "blueprint for social cognitive development", where they advocate the study of mindset as a "mental representation" which predicts achievement motivation. To this end, mindset has been explored as an antecedent for a number of outcomes in addition to achievement motivation, such as social judgments and empathy (Erdley & Dweck, 1993), academic achievement (Blackwell, Trzesniewski, & Dweck, 2007), and even aggression (Yeager, Trzesniewski, & Dweck, 2013). Mindset has also been studied as an outcome, where most research found type of feedback as a strong determinant of mindset. Through experimental studies where the type of feedback was manipulated, researchers have found that performance-oriented feedback created a fixed mindset, while process-oriented feedback lead to a growth mindset (Kamins & Dweck, 1999; Mueller & Dweck, 1998; see Dweck, 2000 for review). Lastly, mindset has been explored as a moderator, where it moderated the role of positive future fantasies in predicting academic outcomes (Kappes, Stephens, & Oettingen, 2011). The age range of these studies varies between early childhood and adulthood (Heyman & Dweck, 1998; Olson & Dweck, 2008).

While most of the studies on mindset employ questionnaires and experimental manipulations, recently neuroscientific work explored this construct using questionnaires in combination with event-related potentials (ERPs) to measure moment-to-moment reactions to

mistakes, presenting findings in favor of a growth mindset (e.g., Mangels, Butterfield, Lamb, Good, & Dweck, 2006; Moser, Schroder, Heeter, Moran, & Lee, 2011; Mangels, Good, Whiteman, Maniscalco, & Dweck, 2012). Therefore, a wide range of research methodologies have found empirical support for mindset being an important antecedent of psychosocial, cognitive and behavioral outcomes.

2.2 Goal Orientation

Several distinct theories in the motivation literature include the phrase "goal orientation". Here, we will elaborate on only one of these theories, that of regulatory focus by Higgins (1997). Higgins (1997) makes a distinction between *prevention* versus a *promotion* focus in goals. According to his theory, promotion focus produces sensitivity to the presence or absence of positive outcomes, and the pursuit of such goals entails focusing on gains and successes. Prevention goals, on the other hand, lead to sensitivity towards the presence or absence of negative outcomes, focus on avoiding disasters, and avoidance of losses and failures (Lockwood, Jordan, & Kunda, 2002). While regulatory focus can be a stable trait, people can also experience a temporary, situational regulatory focus (e.g., Shah & Higgins, 2001).

An important link is established by Dweck (2000) herself between mindset and goal orientation. Dweck's (2000) achievement goal theory (with further elaboration by other researchers) focuses on a different aspect of goals from that of Higgins (1997). However, her discussion on goals is important for our study, especially regarding this theoretical link. In the discussion of implicit beliefs/theories (i.e., mindset), Dweck (2000, 2006) speaks of *performance* versus *mastery* goals determined by a fixed versus growth mindset, respectively. In a performance goal orientation, one's goal is to "perform" well, gain positive judgments of others, or avoid negative judgments, while a mastery, or learning, goal orientation drives one to increase competence, "master" a task, or simply improve through learning. Further

elaboration on Dweck's goal orientation theory is vital to our discussion of a relationship between mindset and the promotion-prevention aspect of goals.

This further elaboration on Dweck's goal theory is made in terms of *approach* versus *avoidance* (Elliot, 1999; Elliot & McGregor, 2001; Elliot, 2006). In a "2 x 2" achievement goal framework, Elliot and McGregor (2001) categorize the above-noted goals into four categories, namely performance-approach, performance-avoidance, mastery-approach, and mastery-avoidance goals. Here, approach and avoidance represent the valence dimension of one's competence, while mastery and performance represent the definition of competence as absolute/ intrapersonal and normative, respectively (see Elliot & Mc Gregor, 2001 for a detailed discussion). While Dweck and Leggett (1988) previously spoke of a distinction between performance-approach versus performance-avoidance goals, it is first in Elliot and McGregor's (2001) model that the term "mastery-avoidance goals" appears. It follows from this framework that mastery-avoidance goals derive from a definition of competence in terms of requirements of a task, and the focus is on incompetence. Examples to such goals are striving to avoid misunderstanding, or striving not to make a mistake. As Elliot and McGregor (2001) also point out, the complexity of this 2 x 2 framework, specifically of the mastery-avoidance goal construct, renders it difficult to suggest antecedents or outcomes of such a goal orientation. Therefore, in this study we only examine the approach-avoidance distinction in relation to mindset, because (1) ample research evidence has established the link proposed by Dweck on mindset and the performance-mastery dimension of goals, and (2) no direct link between mindset and *only* the approach-avoidance distinction has been explored so far.

For this study, we measured the level of promotion goal orientation as an indicator of PYD, using Lockwood and colleagues' (2002) measure, since regulatory focus theory suggests that self-regulation towards strong ideals, as opposed to strong "oughts," brings about higher promotion-orientation, which is deemed to be ideal (Higgins, 1997). An example

is provided by Elliot and Harackiewicz (1996) through an experimental study, where an induced approach (promotion) orientation increased participants' intrinsic motivation, which is supported by research to be preferable over extrinsic motivation, and to lead to positive outcomes (Deci & Ryan, 2000). Further evidence in favor of a promotion-orientation is provided by Corcoran and Peetz (2014) who found that promotion-focused individuals were more likely to compare themselves to their future selves. Since optimism and future-orientedness are also categorized as PYD constructs (e.g., Schmid *et al*., 2011), this body of research supports our vision of promotion-orientation as an indicator of PYD in early adolescence.

2.3 Self-Efficacy

Introduced by Bandura (1977, 2006), self-efficacy theory is a social cognitive model of motivation, which focuses on the role of individuals' perceptions of efficacy and their agency. As defined by Bandura (1997), self-efficacy refers to people's judgments of their capability organize and successfully execute tasks. It is characterized as a multidimensional construct, which varies in strength, generality, and level / difficulty (Eccles & Wigfield, 2002). Therefore, some people's self-efficacy may be stronger than others; some people's self-efficacy may encompass many situations, while others' remain narrower; and some people might have efficacy beliefs for more difficult situations, while others only limit self-efficacy to easier situations. Bandura (1997) argues that an individual's self-efficacy beliefs determine what kind of activities one will engage in, how much effort one is likely to spend on these activities, and their level of perseverance in the face of challenges. In that sense, it is argued to be an important cognitive mechanism that mediates the relation of social (observational) influences and adaptive self-regulatory functioning (Schunk & Zimmerman, 1997).

Bandura (1997) distinguished between two types of expectations, namely outcome expectations (of certain behaviors leading to certain outcomes), and efficacy expectations (of whether one can perform the behaviors necessary to obtain those outcomes). These two types of expectations differ, because one can have certain outcome expectations about which behavior will lead to the desired outcome, but might not have the efficacy belief to perform that behavior. Bandura (1997) argues that it is efficacy expectations which act as the major determinant of goal setting, activity choice, willingness to expend effort, and persistence (Eccles & Wigfield, 2002). Weiner (2005), in his discussion of competence, echoes this concept of efficacy, as he distinguishes between aptitude- versus effort-linked competence. This means that efficacy beliefs can also be framed within a growth-mindset / controllable causal attributions or a fixed mindset / uncontrollable causal attributions. Therefore, we deem it important to investigate the relationship between an underlying mindset and self-efficacy.

Self-efficacy has been studied as an antecedent to behavior in educational settings. Schunk (1996) found that more efficacious students are more likely to engage in tasks, expend effort, persist in the face of obstacles and eventually succeed. Hsieh, Sullivan, and Guerra (2007) report self-efficacy to be one of the factors that influence underachievement and college dropout. Reviewing research on efficacy expectations, Oettingen (1999) states that optimistic expectations promote positive outcomes in various life domains, such as physical recovery from coronary heart disease, psychological recovery from postpartum depression, and actual success in mathematics courses. Self-efficacy has also been examined as an outcome variable, where working on tasks and mentally noting one's progress conveyed to individuals that they are capable of learning and this process raised their self-efficacy (Schunk, 1989). Research on career aspirations and trajectory has found that self-efficacy acts as a mediator between familial SES, parents' perceived efficacy and children's career aspirations (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001).

We included self-efficacy in our model as a PYD outcome based on research that approached this construct in the same manner. In a comprehensive evaluation of PYD programs across the United States, Catalano and colleagues included self-efficacy in the operational definition of PYD (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004). These researchers list self-efficacy among the objectives that PYD programs seek to achieve. Within an RDST framework, Bowers and colleagues (2011) describe goal processes as part of intentional self-regulation, one of the individual strengths of youth which contributes to individual ←→ context relations that lead to positive developmental trajectories. In their 2011 study, the researchers report goal-optimization, or goal-pursuit, as being most strongly related to youth outcomes. They define goal-optimization as "seeking and developing strategies and investing resources such as time and effort to pursue a particular goal" (Bowers, von Eye, Lerner, Arbeit, Weiner, Chase, & Agans, 2011). Following from Bandura's (1997) argument about efficacy expectations as the major determinant of goal setting, activity choice, willingness to expend effort, and persistence, we can argue that the self-efficacy is among the individual assets of youth, contributing to a positive development trajectory.

2.4 Previous Research on the Relationships between Mindset, Goal Orientation and Self-Efficacy.

As the targeted constructs of this study have close theoretical connections, they are been focus of previous research mainly in social psychology. Next we present work investigating the relationships between these constructs, on which we base our own hypotheses.

2.4.1 Mindset and goal orientation.

In a field study conducted with Norwegian university students, Braten and Stromso (2004) found that time 1 measure of incremental theory (growth mindset), predicted performance-avoidance goals at time 2. This finding is highly relevant to us in that it

addresses the approach-avoidance distinction as related to mindset, and the discussion of a growth mindset associated with avoidance (prevention) orientation will be taken up in our own discussion of findings.

In a series of three experimental studies conducted with American college students, Nussbaum and Dweck (2008) detected patterns of associations between self-theories (mindset) and defensiveness versus remediation responses. When an entity or an incremental theory was induced, and participants were given the choice to examine strategies of previous participants in the given lab task (speed-reading), the entity theorists preferred to examine the strategies of lower performers, which was labeled by the authors as a defensive self-esteem-restoring process. In another study, where a more vital subject (engineering test for engineering students) was given as the task and students were this time given the choice of choosing a manual explaining how to solve the task after feedback on how they performed, entity theorists again chose the manuals for the task they already succeeded in, leaving no room for improvement. Although these findings do not observe goal orientation per se, the downward comparison process is very similar to prevention orientation in that it depicts pursuit of goals which do not serve to improve oneself, but rather provide negative examples. This theoretical similarity provides support for the relationship between mindset and promotion/prevention-orientation that we hypothesize.

2.4.2 Mindset and self-efficacy.

Schunk's (1994) work on self-efficacy revealed connections between belief in change and subsequent motivation for persistence and strategy building. Schunk and Zimmerman (1997) report that when students believe they can improve, their motivation does not decrease in cases of negative feedback. Similarly, if students do not believe that more effort will improve their performance, and instead believe they lack the capability (i.e. demonstrate fixed

mindset) their motivation is not enhanced. These findings suggest that mindset determines one's efficacy beliefs.

Hsieh and colleagues (2007), in their work with college students, found that self-efficacy and mastery goals were positively related to academic standing. Although the focus of their study is on goals and not mindset, this relationship between self-efficacy and belief in effort (and orientation towards mastery) suggests enough evidence to probe researchers to question the link between the mindset behind a mastery orientation (i.e., growth mindset) and self-efficacy.

2.5 Parental Behaviors

Extensive research exists in the developmental psychology literature regarding parenting and its influences on adolescent development. For the purposes of this study, we will review parenting research in relation to motivational, achievement-related constructs. Pomerantz, Grolnick, and Price (2005) delineate three distinct strands of research on the role of parents in how children approach achievement: These cover research on (1) parenting *practices*, or *behaviors*, such as involvement in schooling; (2) parents' perceptions of children's competence, referred to by the authors as parents' *cognition*; and (3) *affective* modality of parenting, which involves work on the level of relatedness between parents and children. Our study's use of parental behaviors as a contextual moderator can be categorized under parenting practices, since we measure parental behaviors as perceived by adolescents. It also addresses the affective modality of parenting since we examine the nature of parent-adolescent interactions as being either supportive or discouraging. In addition, affective modality of parenting is explored in terms of relatedness level as well, since our measure for parents' supportive behaviors also tap relatedness.

Pomerantz and colleagues (2005) present a *needs* perspective as their central premise in studying parenting and motivational constructs. According to this view, parents enable a

positive approach to achievement in children by fulfilling the basic needs of competence, autonomy, relatedness, and purposefulness. As a result, children's positive approach to achievement occurs along three dimensions: (1) Children may gain *regulatory resources*, through a sense of autonomy and competence, leading to intrinsic motivation (Deci & Ryan, 2000); (2) fulfillment of needs (e.g., competence) may contribute to children's *beliefs about their capacity*; and (3) children may develop a range of *learning strategies*, once their needs (e.g., purposefulness) are fulfilled (Deci & Ryan, 2000). While this needs perspective is based on the self-determination theory of Deci and Ryan (2000), it is also in line with Kağıtçıbaşı's (2007) autonomous-related self theory, which is one theoretical approach that guides our thinking in this study. Kağıtçıbaşı (1997) asserts that autonomy and relatedness are two basic needs, which can be fulfilled in a family model of emotional interdependence, characterized by highly supportive and autonomy-granting parenting. We will discuss Kağıtçıbaşı's (2007) theory in further detail later in this chapter. Although the above argument about dimensions of positive outcomes in children seems to address mainly the basic needs of autonomy, competence, and purposefulness, there is research and theory (including Kağıtçıbaşı's theory) that also supports the fulfillment of relatedness as key to positive motivational outcomes. Some of this research will also be covered in this chapter.

We first review two of the three strands of research on parenting and motivational constructs put forward by Pomerantz and colleagues (2005), namely those of parenting practices and affective modality of parenting. This review will be followed by a discussion of our own methodology regarding this construct. Before moving on to a review of parenting research, however, it is important to present our rationale in focusing on parenting as a contextual variable in this study. Despite the existence of some research on the relationship between parenting and motivational constructs, a majority of research in the development of motivation in adolescence still targets schools, teachers, and peers as contextual variables.

Although these contexts seem to be more proximal to the motivational constructs under study (e.g., Kokkinos & Hatzinikolaou, 2011), our view argues that parents remain important actors in adolescence and should therefore be taken into account when investigating such constructs (Kağıtçıbaşı, 2007; Laursen & Collins, 2009).

2.5.1 Parenting practices and motivational outcomes.

Pomerantz and colleagues (2005) group parenting practices along four dimensions: *involvement*, *structure*, *autonomy support* (as opposed to *control*), and *process versus person focus*. According to this view, any given parental behavior can be rated along these four dimensions, while some behaviors may or may not tap some of these dimensions. Our measurement of parental behaviors, which we categorize as either supportive or discouraging, taps involvement and control. The suggested process versus person focus, on the other hand, is directly related to Dweck's discussion of process versus person feedback in relation to mindset, thus relevant to our study.

Involvement refers to "provision of resources", which can take various forms (Pomerantz *et al*., 2005). In fact, with a more qualitative approach to the concept of involvement, Pomerantz, Moorman and Litwack (2007), discuss how the quantity of involvement should not be the focus of research, since a lot depends on the quality. From this perspective, they list a wide range of parenting behaviors as being different forms of involvement. This list includes the two dimensions of autonomy support, and process versus person focus, listed above, as well as affect and beliefs about children's potential. In other words, all parenting dimensions of behavior, affect and cognition can be seen as different qualities of involvement. The authors suggest home-based and school-based as the two types of involvement, in which all of the above qualities can exist (Pomerantz *et al.*, 2007). The concept of involvement, therefore, spans a wide range of behaviors, where the authors identify the contribution of involvement to children's motivation in three ways: by (1)

assisting children to build their skills and feel competent, (2) establishing relatedness by demonstrating the investment of parents in their children, and (3) supporting children's feeling of purpose in life, by communicating to them that they are engaged in valuable activities. Involvement has been found to be related directly to children's actual achievement, as well as their feelings of competence (Pomerantz *et al.*, 2005).

As noted above, we measure parental discouraging behaviors, which mostly include behaviors otherwise labeled as psychologically *controlling* (Barber, 1996), such as punishment for mistakes, comparison with others, and blaming. These behaviors are argued to inhibit children from solving problems on their own, thereby interfering with their autonomy and competence building process. Parents' autonomy support has been reported to contribute to children's perceptions of competence as well as being directly related to children's academic success (Pomerantz *et al.*, 2005).

For this study, we measured control, or discouraging behaviors, as opposed to autonomy, since our several pilot measurements using different autonomy measures showed us that these measures did not demonstrate good psychometric quality with our 6th grader pilot samples. In addition, having a measure for negative (discouraging) and another measure for positive (supportive) behaviors (where items were in a randomly mixed order) might have contributed to reducing skewed or inaccurate results due to social desirability effects.

Lastly, regarding parenting practices, Pomerantz and colleagues (2005) discuss work by Dweck in how person versus process focus influences children's motivational outcomes. Here, praise as well as criticism contributes to an understanding of ability as a malleable or a fixed trait (Dweck, 2000). Research shows that process-focused practices, such as acknowledging hard work, or emphasizing learning in school over getting high grades, lead to a growth mindset and a mastery goal orientation in children; while person-focused practices, such as linking children's worth to their performance, or pushing them for success without

any attention to the process, lead to a fixed mindset and a performance goal orientation (Kamins & Dweck, 1999; Mueller & Dweck, 1998).

2.5.2 Parental affect and motivational constructs.

Pomerantz and colleagues (2005) speak of parental affect in terms of three distinct forms of relatedness: feelings of *attachment and closeness* between parents and children, children's sense of *family obligation*, and their view of *relationships with parents as self-defining*.

Research on attachment and closeness in adolescence has found heightened engagement in school (Furrer & Skinner, 2003), higher autonomous motivation, sense of control and self-regulated learning strategies (Learner & Kruger, 1997; Ryan, Stiller, & Lynch, 1994), when adolescents felt closeness to their parents. Supporting the discussion on parental psychological control (discouraging behaviors), Elliot and Thrash (2004) found that adolescents' perceptions of love withdrawal by mothers was associated with heightened avoidance of failure in school.

An interesting theoretical proposition regarding attachment is made by Rusk and Rothbaum (2010) where they draw a parallel between attachment theory and goal orientation theory of Dweck (2000). They identify two pathways from stress to goal orientation, where the response to stress determines the types of goals, which can result in adaptive or non-adaptive outcomes. It follows that secure attachment, by means of creating an internal working model of assuming availability of protection when needed, leads to learning goals, since the securely attached individual deems it safe to learn through exploration. The contrasting pathway occurs through insecure attachment, where the individual uses defensive strategies in response to stressful situations, which leads to the pursuit of self-validation goals. The similarity between attachment and goal theories is therefore in the way they describe two contrasting goal orientations: learning (mastery) goals focused on improvement through

exploration versus self-validation (performance) goals focused on restoring and validating self-worth. From this perspective, attachment between adolescents and parents is an important determinant of whether the adolescent will believe in improvement through learning (growth mindset; mastery and promotion goals) or in stable traits that need to constantly be validated through an end product of performing well (fixed mindset; performance and prevention goals). This theoretical view, therefore, supports our model in several ways, by establishing an association among parenting, mindset and goal orientation.

