THE INTERPLAY OF PERCEIVED FAMILY FACTORS AND PERSONAL COGNITIVE FACTORS IN PREDICTING PHYSICAL AGGRESSION AMONG URBAN YOUTH

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Approval of the Graduate School of Social Sciences

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ABSTRACT

THE INTERPLAY OF PERCEIVED FAMILY FACTORS AND PERSONAL COGNITIVE FACTORS IN PREDICTING PHYSICAL AGGRESSION AMONG URBAN YOUTH

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The purpose of the current study was to examine personal cognitive variables (adolescents' beliefs supporting aggression, adolescents' self-efficacy for alternatives to aggression, and adolescents' personal value on achievement) as potential mediators of the relationship between perceived family factors (parental support for aggression, family conflict, and parental monitoring) and adolescents physical aggression among Turkish adolescents living in Ankara. Volunteered students (2443 sixth, seventh, and eighth graders) from randomly selected schools (36 primary school) participated in the study. Physical Aggression Scale, Beliefs Supporting Aggression Scale, Self- efficacy for Alternatives to Aggression Scale, Personal Value on Achievement Scale, Parent Adolescent Relationship-Monitoring Scale, Parental Support for Aggression Scale, and Family

Conflict Scale were used in the data collection. Results of the SEM analyses showed that the models adequately described the data for the sample of male and female adolescents and the fit indices were all within the acceptable thresholds. When considering the explained variance in physical aggression; the latent model accounted for 48% of the variance in physical aggression among girls and 40% of the variance in physical aggression among boys. In general, the results suggested that the influence of perceived family factors on physical aggression can be mediated by personal cognitive factors. Moreover, the patterns of interactions and the strength of the relationships differed in boys and girls model. The results revealed that the proposed model of physical aggression, which was based on integration of problem behavior theory (Jessor, 1987) and social information processing model (Huesmann, 1998) was supported by the data.

Key words: Physical Aggression, Family Factors, Personal Cognitive Factors, Adolescence

ÖZ

ALGILANAN AİLE DEĞİŞKENLERİ VE KİŞİSEL BİLİŞSEL DEĞİŞKENLERİN ETKİLEŞİMİNİN KENTLERDE YAŞAYAN GENÇLERİN FİZİKSEL SALDIRGANLIKLARINI YORDAMADAKİ ROLÜ

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Bu çalışmanın amacı, kişisel bilişsel değişkenlerin (saldırganlıkla ilgili düşünceler, saldırganlığa alternatif davranışlar için öz-yeterlilik ve başarıya verilen değer) algılanan aile değişkenleri (ebeveynin saldırganlığa verdiği destek, ailedeki çatışma, ebeveyn izlemesi) ve fiziksel saldırganlık arasındaki ilişkiye aracılık etmedeki rolünü Ankara'da yaşayan gençler örnekleminde incelemektir. Örneklem seçkisiz örnekleme yöntemi ile seçilmiş 36 ilköğretim okuluna devam eden ve çalışmaya katılmaya gönüllü olan 2443 altıncı, yedinci ve sekizinci sınıf öğrencisini kapsamaktadır. Araştırma için gerekli olan veri Fiziksel Saldırganlık Ölçeği, Saldırganlığı Destekleyen Düşünceler Ölçeği, Saldırganlığa Alternatif Davranışlar için Özyeterlilik Ölçeği, Başarıya

Değer Verme Ölçeği, Ana baba-Ergen İlişkileri-İzleme Ölçeği, Saldırganlık için Ebeveyn Desteği Ölçeği, Ailede Çatışma Ölçeği ile toplanmıştır. YEM analizinin sonuçları önerilen modelin hem erkek hem de kız ergen örnekleminden elde edilen verileri yeterli düzeyde açıkladığını ortaya koymuştur. Modelin fiziksel saldırganlığı ne derece açıkladığı incelendiğinde, erkekler için düzenlenen modelin fiziksel saldırganlığa ilişkin varyansın %40'ını, kızlar için düzenlenen modelin ise fiziksel saldırganlığa ilişkin varyansın %48'ini açıkladığı görülmüştür. Genel olarak algılanan aile faktörleri ile kişisel bilişsel faktörler arasındaki anlamlı ilişkiler, algılanan aile faktörleri ile fiziksel saldırganlık arasındaki ilişkiye kişisel bilişsel faktörlerin aracılık (mediate) ettiğini göstermiştir. Ayrıca, kız ve erkek örneklemi için düzenlenen modellerde ilişkilerin etkileşimi ve yordama güçlerinin değişim gösterdiği bulunmuştur. Bulgular problem davranış kuramı (Jessor, 1987) ve sosyal bilgiyi işleme modeli (Huesmann, 1998) temel alınarak oluşturulan fiziksel saldırganlık modelinin elde edilen verilerle belirli bir ölçüde desteklendiğini ortaya koymuştur.

Anahtar kelimeler: Fiziksel Saldırganlık, Aile Değişkenleri, Kişisel Bilişsel Değişkenler, Ergenlik

To my father for teaching me DILIGENCE,

to my mother for teaching me PATIENCE,

to my sister for teaching me SHARING,

& to my husband for bringing me LOVE…

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

FIGURES

CHAPTER 1

INTRODUCTION

"*If we are to reach real peace in this world…we shall have to begin with the children…*"

-Mahatma Gandhi-

1.1 Background to the Study

Adolescence can be defined as a period of transition from childhood to adulthood with many developmental shifts in many aspects of life including biological, psychological, and social role changes (Gore & Eckenrode, 1994; Holmbeck, 1994; Santrock, 1996). Throughout adolescence, individuals begin to look for autonomy or having greater influence in decision-making (Lachausse, 2008). Moreover, physiological and cognitive changes lead the adolescent to question his or her parents in particular and much of adult authority in general (Conger & Galambos, 1997). Besides, adolescents' increased physical strength and sexual urges often lead them to behave in ways not totally compatible with the desires of the larger society (Papalia, Olds, & Feldman, 1999). Parents, on the other hand, knowing the risks outside, tend to limit adolescent freedom and do not allow adolescents' full autonomy. Thus, adolescence period is full of parent-adolescent conflicts (Allison, 2000; Hill, Bromell, Tyson, & Flint, 2007). As a result, adolescents may tend to stay far from their

parents and also may be in search of finding a life outside home. Simultaneously, parents may feel distant to their child and may not practice their parenting skills effectively. However, research made it clear that the ways in which children are socialized in their families are strongly tied to positive and negative developmental outcomes (e.g., Herrenkohl, Maguin, Hill, Hawkins, Abbott, & Catalano, 2000). That is to say, negative and conflicting family environment (e.g., Brewer, Hawkins, Catalano, & Neckerman, 1995; Farrington, 1991) and ineffective parenting skills (e.g., Dekovic, 1999; Hawkins, Herrenkohl, Farrington, Brewer, Catalano, & Harachi, 1998; Loeber & Dishion, 1983; Loeber, & Stouthamer-Loeber, 1986) constitute family risk factors for adolescent problem behaviors; on the other hand, nurturing and positive family environment (e.g., Formoso, Gonzales, & Aiken, 2000) with effective parenting skills (e.g., Griffin, Botvin, Scheier, Diaz, & Miller, 2000; Herrenkohl, Hill, Ick-Joang Chung, Guo, Abbott, & Hawkins, 2003; Zahn-Waxler, Ianotti, Cummings, & Denham, 1990) have protective influence against problem behaviors of adolescents.