Family obligation, another affective aspect of parenting, has mainly been investigated by researchers working on immigrant, bilingual populations in the United States (Fuligni & Telzer, 2012). According to this body of research, children who feel obligated to succeed, through a sense of contribution to the family as their purpose in life, may be highly committed to achieving especially in the academic domain (Fuligni, Tseng, & Lam, 1999). This feeling of obligation, however, does not necessarily lead to actual academic success (Fuligni *et al*., 1999). Our theoretical approach considers this type of connection to the family as self-defining, rather than an obligation, which denotes an extrinsic motivation. Thus, we put more emphasis on the third dimension of relatedness proposed by Pomerantz and colleagues (2005), that of relatedness with parents as self-defining.

In the discussion of relationships as self-defining, theory on interdependent self-construals comes into play (Markus & Kitayama, 1991). While a distinction is made by cross-cultural psychologists, such as Markus and Kitayama (1991), between independent versus interdependent self-construals, this discussion has been carried further by Kağıtçıbaşı's family change theory (2007). This theory, on which we base our arguments about the relationship between parents and motivational constructs, proposes three different family models of *independence*, *interdependence*, and *emotional interdependence*. The family dynamics, as one key determinant of the resulting self, lead to autonomous and separate selves in a family

model of *independence*, where the level of autonomy granting is high, whereas relatedness (especially during adolescence) is low. In a contrasting family model of *interdependence*, however, an obedience orientation is seen through highly controlling parenting as well as high relatedness, which echoes the above discussion of "family obligation". The resulting self is related, but not autonomous, therefore the exact opposite of that of a family of independence. Finally, in a family model of *emotional interdependence*, which Kağıtçıbaşı (2007) presents as the ideal model that all cultures are converging towards, an autonomous *and* related self-construal is formed, where relatedness does not denote heteronomy and autonomy does not equal separation. This final, "ideal" family model is important in the discussion of motivation, since the adolescent does internalize a striving for achievement through relatedness to parents (who model this striving), but this achievement motivation is autonomous, therefore intrinsic. Therefore, through the satisfaction of autonomy *and* relatedness at the same time, the adolescent develops an intrinsic motivation to succeed, unlike a feeling of obligation. Consistent with this idea, we propose in this study a model where high levels of support and low levels of discouraging behaviors by parents influence the pathway from mindset to goal orientations in a positive way, strengthening the relationship between the two.

2.5.3 Parenting as measured in this study.

There are some points we want to elaborate regarding our inclusion of the parenting variable in our model. First of all, we name the two types of parental behaviors as "supportive" versus "discouraging". The use of these terms is based on several studies in the field of parenting and children's motivation or achievement. Steinberg, Lamborn, Dornbusch and Darling (1992) investigate the role of parental "encouragement" for academic achievement on actual academic success, alongside parental involvement. While these authors use more specific measures of academic encouragement, they do find a distinction between the dimensions of involvement and encouragement. This distinction guided our thinking in

terms of differentiating between support and closeness versus discouragement. Therefore, in line with Steinberg and colleagues' (1992) perspective, we measured parents' supportive and discouraging behaviors separately. Here, regarding the measurement of "supportive" behaviors, McNeely and Barber's (2010) cross-cultural study on adolescent perceptions of supportive parenting informed us of the common characteristics outlined by qualitative data from twelve cultures. Among the behaviors nominated by youth across cultures to be supportive were physical affection, praise, instrumental support such as buying gifts, and showing respect and trust, which were all included in our measure of supportive parenting.

A second point about our measurements is that we measured only adolescents' reports of parental behaviors, and not parents' own reports. As stated by Steinberg (2001), different members of the family have different perceptions of the parent-adolescent relationship, and it is important to make a distinction of which members of the family contributed to the research findings. Seginer and colleagues (2004) support the argument in favor of using adolescent reports on methodological as well as theoretical grounds, drawing on the importance of distinguishing between reality as observed by the observer (in this case parental behaviors as observed by the adolescent) versus as experienced by the actor. In addition, Steinberg and colleagues (1992) take a similar stance by drawing attention to several points also supported by previous research. First, in a large sample where studies rely on questionnaire data, it is more difficult to obtain parents' reports, since the ease of access provided by the classroom setting does not exist for the parent population. Second, parental reports of behavior may exaggerate certain aspects such as acceptance and firm discipline (which may be culturally bound), rendering these reports unreliable. Lastly, adolescents as "knowledgeable informants" of parents' behaviors may not only report these behaviors more accurately, but may also be influenced by their own subjective experience of these behaviors rather than the way they are

reported by parents (Steinberg *et al*., 1992). All of the above points taken into account, we preferred to use only adolescents' reports of parental behaviors in our analyses.

We discuss a final point regarding the use of parenting as a moderator variable. Lerner, Rothbaum, Boulos, and Castellino (2002) in their discussion of parenting from a developmental systems perspective, argue that parents are influenced by and simultaneously influence other levels of the developmental system within which both the adolescents and the parents are embedded. Therefore, they propose that "the focus of developmental inquiry should be on the relations in this system, that is, on parents and parenting (on structure and function) as *moderators* of (dynamic interactors with) other levels in the developmental system" (Lerner *et al*., 2002, p. 317). Informed by the same RDST approach that we bring to the study of parenting and motivational constructs, we analyze the moderating effect of parenting on the relationships between these constructs.

2.5.4 Previous research on the relationships among parenting, mindset, goal orientation and self-efficacy.

We have discussed theoretical and empirical work in the above discussion of parenting in relation to motivational constructs in adolescence. In this section, we cover empirical work that particularly investigates relationships between our motivational variables of interest, namely mindset, goal orientation, self-efficacy, and parenting.

In addition to research noted above regarding the influence of parental behaviors on mindset / self-theories, work in disciplines such as clinical psychology also present empirical support for this relationship. Aunola, Stattin, and Nurmi (2000) report a significant relationship between parenting style and adolescents' attributional style, expectancies and achievement strategies. In a field study done with 14-year-old Swedish middle school students, the authors found that an authoritative parenting style, characterized by high levels of warmth, acceptance, involvement, behavioral control and supervision, predicted more

adaptive achievement strategies with low levels of failure expectations and use of self-enhancing attributions (Aunola *et al.*, 2000).

Regarding goal orientations, there is empirical support for the above-noted attachment style-goal orientation link (Rusk & Rothbaum, 2010). Elliot and Reis (2003), in a series of four field studies with American college students, found that secure attachment predicted lower fear of failure, more mastery-approach goals and less performance-avoidance goals, which provides the closest support for our model. Similarly, Gonzalez, Holbein and Quilter (2002) found in a sample of high school students that an authoritative parenting style predicted mastery goal orientations, whereas authoritarian and permissive parenting styles were both related to performance goal orientation. Seginer, Vermulst and Shoyer (2004), in a field study with 11th grader Israeli Jewish adolescents, found that parents' acceptance and autonomy granting predicted adolescents' future orientations, as measured along motivational, cognitive and behavioral dimensions.

Research on parenting and self-efficacy also suggests an important empirical link between the two constructs, although we have not detected any empirical study that has studied this relationship in the way we proposed. In a sample of 11- to 15-year-old adolescents, Bandura and colleagues (2001) have found significant associations between parents' own self-efficacy and children's career aspirations mediated by children's self-efficacy. Although the parental variable in this study can be categorized as a cognition (rather than a behavior or affect), it provides us at least with some empirical interest in parents' role by the founder of self-efficacy theory, Bandura himself. In another study conducted with Greek junior high school students, Kokkinos and Hatzinikolaou (2011) tested the relationship between parenting style and self-perceptions, which included perceptions of competence. Their findings showed a significant relationship between parenting style, specifically parental rejection and warmth, and self-perceptions.

The above review of literature suggests a strong link between parental behaviors and our targeted motivational constructs of mindset, goal orientation and self-efficacy. Nevertheless, a gap in the literature is also evident regarding work that explores this relationship. We aim to fill this gap by investigating the role of parenting as a moderator variable, which to our knowledge has never been analyzed in this manner, as suggested by Lerner and colleagues (2002). Before we identify our theoretical approach, research questions and hypotheses, we present a short overview of the remaining moderators in our model, gender and SES, as studied by motivation researchers.

2.6 Gender

Gender, conceptualized as gender-roles, is proposed to play an important role in the formation of a self-concept and pursuing expectancies for success, as well as task values and goals (Wigfield & Wagner, 2005). It is of particular importance for adolescent research, since this period has been noted as a time of increased pressure for conformity to gender roles (Quatman & Watson, 2001). Research on gender and motivational constructs has addressed differential mindsets, goal orientations, and self-efficacy regarding sex-typed domains. An example is higher ability beliefs and expectancies for success by adolescent boys in mathematics, despite higher actual achievement by girls compared to boys (Wigfield & Wagner, 2005). Another sex-typed domain is sports, in which male participation is traditionally higher than that of girls (in the United States). Fredricks and Eccles (2002), in their longitudinal study of the gap between boys and girls in their perceptions of ability and interest in these fields, found that the perceptional gap in math decreased from childhood to adolescence, while the gap in sports remained stable.

Research done specifically on mindset also point to domain-specific differences between boys and girls. Li, Lee, and Solmon (2006) found that boys held more ability beliefs (fixed mindset) in male sex-typed physical activities, whereas such a connection was not

found for girls. As for a generalized (non-sex-typed) mindset, Dweck (2000) herself discusses the "paradox" of bright girls, where girls tend to have more of a fixed mindset in childhood, which is followed by a lag in achievement as they move into adolescence. Dweck (2000) interprets this in consideration of gender stereotypes, where early on it is considered to be more feminine to be a high achiever, and as gender socialization occurs, it becomes more masculine. She also comments on how girls receive ability praise when they are younger, which might lead to a fixed mindset (Dweck, 2000).

Following the discussion on praise, Henderlong Corpus and Lepper (2007), in their experimental study with 4th and 5th grade children, found that the type of praise was moderated by gender, where performance praise dampened and process praise enhanced motivation for girls, but not for boys. This suggests that, although girls tend to have more fixed mindsets, they may be more susceptible to the differential effects of performance versus process praise.

As for goal orientations, some gender differences have also been reported in this domain. Braten and Stromso (2004), in their field study with Norwegian university students, found female students to hold more mastery goals, while male students tended to report more performance-approach and performance-avoid goals. Lastly, Bowers and colleagues (2011) speak of a "female advantage" in their findings regarding self-regulation, which we covered as part of the above discussion on self-efficacy. Although distally related to our argument, due to this study's operationalization of self-regulation in terms of goal-optimization, which is related to self-efficacy, we can include this study as empirical support for gender differences in PYD constructs related to self-efficacy. Taking above-noted research into consideration, we propose gender to moderate the relationships among mindset, goal orientation and self-efficacy.

2.7 Socioeconomic Status (SES)

Research on motivational constructs has generally not taken SES as a variable of interest, although most studies include it as a control variable. We also include this variable for only an exploratory analysis of whether the modeled relationships will vary across SES groups. SES as cultural context has been theoretically suggested and empirically supported by Kağıtçıbaşı's work (2007), in which different family models were observed in different SES contexts. Therefore, SES is of relevance to us as a "cultural" contextual variable. Some recent work has reported SES differences in relationships between motivational and achievement-related constructs. An example is Santo and colleagues' (2013) study with lower- and upper-middle class early adolescents, where perceived social competence predicted self-worth differentially across the two SES groups (Santo, Bukowski, Stella-Lopez, Carmago, Mayman, & Adams, 2013). We also expect to find such moderational effects on the relationship between mindset, goal orientation and self-efficacy; however this moderational effect does not constitute a focal point in our analyses.

2.8 Research in Turkey on the Targeted Constructs

We have not been able to find research conducted in Turkey that investigates similar relationships to those in our model. A majority of the studies we found were on goal orientation and self-efficacy, and most of these studies investigated the predictors of these variables. When we widened our search for studies on parenting by searching the keywords "parent*" and "adolescent*" only, we were able to access one study that measured the relationship between parenting and intrinsic motivation. We briefly discuss studies from Turkey using adolescent samples.

While most work addressing goal orientation was conducted with university students, one study by Kandemir (2012) investigated the relationship between goal orientations and procrastination in high school students. The study found that performance avoidance was the

most important predictor of procrastination. Kapıkıran (2012) found that goal orientations fully mediated the relationship between a negative attributional style and intrinsic motivation in high school students. Ozkal (2013), in a study with 6th and 7th graders, found that mastery goals and performance-approach goals, as well as self-efficacy, significantly predicted intrinsic motivation.

Yılmaz, Yiğit and Kaşarcı (2012) found self-efficacy to predict actual achievement on a general aptitude test for a middle school sample. Aktürk and Aylaz (2013), in a study investigating predictors of self-efficacy, found gender differences in favor of girls regarding interpersonal self-efficacy, a positive relationship between mothers' education level and both academic and interpersonal self-efficacy, and SES to positively predict all dimensions of self-efficacy.

Kapıkıran and Özgüngör's (2009) study on parental behaviors revealed significant relationships between perceived parental support and intrinsic motivation, as well as actual academic achievement. The authors also found mothers' education level to significantly predict intrinsic motivation. Although this body of research from Turkey does not inform us about the proposed relationships in our model, it nevertheless reports some relevant findings, such as (1) goal orientation and self-efficacy as predictors of positive outcomes, therefore important indicators of PYD; (2) mothers' education level to predict more than one motivational construct in adolescence, which relates to the discussion of SES. We consider these findings as supportive of our proposed model.

2.9 Theoretical Framework for the Present Study

Before we move onto outlining our research questions and hypotheses, it is useful to present a brief overview of our theoretical framework. As we noted in our introduction, this study bases its theoretical model within an RDST framework, where dynamic interactions between the individual and the context (i.e., culture, family, and socioeconomic status) are

taken as the focus of study (Lerner, 2006; Kağıtçıbaşı, 2007). Within this perspective, the individual and the context mutually and simultaneously influence each other, thereby cocreating development (Overton, 2013). Therefore, with a relational developmental systems approach to the relationships between motivational constructs, individual ←→ context relations, primarily adolescent←→parent relations are suggested to be taken as the main focus of study (Yalin, 2013). Consistent with this approach, we treat parenting as a contextual variable and include it as a moderator in our model, suggesting that the individual-level variable (mindset) interacts with the context (parenting behaviors) in its relationship with the PYD variables (goal orientation and self-efficacy). It is important to note, however, that our study does not use longitudinal data, and thus does not tap the "cocreation" of development through adolescent←→parent relations.

Within the overarching framework of RDST, we base our argument about parenting (family) as an important contextual factor on the family change and autonomous-related self theories of Kağıtçıbaşı (2007). (A more detailed discussion of these theories can be found under *Parental Behaviors*.) In line with this perspective, we believe in the continued influence of parents throughout adolescence into adulthood, contrary to previous theoretical approaches that argue for a "separation" between parents and children in order for healthy adolescent development to occur. Here, we believe relatedness is in fact a core construct that defines a healthy family context in adolescence, in line with the needs perspective proposed by Pomerantz and colleagues (2005). Therefore, parents' supportive behaviors, which also encompass warmth and closeness, are investigated for their influence as contextual factors.

Finally, a PYD perspective defines our approach to studying the mechanisms within an optimal functioning in the adolescent regarding motivation and achievement. PYD asserts that youth have individual strengths (e.g., growth mindset) as well as ecological assets (e.g. supportive parents). It is when these strengths and assets are aligned that positive

development occurs (Lerner *et al.*, 2011). We analyze the relationships among mindset as a predictor (an inner strength), and goal orientation and self-efficacy as PYD outcomes. Here it is important to note that the PYD approach parallels Kağıtçıbaşı's theory of an optimal family model of emotional interdependence, in that it takes into consideration ecological assets listed by Lerner and colleagues (2011) as (1) individuals, (2) institutions, (3) collective action, and (4) access to resources in one's context (Kağıtçıbaşı & Yalın, in press). Individuals, therefore, are suggested to be one of the core ecological assets. In line with this argument, parents are used in our model as an ecological asset for youth.

Lastly, we would like to briefly explain the rationale in testing our models in an early adolescent sample. Wigfield and colleagues (2008), in their review of literature on the development of achievement motivation, list a number of studies that pertain to adolescence. One dominant pattern found in the findings is that competence-related beliefs decline across the elementary school years and through the high school years. Also noted is the stabilization of these beliefs by early adolescence, after which the decline in optimism decelerates. Children are reported to better differentiate between ability, effort, and performance around the ages of 10-12. Whereas around the ages of 9-12 children are able to differentiate ability and effort as causes of outcomes but not always able to apply this distinction, beyond age 12, they are able to clearly differentiate ability from effort. In addition, self-efficacy is argued to increase with age, and children with mastery experiences are the earliest to develop self-efficacy (Bandura, 1997; Wigfield *et al*., 2008). Taking all of this body of findings into account, we argue that analyzing the proposed relationships in an early adolescent sample will enable us to detect the pattern of relationships between these constructs, as well as their relationship to contextual factors, at this crucial time for stabilization of these beliefs. In so doing, we will be able to identify the degree to which our Turkish sample's pattern matches what has so far been found regarding the development of motivational constructs.

In the light of research we reviewed in the above sections, we pose our research questions and hypotheses below, on the relationships between the targeted motivational constructs and the effects of contextual variables, mainly parenting, for our sample of 6th grade Turkish middle school students.

2.10 Research Questions

Our two models first aim to detect the relationship between mindset and PYD outcomes, namely goal orientation and self-efficacy. This relationship will be analyzed with parenting variables (supportive and discouraging behaviors) included as moderators. Therefore, our main research questions are as follows: (1) does mindset predict (a) goal orientation and (b) self-efficacy, and (2) are these relationships moderated by adolescents' perceptions of parents' behaviors? We add a second layer of contextual factors by testing the above research questions separately for gender and SES groups. Therefore our third research question is whether the moderation of the above relationships by parenting behaviors differs across genders and across different levels of SES. Our final research question concerns the overall moderators of the the two different models of mindset → PYD. We aim to distinguish which contextual factor(s) will moderate these relationships significantly, when all of these factors are included in the analyses.

Following the above research questions, we hypothesize that (1) mindset will have a significant positive relationship with goal orientation, and this relationship will be moderated by adolescents' perception of the level of parents' supportive and discouraging behaviors; (2) mindset will have a significant positive relationship with self-efficacy, and this relationship will be moderated by adolescents' perception of the level of parents' supportive and discouraging behaviors. Significant positive relationships will indicate that a growth mindset leads to higher promotion orientation and higher self-efficacy. Based on the parenting, adolescence and motivation literature, we expect the moderating effects of parenting variables

to be such that higher values of supportive behaviors will lead to stronger relationships between mindset and PYD outcomes, meaning that supportive parental behaviors will strengthen the link between these variables. As for discouraging behaviors, we expect a moderation effect in the opposite direction: Higher values of discouraging behaviors will lead to weak or no relationship between mindset and PYD outcomes. Lastly, we hypothesize that one or more of the contextual factors reviewed above, namely parental behaviors and SES, will significantly moderate the relationships in the two mindset → PYD models. We also expect gender to moderate these relationships.

Chapter 3

METHOD

3.1 Participants

Nine hundred twenty nine middle school students participated in this study, of which 481 were male (51.8%) and 445 were female (47.9%). Three of the students did not report information regarding gender. The sample consisted of 6th grade students across 9 public schools in Istanbul, who participated in the PERGEL Project of Positive Adolescent Development, either as part of the intervention (N=511) or the control (N=417) group. Table 3.1 provides an overview of the distribution of participants across intervention and control schools, as well as the neighborhood SES and gender information.

Table 3.1

Distribution (Percentages) and Demographic Information across PERGEL Study Schools

	Frequency	Female	Male	SES
Mehmet İpgin Ortaokulu	84 (9%)	37	47	Low-SES
Turgut Akan Ortaokulu	54 (5.8%)	21	33	Low-SES
Org. Emin Alp Kaya İlköğretim Okulu*	124 (13.3%)	71	53	Low-SES
Seyrantepe İlköğretim Okulu*	129 (13.9%)	65	64	Low-SES
Kazım Karabekir İlköğretim Okulu	71 (7.6%)	37	34	Mid-SES
Nilüfer Hatun İlköğretim Okulu	184 (19.8%)	88	94	Mid-SES
Şükrü Nail Paşa İlköğretim Okulu	25 (2.7%)	12	13	Mid-SES
Resneli Niyazi Ortaokulu*	127 (13.7%)	53	74	Mid-SES
Yeniköy İlköğretim Okulu*	131 (14.1%)	61	69	Mid-SES

Note. Those schools with an asterisk (*) are the PERGEL intervention schools.

3.1.2 PERGEL Project of Positive Adolescent Development.

Conducted by the Department of Psychology at Koç University, the PERGEL project (the acronym stands for Positive Adolescent Development in Turkish: **P**ozitif **Er**gen **Gel**işimi) is an intervention study that was initiated in 2012. The study spans three consecutive years, during which an intervention is implemented, pre- and posttests of the intervention are conducted, and pursuing follow-up measurements and "booster" sessions of the intervention are held.

This study uses only the pretest data from the PERGEL study, and aims to assess the socio-emotional development of early adolescents growing up in different contexts and study this development comparatively, thereby addressing one of the three main goals of the intervention program. The primary concept emphasized by the program, which underlay all of the "life skills", was belief in change—a concept that is tapped by Dweck's (2006) mindset, or implicit personality and intelligence beliefs (Dweck, 2000). Therefore, this study aims to investigate whether mindset, which was a central concept of the PERGEL program, in fact does predict PYD outcomes.

3.2 Design and Procedure

Towards the above-noted research purposes, we administered a pilot-tested questionnaire prior to the intervention (pretest), and immediately upon completion of the program (posttest). Before the implementation of the actual study, several pilot tests were administered throughout the Spring and Fall semesters of 2012 in pilot schools that were not included in the PERGEL study. We administered the pretest at the beginning of the Spring semester of 2013, preceding the start of the program. The PERGEL intervention consisted of 18 sessions spread across 18 weeks. The posttest was administered on the last week of the semester. Both the pretest and the posttest were conducted during the weekly Guidance and Counseling classes, during which the PERGEL intervention sessions also took place

throughout the semester. Analyses for the current study were conducted on the pretest data, i.e., baseline measures of the variables of interest.

The pretest questionnaire consisted of 16 different scales with a total of 179 items. We asked the students to indicate on the first page their names, classroom codes, school numbers, and their gender, which was one of the moderator variables in this study. The schools' SES information was based on the neighborhood the school was located in. Schools were randomly assigned to the intervention and control conditions, with particular attention to including a relatively equal number of students from lower- and mid-SES schools in both intervention and control conditions (see Table 3.1). Detailed explanation of the variables of interest is presented below.

3.3 Measures

3.3.1 Mindset / Implicit Personality and Intelligence Theories.

This study aimed to address the construct of mindset as one variable, undifferentiated into the previous uses of the scale as Implicit Personality and Intelligence Theories scales, separately. To this end, a final exploratory factor analysis (EFA) was conducted on all items to create one Mindset scale. However, an account of the modifications that took place during the pilot studies leading to the pretest items is presented below. The separate EFAs on personality and intelligence items are also reported, for comparison purposes with the final, unified scale.

3.3.1.1 Implicit Intelligence Theories Scale.

Original versions of Dweck's (2000) scales were used during the pilot testing of the PERGEL study. The Implicit Theories of Intelligence scale has two different versions for children and adults, and a self and others form for each age group. The version for children is designed for ages 10 and above, matching the age range of the current study. The original

scale includes 6 items relating to children's beliefs about the stability of intelligence, such as "Your intelligence is something about you that you cannot change very much"; and the items are rated on a 6-point Likert scale.

A short, 3-item version of the scale, which included only reverse-worded items (those that speak of intelligence as a stable attribute), was found to have an internal reliability of .94 to .98 in sample sizes ranging from 32 to 184. The same assessments of the scale also found a test-retest reliability of r = .80 (N = 62). The scale was also found to be unrelated to age and gender (Dweck, Chiu & Yong, 1995; β = -.26 - .12, *ns*). As for its discriminant validity, it was not associated with cognitive skills (SAT scores) and self-esteem scale scores (Coopersmith, 1967; Dweck, Hong, Chiu, Lin, Wan, 1999). The 6-item (3 about fixed intelligence and 3 about growth) scale was found to have an internal reliability of .78 (N = 373, mean = 4.45, SD = .97), and the 2-week test-retest reliability was .77 (N = 52; Blackwell, Trzesniewski, & Dweck, 2007).

The original version of this measure (see Appendix A) was translated into Turkish and back-translated by the PERGEL research assistants. The scale was also modified following several pilot studies. As a result of the modifications following pilot studies, the latest version of the scale that was used for the pretest included 5 items that were rated on a 5-point Likert scale. All of these 5 items were generalized statements about the changeability of one's intelligence level (see Appendix A). As reported by previous research, the reverse-worded items (denoting fixed intelligence) showed a different distribution, as well as different factor loadings from the non-reverse-worded, belief in change and growth items. We performed an EFA with oblique rotation on these 5 items, since two correlating factors could emerge from the distinctly worded items (Field, 2013). Principal Axis Factoring was used as the extraction method, since the scale had skewed items (Costello & Osborne, 2005). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .66 ("mediocre"

according to Hutcheson & Sofroniou, 1999). This initial EFA yielded two factors of reverse-worded items (belief in fixed intelligence) versus others (belief in change). Since these two factors were not theoretically distinct, we conducted a second EFA with varimax rotation, where only one factor was forced. Item 5 ("Kişinin yaşı ne olursa olsun, çaba göstererek zekasını geliştirebilir.") did not load on this factor. The factor that the remaining four items loaded on explained 40.73% of the variance. The distributional qualities and the factor analysis results (of the second, one-factor solution) of all five items can be found in Appendix E.

The Cronbach's alpha for the resulting Implicit Intelligence Theories scale was .64, indicating poor reliability. The reliability analysis showed that excluding the other non-reverse-worded item ("İnsanlar çalışarak ya da öğrenerek zeka düzeylerini değiştirebilirler.") increased the Cronbach's alpha value to .66. A repeated reliability analysis without this item demonstrated that excluding item #2 ("Zeka bir insanın pek değiştiremeyeceği bir özelliğidir.") would increase the Cronbach's alpha value to .69. Thus, the resulting 2-item Implicit Intelligence Theories scale still had a non-satisfactory level of reliability. As noted above, we aimed to form a unified Mindset scale for the purposes of this study. Therefore, following the scale information of the Implicit Personality Theories scale, the unified scale's psychometric information will be provided, for comparison with these two separate scales.

3.3.1.2 Implicit Personality Theories Scale.

Similar to the intelligence scale, the original version of the Implicit Personality Theories scale also has two different versions for children and adults, and a self and others form for each age group. The version for children is designed for ages 9 and above, matching the age range of the current study. The original scale includes 6 items relating to children's beliefs about the stability of personality traits, such as "Someone's personality is a part of them that they can't change very much"; and the items are rated on a 6-point Likert scale. The

original, 6-item version (the "others" version) was used during the pilot testing. This version of the scale can be found in Appendix A.

The 3-item short form of this scale was tested by Erdley and Dweck (1993) on a sample of 139 4th and 5th grade students in a Mid-Western state in the United States. The Cronbach's alpha value for this sample was reported to be .71. The researchers conducted another study using this scale on a sample of 166 children, where the test-retest reliability was found to be .64 ($p < .01$).

The original version of this measure (see Appendix A) was translated into Turkish and back-translated by the PERGEL research assistants. The scale was modified following several pilot studies. As a result of these pilot studies, the latest version of the scale that was used for the pretest included 5 "self" items that were rated on a 5-point Likert scale. All of these 5 items were statements about the changeability of one's personality traits (see Appendix A). The skewness and kurtosis levels of the items were within the normal range of -1 and 1 (Field, 2013). Since the majority of the items (4 out of 5) were reverse-worded, denoting a fixed mindset for personality traits, this finding of a fairly normally distributed scale, taken together with that of the skewed, non-reversed items of the intelligence scale, pointed to the possibility of measuring the construct of implicit theories / mindset more effectively through the use of reverse-worded items.

We performed an EFA with varimax rotation, since one factor was expected to emerge (Field, 2013). Maximum Likelihood (ML) was used as the extraction method, because this scale did not have any skewed items that could render PAF preferable (Costello & Osborne, 2005). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .72 ("middling" according to Hutcheson & Sofroniou, 1999). Only one factor emerged as a result of the EFA, with an eigenvalue of 1.98. The factor loadings of the reverse-worded items ranged from .52 to .62, while the non-reverse-worded item ("Ben kendimi her

zaman büyük ölçüde değiştirebilirim.") did not load on the factor. The distributional qualities and factor analysis results of all five items can be found in Appendix E.

The Cronbach's alpha for the resulting 4-item Implicit Personality Theories scale was .65, indicating poor reliability. The reliability analysis showed that excluding no other item would increase the Cronbach's alpha value. The low reliabilities for both the intelligence and the personality scales justified the goal of this study to treat Dweck's (2000, 2006) mindset items as one single scale. Next, we report the factor and reliability analyses for the unified mindset scale.

3.3.1.3 Mindset (Implicit Intelligence and Personality Theories).

Following the above-noted analyses, we conducted an EFA on all of the mindset items (both implicit intelligence and personality items combined). We used an oblique rotation, since more than one factor could be extracted, and these could correlate with each other. PAF was used as the extraction method, since some of the intelligence items were skewed. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .76 ("middling" according to Hutcheson & Sofroniou, 1999). This solution yielded 3 factors with eigenvalues above 1, which was not clearly supported by the scree plot. The communalities of the items ranged between .13 and .55, while all 3 factors together explained 53.68% of the variance. The first factor, which uniquely explained 26.87% of the variance, was comprised of the 4 reverse-worded personality scale items. The second factor, which explained 16.22% of the variance, included the three non-reversed items from both scales (one from the personality scale and two from the intelligence scale). The third factor explained 10.58% of the variance, and the three reverse-worded intelligence items loaded negatively on this factor. Factor 3 showed a moderate negative relationship with factor 1 (r = -.39) and factor 2 (r = -.36), but factors 1 and 2 did not correlate with each other. Overall, this 3-factor solution was not

supported by theory and did not correspond to the purposes of this study. Therefore, we reconducted the EFA, this time forcing one factor.

We used varimax rotation for the second EFA, since only one factor was to be extracted. All items, except the non-reversed ones, had factor loadings above .32, a cutoff point suggested by Tabachnick and Fidell (2013). The non-reversed items did not load on this factor. The factor analytic information, together with the descriptives of the items, is presented in Appendix E.

The resulting Mindset scale (see Appendix A), with the non-loading items removed, had a Cronbach's alpha value of .71, which was higher than both of the Implicit Intelligence and Personality scales measured separately. This supported our theoretical approach, and our analytical goal of including mindset as one variable in our analyses.

3.3.2 Goal Orientation.

3.3.2.1 Goal Orientation Scale.

After the first pilot measurements and pilot intervention sessions conducted in the Spring and Fall of 2012, we added several new sessions to the existing PERGEL curriculum. One of these sessions was the "Gelecekte Ben" ("My Future Self") session, which addressed the concepts of optimism, goal setting, self-regulation in the pursuit of goals and positive goal orientations. Following this modification in the curriculum, we added a goal orientation scale to our existing measures to be tested in the second set of pilot measurements.

Our Goal Orientation scale was a direct adaption of the Regulatory Focus questionnaire developed by Lockwood, Jordan, and Kunda (2002). The scale is reported by the authors to have two subscales of promotion (9 items, Cronbach's α = .81) and prevention (9 items, Cronbach's α = .75), which are modestly correlated with each other (r = .17, p < .01). The original items were rated on a 9-point scale ranging from 1 (*not at all true of me*) and 9 (*very true of me*). This 18-item scale was later tested for its construct validity by El

Samen (2011) and reduced to 10 items, with half of the items indicating promotion and the other half indicating a prevention orientation. Item rating information has not been provided for this version. El Samen (2011) reported the internal reliability of this 10-item scale to be around .80, and the two factors of promotion and prevention were not significantly correlated (r = .26). For the purposes of the PERGEL study, we tested a 1-factor scale measuring positive goal orientation, i.e., a promotion orientation.

The 10-item scale used by El Samen (2011) was translated into Turkish and back-translated by the PERGEL research assistants, and the translated version was used in the final pilot assessments conducted before the actual pretest. The original scale, El Samen's 10-item version and the 10-item Turkish version used in the pilot can be found in Appendix B. After the administration of the 10-item scale in the second pilot study, items 1, 2 and 5 from the Prevention subscale were excluded ("Sık sık başıma kötü şeyler geldiğini gözümde canlandırırım", "Gelecekte olmak istemediğim insanı sık sık gözümde canlandırırım", and "Hayatımda başarısızlıkları nasıl engelleyebileceğimi sık sık düşünürüm"). Item 3 was modified in order to remove the emphasis on school ("Okul hayatımda hedeflerime ulaşamayacağımı düşünüp endişelenirim" was changed into "Hedeflerime ulaşamayacağımı düşünüp endişelenirim"). A final, 7-item scale was used in the pretest (see Appendix B). Five of the items included statements of a promotion-orientation (i.e. positive goal orientation), while the remaining two items were prevention-oriented (first two items in Appendix B, Goal Orientation Scale - Turkish Version Used for the Pretest).

All promotion orientation items were negatively skewed, indicating that most participants had a promotion orientation towards future goals. We conducted an EFA using oblique rotation and PAF as the extraction method, since most items were skewed (Costello & Osborne, 2005). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .73 ("middling" according to Hutcheson & Sofroniou, 1999). This initial

solution yielded 2 factors with minimum eigenvalue of 1.00. These two factors were the expected prevention and promotion factors; however, only one of the prevention items loaded on the second factor, while the other prevention item did not load on either of the factors. The scree plot suggested a 1-factor solution. The two factors (with 5 and 1 items in the first and second, respectively) explained 48.85% of the variance.

We conducted a second EFA, this time forcing all items into one factor, excluding the non-loading item, and using a varimax rotation. The remaining one prevention item did not load on this factor. When the EFA was reconducted, excluding this prevention item, the 5 promotion items had factor loadings ranging between .45 and 74. This one factor explained 44.41% of the variance. The 5-item goal orientation scale had a Cronbach's alpha value of .68, which did not indicate a very high level of internal consistency reliability. However, the reliability analysis did not suggest the removal of any item for a higher Cronbach's alpha value. This 5-item scale was used for the regression analyses. Factor analytic information and the descriptives of the initial 7 items can be found in Appendix E.

3.3.3 Parenting.

3.3.3.1 Parenting Behaviors Scale.

We tested several different parenting scales for the PERGEL study, during the pilot assessments. All of these parenting scales measured adolescents' perceptions of their parents' behavior. Following several pilot tests of these different scales, the PERGEL team decided to use Sümer's (Sümer & Kağıtçıbaşı, 2010) Parenting Behaviors Scale.

The Parenting Behaviors Scale consists of 52 items, most of which were developed by Sümer (Sümer & Kağıtçıbaşı, 2010) to "tap culturally relevant parenting behaviors", and some of which were derived from several non-Turkish parenting measures. One of such measures was the Swedish EMBU-C (acronym for My Memories of Upbringing for Children; Markus, Lindhout, Boer, Hoogendijk, & Arrindell, 2003), which included four subscales:

emotional warmth, rejection, overprotection, and favoring. The authors only used the emotional warmth and rejection subscales from this measure. Another measure the authors used was Barber's (1996) psychological control scale, which was chosen specifically to assess different aspects of psychological control, such as guilt induction, love withdrawal and comparison. The resulting scale had 4 subscales: comparison, overprotection, guilt induction and intrusion/love withdrawal. A detailed table of all items, including where they originated and which subscale they loaded on, can be found in Appendix C. (This table includes the initial 6 subscales the authors created, prior to the factor analyses.) The authors report the four subscales to have acceptable to good degrees of internal consistency reliabilities, with the exception of overprotection (.52) and guilt induction (.53), which included very few items.

For the final pilot study, a selected subset of 27 items was used, and a 3-factor structure emerged in the EFA following this pilot assessment. These factors corresponded to parental control, warmth and rejection (see Appendix C). The same items were used in the pretest (see Appendix C), and we conducted an EFA to see the emerging factor structure with our PERGEL sample. Separate analyses were conducted for mothers' and fathers' items, ultimately to decide on an optimal factor structure that would fit both sets of items. For the regression analyses, two unified parental behaviors scales were formed (for supportive and discouraging behaviors) by combining mothers' and fathers' items.

3.3.3.1.1 Parenting Behaviors – Mothers' Scale.

All but 5 of the mothers' items were highly skewed (<-1, >1). The negative behavior items (those who were under control or rejection in the pilot study) were positively skewed and positive behavior (warmth / support /acceptance) items were negatively skewed, suggesting that most participants reported highly positive perceptions of their mothers' behavior (see Appendix E).