During this stormy period, adolescents are known to be at higher risk for a number of problem behaviors such as alcohol or drugs, risky sexual behavior, and aggressive/violent behavior. Aggression among youth, as a wide-ranging term including physical, verbal, relational aggression, bullying, school violence, deviant behavior, and delinquency is also a common problem all around the world and has long been the focus of research and theory. Hence, there exist hundreds of aggressive behavior definitions in the literature. Despite its proliferation, most of the definitions share two common features. First, the behavior is intended to

harm (e.g. Berkowitz, 1993; Gormly & Brodinsky, 1993; Huesmann & Moise, 1999; Vander Zanden, 1993) and second, the behavior is perceived as hurtful by the target (e.g., Dollard, Doob, Miller, Mowrer, & Sears, 1939; Harre & Lamb, 1983; Underwood, Coie, & Herbsman, 1992; Wenar, 1990). In the literature, several classifications of aggression (e.g., direct, indirect, social, reactive, proactive, affective, instrumental, mild, severe, self-directed, and others-directed, situational, relationship, psychopathological, and predatory) exist. However, the most common categorization is physical, verbal, and relational (e.g. Crick & Grotpeter, 1995; Scheithauer, Hayer, Peterman, & Jugert, 2006).

The first one is physical aggression which is characterized by direct physical actions, such as hitting, slapping, punching, kicking, pushing, and scratching that intended to do physical harm (Loeber & Hay, 1997). Verbal aggression includes face-to-face encounters in which one harms another person with words, such as teasing, name calling, insulting, threatening, or other similar behaviors (Pepler & Craig, 2005). Relational aggression refers to manipulative behavior that is intended to harm social relationships or damage social status, including gossiping, rejecting, withdrawing friendship, excluding etc. and may or may not involve a confrontation between the victim and the perpetrator (Crick & Nelson, 2002; Little, Henrich, Jones, & Hawley, 2003). The present study attempted to explain physical aggression among adolescents and the definition of physical aggression in this study fits into the definition of physical aggression stated above. Moreover, one important thing to notice is that the concept of aggression cannot easily be differentiated from, and cannot

be understood fully without the inclusion of several other similar concepts such as bullying, delinquency, deviant behavior, and violence.

In the last two decades, the popularity of youth aggression in general as a research topic has increased considerably worldwide. For instance, Stassen-Berger (2007) stated that PsycINFO includes only 62 citations of bullying from 1900 to 1990; however, in the 1990s it increased to 289, and finally it is 562 from 2000 to 2004, in a four year period. If the belief that "science is nourished from the needs of the society" is accepted, the situation becomes more dramatic. Unfortunately the logical interpretation seems to be correct according to the World Health Organization's report stating that violence is a leading worldwide public health problem (World Report on Violence and Health, World Health Organization, 2002). Correspondingly, Trends in International Mathematics and Science Study (TIMSS) data (Akiba, LeTendre, Baker, & Goesling, 2002) also supports World Health Organization's proposition by presenting the results of the first large-scale data on school delinquency of seventh and eighth graders from 37 nations which included both developing and developed countries. According to the results of TIMSS study, school violence is widely prevalent among the 37 nations studied. Moreover, one in every three to four students perceive themselves as victims or potential victims of violence in school on a monthly basis across all 37 nations (Akiba, LeTendre, Baker, & Goesling, 2002).

Another important international statistical information about the prevalence of fighting and bullying is revealed by Health Behavior in School-Aged Children (HBSC) and World Health Organization collaborative cross-national 2005/2006 survey study (Currie, NicGabhainn,

Godeau, et al., 2008), which contains data from more than 200 000 young people from 41 countries (including Turkey for the first time with 5552 young people) and regions across Europe and North America. The mean ages within their age group samples were 11.5, 13.5, and 15.5 years, respectively. HBSC survey mainly asked "how many times during the last 12 months they had been involved in a physical fight." There were large cross-national differences in the prevalence of reported fighting in the last 12 months; however, the most consistent observations cross-nationally were for much higher rates of reported fighting in the last 12 months among boys than girls and for fighting to decline with age. Among the countries, Turkey was listed in the 2nd, 1st, and 3rd place in physical fight involvement rate during the last year, within the age groups of 11, 13, and 15, respectively. When considering the question "how often they had been bullied at school in the past couple of months" Turkey was listed in the 1st, 3rd, and 7th place within the age groups of 11, 13 and 15, respectively. When students were asked "how often they had taken part in bullying another student(s) at school in the past couple of months" Turkey was listed in the 3rd, 10th, and 18th place within the age groups of 11, 13, and 15, respectively.

The most comprehensive prevalence study in Turkey was conducted by Grand National Assembly of Turkey (TBMM Araştırma Raporu, 2009), and this study also provides evidence of increasing trend of youth violence in Turkey. The representative national data obtained from 26009 high school students aged between 13 and 18 revealed that 29.3% of the

participants had engaged in violent behavior in the past 3 months. Physical violence with a percentage of 35.5% was reported as the second most frequently demonstrated type of violence in the past 3 months.

It appears reasonable to conclude from the studies that Turkey, as a developing country, has also faced the aggression/violence problem among youth parallel to other nations. However, in Turkey, the available empirical evidence on aggression has been limited to prevalence or correlational studies mostly (Alikaşifoğlu, Erginöz, Ercan, Uysal, Kaymak, & İlter, 2004; Atik, 2006; Bulut, 2008; Kaymak-Özmen, 2006; Özcebe, Çetik, & Üner, 2006; Özcebe, Uysal, Soysal, Polat, Şeker, & Üner, 2006; Pişkin, 2006; Şimşek, 2006, Tekin, 2006; Yavuz, Kablamacı-Atan, Atamer, Gölge, 2003; Yılmazçetin-Eke, & Ögel, 2006). Unfortunately, except from the criminal reports (police records and judicial statistics) no longitudinal statistical data on youth aggressive/violent behaviors exist. Furthermore, a number of experimental prevention studies have been conducted on aggressive behaviors of adolescents attained either short term effective outcomes (Duran & Eldeleklioğlu, 2005; Karataş & Gökçakan, 2009; Kartal & Bilgin, 2007; Turnuklu, Kaçmaz, Gürler, Sevkin, Türk, Kalender et al., 2010; Uysal, 2003) or ineffective results (e.g., Dölek, 2002; Kutlu, 2005; Uysal & Bayık-Temel, 2007; Yorgun, 2007).

What is more, most of the aggression/violence prevention programs either directly or indirectly aiming to prevent violence in schools (e.g., Child-friendly Schools Project, Psychosocial Schools Project, Changing Parenting

Roles Project, Life Skills Training for Children and Adolescents, Effective Parent Education Program for Age 7-19) were not rooted in risk and protective factors that have been investigated and specified for Turkish youth.

Despite the common belief that violence among youth is more common in developed countries, the aforementioned large scale studies have revealed that school violence particularly physical aggression is also prevalent in developing countries (Akiba, LeTendre, Baker, & Goesling, 2002; Currie, NicGabhainn, Godeau, et al., 2008) and its impact on schooling, learning, and living is certainly serious (Ohsako, 1997) due to three main societal consequences of youth aggressive behavior. First of all, engagement in aggressive behaviors at early ages means being at risk for later antisocial or criminal behaviors (Alink, Mesman, Van Zeijl, Stolk, Juffer, Koot et al., 2006; Campbell, Shaw, & Gilliom, 2000; Côté, Vaillancourt, Leblanc, Nagin, & Tremblay, 2006; Kupersmidt & Coie, 1990). This statement has also been reported constantly in longitudinal studies (Farrington, 1995; Haapasalo & Tremblay, 1994; Huizinga, Loeber, & Thornberry, 1993; Loeber, Farrington, & Waschbusch, 1998; Moffit, Caspi, Harrington, & Milne, 2002). The second one is that there exists a problem behavior syndrome, which means that several different types of adolescent problem behaviors are intercorrelated and co-occur (Bingham & Crockett, 1996; Donovan & Jessor, 1985; Donovan, Jessor, & Costa, 1988; Farrell, Danish, & Howard, 1992; Metzler, Noell, Biglan, Ary, & Smolkowski, 1994; World

Health Organization, 2002), and this may result in harder problems for societies to overcome. Finally, the last one is, as stated well in the World Report on Violence and Health:

> Youth violence deeply harms not only its victims, but also their families, friends and communities. Its effects are seen not only in death, illness and disability, but also in terms of the quality of life. Violence involving young people adds greatly to the costs of health and welfare services, reduces productivity, decreases the value of property, disrupts a range of essential services and generally undermines the fabric of society (2002, p.25).

Considering the tangible and intangible costs of the problem to the individual and to the whole society, social scientists in many fields have generated both theoretical models and provided empirical evidence. Their goal was to better understand the forces at work in the development of aggressive behavior in children and adolescents with the hope that aggressive behaviors can be prevented. An extensive amount of knowledge produced either from large or small scale studies, some of which is now common knowledge. For instance, the effect of gender is reported in most of the studies on aggression. Aggression, especially physical aggression is stated to be more prevalent among boys than girls (e.g., Blitstein, Murray, Lytle, Birnbaum, & Perry, 2005; Blum, Beuhring, Shew, Bearinger, Sieving, & Resnick, 2000; Bongers, Koot, van der Ende, & Verhulst, 2003; Elliot, 1994; Eroğlu, 2009; Farrell, Sullivan, Esposito, Meyer, Valois, 2005; Fergusson & Horwood, 2002; Heimer & DeCoster, 1999; Hongling, Cairns, & Cairns, 2002; Karaman-Kepenekçi & Çınkır, 2006; Karriker-Jaffe, Foshee, Ennett, & Suchindran, 2008; Loeber & Hay, 1997; Peets & Kikas, 2006).

Nevertheless, why boys are involving in more aggressive behaviors is still under investigation. There is a continuing debate on whether this difference is as a result of nature or nurture. For instance, some researchers explained this with hormones and reported that greater levels of testosterone during adolescence lead to increased aggression in boys (Olweus, Mattson, Schalling, & Low, 1988). Some others reported that it is because boys are socialized into roles that encourage higher levels of physical aggression (Oliver, 1989; Spivak, Hausman, & Prothrow-Stih, 1989). Another explanation is based on the different emotion regulation strategies boys and girls utilize (Conway, 2005; Eisenberg & Fabes, 1999). Yet, other research suggests that males and females use different forms of aggression, males use physical force to express hostility toward others, while females more often express hostility through indirect and verbal forms of aggression (Loeber, Stouthamer-Loeber, 1998). Therefore, gender difference should be considered in defining the risk and protective factors and also in the development of prevention programs (Chesney-Lind, 2001; Moretti, Holland, & McKay, 2001; Odgers & Moretti, 2002).

The cumulative knowledge that aggression research warranted so far is of value, hence there is still much systemic work needed in order to understand the etiology of aggression. Earlier studies on adolescent aggression tried to describe the direct links between single ecological domain (intrapersonal, interpersonal, family, peer) and adolescents' aggression. For instance, hormones (Inoff-Germain, Arnold, Nottelmann, Susman, Cutler, & Chrousos, 1988), cognitive processes (Huesmann, & Eron, 1984), and family interaction patterns (Pettit & Bates, 1989) have been studied with aggressive behaviors of children and adolescents,

without considering any interactional effect from other ecological domains. However, recent studies following different theoretical approaches (Bronfenbrenner, 1979; Garbarino, 1990; Loeber & Farrington, 1998; WHO, 2002) suggest studying the relationships between adolescent and their surrounding ecological systems in order to fully understand the composite structure of aggression. Even supposing the most effective way of studying aggression among adolescence is including various factors from several different ecological domains of the adolescent, it is not always feasible in a single study, and it requires a team work. Consequently, some researchers conducted big scale research projects (e.g., Australian Research Alliance for Children and Youth, Chicago Project on Violence Prevention, Seattle Social Development Project, and Boston Data Project) and some others conducted small scale research (e.g., Vance, Fernandez, & Biber, 1998) to understand the whole picture of risk and protective factors of adolescent's aggressive behaviors. Besides, what is accompanying these studies was that they focused heavily on proximal factors (i.e., personal factors, family factors, peer factors) (e.g., Cotten, Resnick, Browne, Martin, McCarraher, & Woods, 1994).

According to ecological theory (Bronfenbrenner, 1979) from most proximal to distal, an individual is surrounded by a number of subsystems (ontogenic, microsystem, mesosystem, exosystem). It is also stated that more powerful influence resulting from the proximal contexts (Bronfenbrenner, 1979), which means that ontogenic factors and microsystem factors (family and peer factors) are more influential in the development of aggression. As being the most proximal and influential factors, adolescents' personal factors and family factors have been studied

more often to identify potential pathways to adolescent aggression (Ary, Duncan, Duncan, & Hops, 1999; Caspi, Moffit, Newman, & Sylvia, 1996; Steinberg, Darling, & Fletcher, 1995).

Personal cognitive factors such as hostile response selection, hostile attributional bias, anger control, positive beliefs about aggression, and retaliatory beliefs supporting aggression, self-efficacy to control aggression were found to be closely related to aggressive behaviors of adolescents and hence found to be very influential in mediating the environmental factor effects, including family factors (e.g., Bellmore, Witkow, Graham, Juvoven, 2005; Colder, Mott, Levy, & Flay, 2000; Griffin, Scheier, Botwin, Diaz, & Miller, 1999; McMahon, Felix, Halpert, & Petropoulos, 2009). Moreover, some of the family factors found to be most strongly associated with adolescent aggression including exposure to aggressive modeling at home (e.g., Farrington, 1991), exposure to antisocial norms and values held by family members (Brewer, Hawkins, Catalano, & Neckerman, 1995), parental monitoring (e.g., Colder, Mott, Levy, Flay, 2000; Dekovic, 1999; Fletcher, Steinberg, & Whilliams-Wheeler, 2004; Griffin, Scheier, Botwin, Diaz, & Miller, 1999; Markey, Ericksen, Markey, & Tinsley, 2001; Patterson, Reid, & Dishion, 1992), parental supervision (e.g., Loeber & Dishion, 1983), family management (Hawkins, Herrenkohl, Farrington, Brewer, Catalano, & Harachi, 1998), family conflict (Gorman-Smith, Tolan, Loeber, & Henry, 1998), family cohesion and attachment (Flannery, Williams, & Vazsonyi, 1999; Formoso, Gonzales, & Aiken, 2000; Klein, Forehand, Armistead, & Long, 1997), and involvement with children (e.g., Loeber, & Stouthamer-Loeber, 1986).