We conducted an EFA with varimax rotation, where we used PAF as the extraction method, since a majority of the items were skewed. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .88 (“meritorious” according to Hutcheson & Sofroniou, 1999). The resulting factor structure showed 6 factors with eigenvalues above 1.00, a total of which explained 48.72% of the variance. The scree plot did not support the 6-factor solution, instead showing inflexions suggesting only 2 factors to be retained. Items 8 (“Sen konuşurken cümlelerini tamamlar mı?”), and 16 (“Üstün pislenir diye bazı oyunları oynamana izin vermediği olur mu?”) did not load on any factor. We reconducted an EFA with these items excluded. This second EFA yielded a 5-factor solution, with these 5 factors explaining 47.21% of the variance. The scree plot still suggested 2 factors. This time item 14 (“Sen bir şey söylemeye çalışırken, konuyu değiştirir mi?”) had a factor loading of smaller than .32. Therefore, we repeated the EFA excluding this item.

Again, a 5-factor solution emerged, the factors together explaining 48.29% of the variance. Three of these factors had eigenvalues only slightly above 1.00, and the scree plot still suggested 2 factors. Factors 2 and 4 included the warmth / support / acceptance items, and factors 1 and 5 included items that mostly loaded on the control factor in the pilot assessments, and factor 3 included 3 items from the rejection factor of the pilot assessments. These results of the EFA suggested 3 factors, since the emerging 5 factors could be further differentiated than only warmth, rejection and control.

We forced three factors on the same analyses to see how well the data would fit this solution. All items had loadings higher than .32, except item 5 (“Sana herkesin içinde kötü sözler söyler mi?”). The three factors together explained 38.97% of the variance. This time, the second factor was clearly a parental warmth / support / acceptance factor. Factor 3 included 3 rejection items with loadings higher than .32, and had an eigenvalue of 1.26. We lastly tried an alternative 2-factor solution to see which option would fit the data better, and

later see whether the third rejection factor (as a subscale) would have a satisfactory level of internal consistency reliability. The 2-factor solution explained 33.70% of the variance, and item 19 (“Arkadaşlarının kim olduğuna karışır mı?”) had a factor loading less than .32. After excluding this item, a final 2-factor solution explained 34.70% of the variance. The 3-item rejection subscale, on the other hand, had a Cronbach’s alpha value of .65, which was unsatisfactory. Since these rejection items also loaded well on the “negative” parenting behaviors factor, we decided to use the 2-factor solution to form two subscales for parenting behaviors. Factor loadings (for the two factors) and the descriptives of the items can be found in Appendix E. The resulting two factors we named as *mothers’ supportive* and *discouraging behaviors*; however, we did not form a scale until we identified the factor structure of the fathers’ items.

3.3.3.1.2 Parenting Behaviors – Fathers’ Scale.

All but 5 of the fathers’ items were highly skewed (<-1, >1). The negative behavior items (those who were under control or rejection in the pilot study) were positively skewed and positive behavior (warmth /support / acceptance) items were negatively skewed, suggesting that most participants reported highly positive perceptions of their fathers’ behavior (see Appendix E).

We conducted an EFA with varimax rotation, using PAF as the extraction method, since a majority of the items were skewed. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .86 (“meritorious” according to Hutcheson & Sofroniou, 1999). The resulting factor structure showed 7 factors with eigenvalues above 1.00, a total of which explained 51.93% of the variance. The scree plot did not support the 7-factor solution, instead showing inflexions suggesting only 2 factors to be retained. Items 12 (“Seni arkadaşlarınla karşılaştırır mı?”), 19 (“Arkadaşlarının kim olduğuna karışır mı?”), and 25 (“Arkadaşların içinde en iyi olman için seni zorlar mı?”) did not load on any factor. We

reconducted an EFA with these items excluded. This second EFA yielded a 6-factor solution, with these 6 factors explaining 50.85% of the variance. The scree plot still suggested 2 factors. This time, item 16 ("Üstün pislenir diye bazı oyunları oynamana izin vermediği olur mu?") did not load on any factor, and item 7 had a factor loading smaller than .32. Therefore, we repeated the EFA excluding these items. In this EFA, item 2 ("Yaptığın küçük yaramazlıklar veya hatalar için bile seni ağır bir şekilde cezalandırır mı?") did not load on any factor, so we conducted one more EFA with this item excluded.

A final EFA yielded 5 factors, which together explained 49.82% of the variance. The scree plot had a clear inflexion at two factors. Factors 4 and 5 had eigenvalues very close to 1.00 (1.16 and 1.06, respectively). Factors 2 and 4 included the warmth / support / acceptance items, many of which had crossloadings across the two factors, all values being higher than .32. Factor 3 included items from the rejection subscale of the pilot assessments, with one crossloading with factor 1, where both values exceeded .32. Factor 5 had two items corresponding to the control subscale. The three rejection items for fathers were different than those of the mothers ("Yaptığın küçük yaramazlıklar veya hatalar için bile seni ağır bir şekilde cezalandırır mı?" was replaced with "Sana herkesin içinde kötü sözler söyler mi?", which was excluded from the mothers' analyses). We tested to see the internal consistency reliability of these 3 items, and the Cronbach's alpha value was not satisfactory ($\alpha = .64$). Therefore, just as we did with the mother's items, we forced a 2-factor solution with the father's items, followed by a cross-check between the mothers and fathers scales to decide on the final number of items to create the scales. All items, except item 8 ("Sen konuşurken cümlelerini tamamlar mı?") had loadings greater than .32. A final EFA with the exclusion of this item showed the two factors to account for 34.83% of the variance. Factor loadings ranged between .38 and .66. A summary table for the fathers' items (with descriptives and factor loadings for the resulting two factors) is presented in Appendix E.

Since we aimed to include the same items and use the same subscales for mothers and fathers, we checked to see whether there were any items left in the fathers' scale that were excluded after the EFA for mothers. After this, we cross-checked the mothers' items to see whether there were any items that were excluded for the fathers and were still in the mothers' scale. After this we tested whether the remaining items for both scales fit a 2-factor solution (since both mothers' and fathers' scales suggested such a factor structure).

The cross-check between mothers' and fathers' resulting items showed that items 2, 7 and 12 had to be excluded from the mothers' scale, and items 5 and 14 had to be excluded from the fathers' scale. This would result in a 19-item scale for both parents, which we tested to see whether the factor structure would both allow a 2-factor solution with same items loading on the same factors for mothers and fathers.

The resulting 19-item scale (with non-loading items of both the mothers and the fathers removed from both scales) was tested for mothers and fathers to see the factor structures of both. For mothers, the 2 factors together explained 37.06% of the variance, and all items loaded on a factor (loadings ranging between .39 and .63). For fathers, the 2 factors explained 36.51% of the variance, and all items loaded on a factor (loadings ranging between .36 and .67). This 19-item scale with loadings on the factors for mothers and fathers is presented in Table 3.2. The resulting subscales for mothers' (α = .79) and fathers' (α = .75) discouraging and supportive behaviors (mothers' α = .76; fathers' α = .80) all had high levels of internal consistency reliabilities. For the regression analyses, these four subscales were summed into two parental behaviors scales, namely parents' supportive and discouraging behaviors subscales, by adding mother and father items.

Table 3.2

Factor loadings of the 19 items for mothers and fathers on the supportive and discouraging behaviors scales.

	Mother's Supportive	Father's Supportive	Mother's Discouraging	Father's Discouraging
Üzüntülü olduğunu sen söylemeden anlar mı?	.52	.56		
Başına kötü bir şey geldiğinde seni rahatlatmaya çalışır mı?	.59	.67		
Sana karşı çok sert davranır mı?			.54	.39
Sana kızdığında kendisi de üzülür mü?	.60	.59		
Senin zamanının eğlenceli geçmesine çalışır mı (örneğin tatile, akrabalara göndererek, sana güzel kitaplar alarak)?	.55	.61		
Yaptığın bir işi beğenmezse, o işi zorla senden alıp kendi yapar mı?			.39	.36
Sana karşı çok kaba davrandığı olur mu?			.61	.55
Sence o sana çok mu karışır?			.54	.47
Yanlış bir şey yapmadığın halde seni cezalandırdığı olur mu?			.49	.49
Sana kızdığında daha önce yaptığın hataları sürekli söyleyip durur mu?			.63	.59
Bir işi başardığında seninle gurur duyar mı?	.56	.60		
Diğer çocuklardan daha kötü veya başarısız olduğunu söyler mi?			.64	.56
Sen kötü bir şey yaptığında, sana kızmadan önce nedenini sorar mı?	.49	.52		
Ödevlerini yaparken, sana sen istemediğin halde karışır mı?			.40	.43
Senin bir konudaki düşünce ve kararlarını ısrarla değiştirmeye çalışır mı?			.46	.54
Arkadaşların içinde en iyi olman için seni zorlar mı?			.39	.42

Table 3.2 (continued)

Factor loadings of items for mothers and fathers on the supportive and discouraging behaviors scales.

	Mother's Supportive	Father's Supportive	Mother's Discouraging	Father's Discouraging
Evde bir şey ters gittiğinde, hemen seni mi suçlar?			.56	.45
Cronbach's α	.76	.80	.79	.75

3.3.4 Self-Efficacy.

3.3.4.1 Self-Efficacy Scale.

The Self-Efficacy scale used for the initial pilot assessments in the Spring of 2012 was the General Perceived Self-Efficacy Scale, originally developed by Schwarzer and Jerusalem (1995), adapted to Turkish by Aypay (2010), and validated on a sample of university students. However, the high level of skewness in the scale lead the PERGEL researchers into finding a better-fitting self-efficacy scale for the Turkish early adolescent sample.

To this end, a Turkish adaptation of Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, and Rogers' (1982) Self-Efficacy Scale was used in the second pilot assessment. The scale was translated into Turkish by Gözüm and Aksayan (1999), and consisted of 23 items rated on a 5-point Likert scale. The validation study for the scale was conducted on a sample of 133 elementary school teachers in Erzurum, Turkey. The original 12-item scale (taken from Bosscher & Smit, 1998) and the Turkish adaptation by Gözüm and Aksayan (1999) can be found in Appendix D. The Turkish version was found by the authors to have a Cronbach's alpha value of .81, and four subscales of initiating, persistence, completion and coping with challenges. The version used for the pilot assessments for PERGEL was a 13-item version, where items were chosen by the researchers according to their relevance to the PERGEL project, and can be found in Appendix D.

Following the two pilot studies in 2012, Gözüm and Aksayan's Turkish version of the Self-Efficacy Scale was modified into a 11-item scale. The final version of the scale used in the pretest can be found in Appendix D. All but 3 items of the scale were highly skewed. The normally distributed items were "Yapmam gereken bir işe başlayamama gibi bir problemim vardır", "Zorluklardan korkmam" and "Bir şeyleri yapabilme konusunda kendime fazla güvenmem". All items were negatively skewed, indicating a high level of self-efficacy reported by the participants. We conducted an EFA using oblique rotation and PAF as the extraction method, since most items were skewed (Costello & Osborne, 2005). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .86 ("meritorious" according to Hutcheson & Sofroniou, 1999). This solution yielded two factors with eigenvalues above 1.00. The two factors together explained 46.34% of the variance. The factors were reverse-worded versus non-reverse-worded items, with no other conceptual distinction. We reconducted the EFA, trying to see whether a 1-factor structure (only the level of self-efficacy) would fit the data. In this EFA we used a varimax rotation. All items loaded on this factor, with loadings ranging between .45 and .58. This factor explained 33.56% of the variance. Internal consistency reliability of the items was fairly high, with a Cronbach's alpha of .80. We decided to form a measure of self-efficacy using all of these items. Descriptives and factor loadings of the items can be found in Appendix E.

3.3.5 Socioeconomic Status (SES).

3.3.5.1 Individual SES and Neighborhood SES.

As noted at the beginning of the method section, the PERGEL schools were assigned to control and intervention conditions on the basis of the neighborhood they were located in. Table 3.1 lists which schools fall under the low-SES and the mid-SES groups. For the purposes of this study, this distinction was labeled as *neighborhood SES*, since the only indicator of SES was the schools' neighborhood.

Individual SES, on the other hand, was computed by adding mothers' and fathers' education information. Table 3.3 lists the frequencies of this variable. Since the variable was computed by taking the mean of a sum of both items for each case, "Annenin eğitim durumu nedir?" and "Babanın eğitim durumu nedir?", there is a portion of the sample that falls under .5 values of this variable. These half-scores indicate that an average of the mother's and father's education is somewhere in between the labeled values of 1 through 6.

Table 3.3

Frequencies of the individual SES variable.

	Mothers		Fathers		Individual SES	
	Frequency	%	Frequency	%	Frequency	%
Okuma yazma bilmiyor (1)	21	2.3	3	.3	2	.2
1.5					2	.2
Okuma yazma biliyor (2)	18	1.9	19	2.0	25	2.7
2.5					11	1.2
Ilkokul (3)	216	23.3	143	15.4	116	12.5
3.5					69	7.4
Ortaokul (4)	180	19.4	193	20.8	146	15.7
4.5					109	11.7
Lise veya Meslek Okulu (5)	202	21.7	235	25.3	128	13.8
5.5					69	7.4
Yüksekokul veya Üniversite (6)	78	8.4	122	13.1	52	5.6
Missing	214	23	214	23	200	21.5
Mean (SD)	4.06 (1.18)		4.40 (1.09)		4.22 (.04)	

Chapter 4

RESULTS

4.1 Data Screening

Before we conducted the analyses, we screened the data to see whether it met the requirements for a regression analysis. We checked the distributional characteristics of the variables to be analyzed, the amount of missing data, and for univariate and multivariate outliers and extreme cases. We provide a short overview of this data screening process.

Several of our variables were highly skewed: Parents' supportive behaviors and goal orientation were highly negatively skewed, indicating that the participants reported parenting behaviors to be high on supportiveness, and their goals to be more promotion oriented, overall. Parents' discouraging behaviors, however, were positively skewed, meaning that participants reported their parents to exhibit less of such behaviors on average.

Univariate outliers were detected by calculating z scores for all analysis variables and recoding these z-scores into "normal range", "potential outlier", "probable outlier" and "extreme score" depending on their distance in terms of standard deviations (SD). Only the skewed variables had extreme scores (beyond 3 SDs from the mean): parents' supportive behaviors (n=6, 0.6%), parents' discouraging behaviors (n=8, 0.9%), and goal orientation (n=11, 1.3%). These extreme scores did not constitute an excessive amount with regard to their percentages in this sample.

Multivariate outliers were detected by calculating a Mahalanobis distance for the set of variables to be used in the analyses. There were 56 cases which exceeded the critical value for Mahalanobis distance, i.e. were multivariate outliers. This constituted about 6% of the whole sample, which was not considered alarming. These multivariate outliers were therefore kept in the data.

Missing data mechanisms were explored through checking whether missing data in any given analysis variable was related to any other analysis variable. Missing values in the mindset variable were related to self-efficacy. The relationship was negative, which meant that participants who reported higher self-efficacy tended to have less missing data on mindset. Missing values in the other variables were not found to be related to any other analysis variable.

4.2 Descriptives and Bivariate Analyses

In this section, we present descriptive information regarding analysis variables. Bivariate correlations between variables were also examined for a better understanding of the pattern of associations between predictor, outcome and moderator variables proposed in the models to be tested.

We had two categorical variables, neighborhood SES and gender, as moderators. We started by examining whether there were significant mean differences in the analysis variables between groups of neighborhood SES and genders, by conducting univariate ANOVAs between these groups. Table 3.4 presents means and SDs of predictor and outcome variables in all models for both groups of neighborhood SES and gender. Significant differences were found between boys and girls in goal orientation ($F = 5.50$, $p = .02$), parents' supportive behaviors ($F = 6.23$, $p = .01$), and parents' discouraging behaviors ($F = 9.42$, $p < .001$). Overall, girls reported higher promotion orientation in goals, more of supportive and less of discouraging behaviors by parents, compared to boys.

Several significant differences also existed between neighborhood SES groups. Low- and mid-SES groups showed significant differences in goal orientation ($F = 20.04$, $p < .001$), mindset ($F = 8.96$, $p < .001$), self-efficacy ($F = 13.14$, $p < .001$), and parents' supportive behaviors ($F = 15.74$, $p < .001$). Low-SES schools reported less promotion oriented goals, more of a fixed mindset, lower self-efficacy, and less supportive behaviors by parents. These

findings indicated that neighborhood SES and gender could in fact demonstrate significant moderation effects on the relationships between our study variables.

The proposed models included direct or indirect relationships between all of the variables included in this study. Therefore, we next examined bivariate correlations between all of our continuous study variables. The estimates were calculated using Pearson Product Moment Correlation analyses. These correlations are presented in Table 3.5. These analyses

Table 3.4

Distributional characteristics of study variables for gender and SES groups

	Girls		Boys		Low-SES		Mid-SES	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Goal orientation	4.31	.64	4.21	.69	4.14	.76	4.35	.58
Mindset	2.98	.76	3.08	.85	2.94	.82	3.10	.79
Self-efficacy	4.11	.63	4.09	.64	4.01	.68	4.16	.59
Parents' supportive behaviors	4.23	.74	4.10	.77	4.05	.83	4.25	.70
Parents' discouraging behaviors	1.55	.52	1.66	.59	1.62	.59	1.59	.53
Individual SES	4.18	1.04	4.26	1.01	3.89	.99	4.47	.98

Note. All scales rated on a 5-point Likert scale. "Individual SES" is rated on a 1-6 scale.

gave us two very important findings: Mindset, our predictor variable, had a non-significant and *negative* relationship with goal orientation (outcome). This indicated that having a growth mindset was not necessarily related to the extent to which goals were promotion-oriented, and the negligible relationship indicated that a growth mindset predicted less promotion-orientation (i.e. more prevention orientation) in goals. Further interpretation of these relationships will be provided in the Discussion section. Our outcome variables, goal

orientation and self-efficacy, correlated with most of the other variables. All of the parenting variables had significant correlations among each other.

Lastly, when we compared the relationships in regards to SES, individual SES showed significant relationships with almost all variables in which we detected significant differences between neighborhood SES groups. This meant that both measures of SES showed similar relationships with the rest of the variables, which was also a sign of concurrent validity for both of these measures we used.

Table 3.5

Pearson Product Moment Correlations Among Continuous Study Variables

	1	2	3	4	5
1. mindset					
2. goal orientation	-,067				
3. self-efficacy	,137**	,475**			
4. parents' supportive behaviors	,070	,262**	,328**		
5. parents'discouraging behaviors	-,127**	-,122**	-,330**	-,227**	
6. individual SES	,148**	,115**	,143**	,121**	-,061

Note. * = $p < .05$, ** = $p < .01$. Listwise N=693

4.3 Regression Analyses

We conducted a series of moderation analyses to test our conceptual models. In this section, we present the results of these analyses under three subheadings: 1) the effect of mindset on goal orientation, with moderating effect of parental variables and how this moderation differs for gender and SES groups, 2) the effect of mindset on self-efficacy, with

moderating effect of parental variables and how this moderation differs for gender and SES groups, and 3) moderation effects of all contextual variables, namely gender, neighborhood SES, individual SES and parental behavior on (a) the mindset – goal orientation relationship and (b) the mindset – self-efficacy relationship.