It is clear from the literature that family factors and parenting play particularly important roles in the web of influences contributing to aggression and subsequent violence; therefore, it is important to examine the relations between parenting and early adolescent aggression (U.S. Department of Health and Human Services, 2001). There still a question remains unreciprocated; that is, why not every adolescent having bad family conditions or high family risk factors develop aggressive behaviors? Some research based on different theoretical frameworks (e.g. resilience theory, social information processing model, problem behavior theory) tries to answer this question by putting great emphasis on individual's personal characteristics (i.e., strengths, weaknesses, cognitive characteristics, emotional characteristics, and value systems) in addition to other environmental factors when studying aggressive behaviors. In general, these theories believe that individuals are the active determinants of their behaviors and they choose how to behave according to their past experiences, skills, cognitive, and emotional processes. For instance, Social Information Processing Model states that cognitive characteristics are important in individuals' understanding and interpretation of social situations which will, in turn, affect the selection and enactment of related behaviors (Crick & Dodge, 1994; Huesmann, 1998). Hence, exploring personal cognitive factors as mediators of proximal factors (i.e. family) and aggression seems merit to identify potential pathways to adolescent physical aggression.

1.2 Purpose of the Study

The purpose of the current study was to examine personal social cognitive factors (adolescents' beliefs supporting aggression, adolescents' self-efficacy for alternatives to aggression, and adolescents' personal value on achievement) as potential mediators of the relationship between perceived family factors (parental support for aggression, family conflict, and parental monitoring) and adolescents physical aggression among Turkish adolescents living in Ankara. In other words;

1. How well does adolescent physical aggression is explained by the hypothesized model compromised of perceived family factors (parental support for aggression, parental monitoring, and family conflict) and personal cognitive factors (beliefs supporting aggression, self-efficacy for alternatives to aggression, and personal value on achievement)?

1.3 Hypothesized Model Development

It is empirically clear that multiple psychological and social factors from various social domains (e.g., individual, family, school, peer group, and community) contribute to the development of aggressive behaviors to some extent (Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002; Smith & Furlong, 1994; Tolan, Guerra, & Kendall, 1995). However, they usually do not explain the relative importance of these factors or how they work together to lead aggression. Therefore, to truly appreciate and understand

the complexity involved in the development of aggressive behavior, a social psychological and an ecological approach is essential and the use of conceptual models is needed to better illustrate the process.

Reviewing the literature on aggressive behaviors of adolescence, the researcher decided to develop a conceptual model by integrating two influential theories. Hence, in formulation of the conceptual model for physical aggression, problem behavior theory and social information processing model frameworks were integrated. Later, considering the gender difference, the integrated conceptual model of physical aggression (focusing basically on family factors and personal cognitive factors) was tested in girl and boy adolescent sample separately. This approach was chosen mainly because of increasing tendency of integrating individual theories in order to explore the causes of problem behaviors from a wider perspective (Catalano, Kosterman, Hawkins, Newcomb, & Abott, 1996; Jessor & Jessor, 1977; Shoemaker, 2000).

The first theory integrated in the current study is problem behavior theory (Jessor, 1987). The problem behavior theory framework, which states that perceived rather than actual environment is important in understanding youth behaviors, was used in the present study. Therefore, adolescents' self-report data was used in formulation of the conceptual model. Problem behavior theory framework suggests that perceived environmental (in the present study perceived family) factors provide support and modeling for the behavior as well as social control against antisocial behavior. Personal factors, on the other hand, shape behavior with the help of self control variables. Thus, in the current study three

categories of variables were assessed to test the explanatory value of problem behavior theory for physical aggression: (1) perceived family factors that may provide an interpersonal context for physically aggressive behaviors of adolescents (perceived parental support for fighting, perceived family conflict, and perceived parental monitoring); (2) personal cognitive factors that may mediate the relationship between perceived family factors and the physically aggressive behaviors of adolescents (beliefs supporting aggression, self-efficacy for alternatives to aggression, and personal value on achievement); and (3) behavioral outcome (physical aggression).

The second influential model in the present study is social information processing model (Huesmann, 1998), which states that cognitive factors play a central mediating role in the relationship between more distal environmental factors and the aggressive behavior (e.g., Musher-Eizenman, Boxer, Danner, Dubow, Goldstein, & Heretick, 2004; Zelli, Dodge, Lochman, Laird, & Conduct Problems Research Group, 1999). Social information processing model which is a social cognitive model suggests that an external event can trigger cognitive schemas which serve as primary filters or guides in searching for a script. Scripts are evaluated, taking into account the activated schemas, and then behaviors are enacted and environmental responses are interpreted (Crick & Dodge, 1994; Dodge & Pettit, 2003; Huesmann, 1998).

According to literature (Crick& Dodge, 1994; Guerra, Huesmann, & Spindler, 2003; Huesman, 1998; Huesman & Guerra, 1997), beliefs supporting aggression and self-efficacy are key cognitive factors in

evaluating decisions to behave aggressively. Moreover, personal value on achievement is another cognitive factor that is stated to be related to adolescents' involvement in aggressive behavior (Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995). Perceived parental factors such as parental support for aggression, family conflict, and low levels of parental monitoring are also important in shaping children's favorable beliefs about aggression (e.g., Orpinas, Murray, & Kelder, 1999; Vazsonyi & Flannery; 1997). Hence, in the current study, based on the social information processing model of Huesmann (1998), researcher examined a model in which predicted family factors (perceived parental support for fighting, perceived family conflict, and perceived parental monitoring) would lead to physical aggression through cognitive mediators (beliefs supporting aggression, self-efficacy for alternatives to aggression, and personal value on achievement).

Overall, in the present study prior to latent model testing direct associations of each family factors and physical aggression were formulated and tested. Later on, in the latent model, perceived parental support for aggression, perceived family conflict and perceived parental monitoring were hypothesized as being indirectly related to adolescent physical aggression through adolescents' beliefs supporting aggression, self-efficacy for alternatives to aggression, and personal value on achievement. Therefore, direct associations of personal-cognitive variables with physical aggression were also formulated and tested. Figure 1.1 presents the hypothesized model of physical aggression in the present study.