4.3.1 Model 1 – Role of Mindset on Goal Orientation: Parental behaviors as moderators.

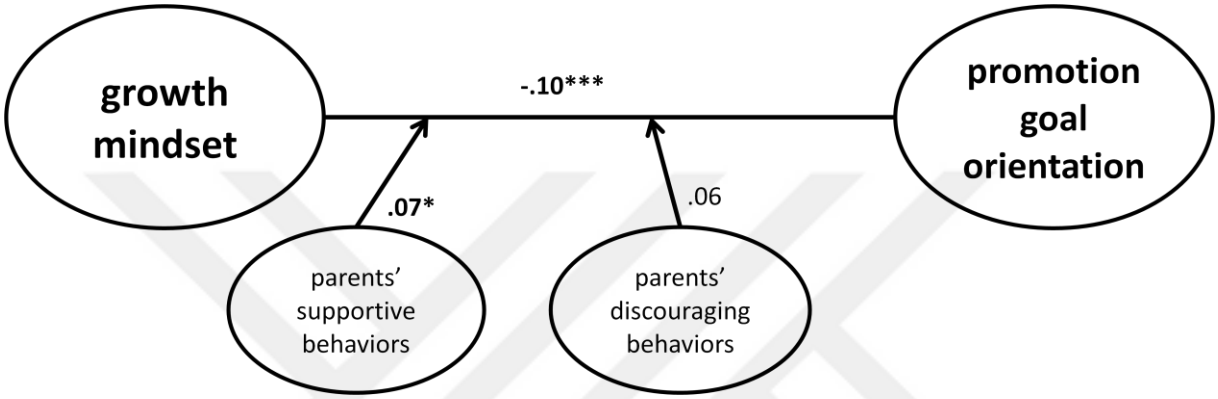

Figure 4.1. Our first moderational model with mindset predicting goal orientation, and parental behaviors moderating this relationship.

Our first model proposed that mindset would predict the degree to which goals were promotion-oriented, and adolescents' perceptions of their parents' behaviors would moderate this relationship. This model was significant ($F = 20.91$, $p < .001$), and mindset, with the moderating variables included in the model, predicted 10,7 % of the variance in goal orientation. However, as suggested by the correlations, the relationship between mindset and goal orientation was negative ($b = -.10$, $p < .001$), meaning that higher growth mindset indicated lower levels of promotion orientation. We alternatively interpret this as growth mindset being related to a prevention goal orientation.

We tested the moderation of parents' supportive and discouraging behaviors separately, and found that only supportive behaviors had a significant moderation effect ($b = .07$, $p = .03$). This moderation effect was positive; meaning that for adolescents with supportive

parents growth mindset predicted a prevention orientation more strongly. Discouraging behaviors, on the other hand, did not affect this relationship in any direction.

4.3.1.1 Differences between gender and neighborhood SES groups.

We tested the above moderational model separately for gender and neighborhood SES groups, and found differential moderation effects across these groups. While parents' supportive behaviors had a significant moderation effect for girls (b = .13, p = .01), this moderation effect did not exist for boys. We found a more interesting pattern for SES groups: Parents' discouraging behaviors, which did not show a significant moderation effect in our initial analysis, did in fact exhibit a significant moderation effect only for the low-SES group (b = .16, p = .04). These findings indicated that for girls the mindset – goal orientation link was stronger in the presence of supportive parenting. This link was also stronger for the lower-SES adolescents when parenting behaviors were perceived to be discouraging.

4.3.2 Model 2 – Role of Mindset on Self-Efficacy: Parental behaviors as moderators.

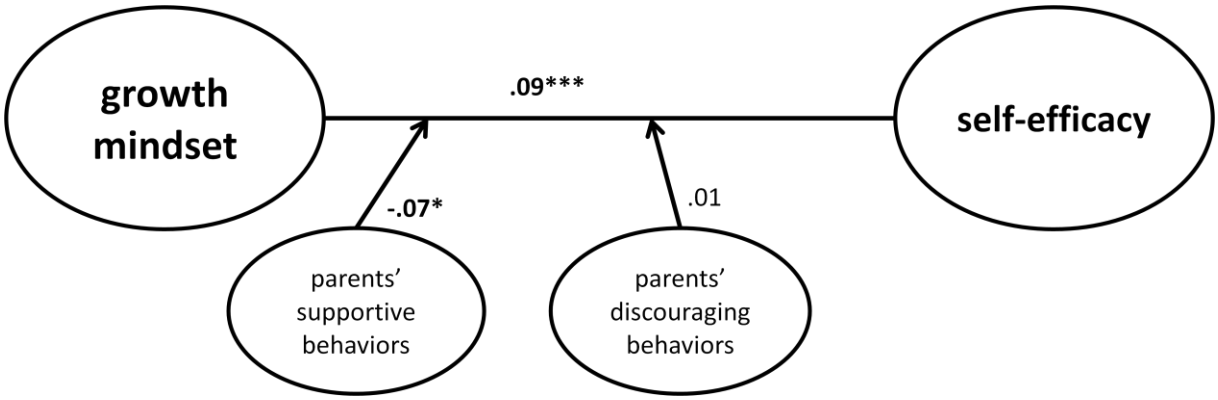

Figure 4.2. Our second moderational model with mindset predicting self-efficacy, and parental behaviors moderating this relationship.

Our second model proposed that mindset would predict self-efficacy, and adolescents' perceptions of their parents' behaviors would moderate this relationship. This model was significant (F = 48.88, p < .001), and mindset, with the moderating variables included in the model, predicted 21,9 % of the variance in self-efficacy. The relationship between mindset

and self-efficacy was positive (b = .09, p < .001), meaning that higher growth mindset indicated higher levels of self-efficacy. This meant that the more adolescents believed in change, the higher their self-efficacy.

We tested the moderation of parents' supportive and discouraging behaviors separately, and found that, again, only supportive behaviors had a significant moderation effect (b = -.07, p = .03). For adolescents with supportive parents the growth mindset – self-efficacy link was weaker. In other words, for adolescents who perceived their parents as less supportive, the mindset – self-efficacy link was stronger. Discouraging behaviors, on the other hand, did not affect this relationship in any direction.

4.3.2.1 Differences between gender and neighborhood SES groups.

We tested the above moderational model separately for gender and neighborhood SES groups, and found differential moderation effects only across SES groups. While parents' supportive behaviors had a significant moderation effect for the low-SES students (b = -.09, p = .03), this moderation effect did not exist for the mid-SES group. This meant that for the low-SES group, parents' supportive behaviors had a weakening effect on the relationship between mindset and self-efficacy. An interpretation of these findings will be taken up in the Discussion section.

4.3.3 Model 3 – Moderating effect of contextual variables on the mindset – goal orientation and mindset – self-efficacy relationship.

As our last model, we tested the moderating effects of all contextual variables (parental behaviors, SES—both on a neighborhood and individual level, and gender) for both of the goal orientation and self-efficacy models. When all of these variables were included in the analyses as moderators, neighborhood SES had a significant moderation effect on the mindset – goal orientation link. The positive moderation effect indicated that for mid-SES

students growth mindset predicted a higher prevention orientation than it did for the low-SES students. No such significant moderation effect was found for the mindset – self-efficacy link.

Chapter 5

DISCUSSION

5.1 Summary of Findings

In this study, we investigated the outcomes related to mindset, an important motivational construct in social psychology research, also a central concept to the PYD intervention from which we used the pretest data. Identifying promotion orientation in goals and self-efficacy as our PYD variables of interest, we tested two moderational models with these variables as outcomes. We hypothesized that a growth mindset would predict (1) more promotion-oriented goals and (2) higher self-efficacy. Within an RDST framework, making use of Kağıtçıbaşı's (2007) theories of family change and autonomous related self, we also tested the moderating effects of parental behaviors. Moderation effects by SES and gender were also tested.

This study filled a gap in the literature on several accounts. First, we contributed to the existing mindset and goal orientation theory literature by exploring the relationship between mindset and the valence dimension of goals (i.e., prevention versus promotion). We also investigated the direct effect of mindset on self-efficacy, which had not thus far been the focus of research in this area, to our knowledge. As well, parental behaviors, which have typically been studied as predictors of motivational constructs, were included in our models as moderators. Overall, this theoretical approach bridged the gap between social and developmental psychology through its use of an RDST framework, as well as a cross-cultural approach, in studying the development of motivational beliefs and goals in adolescence.

Our moderator variables, particularly parental behaviors, significantly affected the observed relationships, in line with our contextual developmental approach. Contrary to our hypotheses, growth mindset was associated with prevention, and not promotion, goal orientation. Finally, when all contextual variables were included as moderators, only

neighborhood SES significantly moderated the mindset – goal orientation relationship. No such moderation effect, by any contextual moderator, was found for the mindset – self-efficacy relationship. We discuss these findings, addressing limitations and implications for future research.

5.1.1 Mindset as a Predictor of PYD.

Mindset had a significant negative relationship with goal orientation, which indicated that a growth mindset predicted a prevention orientation in goals. The lack of a significant correlation between these two constructs substantiated the scarcity in the literature looking at direct relationships between mindset and the valence of goal orientations, likely due to similarly non-significant findings. Our use of a combined mindset scale (with both intelligence and personality items) was unique, and thus might explain some of the unprecedented findings.

Mindset explained 10.7% of the variance in goal orientation and had a significant, but negative direct effect. This finding was contrary to the positive relationship that we proposed. However, an important point to note is that this study may be the first attempt to establish a relationship between mindset and only the promotion-prevention (i.e., approach-avoidance, therefore *valence*) dimension of goals, and previous research did in fact corroborate this negative relationship. Braten and Stromso (2004) also found that an incremental theory of intelligence (growth mindset) lead to performance avoidance (prevention) and not performance approach (promotion) goals. This work, alongside other field studies reporting weak or no relationship between mindset and goal orientations (e.g., VandeWalle, 1997), draws attention to the fact that previous work reporting significant relationships were mostly laboratory experiments with younger samples (e.g., Dweck, 2000; Dweck & Leggett, 1988). These studies also generally focused on the mastery-performance and not the promotion-

prevention dimension. Taken together with these previous findings, our study contributes to the literature by providing field findings from a sample of Turkish early adolescents.

An additional caveat regarding the promotion versus prevention goals and mindset is the complexity of what Elliot & McGregor (2001) refer to as mastery-avoidance goals. In our study, the data suggested that a higher growth mindset is related to less promotion-orientation in goals, which might mean that the goal is still towards mastery, as suggested by Dweck (2000), however the valence is on the negative side (avoidance / prevention). Therefore, adolescents who believe in change through learning might in fact focus on preventing mistakes and avoiding failure, which still is more optimal than holding performance-approach goals, such as appearing intelligent (Elliot & McGregor, 2001). Future research can test the same model with 2x2 goal orientation dimensions offered by Elliot and McGregor (2001).

Mindset had a significant positive effect on self-efficacy, explaining 21.9% of the variance in this construct. This finding indicated that growth mindset predicted higher self-efficacy, confirming our hypotheses. Adolescents who believed in change through effort also were more likely to think of themselves as able to successfully execute tasks and persevere in the face of challenges. This finding more clearly depicted growth mindset as an important antecedent of positive youth development outcomes.

5.1.2 Parenting.

We observed an overall pattern of significant relationships between parenting variables on a correlational level. Supportive and discouraging behaviors demonstrated weak correlations, meaning that a high level of supportive behaviors did not necessarily mean low level of discouraging behaviors. Therefore, it was possible to treat these two kinds of behaviors as two separate constructs.

Correlations between parental behaviors and our study variables revealed some important findings: The outcome variable of our first model, goal orientation, had a stronger

relationship with supportive than discouraging parental behaviors. This finding points to the possibility of supportive parenting being a stronger predictor of goal orientation in early adolescents. It also supports Rusk and Rothbaum's (2010) theoretical approach to the close relationship between attachment and goal orientation.

Parenting behaviors showed stronger relationships with self-efficacy, in line with the majority of findings in the parenting-motivation/achievement literature reporting associations with constructs that mostly denote agency, efficacy or control beliefs (e.g. Ryan *et al.*, 1994), which do not necessarily exist for general beliefs in stable versus changeable traits (i.e., mindset).

Mindset only correlated with discouraging parental behaviors, albeit on a weaker level. This finding could be interpreted along the argument of how discouraging behaviors (otherwise classified in research as "controlling") inhibit children's autonomy building, thus dampening their belief in agency and, in turn, belief in change through their effort (Pomerantz *et al.*, 2005). Supportive behaviors, on the other hand, do not seem to be related to adolescents' mindset.

The moderation effect of parental behaviors was apparent in both models. For higher values of parents' supportive behaviors, the relationship between mindset and goal orientation was stronger. This meant that when participants had higher ratings of supportive behaviors, the growth mindset – prevention goal orientation link was strengthened. In other words, for participants who rated their parents low on supportive behaviors mindset had less effect on goal orientation. This can be interpreted as a protective effect of supportive parenting: As belief in change increases, adolescents' goals become more prevention-oriented, if they perceive their parents to be supportive. Following the argument of mastery-avoidance goals above, we can say that these adolescents may become more cautious about mistakes. From this point of view, prevention orientation is not seen as negative development; as long as goals

are directed towards mastery, they are found more adaptive than performance goals, regardless of whether they are prevention or promotion oriented (Elliot & McGregor, 2001). Considering that an interaction between two variables indicates effects of either variable on the other, we can alternatively interpret these findings as such: Adolescents with growth mindset may be more sensitive to supportive parenting, which may serve as a protective shield, increasing their level of realism as opposed to optimism, thus leading to more prevention-oriented goals. Yet another explanation in line with this perspective is that a higher growth mindset is what makes adolescents with supportive parents more prone to prevention goals.

Parents' supportive behaviors had the opposite moderation effect on the mindset – self-efficacy relationship. When participants had lower ratings of parents' supportive behaviors, the mindset – self-efficacy link was strengthened. In other words, for participants who rated their parents high on supportive behaviors, mindset had no effect on self-efficacy. This means that in a non-supportive family environment, the more children believe in change, the more they feel efficacious, which might denote a separation from parents, who are not perceived to induce relatedness in the first place. In such cases, belief in change might be linked to belief in oneself as an efficacious actor on one's own reality, since parents are not perceived as a support system. The less supportive parents tended to be, the more belief in change meant higher self-efficacy, possibly pointing at the formation of a "separate" self in a non-supportive family environment (Kağıtçıbaşı, 2007).

In our final model where all contextual variables were included as moderators, we did not find parental behaviors to significantly moderate either relationship. This demonstrates a hierarchy of contextual variables in our sample, where neighborhood SES had the only significant effect, indicating that SES is a much more important contextual factor than parenting in predicting the strength of mindset's relationship to PYD outcomes.

5.1.3 Gender.

Overall, girls reported higher promotion orientation in goals, more of supportive and less of discouraging behaviors by parents, compared to boys. This overall more positive picture by girls regarding family environment might be an indicator of girls' differential socialization towards more relatedness especially given a sample such as ours, which was predominantly lower and mid-SES (Kağıtçıbaşı, 2007).

While for boys the relationship between mindset and goal orientation was significant on a $p < .05$ level, for girls this relationship was significant on a $p < .01$ level. This meant that the more girls believed in change, the more they had prevention goals, whereas for boys this relationship was less strong. A possible explanation for this can be found in the body of research regarding gender differences in mindset. As Dweck (2000) herself suggested, girls (especially higher achieving girls) were found to hold more entity beliefs (fixed mindset). Since this implies that, through their socialization, they have come to view intelligence as a stable trait; their goals might tend to focus on avoiding mistakes and failures so as to keep up with expectations. These findings suggest that this might not always indicate a performance orientation; it might as well be a mastery-avoidance orientation (Elliot & McGregor, 2001). For both levels of gender, the relationship between mindset and self-efficacy was non-significant.

More important was the differential moderation effect of supportive parenting regarding genders. For girls, supportive parenting strengthened (i.e., had a significant positive moderation effect) the mindset – goal orientation link, while for boys no such effect existed. Following the argument above regarding socialization of girls towards higher levels of relatedness, we can argue that they are more sensitive to the influence of a supportive and highly related family environment. In turn, their growth mindset may lead to more realism, hence prevention goals. We detected no such difference between genders for the moderation

of parenting on the mindset – self-efficacy link. Also, in the final model where all contextual variables were included as moderators, gender did not have a significant moderation effect on either the mindset – goal orientation or the mindset – self-efficacy relationship.

5.1.4 SES.

Both measures of SES showed similar relationships with the rest of the variables. Low-SES schools reported less promotion oriented goals, more of a fixed mindset, lower self-efficacy, and less supportive behaviors by parents. These findings are well-aligned with the literature on SES, where most aspects of human development are reported to be adversely affected by lower SES (Bradley & Corwyn, 2002).

SES differences in the moderation effects of parenting were slightly different from the overall pattern for the goal orientation model. Only for low-SES children, parents' discouraging behaviors positively moderated the mindset – goal orientation link, therefore strengthening this relationship. In other words, for low-SES adolescents, growth mindset predicted a prevention goal orientation more strongly, when parents were perceived to be more discouraging. This finding can be interpreted on two levels: First, the sensitivity of low-SES children in particular towards parenting might arise from the fact that (1) family members are more important to these adolescents, since they might not be involved in activities where other adult role models can emerge, such as coaches; (2) in line with the family change theory research, lower SES families might be adopting more of a family model of interdependence, making family relations more salient for this group. Second, discouraging parenting might have strengthened the prediction of a prevention orientation primarily because the adolescents are primed for negativity in a discouraging family environment, leading them into focusing on negative aspects in their goals (i.e., adopting prevention goals). This interpretation is in line with the body of research that argues unfair treatment to lead to a prevention focus (Oyserman, Uskul, Yoder, Nesse, & Williams, 2007).

We found a similar moderational pattern for the self-efficacy model, in that the moderation effect was only significant for the low-SES group. However, this time supportive parenting strengthened the relationship between mindset and self-efficacy. Considering that the relationship between these constructs was positive (unlike the goal orientation model) to begin with, this finding is in line with the above finding regarding discouraging parental behaviors. Just as discouraging behaviors increase the possibility of growth mindset leading to prevention orientation, here, supportive parenting increased the possibility of growth mindset to lead to higher self-efficacy. Both moderation effects point to parental behaviors as an important moderating factor in mindset's prediction of PYD outcomes, which is in line with our view that parents are still important influences on outcomes during adolescence.

In our models with all contextual moderators, only neighborhood SES showed a significant moderation effect and only for the goal orientation model. This finding is important, since among all contextual factors a neighborhood's SES level was the only significant moderator for the mindset – goal orientation link for our sample. Since the moderation effect was positive, this finding indicates that growth mindset predicts a prevention goal orientation more strongly for youth in mid-SES, rather than low-SES, neighborhoods. This finding contradicts the above-noted view that negative conditions prime individuals into a prevention focus in goals (Oyserman *et al.* 2007). For our sample, lower SES, denoting fewer resources or "ecological assets", decreased the likelihood of mindset predicting a prevention goal orientation. For these adolescents, belief in change meant avoiding negative outcomes less strongly than for those in mid-SES neighborhoods. For the self-efficacy model, however, we found no such moderation effect by any of our contextual variables.