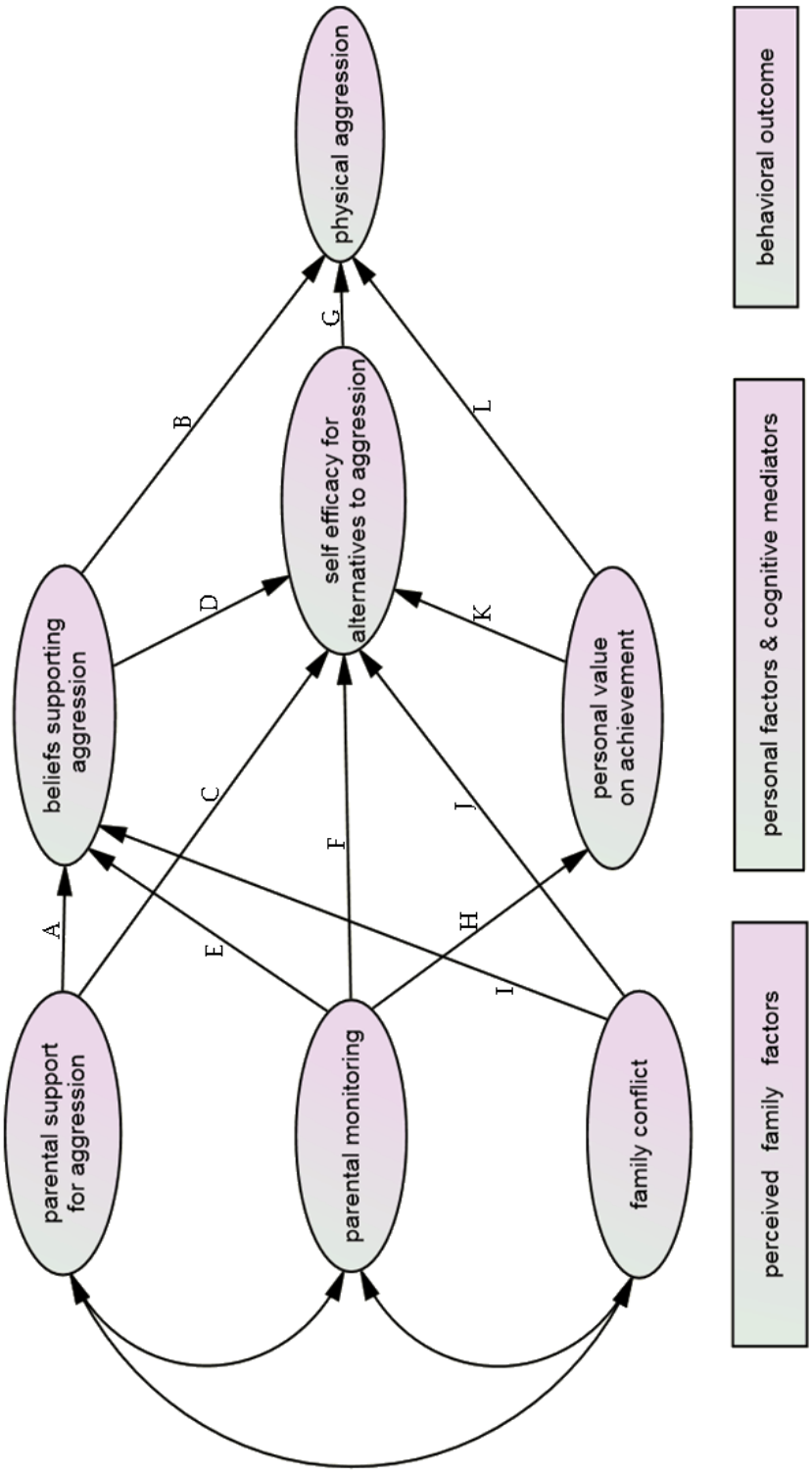

Figure 1.1 Hypothesized Model of Physical Aggression

1.3.1 Hypothesized Direct Effects

Path A: (PARENTAL SUPPORT FOR AGGRESSION to BELIEFS SUPPORTING AGGRESSION). Parental support for aggression is positively related to beliefs supporting aggression; adolescents whose parents support aggression will have more favorable beliefs supporting aggression.

Path B: (BELIEFS SUPPORTING AGGRESSION to PHYSICAL AGGRESSION). Beliefs supporting aggression is positively related to physical aggression; adolescents who have more favorable beliefs supporting aggression will commit more physical aggression.

Path C: (PARENTAL SUPPORT FOR AGGRESSION to SELF-EFFICACY FOR ALTERNATIVES TO AGGRESSION). Parental support for aggression is negatively related to self-efficacy for alternatives to aggression; adolescents whose parents support aggression will have low self-efficacy for alternatives to aggression.

Path D: (BELIEFS SUPPORTING AGGRESSION to SELF-EFFICACY FOR ALTERNATIVES TO AGGRESSION). Beliefs supporting aggression is negatively related to self-efficacy for alternatives to aggression; adolescents who have more favorable beliefs supporting aggression will have low self-efficacy for alternatives to aggression.

Path E: (PARENTAL MONITORING to BELIEFS SUPPORTING AGGRESSION). Parental monitoring is negatively related to beliefs supporting aggression; adolescents whose parents monitor their behaviors will have less favorable beliefs supporting aggression.

Path F: (PARENTAL MONITORING to SELF-EFFICACY FOR ALTERNATIVES TO AGGRESSION). Parental monitoring is positively related to self-efficacy for alternatives to aggression; adolescents whose parents monitor their behaviors will have more self-efficacy for alternatives to aggression.

Path G: (SELF-EFFICACY FOR ALTERNATIVES TO AGGRESSION to PHYSICAL AGGRESSION). Self-efficacy for alternatives to aggression is negatively related to physical aggression; adolescents who have high self-efficacy for alternatives to aggression will commit less physical aggression.

Path H: (PARENTAL MONITORING to PERSONAL VALUE ON ACHIEVEMENT). Parental monitoring is positively related to personal value on achievement; adolescents whose parents monitor their behaviors will value personal achievement more.

Path I: (FAMILY CONFLICT to BELIEFS SUPPORTING AGGRESSION). Family conflict is positively related to beliefs supporting aggression; adolescents who expose to more family conflict will have more favorable beliefs supporting aggression.

Path J: (FAMILY CONFLICT to SELF-EFFICACY FOR ALTERNATIVES TO AGGRESSION). Family conflict is negatively related to self-efficacy for alternatives to aggression; adolescents who expose to more family conflict will have low self-efficacy for alternatives to aggression.

Path K: (PERSONAL VALUE ON ACHIEVEMENT to SELF-EFFICACY FOR ALTERNATIVES TO AGGRESSION). Personal value on achievement is positively related to self-efficacy for alternatives to aggression; adolescents who value personal achievement more will have high self-efficacy for alternatives to aggression.

Path L: (PERSONAL VALUE ON ACHIEVEMENT to PHYSICAL AGGRESSION). Personal value on achievement is negatively related to physical aggression; adolescents who value personal achievement more will commit less physical aggression.

1.3.2 Hypothesized Indirect Effects

Paths A & B: PARENTAL SUPPORT FOR AGGRESSION to BELIEFS SUPPORTING AGGRESSION to PHYSICAL AGGRESSION). Parental support for aggression is positively related to beliefs supporting aggression, which, in turn, is positively related to physical aggression; adolescents whose parents support aggression will develop beliefs supporting aggression and will commit more physical aggression.

Paths A, D, & G: (PARENTAL SUPPORT FOR AGGRESSION to BELIEFS SUPPORTING AGGRESSION to SELF-EFFICACY FOR ALTERNATIVES TO AGGRESSION to PHYSICAL AGGRESSION). Parental support for aggression is positively related to beliefs supporting aggression, which, in turn is negatively related to self-efficacy for alternatives to aggression. Self-efficacy for alternatives to aggression, in turn, is negatively related to physical aggression. Adolescents whose parents support aggression will have more favorable beliefs supporting aggression, leading them to have low self-efficacy for alternatives to aggression, resulting in committing more physical aggression.

Paths C & G: (PARENTAL SUPPORT FOR AGGRESSION to SELF-EFFICACY FOR ALTERNATIVES to AGGRESSION to PHYSICAL AGGRESSION). Parental support for aggression is negatively related to self-efficacy for alternatives to aggression, which, in turn, is negatively related to physical aggression; adolescents whose parents support aggression will have low self efficacy for alternatives to aggression and commit more physical aggression.

Paths E & B: (PARENTAL MONITORING to BELIEFS SUPPORTING AGGRESSION to PHYSICAL AGGRESSION). Parental monitoring is negatively related to beliefs supporting aggression, which, in turn, is positively related to physical aggression; adolescents whose parents monitor their behaviors will have less favorable beliefs supporting aggression and will commit less physical aggression.

Paths E, D, & G: (PARENTAL MONITORING to BELIEFS SUPPORTING AGGRESSION to SELF-EFFICACY FOR ALTERNATIVES TO AGGRESSION to PHYSICAL AGGRESSION). Parental monitoring is negatively related to beliefs supporting aggression, which, in turn, is negatively related to self-efficacy for alternatives to aggression. Self-efficacy for alternatives to aggression is, in turn, negatively related to physical aggression; adolescents whose parents monitor their behaviors will have less favorable beliefs supporting aggression, leading them to have high self-efficacy for alternatives to aggression, resulting in committing less physical aggression.

Paths F & G: (PARENTAL MONITORING to SELF-EFFICACY FOR ALTERNATIVES TO AGGRESSION to PHYSICAL AGGRESSION). Parental monitoring is positively related to self-efficacy for alternatives to aggression, which, in turn, is negatively related to physical aggression; adolescents whose parents monitor their behaviors will have high self-efficacy for alternatives to aggression, leading them to commit less physical aggression.

Paths H & L: (PARENTAL MONITORING to PERSONAL VALUE ON ACHIEVEMENT to PHYSICAL AGGRESSION). Parental monitoring is positively related to personal value on achievement, which, in turn, is negatively related to physical aggression; adolescents whose parents monitor their behaviors will value personal achievement more and commit less physical aggression.

Paths H, K, & G: (PARENTAL MONITORING to PERSONAL VALUE ON ACHIEVEMENT to SELF-EFFICACY FOR ALTERNATIVES TO AGGRESSION to PHYSICAL AGGRESSION). Parental monitoring is positively related to personal value on achievement, which, in turn, is positively related to self efficacy for alternatives to aggression. Self-efficacy for alternatives to aggression, in turn, is negatively related to physical aggression; adolescents whose parents monitor their behaviors will value personal achievement more, leading them to have high self-efficacy for alternatives to aggression, resulting in committing less physical aggression.

Paths I & B: (FAMILY CONFLICT to BELIEFS SUPPORTING AGGRESSION to PHYSICAL AGGRESSION). Family conflict is positively related to beliefs supporting aggression which, in turn, is positively related to physical aggression; adolescents who expose to more family conflict will have more favorable beliefs supporting aggression, leading them to commit more physical aggression.

Paths I, D, & G: (FAMILY CONFLICT to BELIEFS SUPPORTING AGGRESSION to SELF-EFFICACY FOR ALTERNATIVES TO AGGRESSION to PHYSICAL AGGRESSION). Family conflict is positively related to belief supporting aggression, which, in turn, is negatively related to self-efficacy for alternatives to aggression. Self-efficacy for alternatives to aggression, in turn, is negatively related to physical aggression; adolescents who expose to more family conflict will have more

favorable beliefs supporting aggression, leading them to have low self-efficacy for alternatives to aggression, resulting in committing more physical aggression.

Paths J & G: (FAMILY CONFLICT to SELF-EFFICACY FOR ALTERNATIVES TO AGGRESSION to PHYSICAL AGGRESSION). Family conflict is negatively related to self- efficacy for alternatives to aggression, which, in turn, is negatively related to physical aggression; adolescents who expose to more family conflict will have low self-efficacy for alternatives to aggression and commit more physical aggression.

1.4 Significance of the Study

This dissertation aims to examine the explanatory value of a model that predicted family factors (perceived parental support for fighting, perceived family conflict, and perceived parental monitoring) would lead to physical aggression through personal cognitive mediators (adolescents' beliefs supporting aggression, adolescents' self-efficacy for alternatives to aggression, and adolescents' personal value on achievement) using a conceptual model generated by integrating problem behavior theory and social information processing model. Therefore, this study moves beyond the well-established connection between the parent relationship and adolescent aggression to explore the mechanisms underlying this association. Analysis of the model with using Structural Equation Modeling (SEM) aims the simultaneous consideration of multiple parental and personal factors/cognitive mediators in the etiology of adolescent

aggression would better reflect the real complexity of parental process in association with personal factors and adolescent aggressive behavior development.

Furthermore, conducting this research with a large and representative sample of adolescents in an urban context in Turkey, where the prevalence rate of physical aggression and bullying is high among adolescents (Currie, NicGabhainn, Godeau, et al., 2008, HBSC 2005/2006 survey, International Report) and where some of the prevention efforts (e.g., Dölek, 2002; Kutlu, 2005) result in ineffective outcomes that may be due to lack of need assessment studies or theory testing studies prior to interventions, would also provide essential knowledge for further studies. Thus, this dissertation attempts to contribute to the field of counseling by means of investigating the effect of family factors in relation to personal cognitive factors in formulation of aggressive behaviors of adolescence in Turkey. Moreover, the findings of the present study would also contribute to the prevention of adolescent aggression by reminding the importance of the families in adolescent development. As Dodge (2002) stated, parents are individuals that significantly contribute to the development of the prevention of aggressive behavior. Therefore, including parents to the prevention programs as an additional target group or implementing positive parenting or skill development programs specific to their needs considering the findings of the current study would be a significant contribution. Similarly, examining the role of personal cognitive factors as mediators of the relationship between ecological factors and aggressive behaviors would also contribute to the prevention. Understanding which

factors are effective in mediating the effect of ecological risk factors would particularly contribute to the development of prevention program when deciding the content of the curricula.

Practically, understanding in which ways family factors and personal cognitive factors relate to aggressive behaviors of adolescents, and developing interventions incorporating such knowledge, could diminish problem behavior and improve emerging school adjustment, achievement, and peer relations. Moreover, it could lessen the cost devoted to interventions or remedial treatments. That is to say, preventing aggression, not only saves the victim from injuries but also saves youth from being wasted, prevents the onset of adult criminal careers and reduces the burden of crime on society (Greenwood, 2008; Walker, Colvin, & Ramsey, 1995).

1.5 Definition of Terms

Physical aggression refers to direct physical actions, such as throwing something to hurt somebody, being in a fight which someone was hit, pushing, hitting, slapping, threatening to hurt somebody physically (MVPP, 2004).

Parental support for aggressive solutions refers to adolescents' perception of their parents' support for aggressive solutions as a means of solving conflicts (MVPP, 2004).

Parental monitoring refers to adolescents' perceptions of their parents' knowledge about whom they are with where they are spending their time when they are not at home or attending school (Kotchick, Dorsey, Miller, & Forehand, 1999; Small & Luster, 1994).

Family conflict refers to adolescents' perception about family conflict, repeated arguments, and serious discussions (Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002).

Beliefs supporting aggression refers to adolescent's favorable beliefs about aggression (MVPP, 2004).

Self efficacy for alternatives to aggression refers to individual's confidence in his or her ability to control anger and resolve conflict in non-violent ways (MVPP, 2004).

Value on achievement refers to adolescents' personal value on academic performance and achievement (Jessor & Jessor, 1977).