5.2 Limitations and Future Directions

Although this study was able to address existing gaps in the literature and offer important insights and findings, it is useful to acknowledge the methodological as well as theoretical limitations of our analyses and our approach. Our findings, together with these limitations, also have implications for future research.

First, this study used the pretest data from a large scale intervention study with a fairly large sample size. The questionnaire format necessitated us to include only a certain number of questions in our battery of PYD scales, as well as for contextual variables. This limited us on several grounds. As also stated in the discussion of parental behaviors, we were not able to collect data from parents. We were also unable to include measures with finer distinctions of goal orientation (e.g., the 2x2 model by Elliot & McGregor, 2001; with promotion and prevention orientations for both mastery and performance goals). With the current distinction of only promotion versus prevention goals, we may not have been able to establish clear relationships with belief in change, whereas more dimensions of goals could have provided us with a more accurate picture.

In addition to finer distinctions of existing scales, this study could also have included behavioral measures related to the targeted motivational constructs, such as grade point average or measures of behavioral conduct (through observational methods or teachers' reports). These behavioral measures, albeit not the focus of the current study, might provide researchers with a better understanding of the mechanisms between motivation and behavior, extending the argument to the behavioral domain, when the currently observed relationships remained insufficient (e.g., lack of moderation effects on the mindset-self-efficacy relationship). Inclusion of these measures will also enable researchers to examine bidirectional and circular relationships, suggested by the RDST framework (Lerner, 2006),

where, for instance, the adolescent's behavior can influence parental behaviors, which in turn may influence the adolescent's mindset.

This study placed great emphasis on context, looking at moderation effects of family, a contextual factor that has received less attention by motivation researchers. However, inclusion of other contextual factors, such as peer relationships, school environment, and relationships with teachers, could have informed us of the moderating effects of these important variables, as well. Future research can include these important contextual elements as control variables.

Another important limitation to note is that mindset scale (with intelligence and personality beliefs items combined) was used for the first time. Future validation studies might address the psychometric qualities of this scale for researchers to optimize these qualities with the Turkish early adolescent population. Once they are established within this sample, their use might provide us with findings that we can interpret with more accuracy.

Related to the discussion of an RDST framework is another limitation: the correlational nature of this study. As RDST emphasize the co-creation of development by the individual and the context, such co-creation can only be tracked using longitudinal methods (Overton, 2013). Using longitudinal data in future research can enable researchers to identify the developmental trajectory of motivational constructs, as co-created by the adolescent and the context including the family, and test whether findings from mostly northern American and European samples regarding such development (e.g. Wigfield *et al.*, 2008) holds for the Turkish adolescent population, as well. This kind of longitudinal work, in turn, can capture interindividual differences in intraindividual change, one of the core missions of developmental science (Lerner, 2002).

Lastly, perhaps the most important contribution of this study was its identification of parental behaviors, more broadly the family context, as an important influence on the

mechanisms leading from mindset to goal orientations and efficacy beliefs. Considering that these data belong to a PYD intervention (PERGEL), the implications of these findings provide valuable insight to the developers of this program, as well as intervention science in general. The significant moderation effects by parenting variables point to the need for including parents within the scope of intervention programs, since the effectiveness of such programs are likely dependent on the family context, as well. Furthermore, future research can analyze parental variables as moderators, while looking at intervention effects, which would corroborate our argument about the inclusion of parents within these programs.

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APPENDIX A

Pretest and Previous Versions of the Mindset Scales

Implicit Theories of Intelligence Scale for Children – Self Form (Original Version)

Read each sentence below and then circle the *one* number that shows how much you agree with it.

There are no right or wrong answers.

1. You have a certain amount of intelligence and you really can't do much to change it.

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

2. Your intelligence is something about you that you can't change very much.

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

3. You can learn new things, but you can't really change your basic intelligence.

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

4. No matter who you are, you can change your intelligence a lot.

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

5. You can always greatly change how intelligent you are.

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

6. No matter how much intelligence you have, you can always change it quite a bit.

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

Implicit Theories of Intelligence Scale for Children – Self Form

(Turkish Version for Pilot #1)

Aşağıda verilen cümlelerin her birini oku. 1'den 5'e kadar olan sayılar, önem derecesini belirtir. Maddelerde yer alan ifadelerin seni ne derece anlattığına karar ver. Eğer o cümle senin için çok doğru ise 5, doğruysa 4, kısmen doğruysa 3, doğru değilse 2, hiç doğru değilse 1 işaretlenecek. Bu cümlelerin seni ne kadar anlattığını belirtmek için seçtiğin bir kutucuğa (X) işareti koy. Bütün cümleler cevaplanacak.

		Hiç doğru değil (1)	Doğru değil (2)	Kısmen doğru (3)	Doğru (4)	Çok doğru (5)
1	Belli bir zeka seviyeniz vardır ve bunu değiştirmek için pek bir şey yapamazsınız.					
2	Zekanız, fazla değiştiremeyeceğiniz bir şeydir.					
3	Kim olursanız olun zeka seviyenizi büyük oranda değiştirebilirsiniz.					
4	Dürüst olmak gerekirse, zeka seviyenizi değiştiremezsiniz.					
5	Her zaman zeka düzeyinizi büyük oranda değiştirebilirsiniz.					
6	Yeni şeyler öğrenebilirsiniz, ama gerçekte, temel zeka seviyenizi değiştiremezsiniz.					
7	Zeka seviyeniz ne olursa olsun, her zaman önemli ölçüde değiştirebilirsiniz.					
8	Temel zeka seviyenizi bile büyük ölçüde değiştirebilirsiniz.					

Implicit Theories of Intelligence Scale for Children (Turkish Versions for Pilot #2)

	(DİĞERLERİ FORMU)	Hiç doğru değil (1)	Doğru değil (2)	Kısmen doğru (3)	Doğru (4)	Çok doğru (5)
1	Herkesin belli bir zeka seviyesi vardır ve bunu değiştirmek için pek bir şey yapılamaz.					
2	Zeka bir insanın pek değiştiremeyeceği bir özelliğidir.					
3	Bir insan yeni şeyler öğrenebilir, ama zeka seviyesini pek değiştiremez.					
4	Bir insan ne kadar zekaya sahip olursa olsun, bunu her zaman oldukça değiştirebilir.					
5	İnsanlar çalışarak ya da öğrenerek zeka düzeylerini değiştirebilirler.					
6	Kişinin yaşı ne olursa olsun, çaba sonucu zekasını değiştirebilir.					

	(KENDİM FORMU)	Hiç doğru değil (1)	Doğru değil (2)	Kısmen doğru (3)	Doğru (4)	Çok doğru (5)
1	Benim belli bir zeka seviyem vardır ve bunu değiştirmek için pek bir şey yapamam.					
2	Zeka benim pek değiştiremeyeceğim bir özelliğimdir.					
3	Ben yeni şeyler öğrenebilirim, ama zeka seviyemi pek değiştiremem.					
4	Ben ne kadar zekaya sahip olursam olayım, bunu her zaman oldukça değiştirebilirim.					
5	Çalışarak ya da öğrenerek zeka düzeyimi değiştirebilirim.					
6	Yaşım ne olursa olsun, çaba sonucu zekamı değiştirebilirim.					

Implicit Theories of Intelligence Scale for Children

(Turkish Version Used in the Pretest)

ÖRTÜK ZEKA TEORİLERİ ÖLÇEĞİ (DİĞERLERİ FORMU)	**Hiç doğru değil**	**Doğru değil**	**Kısmen doğru**	**Doğru**	**Çok doğru**
Herkesin belli bir zeka seviyesi vardır ve bunu değiştirmek için pek bir şey yapılamaz.	☐	☐	☐	☐	☐
Zeka bir insanın pek değiştiremeyeceği bir özelliğidir.	☐	☐	☐	☐	☐
Bir insan yeni şeyler öğrenebilir, ama zeka seviyesini pek değiştiremez.	☐	☐	☐	☐	☐
İnsanlar çalışarak ya da öğrenerek zeka düzeylerini değiştirebilirler.	☐	☐	☐	☐	☐
Kişinin yaşı ne olursa olsun, çaba göstererek zekasını geliştirebilir.	☐	☐	☐	☐	☐

Implicit Theories of Personality—"Others" Form (Original Version)

Read each sentence below and then circle the *one* number that shows how much you agree with it. There are no right or wrong answers.

1. People can't really change what kind of personality they have. Some people have a good personality and some don't and they can't change much.

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

2. Someone's personality is a part of them they they can't change very much.

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

3. A person can do things to get people to like them, but they can't change their real personality.

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

4. No matter who who somebody is and how they act, they can always change their ways.

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

5. Anybody can change their personality a lot.

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

6. People can always change their personality.

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

Implicit Theories of Personality Scale for Children – Others Form

(Turkish Version for Pilot #1)

ÖRTÜK KİŞİLİK TEORİLERİ - Başkaları Formu						
		Hiç doğru değil (1)	Doğru değil (2)	Kısmen doğru (3)	Doğru (4)	Çok doğru (5)
1	İnsanlar kişiliklerini değiştiremezler. Bazı insanlar iyi kişilik sahibidir ancak bazıları değildir, ve bunlar çok fazla değişemezler					
2	Bazılarının kişilikleri, onların çok fazla değiştiremeyecekleri bir parçasıdır.					
3	İnsanlar, başkaları kendilerini sevsin diye bir şeyler yapabilirler ancak gerçek kişiliklerini değiştiremezler.					
4	Kim olduğu ve nasıl davrandığı önemli olmaksızın, insanlar her zaman davranış şekillerini değiştirebilirler.					
5	Herkes kişiliğini oldukça değiştirebilir.					
6	İnsanlar kişiliklerini her zaman değiştirebilirler.					

Implicit Theories of Personality Scale for Children – Others Form

(Turkish Versions for Pilot #2)

Aşağıda verilen cümlelerin her birini oku. 1'den 5'e kadar olan sayılar, önem derecesini belirtir. Maddelerde yer alan ifadelerin seni ne derece anlattığına karar ver. Eğer o cümle senin için çok geçerli/doğru ise 5, doğruysa 4, bazen geçerliyse 3, doğru değilse 2, hiç geçerli değilse 1 işaretlenecek. Bu cümlelerin seni ne kadar anlattığını belirtmek için seçtiğin bir kutucuğa (X) işareti koy. Bütün cümleler cevaplanacak.

	(DİĞERLERİ FORMU)	Hiç doğru değil (1)	Doğru değil (2)	Kısmen doğru (3)	Doğru (4)	Çok doğru (5)
1	Birinin nasıl bir insan olduğu, o kişiyle ilgili çok temel bir şeydir ve pek değiştirilemez.					
2	Bir insan zaman içinde bir şeyleri farklı şekillerde yapabilir, ama kişiliğinin önemli parçaları pek değişmez.					
3	Herkes belli bir karaktere sahiptir ve bunu değiştirmek için yapabileceği pek bir şey yoktur.					
4	İnsan yedisinde neyse yetmişinde de odur. İnsanlar en derin özelliklerini pek de değiştiremezler.					
5	İnsanlar kendilerini her zaman büyük ölçüde değiştirebilirler.					

	(KENDİM FORMU)	Hiç doğru değil (1)	Doğru değil (2)	Kısmen doğru (3)	Doğru (4)	Çok doğru (5)
1	Benim nasıl bir insan olduğum benimle ilgili çok temel bir şeydir ve pek değiştiremem.					
2	Ben zaman içinde bir şeyleri farklı şekillerde yapabilirim, ama kişiliğimin önemli parçaları pek değişmez.					
3	Ben belli bir karaktere sahibim ve bunu değiştirmek için yapabileceğim pek bir şey yok.					
4	Ben yedimde neysem yetmişimde de o olurum. En derin özelliklerimi değiştiremem.					
5	Ben kendimi her zaman büyük ölçüde değiştirebilirim.					

Implicit Theories of Personality Scale for Children

(Turkish Version Used in the Pretest)

ÖRTÜK KİŞİLİK TEORİLERİ ÖLÇEĞİ (KENDİM FORMU)	Hiç doğru değil (1)	Doğru değil (2)	Kısmen doğru (3)	Doğru (4)	Çok doğru (5)
Benim nasıl bir insan olduğum benimle ilgili çok temel bir şeydir ve pek değiştiremem.					
Ben zaman içinde bir şeyleri farklı şekillerde yapabilirim, ama kişiliğim pek değişmez.					
Ben belli bir kişiliğe sahibim ve bunu değiştirmek için yapabileceğim pek bir şey yok.					
Ben yedimde neysem yetmişimde de o olurum. En derin özelliklerimi değiştiremem.					
Ben kendimi her zaman büyük ölçüde değiştirebilirim.					

Mindset Scale used for this study

(items from both intelligence and personality scales)

1- Herkesin belli bir zeka seviyesi vardır ve bunu değiştirmek için pek bir şey yapılamaz.

2- Zeka bir insanın pek değiştiremeyeceği bir özelliğidir.

3- Bir insan yeni şeyler öğrenebilir, ama zeka seviyesini pek değiştiremez.

4- Benim nasıl bir insan olduğum benimle ilgili çok temel bir şeydir ve pek değiştiremem.

5- Ben zaman içinde bir şeyleri farklı şekillerde yapabilirim, ama kişiliğim pek değişmez.

6- Ben belli bir kişiliğe sahibim ve bunu değiştirmek için yapabileceğim pek bir şey yok.

7- Ben yedimde neysem yetmişimde de o olurum. En derin özelliklerimi değiştiremem.

Note: All items are reverse-worded.

APPENDIX B
Pretest and Previous Versions of the Goal Orientation Scales

Regulatory Focus: Promotion/Prevention Scale – Original Version

(Lockwood, Jordan, & Kunda, 2002)

Using the scale below, please write the appropriate number in the blank beside each item.

1	2	3	4	5	6	7	8	9
Not at all true of me								Very true of me

1. In general, I am focused on preventing negative events in my life.

2. I am anxious that I will fall short of my responsibilities and obligations.

3. I frequently imagine how I will achieve my hopes and aspirations.

4. I often think about the person I am afraid I might become in the future.

5. I often think about the person I would ideally like to be in the future.

6. I typically focus on the success I hope to achieve in the future.

7. I often worry that I will fail to accomplish my academic goals.

8. I often think about how I will achieve academic success.

9. I often imagine myself experiencing bad things that I fear might happen to me.

10. I frequently think about how I can prevent failures in my life.

11. I am more oriented toward preventing losses than I am toward achieving gains.

12. My major goal in school right now is to achieve my academic ambitions.

13. My major goal in school right now is to avoid becoming an academic failure.

14. I see myself as someone who is primarily striving to reach my “ideal self”—to fulfill my hopes, wishes, and aspirations.

15. I see myself as someone who is primarily striving to become the self I “ought” to be—to fulfill my duties, responsibilities, and obligations.

16. In general, I am focused on achieving positive outcomes in my life.

17. I often imagine myself experiencing good things that I hope will happen to me.

18. Overall, I am more oriented toward achieving success than preventing failure.

Goal Orientation Scale

(ELSamen's 10-item Version used for Pilot Study #2)

Prevention Orientation

I often imagine myself experiencing bad things and fear what might happen to me.

I often think about the person I am afraid I might become in the future.

I often worry that I will fail to accomplish my academic goals.

I am more oriented toward preventing losses than I am toward achieving gains.

I frequently think about how I can prevent failures in my life.

Promotion Orientation

I typically focus on the success I hope to achieve in the future.

In general, I am focused on achieving positive outcomes in my life.

I often think about the person I would ideally like to be in the future.

I often imagine myself experiencing good things that I hope will happen to me.

I frequently imagine how I will achieve my hopes and aspirations.

Goal Orientation Scale

(Turkish Translation of ELSamen's 10-item Version used for Pilot Study #2)

AMAÇLARA YÖNELİM ÖLÇEĞİ	
Engelleme Yönelimi Boyutu	
1	Sık sık başıma kötü şeyler geldiğini gözümde canlandırırım.
2	Gelecekte olmak istemediğim insanı sık sık gözümde canlandırırım.
3	Okul hayatımda hedeflerime ulaşamayacağımı düşünüp endişelenirim.
4	Başarı için çaba sarfetmektense, olabilecek başarısızlıkları önlemeye çalışırım.
5	Hayatımda başarısızlıkları nasıl engelleyebileceğimi sık sık düşünürüm.
Geliştirme Yönelimi Boyutu	
1	Gelecekte elde etmek istediğim başarıya odaklanarak hareket ederim.
2	Hayatımda olumlu sonuçlar elde etmeye odaklanırım.
3	Gelecekte olmayı hayal ettiğim insanı sık sık düşünürüm.
4	Yaşamak istediğim güzel şeyleri hayalimde canlandırırım.
5	Umutlarımı ve amaçlarımı nasıl gerçekleştirebileceğimi hayal ederim.

Goal Orientation Scale

(Turkish Version Used for the Pretest)

AMAÇLARA YÖNELİM ÖLÇEĞİ	Hiç doğru değil	Doğru değil	Kısmen doğru	Doğru	Çok doğru
Hedeflerime ulaşamayacağımı düşünüp endişelenirim.	☐	☐	☐	☐	☐
Başarı için çaba sarf etmektense, olabilecek başarısızlıkları önlemeye çalışırım.	☐	☐	☐	☐	☐
Gelecekte elde etmek istediğim başarıya odaklanarak hareket ederim.	☐	☐	☐	☐	☐
Hayatımda olumlu sonuçlar elde etmeye odaklanırım.	☐	☐	☐	☐	☐
Gelecekte olmayı hayal ettiğim insanı sık sık düşünürüm.	☐	☐	☐	☐	☐
Yaşamak istediğim güzel şeyleri hayalimde canlandırırım.	☐	☐	☐	☐	☐
Umutlarımı ve amaçlarımı nasıl gerçekleştirebileceğimi hayal ederim.	☐	☐	☐	☐	☐

APPENDIX C
Pretest and Previous Versions of the Parenting Scales

Sümer & Kağıtçıbaşı's Parenting Behaviors Scale (with sources of the items)

Maddeler(Alt-boyutlara göre)	*Geliştiren*
10. (R) Annen sana karşı çok sert davranır mı?	Araştırmacılar tarafından geliştirilmiştir.
45. (R) Annenin sana vurduğu veya seni dövdüğü olur mu?	Araştırmacılar tarafından geliştirilmiştir.
6. (SY) Yaptığın bir şey yüzünden, annenin "artık seni sevmeyeceğini" söylediği olur mu?	Araştırmacılar tarafından geliştirilmiştir.
13. (R) Annen sana herkesin içinde kötü sözler söyler mi?	EMBU,7
17. (R) Annenin durup dururken sana kızgın davrandığı olur mu?	EMBU,1
25. (R) Annenin sana karşı çok kaba davrandığı olur mu?	Araştırmacılar tarafından geliştirilmiştir.
5. (R) Annen yaptığın küçük yaramazlıklar veya hatalar için bile seni ağır bir şekilde cezalandırır mı?	EMBU,21
32. (R) Yanlış bir şey yapmadığın halde annenin seni cezalandırdığı olur mu?	Araştırmacılar tarafından geliştirilmiştir.
20. (R) Annen sana hiçbir işi başaramadığını söyler mi?	Araştırmacılar tarafından geliştirilmiştir.
51. (R) Evde bir şey ters gittiğinde annen hemen seni mi suçlar?	EMBU,13
15. (PK) Anneni hayal kırıklığına uğrattığında seninle göz göze gelmekten kaçınır mı?	Barber, 1996
38. (R) Annen diğer çocuklardan daha kötü veya başarısız olduğunu söyler mi?	Araştırmacılar tarafından geliştirilmiştir.
4. (PK) Diyelim ki anneni üzdün. Onu memnun edene kadar seninle konuşmadığı olur mu?	Barber, 1996
11. (SY) Anneni her üzgün gördüğünde bunun senin suçun olduğunu düşünür müsün?	Araştırmacılar tarafından geliştirilmiştir.

14. (DY) Annen sana kızdığında kendisi de üzülür mü?	Araştırmacılar tarafından geliştirilmiştir.
8. (DY) Yaşına kötü bir şey geldiğinde annen seni rahatlatmaya çalışır mı?	EMBU,12
3. (DY) Annen üzüntülü olduğunu sen söylemeden anlar mı?	Araştırmacılar tarafından geliştirilmiştir.
42. (DY) Kötü bir şey yaptığında annen sana kızmadan önce nedenini sorar mı?	Araştırmacılar tarafından geliştirilmiştir.
23. (DY) Annen, senin zamanının eğlenceli geçmesine çalışır mı (örneğin; tatile, akrabalara göndererek, sana güzel kitaplar alarak)?	EMBU, 6
49. (DY) Annen sana sevgisini kucaklayarak veya sarılarak gösterir mi?	EMBU,14
30. (DY) Annen sana sıcak ve sevecen davranır mı?	EMBU,19
37. (DY) Bir işi başardığında annen seninle gurur duyar mı?	EMBU,23
39. (SY) Annen ailede yapılan her şeyin senin için yapıldığını söyler mi?	Olsen, et. al, 2002
18. (SY) Annenin istemediği gibi bir çocuk olmaktan korkar mısın?	Araştırmacılar tarafından geliştirilmiştir.
33. (SY) Anneni hayal kırıklığına uğrattığını hisseder misin?	Olsen, et. al, 2002
43. (M) Ödevlerini yaparken annen sana sen istemediğin halde karışır mı?	Araştırmacılar tarafından geliştirilmiştir.
44. (M) Annen senin bir konudaki düşünce ve kararlarını ısrarla değiştirmeye çalışır mı?	Barber, 1996
50. (M) Annen sana sormadan odandaki eşyaların yerini değiştirir mi?	Araştırmacılar tarafından geliştirilmiştir.
16. (M) Annen oyuncaklarınla ne oynayacağına karışır mı?	Araştırmacılar tarafından geliştirilmiştir.
29. (M) Sen bir şey söylemeye çalışırken annen konuyu değiştirir mi?	Barber, 1996
31. (M) Üstün pislenir diye annenin bazı oyunları	Araştırmacılar tarafından

oynamana izin vermediği olur mu?	geliştirilmiştir.
24. (M) Annen yaptığın bir işi beğenmezse, o işi zorla senden alıp kendi yapar mı?	Araştırmacılar tarafından geliştirilmiştir.
26. (SY) Annen sana bebekmişsin gibi davranır mı?	Araştırmacılar tarafından geliştirilmiştir.
22. (M) Annen sen konuşurken cümlelerini tamamlar mı?	Barber, 1996
34. (SY) Annen sana kızdığında daha önce yaptığın hataları sürekli söyleyip durur mu?	Barber, 1996
27. (K) Annen seni arkadaşlarınla karşılaştırır mı?	Araştırmacılar tarafından geliştirilmiştir.
19. (K) Annen derslerin konusunda seni arkadaşlarınla karşılaştırır mı?	Araştırmacılar tarafından geliştirilmiştir.
12. (K) Annen başka çocukları sana örnek gösterir mi?	Araştırmacılar tarafından geliştirilmiştir.
35. (K) Annen arkadaşlarının notlarını sana sorar mı?	Araştırmacılar tarafından geliştirilmiştir.
40. (K) Annen derslerin konusunda seni kardeşin, ağabeyin/ablan veya akraba çocuklarıyla karşılaştırır mı?	Araştırmacılar tarafından geliştirilmiştir.
52. (SY) Annenin, sadece istediği bir şeyi yaparsan seni seveceğini söylediği olur mu?	Araştırmacılar tarafından geliştirilmiştir.
2. (SY) Annen senin için ne kadar çok çalışıp yorulduğunu söyler mi?	Olsen et al.2002
9. (SY) Annenle aynı fikirde olmadığında sana karşı daha az sevecen davranır mı?	Barber, 1996
46. (SY) Annen senin yaşına uygun davranmadığını sık sık söyler mi?	Araştırmacılar tarafından geliştirilmiştir.
1. (A) Annen kendi başına bir şey yapmandan hoşlanır mı?	Araştırmacılar tarafından geliştirilmiştir.
7. (A) Oynarken annen "Gözümün önünden ayrılma" der mi?	Araştırmacılar tarafından geliştirilmiştir.
21. (A) Annen terleyip terlemediğini sürekli kontrol	Araştırmacılar tarafından

eder mi?	geliştirilmiştir.
28. (A) Sence annen sana çok mu karışır?	Araştırmacılar tarafından geliştirilmiştir.
36. (A) Annen arkadaşlarının kim olduğuna karışır mı?	Araştırmacılar tarafından geliştirilmiştir.
41. (A) Annen sağlığın konusunda çok endişelenir mi?	Araştırmacılar tarafından geliştirilmiştir.
48. (A) Annen evin uzağında oynamana izin verir mi?	Araştırmacılar tarafından geliştirilmiştir.

Not. DY = Duygusal Yakınlık, M = Müdahalecilik, K = Karşılaştırma, SY = Suçluluk Yaratma, R = Reddetme, A = Aşırı Koruma

Parenting Behaviors Scale with Subscales (after Pilot #2)

PARENTAL REJECTION (10 ITEMS)
Sana herkesin içinde kötü sözler söyler mi?
Sana karşı çok kaba davrandığı olur mu?
Sana karşı çok sert davranır mı?
Yaptığın küçük yaramazlıklar veya hatalar için bile seni ağır bir şekilde cezalandırır mı?
Diğer çocuklardan daha kötü veya başarısız olduğunu söyler mi?
Sana hiçbir işi başaramadığını söyler mi?
Seni arkadaşlarınla karşılaştırır mı?
Evde bir şey ters gittiğinde hemen seni mi suçlar?
Arkadaşların içinde en iyi olman için seni zorlar mı?
Yanlış bir şey yapmadığın halde seni cezalandırdığı olur mu?
PARENTAL CONTROL (9 ITEMS)
Sana kızdığında daha önce yaptığın hataları sürekli söyleyip durur mu?
Sen bir şey söylemeye çalışırken, konuyu değiştirir mi?
Sen konuşurken cümlelerini tamamlar mı?
Ödevlerini yaparken sana sen istemediğin halde karışır mı?
Senin bir konudaki düşünce ve kararlarını ısrarla değiştirmeye çalışır mı?
Arkadaşlarının kim olduğuna karışır mı?
Sence sana çok mu karışır?
Üstün pislenir diye bazı oyunları oynamana izin vermediği olur mu?
Yaptığın bir işi beğenmezse, o işi zorla senden alıp kendi yapar mı?
PARENTAL WARMTH (8 ITEMS)
Üzüntülü olduğunu sen söylemeden anlar mı?
Başına kötü bir şey geldiğinde seni rahatlatmaya çalışır mı?
Sana kızdığında kendisi de üzülür mü?
Senin zamanının eğlenceli geçmesine çalışır mı (örneğin; tatile, akrabalara göndererek, sana güzel kitaplar alarak)?
Sana sıcak ve sevecen davranır mı?
Bir işi başardığında seninle gurur duyar mı?
Sen kötü bir şey yaptığında sana kızmadan önce nedenini sorar mı?
Sana sevgisini kucaklayarak veya sarılarak gösterir mi?

Parenting Behaviors Scale Used in the Pretest

Aşağıda annen ve babanla ilişkilerin hakkında cümleler var. Cümlelerde anlatılanları son 1 ayda ne kadar yaşadığını düşün. Her cümlede bir kutucuğu annen için, bir kutucuğu da baban için işaretle. Bu cümleleri birlikte yaşadığın annen/baban veya anne-baba yerine koyduğun kişileri düşünerek cevapla.

		ANNEM					BABAM				
		Geçtiğimiz ay hiç olmadı	Ayda 1-2 kere	Haftada 1 kere	Haftada 2-3 kere	Her gün	Geçtiğimiz ay hiç olmadı	Ayda 1-2 kere	Haftada 1 kere	Haftada 2-3 kere	Her gün
1	Üzüntülü olduğunu sen söylemeden anlar mı?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2	Yaptığın küçük yaramazlıklar veya hatalar için bile seni ağır bir şekilde cezalandırır mı?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3	Başına kötü bir şey geldiğinde seni rahatlatmaya çalışır mı?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
4	Sana karşı çok sert davranır mı?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
5	Sana herkesin içinde kötü sözler söyler mi?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6	O sana kızdığında kendisi de üzülür mü?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7	Sana hiçbir işi başaramadığını söyler mi?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
8	Sen konuşurken cümlelerini tamamlar mı?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9	Senin zamanının eğlenceli geçmesine çalışır mı (örneğin; tatile, akrabalara göndererek, sana güzel kitaplar alarak)?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
10	Yaptığın bir işi beğenmezse, o işi zorla senden alıp kendi yapar mı?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

		ANNEM					BABAM				
		Geçtiğimiz ay hiç olmadı	Ayda 1-2 kere	Haftada 1 kere	Haftada 2-3 kere	Her gün	Geçtiğimiz ay hiç olmadı	Ayda 1-2 kere	Haftada 1 kere	Haftada 2-3 kere	Her gün
11	Sana karşı çok kaba davrandığı olur mu?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
12	Seni arkadaşlarınla karşılaştırır mı?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
13	Sence o sana çok mu karışır?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
14	Sen bir şey söylemeye çalışırken o, konuyu değiştirir mi?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
15	Sana sıcak ve sevecen davranır mı?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
16	Üstün pislenir diye bazı oyunları oynamana izin vermediği olur mu?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
17	Yanlış bir şey yapmadığın halde seni cezalandırdığı olur mu?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
18	Sana kızdığında daha önce yaptığın hataları sürekli söyleyip durur mu?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
19	Arkadaşlarının kim olduğuna karışır mı?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
20	Bir işi başardığında seninle gurur duyar mı?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
21	Diğer çocuklardan daha kötü veya başarısız olduğunu söyler mi?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
22	Sen kötü bir şey yaptığında o sana kızmadan önce nedenini sorar mı?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
23	Ödevlerini yaparken o sana sen istemediğin halde karışır mı?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

		ANNEM					BABAM				
		Geçtiğimiz ay hiç olmadı	Ayda 1-2 kere	Haftada 1 kere	Haftada 2-3 kere	Her gün	Geçtiğimiz ay hiç olmadı	Ayda 1-2 kere	Haftada 1 kere	Haftada 2-3 kere	Her gün
24	Senin bir konudaki düşünce ve kararlarını ısrarla değiştirmeye çalışır mı?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
25	Arkadaşların içinde en iyi olman için seni zorlar mı?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
26	Sana sevgisini kucaklayarak veya sarılarak gösterir mi?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
27	Evde bir şey ters gittiğinde o hemen seni mi suçlar?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

APPENDIX D
Pretest and Previous Versions of the Self-Efficacy Scales

The General Perceived Self-Efficacy Scale

(Original version by Schwarzer & Jerusalem, 1995)

1. I can always manage to solve difficult problems, if I try hard enough.

2. If someone opposes me, I can find the means and ways to get what I want.

3. I am certain that I can accomplish my goals.

4. I am confident that I could deal efficiently with unexpected events.

5. Thanks to my resourcefulness, I can handle unforeseen situations.

6. I can solve most problems, if I invest the necessary effort.

7. I can remain calm when facing difficulties, because I can rely on my coping abilities.

8. When I am confronted with a problem, I can find several solutions.

9. If I am in trouble, I can think of a good solution.

10. I can handle whatever comes my way.

Response Format:

1= Not at all true 2= Hardly true 3= Moderately true 4= Exactly true

Note. The English version was developed in 1985, published in 1995, and revised slightly in 2000.

The General Perceived Self-Efficacy Scale

(Turkish version by Aypay, 2010)

GENEL ÖZ YETERLİK ÖLÇEĞİ

Bu ölçek, bireylerin stresli yaşantılarla başa çıkabilme ve bunlara uyum sağlayabilme becerilerine yönelik algılarını belirlemek amacıyla geliştirilmiştir. Aşağıda bazı düşünceleri içeren ifadeler yer almaktadır. Bu ifadelere katılma derecenizi "Tamamen yanlış", "Çoğunlukla yanlış", "Çoğunlukla doğru", "Tamamen doğru" seçeneklerinden size en uygun olanı işaretleyerek göstermeniz beklenmektedir. Lütfen her bir ifadede belirtilen düşüncenin size ne kadar uyduğunu düşününüz. Her bir ifadeye katılma derecenizi kendinize en uygun gelen seçeneğin altındaki kutucuğu işaretleyerek gösteriniz. Lütfen hiçbir maddeyi yanıtsız bırakmayınız. Değerli katkılarız için teşekkür ederim.

	Tamamen yanlış	Biraz doğru	Orta düzeyde doğru	Tamamen doğru
1) Yeterince çaba harcarsam, zor sorunları çözmenin bir yolunu daima bulabilirim.....	☐	☐	☐	☐
2) Bana karşı çıkıldığında, istediğimi elde etmemi sağlayacak bir yol ve yöntem bulabilirim.....	☐	☐	☐	☐
3) Amaçlarıma bağlı kalmak ve bunları gerçekleştirmek benim için kolaydır.....	☐	☐	☐	☐
4) Beklenmedik olaylarla etkili bir biçimde başa çıkabileceğime inanıyorum.....	☐	☐	☐	☐
5) Yeteneklerim sayesinde beklenmedik durumlarla nasıl başedebileceğimi biliyorum.....	☐	☐	☐	☐
6) Gerekli çabayı gösterirsem, birçok sorunu çözebilirim.....	☐	☐	☐	☐
7) Baş etme gücüme güvendiğim için zorluklarla karşılaştığımda soğukkanlılığımı koruyabilirim....	☐	☐	☐	☐
8) Bir sorunla karşılaştığımda, genellikle birkaç çözüm yolu bulabilirim.....	☐	☐	☐	☐
9) Başım dertte olduğunda, genellikle bir çözüm düşünebilirim.....	☐	☐	☐	☐
10) Önüme çıkan zorluk ne olursa olsun, üstesinden gelebilirim.....	☐	☐	☐	☐

The General Self-Efficacy Scale

(Original version by Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, and Rogers, 1982)

Initiative

(1) If something looks too complicated I will not even bother to try it.

(2) I avoid trying to learn new things when they look too difficult.

(3) When trying to learn something new, I soon give up if I am not initially successful.

Effort

(1) When I make plans, I am certain I can make them work.

(2) If I can't do a job the first time, I keep trying until I can.

(3) When I have something unpleasant to do, I stick to it until I finish it.

(4) When I decide to do something, I go right to work on it.

(5) Failure just makes me try harder.

Persistence

(1) When I set important goals for myself, I rarely achieve them.

(2) I do not seem capable of dealing with most problems that come up in my life.

(3) When unexpected problems occur, I don't handle them very well.

(4) I feel insecure about my ability to do things.

ÖZ-ETKİLİLİK-YETERLİK ÖLÇEGİ

Yönerge

Aşağıda herhangi bir durumda insanların nasıl davranacaklarını ve düşüneceklerini anlatan 23 ifade vardır. Lütfen her bir maddeyi dikkatle okuyarak o maddede yer alan ifadenin size ne derece uygun olduğuna karar veriniz. Verdiğiniz karara göre aşağıdaki ölçeği dikkate alarak yandaki rakamlardan uygun olanı yuvarlak içine alınız.

1-Beni hiç tanımlamıyor.
2-Beni biraz tanımlıyor.
3-Karasızım.
4-Beni iyi tanımlıyor.
5-Beni çok iyi tanımlıyor.

1.Yaptığım planları, gerçekleştireceğimden eminim.	1	2	3	4	5
2.Yapmam gereken bir işe girişememe gibi bir problemim vardır.	1	2	3	4	5
3.Bir işi bir seferde yapamıyorsam, yapıncaya kadar devam ederim.	1	2	3	4	5
4.Kendim için önemli hedefler koyduğumda, nadiren başarırım.	1	2	3	4	5
5.İşleri yapıp sonuçlandırmadan yapmaktan vazgeçerim.	1	2	3	4	5
6.Zorluklarla karşılaşmaktan kaçınırım.	1	2	3	4	5
7.Bazı işler çok karışık görünüyorsa yapmak için sıkıntıya girmem.	1	2	3	4	5
8.Hoşlanmadığım ancak yapmam gereken işler varsa bitirinceye kadar devam ederim.	1	2	3	4	5

9.Bir şeyi yapmaya karar verdi~imde onun üzerinde çalışmaya devam ederim.	1	2	3	4	5
10.Yeni bir şeyler öğrenmeye çalıştığımda, başlangıçta başarılı olamazsam hemen vazgeçerim.	1	2	3	4	5
11. Beklenmedik problemler çıktığında üzerinde fazla durmam.	1	2	3	4	5
12.Benim için çok zor göründüklerinde, yeni şeyler öğrenmek için çaba göstermekten kaçınırım.	1	2	3	4	5
13.Başarısızlık beni daha çok teşvik eder.	1	2	3	4	5
14.Bir şeyleri yapabilme konusunda kendime fazla güvenmem.	1	2	3	4	5
15.Ben kendime güvenen bir insanım.	1	2	3	4	5
16.Kolaylıkla vazgeçerim.	1	2	3	4	5
17.Hayatta ortaya çıkan problemlerin üstesinden gelme yeteneğini kendimde bulamam.	1	2	3	4	5
18.Yeni arkadaş edinmek benim için zordur.	1	2	3	4	5
19.Tanışmak istediğim birisini görürsem, onun bana gelmesini beklemek yerine ben giderim.	1	2	3	4	5
20.Arkadaşlık kurulması güç, ilginç biriyle tanışırsam, o kişiyle arkadaş olmaktan hemen vazgeçerim.	1	2	3	4	5
21.Bana ilgi göstermeyen birisiyle arkadaş olmaya çalıştığımda kolaylıkla vazgeçmem.	1	2	3	4	5

22.Sosyal toplantılarda kendimi rahat hissetmem.	1	2	3	4	5
23.Arkadaşlarımla, arkadaş edinmede kişisel yeteneklerimle	1	2	3	4	5

Self-Efficacy Scale (Turkish version used in the pilot #2)

ÖZ YETERLİK ÖLÇEĞİ

Aşağıda verilen cümlelerde 1'den 5'e kadar olan sayılar, önem derecesini belirtir. Maddeler eğer senin için, hiç doğru değilse 1i, doğru değilse 2'yi, bazen doğruysa 3'ü, doğruysa 4'ü, çok doğru ise 5'işaretle. Şimdi son 30 gününü düşün ve her satırda doğru olduğunu düşündüğün sadece bir seçeneği işaretle.