CHAPTER 2

REVIEW OF LITERATURE

This chapter includes four sections. First, theories related to aggression were reviewed. Second, the literature regarding gender difference and aggression were presented. Third, factors contributing adolescent aggressive behaviors were covered. Fourth, conceptual model variables including family factors and personal cognitive factors were reviewed.

2.1 Theories of Aggression

Aggression is a very old concept which has been under investigation for ages. The oldest explanation to aggression was that the internal factors are the cause of aggression (e.g., Freud, 1930; Dollard, Doob, Miller, Mowrer, & Sears, 1939). Freud, for instance, proposed the existence of two instincts: life instinct (eros) whose energy is directed the enhancement, preservation, and reproduction of life, and death instinct (thanatos) whose energy is directed toward destruction and termination of life (Freud, 1974). According to Freudian explanation of aggression, all human behavior is a result of complex interplay and constant tension between eros and thanatos. Thus, aggression is a result of strong conflict between the preservation (eros) and destruction (thanatos) of life and other mechanisms (e.g. displacement) serve to redirect the energy of thanatos outward away from the self (Baron & Richardson, 1994). The thanatos

might be directed toward the self that may lead self-injury or even death, or it may be directed toward others which in turn results in aggression (Moeller, 2001).

Later on, Dollard, Doob, Miller, Mowrer, and Sears (1939) influenced by Freud's explanation to aggression, translated psychoanalytic propositions into behavioral terms. This approach to aggression is known as *Frustration-Aggression Model* (Dollard, Doob, Miller, Mowrer, & Sears, 1939; Berkowitz, 1962; 1978) and considered aggression as a hostile, angry reaction to a perceived frustration. According to Frustration-Aggression model pleasure seeking and pain avoidance are the basic mechanisms of mental functioning, and frustration occurred when these activities are blocked (Conger, Neppl, Kim, & Scaramella, 2003; Goldstein, 1994; Huesmann, Moise-Titus, Podolski, & Eron, 2003; Stoff, Breiling, & Maser, 1997). Furthermore, in proportion to Frustration-Aggression model "frustration produces a condition of readiness or instigation to aggress, and that aggression is always preceded by some form of frustration" (Dollard, Doob, Miller, Mowrer, & Sears, 1939, p.7). Berkowitz's revision on frustration aggression approach stated that overt aggressive behavior involves an interaction between environmental frustration, certain psychological characteristics of the individual, and specific cues for aggression that occur in the environment. Thus, according to Berkowitz, frustration directly produces the emotional response of anger. Anger, in turn, combines with the child's existing aggressive habits to generate a motivational "readiness for aggressive acts" (Berkowitz, 1965, p.308).

Social Learning Theory (Social-Cognitive Theory) of aggression emerged in the early 1960s (Bandura, 1962; 1971) as an opposing view to Freudian approach. Bandura (1973, p.61) stated that, "People are not born with preformed repertoires of aggressive behavior; they must learn them in one way or another". Moreover, as a reaction to Frustration- Aggression model, Bandura (1973, p.59) affirmed that "a culture can produce highly aggressive people while keeping frustration at a low level, by valuing aggressive accomplishments, furnishing successive aggressive models, and ensuring that aggressive actions secure rewarding effects". Bandura (1962) acknowledged that adolescents' identification with and imitation of others define their way of behaving. In other words, Bandura (1973) proposed that aggression and other externalizing behaviors are learned via direct observation of others. This process is called behavior modeling and the models can be observed in the family, among peers, elsewhere in the neighborhood, and through media (Reiss & Roth, 1993). Besides, Social Learning Theory (Bandura, 1977; 1980) states that the use of reinforcements and punishments either as positive and negative contingencies are helpful in the maintenance of behavior. Moreover, Social Learning Theory evolved in the last 50 years and the influences of biological factors are recognized somehow later. For instance, in 1983, Bandura stated that person's genetic and biological background only creates a potential for aggression, while specifics of aggressive behavior are acquired through experience.

Differential Association and Reinforcement Theory was first developed by Sutherland (1939) and after almost forty years Akers (1977; 1985) revised it. According to Sutherland, people become criminals when the number of

messages they hear that favor criminality exceed the number of messages they hear that oppose criminality. This ratio typically occurs since the child tends to associate with individuals who support antisocial ideas. This part of the theory is referred to as "differential association" (Sutherland & Cressy, 1974). Later, Akers (1977; 1985) prolonged this idea to incorporate the concept of reinforcement, and argued that deviant behavior occurs mainly because of the amount of social reinforcement the person receives for deviant acts (usually peer reinforcement). In other words, whether deviant or conforming behavior is acquired and persists depends on past and present rewards or punishments for the behaviors and the rewards and punishments attached to alternative behavior; this is called differential reinforcement (Akers, Krohn, Landa-Kaduce, & Radosevich, 1979).

Social Control Theory (Hirschi, 1969) believes that adolescents have a natural tendency to commit antisocial behaviors and that this tendency must be controlled by society through emotional bonds (attachment, commitment, involvement, and belief) that have been developed between the child and society. Hirschi (1969) stated that attachment is the most important component of bond in preventing and reducing the occurrence of problem behaviors. He believes that children who develop strong attachments to individuals and/or groups that uphold conventional values are more likely to hold those values than are children who lack such attachments. Commitment is the second important aspect of bond, according to Hirchi (1969) and this concept is very similar to Reinforcement theory itself. According to social control theory, commitment is a measure of the extent to which the benefits of conformity

to social conventions outweigh the benefits of conforming to antisocial values. For instance, if in a society antisocial behaviors and law breaking behaviors pays off more than conventional/prosocial behaviors, the child will choose to be antisocial or law breaker. The third component of bond is involvement and it refers to the extent that the child participates in activities approved by the larger society, such as, school activities, sports, etc. The last factor that forms the bond is beliefs and it refers to the acceptance of the community's value system. If the community does not have a value system, children may develop their own value systems from other sources and this is more likely to refer the child to unconventional behavior. Hirschi (1969) emphasized the importance of family factors (without underestimating the importance of peer group and other influences) in the prediction of adolescent problem behaviors by stating that the level of attachment and/or cohesion between parent and child is associated with the occurrence, or lack of adolescents' problem behavior. Further, Hirschi (1969) stated that when faced with tempting situations the parents' psychological presence in an adolescent's mind is the key factor for deciding what to do. More explicitly, when a child is faced with a situation involving risk of engaging problem behaviors, if his/her relationship with parents were established successfully, adolescent get to know the values, opinions and expectations of their parents, and behaves accordingly. Thus, closeness or attachment to parents may promote conformity to traditional (or non-deviant) values and may facilitate the process of socialization by parents to prevent aggressive and antisocial behaviors (Hirschi, 1994).

Later Hirschi and Gottfredson (1994) developed *Self-Control Theory of Delinquency* and stated that criminal acts occur because the individual is not sensitive to and thus disregards the long-term negative consequences of antisocial behavior. At the same time they are unusually sensitive to the immediate pleasures the antisocial act produces. Hirschi and Gottfredson (1994) conceptualized self-control as a personality trait that begins to develop in childhood and becomes more stable as the child reaches adolescence and adulthood. Children who develop self-control can restrain their antisocial tendencies, but those who lack this trait will focus only on the present, and not on any long-term consequences, no matter how strong the long-term consequences might be.