		Hiç doğru değil (1)	Doğru değil (2)	Kısmen doğru (3)	Doğru (4)	Çok doğru (5)
1	Yaptığım planları gerçekleştireceğimden eminim.					
2	Yapmam gereken bir işe girişememe gibi bir problemim vardır.					
3	Bir işi bir seferde yapamıyorsam, yapıncaya kadar devam ederim.					
4	İşleri yapıp sonuçlandırmadan, yapmaktan vazgeçerim.					
5	Zorluklarla karşılaşmaktan kaçınırım.					
6	Bazı işler çok karışık görünüyorsa yapmak için sıkıntıya girmem.					
7	Hoşlanmadığım ancak yapmam gereken işler varsa bitirinceye kadar devam ederim.					
8	Yeni bir şeyler öğrenmeye çalıştığımda, başlangıçta başarılı olmazsam hemen vazgeçerim.					
9	Başarısızlık beni daha çok teşvik eder.					
10	Bir şeyleri yapabilme konusunda kendime fazla güvenmem.					
11	Ben kendime güvenen bir insanım.					
12	Kolaylıkla vazgeçerim.					
13	Hayatta ortaya çıkan problemlerin üstesinden gelme yeteneğini kendimde bulmam.					

Self-Efficacy Scale

(Turkish version used in the pretest)

ÖZ YETERLİK ÖLÇEĞİ	Hiç doğru değil	Doğru değil	Kısmen doğru	Doğru	Çok doğru
(1) Yapmam gereken bir işe başlayamama gibi bir problemim vardır.	☐	☐	☐	☐	☐
(2) Bir işi bir seferde yapamıyorsam, yapıncaya kadar devam ederim.	☐	☐	☐	☐	☐
(3) İşleri sonuçlandırmadan, yapmaktan vazgeçerim.	☐	☐	☐	☐	☐
(4) Zorluklardan korkmam.	☐	☐	☐	☐	☐
(5) Yeni bir şeyler öğrenmeye çalıştığımda, başlangıçta başarılı olmazsam hemen vazgeçerim.	☐	☐	☐	☐	☐
(6) Bir şeyleri yapabilme konusunda kendime fazla güvenmem.	☐	☐	☐	☐	☐
(7) Bir zorlukla karşılaştığımda yaptığım işten kolaylıkla vazgeçerim.	☐	☐	☐	☐	☐
(8) Hayatta ortaya çıkan problemlerin üstesinden gelme yeteneğim yok.	☐	☐	☐	☐	☐
(9) Kendime güvenen bir insanım.	☐	☐	☐	☐	☐
(10) Ne olursa olsun direnme ve mücadele etme gücünü kendimde bulurum.	☐	☐	☐	☐	☐
(11) Mutlaka bir yol bulabileceğime inanır, bu yolda uğraşırım.	☐	☐	☐	☐	☐

APPENDIX E
Factor Structures of the Pretest Scales

Table 1

Descriptives and initial EFA results of the Implicit Intelligence Theories scale items.

	Mean	SD	Skewness	Kurtosis	Factor Loading	Communality
Herkesin belli bir zekâ seviyesi vardır ve bunu değiştirmek için pek bir şey yapılamaz.*	3.49	1.36	-.40	-1.06	.70	.49
Zeka bir insanın pek değiştiremeyeceği bir özelliğidir.*	3.13	1.49	-.058	-1.42	.44	.19
Bir insan yeni şeyler öğrenebilir, ama zeka seviyesini pek değiştiremez.*	3.47	1.35	-.41	-1.01	.72	.52
İnsanlar çalışarak ya da öğrenerek zeka düzeylerini değiştirebilirler.	4.13	1.14	-1.28	.85	.41	.17
Kişinin yaşı ne olursa olsun, çaba göstererek zekasını geliştirebilir.	4.38	.90	-1.60	2.46	--	.05
Eigenvalue						2.36
Total Variance Explained						40.73%

Note. Items with an asterisk are reverse-worded. Higher scores indicate a growth mindset.

Table 2

Descriptives and initial EFA results of the Implicit Personality Theories scale items.

	Mean	SD	Skewness	Kurtosis	Factor Loading	Communality
Benim nasıl bir insan olduğum benimle ilgili çok temel bir şeydir ve pek değiştiremem.*	2.76	1.32	.29	-1.01	.58	.34
Ben zaman içinde bir şeyleri farklı şekillerde yapabilirim, ama kişiliğim pek değişmez.*	2.56	1.16	.52	-.32	.53	.28
Ben belli bir kişiliğe sahibim ve bunu değiştirmek için yapabileceğim pek bir şey yok.*	3.10	1.29	-.02	-.98	.62	.39
Ben yedimde neysem yetmişimde de o olurum. En derin özelliklerimi değiştiremem.*	2.74	1.35	.26	-1.04	.52	.27
Ben kendimi her zaman büyük ölçüde değiştirebilirim.	3.19	1.18	-.17	-.64	--	.02
Eigenvalue						1.98
Total Variance Explained						39.53%

Note. Items with an asterisk are reverse-worded. Higher scores indicate a growth mindset.

Table 3

Descriptives and EFA results of the Mindset scale items.

	Mean	SD	Skewness	Kurtosis	Factor Loading	Communality
Herkesin belli bir zekâ seviyesi vardır ve bunu değiştirmek için pek bir şey yapılamaz.*	3.49	1.36	-.40	-1.06	.68	.42
Zeka bir insanın pek değiştiremeyeceği bir özelliğidir.*	3.13	1.49	-.058	-1.42	.47	.22
Bir insan yeni şeyler öğrenebilir, ama zeka seviyesini pek değiştiremez.*	3.47	1.35	-.41	-1.01	.62	.33
İnsanlar çalışarak ya da öğrenerek zeka düzeylerini değiştirebilirler.	4.13	1.14	-1.28	.85	--	.06
Kişinin yaşı ne olursa olsun, çaba göstererek zekasını geliştirebilir.	4.38	.90	-1.60	2.46	--	.01
Benim nasıl bir insan olduğum benimle ilgili çok temel bir şeydir ve pek değiştiremem.*	2.76	1.32	.29	-1.01	.42	.21
Ben zaman içinde bir şeyleri farklı şekillerde yapabilirim, ama kişiliğim pek değişmez.*	2.56	1.16	.52	-.32	.32	.13
Ben belli bir kişiliğe sahibim ve bunu değiştirmek için yapabileceğim pek bir şey yok.*	3.10	1.29	-.02	-.98	.53	.32
Ben yedimde neysem yetmişimde de o olurum. En derin özelliklerimi değiştiremem.*	2.74	1.35	.26	-1.04	.46	.23
Ben kendimi her zaman büyük ölçüde değiştirebilirim.	3.19	1.18	-.17	-.64	--	.05
Eigenvalue						2.69
Total Variance Explained						26.87%
Cronbach's α						.71

Note. Items with an asterisk are reverse-worded. Higher scores indicate a growth mindset.

Table 4

Descriptives and EFA results of the Goal Orientation scale items.

	Mean	SD	Skewness	Kurtosis	Factor Loading	Communality
Hedeflerime ulaşamayacağımı düşünüp endişelenirim.*	2.53	1.35	-.42	-1.07	--	--
Başarı için çaba sarf etmektense, olabilecek başarısızlıkları önlemeye çalışırım.*	2.77	1.36	.33	-.98	--	--
Gelecekte elde etmek istediğim başarıya odaklanarak hareket ederim.	4.20	.99	-1.27	1.25	.48	.24
Hayatımda olumlu sonuçlar elde etmeye odaklanırım.	4.37	.91	-1.77	3.26	.50	.25
Gelecekte olmayı hayal ettiğim insanı sık sık düşünürüm.	4.11	1.16	-1.26	.74	.45	.20
Yaşamak istediğim güzel şeyleri hayalimde canlandırırım.	4.37	.97	-1.72	2.54	.58	.34
Umutlarımı ve amaçlarımı nasıl gerçekleştirebileceğimi hayal ederim.	4.28	.96	-1.51	2.09	.74	.55
Eigenvalue						2.22
Total Variance Explained						44.41%
Cronbach's α						.68

Note. Items with an asterisk are reverse-worded. Higher scores indicate a promotion (positive) goal orientation.

Table 5

Descriptives and EFA results of the Parenting Behaviors (Mother) scale items.

	Mean	SD	Skewness	Kurtosis	Loading on Factor #1	Loading on Factor #2
Üzüntülü olduğunu sen söylemeden anlar mı?	4.12	1.33	-1.29	.24		.55
Yaptığın küçük yaramazlıklar veya hatalar için bile seni ağır bir şekilde cezalandırır mı?	1.54	.97	1.93	3.18	.40	
Başına kötü bir şey geldiğinde seni rahatlatmaya çalışır mı?	4.28	1.25	-1.65	1.41		.62
Sana karşı çok sert davranır mı?	1.53	.91	1.83	2.78	.56	
Sana herkesin içinde kötü sözler söyler mi?	1.18	.66	4.48	20.82	.36	
Sana kızdığında kendisi de üzülür mü?	3.94	1.40	-1.02	-.42		.60
Sana hiçbir işi başaramadığını söyler mi?	1.57	1.09	2.00	3.01	.53	
Sen konuşurken cümlelerini tamamlar mı?	2.49	1.60	.51	-1.37	--	
Senin zamanının eğlenceli geçmesine çalışır mı (örneğin tatile, akrabalara göndererek, sana güzel kitaplar alarak)?	4.09	1.26	-1.21	.19		.53
Yaptığın bir işi beğenmezse, o işi zorla senden alıp kendi yapar mı?	1.65	1.16	1.78	2.01	.42	
Sana karşı çok kaba davrandığı olur mu?	1.49	.85	1.89	3.28	.63	
Seni arkadaşlarınla karşılaştırır mı?	2.37	1.49	.68	-1.04	.45	
Sence o sana çok mu karışır?	2.14	1.34	.94	-.36	.52	
Sen bir şey söylemeye çalışırken o, konuyu değiştirir mi?	1.49	1.04	2.27	4.27	--	

Table 5 (continued)

Descriptives and EFA results of the Parenting Behaviors (Mother) scale items.

	Mean	SD	Skewness	Kurtosis	Loading on Factor #1	Loading on Factor #2
Sana sıcak ve sevecen davranır mı?	4.73	.82	-3.46	11.62		.41
Üstün pislenir diye bazı oyunları oynamana izin vermediği olur mu?	1.92	1.28	1.21	.19	--	
Yanlış bir şey yapmadığın halde seni cezalandırdığı olur mu?	1.34	.85	2.91	8.25	.50	
Sana kızdığında daha önce yaptığın hataları sürekli söyleyip durur mu?	2.01	1.30	1.14	.08	.63	
Arkadaşlarının kim olduğuna karışır mı?	2.45	1.49	.57	-1.15	--	
Bir işi başardığında seninle gurur duyar mı?	4.69	.90	-3.14	8.94		.56
Diğer çocuklardan daha kötü veya başarısız olduğunu söyler mi?	1.61	1.14	1.90	2.50	.64	
Sen kötü bir şey yaptığında, sana kızmadan önce nedenini sorar mı?	3.87	1.48	-.92	-.71		--
Ödevlerini yaparken, sana sen istemediğin halde karışır mı?	1.60	1.15	1.89	2.37	.42	
Senin bir konudaki düşünce ve kararlarını ısrarla değiştirmeye çalışır mı?	1.46	.98	2.98	13.65	.46	
Arkadaşların içinde en iyi olman için seni zorlar mı?	2.02	1.42	1.12	-.25	.38	
Sana sevgisini kucaklayarak veya sarılarak gösterir mi?	4.54	1.07	-2.40	4.55		.53
Evde bir şey ters gittiğinde, hemen seni mi suçlar?	1.54	1.10	2.09	3.24	.55	
Eigenvalues					4.08	2.33
Total Variance Explained						37.75%

Note. Items with an asterisk are reverse-worded. Items are rated on a 5-point Likert scale. Higher scores indicate higher frequency of the behavior. Factor #1 is *mothers' discouraging behaviors*; factor #2 is *mothers' supportive behaviors.*

Table 6

Descriptives and EFA results of the Parenting Behaviors (Father) scale items.

	Mean	SD	Skewness	Kurtosis	Loading on Factor #1	Loading on Factor #2
Üzüntülü olduğunu sen söylemeden anlar mı?	3.49	1.54	-.50	-1.27		.55
Yaptığın küçük yaramazlıklar veya hatalar için bile seni ağır bir şekilde cezalandırır mı?	1.52	.93	1.96	3.37	--	
Başına kötü bir şey geldiğinde seni rahatlatmaya çalışır mı?	3.91	1.44	-1.00	-.49		.66
Sana karşı çok sert davranır mı?	1.54	.92	1.87	3.01	.42	
Sana herkesin içinde kötü sözler söyler mi?	1.17	.62	4.54	21.82	.40	
Sana kızdığında kendisi de üzülür mü?	3.68	1.53	-.70	-1.08		.60
Sana hiçbir işi başaramadığını söyler mi?	1.51	1.04	2.21	4.02	--	
Sen konuşurken cümlelerini tamamlar mı?	2.25	1.55	.79	-1.00	--	
Senin zamanının eğlenceli geçmesine çalışır mı (örneğin tatile, akrabalara göndererek, sana güzel kitaplar alarak)?	3.98	1.32	-1.03	-.28		.60
Yaptığın bir işi beğenmezse, o işi zorla senden alıp kendi yapar mı?	1.51	1.05	2.17	3.76	.38	
Sana karşı çok kaba davrandığı olur mu?	1.48	.85	1.95	3.49	.58	
Seni arkadaşlarınla karşılaştırır mı?	1.88	1.34	1.34	.41	--	
Sence o sana çok mu karışır?	1.81	1.14	1.36	.88	.47	
Sen bir şey söylemeye çalışırken o, konuyu değiştirir mi?	1.41	.95	2.59	6.09	.38	

Table 6 (continued)

Descriptives and EFA results of the Parenting Behaviors (Father) scale items.

	Mean	SD	Skewness	Kurtosis	Loading on Factor #1	Loading on Factor #2
Sana sıcak ve sevecen davranır mı?	4.61	.97	-2.75	6.73		.53
Üstün pislenir diye bazı oyunları oynamana izin vermediği olur mu?	1.66	1.14	1.71	1.81	--	
Yanlış bir şey yapmadığın halde seni cezalandırdığı olur mu?	1.31	.83	3.10	9.50	.49	
Sana kızdığında daha önce yaptığın hataları sürekli söyleyip durur mu?	1.70	1.11	1.62	1.72	.59	
Arkadaşlarının kim olduğuna karışır mı?	2.17	1.43	.88	-.67	--	
Bir işi başardığında seninle gurur duyar mı?	4.65	.94	-2.89	7.45		.59
Diğer çocuklardan daha kötü veya başarısız olduğunu söyler mi?	1.46	1.01	2.39	4.83	.54	
Sen kötü bir şey yaptığında, sana kızmadan önce nedenini sorar mı?	3.78	1.55	-.82	-.96		.52
Ödevlerini yaparken, sana sen istemediğin halde karışır mı?	1.47	1.02	2.30	4.37	.42	
Senin bir konudaki düşünce ve kararlarını ısrarla değiştirmeye çalışır mı?	1.37	.83	2.59	6.70	.54	
Arkadaşların içinde en iyi olman için seni zorlar mı?	1.90	1.37	1.26	.13	.41	
Sana sevgisini kucaklayarak veya sarılarak gösterir mi?	4.36	1.23	-1.84	2.02		.61
Evde bir şey ters gittiğinde, hemen seni mi suçlar?	1.42	.99	2.56	5.71	.46	
Eigenvalues					4.04	2.46
Total Variance Explained						38.29%

Note. Items with an asterisk are reverse-worded. Items are rated on a 5-point Likert scale. Higher scores indicate higher frequency of the behavior. Factor #1 is *fathers' discouraging behaviors*; factor #2 is *fathers' supportive behaviors.*

Table 7

Descriptives and EFA results of the Self-Efficacy scale items.

	Mean	SD	Skewness	Kurtosis	Factor Loading	Communality
(1) Yapmam gereken bir işe başlayamama gibi bir problemim vardır.*	3.79	1.27	-.74	-.56	.45	.20
(2) Bir işi ilk seferde yapamıyorsam, yapıncaya kadar devam ederim.	4.24	1.02	-1.42	1.60	.52	.27
(3) İşleri sonuçlandırmadan, yapmaktan vazgeçerim.*	4.10	1.11	-2.06	.22	.49	.24
(4) Zorluklardan korkmam.	3.93	1.08	-.80	-.03	.47	.22
(5) Yeni bir şeyler öğrenmeye çalıştığımda, başlangıçta başarılı olmazsam hemen vazgeçerim.*	4.14	1.14	-1.23	.61	.52	.27
(6) Bir şeyleri yapabilme konusunda kendime fazla güvenmem.*	3.96	1.20	-.93	-.22	.55	.30
(7) Bir zorlukla karşılaştığımda yaptığım işten kolaylıkla vazgeçerim.*	4.11	1.16	-1.21	.53	.55	.30
(8) Hayatta ortaya çıkan problemlerin üstesinden gelme yeteneğim yok.*	4.09	1.10	-1.09	.37	.58	.34
(9) Kendime güvenen bir insanım.	4.39	.94	-1.78	3.02	.55	.30
(10) Ne olursa olsun direnme ve mücadele etme gücünü kendimde bulurum.	4.18	.99	-1.26	1.24	.52	.27
(11) Mutlaka bir yol bulabileceğime inanır, bu yolda uğraşırım.	4.22	1.04	-1.42	1.48	.51	.26
Eigenvalue						3.69
Total Variance Explained						33.56%
Cronbach's α						.80

Note. Items with an asterisk are reverse-worded. Items are rated on a 5-point Likert scale. Higher scores indicate higher self-efficacy.