Attribution Theory (Kelley, 1973; Weiner, 1986) states that people try to make sense of their environments by identifying what they believe to be the causes, or underpinnings of the events they have experienced. In other words, people make inferences about events that transpire in their lives, and then act on those assumptions. While some people make relatively accurate attributions, others may make very distorted or inaccurate inferences about the events happening around them. Among violent youth, attribution theorists consider that everyday assumptions are made regarding the cruel or malicious intentions of other people around them and that these assumptions are generally unproven (Fields & Mc Namara, 2003). Thus, the goal of attribution theorists would be to train youth making faulty attributions on realizing that adversity does not occur only because of the bad/hostile intentions of others around them (Fields & Mc Namara, 2003). Along with this theory, youth would be taught to reframe their ideas about the causality of their experiences.

Attachment Theory (Bowlby, 1982; 1988) underlines the importance of the quality of the relationship between the child and the main caregiver (usually the mother) during the early years of childhood. Bowlby (1973, p.288) stated that "the most violently angry and dysfunctional responses of all are elicited in children and adolescents who not only experience repeated separations but are constantly subjected the threat of being abandoned. According to attachment theory, aggression can be the result of: (1) unsatisfactory and frustrating relationship with the main caregiver, (2) children may develop disruptive behaviors in an effort to attract the attention of neglectful parents or caregivers, (3) children who develop an anxious or insecure attachment find it difficult to develop positive relationships with peers and other adults, and they may use aggression to drive away unknown adults, whom they perceive as threat (Greenberg, Speltz, & DeKylen, 1993). Research also revealed that securely attached children engage in more-prosocial behavior than insecure children who exhibit poor emotional regulation, hostility and aggression toward their mothers and peers (Allan& Land, 1999).

Resilience Theory (Garmezy, 1985) focuses on understanding healthy development in spite of risk exposure. From aggression perspective, resilience theory helps to explain why not every youth raised in an impoverished, violent neighborhood turns to violent in his/her behavior (Fields & McNamara, 2003; Garmezy, 1993). The resilience theory highlights the effect of protective factors only, and supports the view that some children are insulated from violence by various protective factors such as assets (competence, coping skills, and self-efficacy) and resources (parental support, adult mentoring, community organizations). Research

following resilience theory also indicated that protective factors are important in compensating adolescent violent behavior (Borowski, Ireland, & Resnick, 2002; Zimmerman, Steinman, &Rowe, 1998), thus they recommended changes in the environment of children and adolescents so that factors protecting youth from potential violence can be maximized (Fields & McNamara, 2003).

Problem Behavior Theory (Jessor & Jessor, 1977; Jessor, Donavan, & Costa, 1991) is a social-psychological theory that examines how personality and perceived environments combine to explain prosocial and problem behaviors by integrating cognitive-affective characteristics, interpersonal factors, learning, and ecological factors (Donavan, 1996). According to Jessor (1987), Problem Behavior Theory (PBT) was based on psychological nature of human functioning rather than biological, medical, or genetic nature. Similar to Ecological Approach, PBT (Jessor & Jessor, 1977; Jessor, 1987) states that behavior is the result of four interrelated systems: personality, perceived environment, social environment, and behavior. The personality system consists of individual's values and expectations for achievement and independence, internal-external control, alienation, self-esteem, and personal control. The personality system is formed by three structures: motivational-instigation, personal-belief, and personal-control. Motivational-instigation structure contains seven variables that measure a person's value and expectations of achievement, independence, and affection. Variables in the personal-belief structure include social criticism, alienation, self-esteem, and internal-external locus of control. Personal-control structures are considered to be more directly tied to problem behaviors. These variables include attitudinal tolerance for deviance,

religiosity, and an index measure of the reason for engaging in prosocial and problem behaviors. Overall, the personal-belief system is a combination of motivations and constraining forces against behavior.

The other component of PBT is the perceived environment system, which focuses on risks toward involvement in problem behavior. Perceived modeling, control, and approval of parents and friends are the variables of perceived environment system. Therefore, lower parental monitoring and support, lower friend controls, lower parent-friend compatibility, greater peer influences than parental influence, lower parental disapproval of problem behavior, and greater friend approval for problem behavior are cited as risk factors for problem behaviors (Jessor, 1987, p.334). In the PBT, the personality system and the perceived environment system affect each other and they directly affect the behavior systems. The social environment system, as distinct from the perceived environment, is constituted of variables that locate individuals in the larger social structure and that characterize the more objective aspects of the context of social interaction and experience in daily life (Jessor, Donavan, & Costa, 1991). The explanatory variables of the system include income, educational level, occupational status, and family composition. The social environment system is linked both directly and indirectly to the behavior system.

The last component of the PBT is the behavior system that is divided into the problem behavior structure and the conventional behavior structure. The problem behavior structure is comprised of a set of actions that, when performed by adolescents, draws a response from adults to control (e.g.,

prevent) future occurrences, cause they are unwanted or disapproved. Examples of such behaviors may include alcohol and/or drug use, aggression, violence, and illicit sexual activity. Conventional behaviors, such as academic achievement, refer to actions that are normative or socially and developmentally anticipated. Different from the previous approaches, Problem Behavior Theory (Jessor, 1987) presents a broad-spectrum framework which explains the tendency to engage in problem behaviors in general.

Yet there are some other models, built upon other major theories and further extended the understanding on adolescents' aggressive behavior. The most influential of these models are Social Information Processing Model and the Social Development Model. These models are currently dominating the theoretical frameworks of most of the effective and promising aggression/violence prevention programs.

Social Information Processing Model is a social-cognitive theory and the development of this model started in the early 80s and later many researchers contributed to the development of the model (Crick & Dodge, 1994; Dodge, 1980; Dodge, 1986; Dodge & Coie, 1987; Huesmann, 1982; 1998; Huesmann & Eron, 1984; Klaczynski, 2001; Lemerise & Arsenio, 2000). According to social information processing model, cognitive structures are hypothesized to be responsible for assimilating experiences and creating assumptions about the world (Crick & Dodge, 1994). These structures are comprised of past experiences and structured knowledge and are thought to affect the processing of social situations and lie within an individual's mental database. Crick and Dodge (1994) hypothesized

that this database lies at the center of a model of fluid processing of social cues whereby children arrive at the behavioral responses they deem most appropriate for the situation. In this model, the content of a child's database will influence his or her understanding and interpretation of social situations which will, in turn, affect the selection and enactment of related behaviors. Huesmann (1998, p.102) defined the processes in social problem solving where emotional arousal, activated schemas, and situational cues interact to affect aggression: (1) cue attention and interpretation, (2) script retrieval, (3) script evaluation and selection, and (4) evaluation of society's response to one's behavior. Research has shown that adolescents rely on their existing schemas to process information about a current situation rather than focusing on relevant cues within the environment to dissect, interpret and react to the situation (Klaczynski, 2001). Moreover, Huesmann (1998) also stated that once a child begins to perceive the world as hostile, to acquire scripts and schemas emphasizing aggression, and to believe that aggression is acceptable, the child enters a vicious cycle that will be difficult to stop. If not interrupted, the cycle can be expected to continue into adulthood, maintaining aggressive behavior throughout the life span. This model has been used to understand the development and maintenance of aggressive behavior in children and youth and is the foundation of many promising prevention programs (e.g., Metropolitan Area Child Study Research Group, 2002; Orpinas, Kelder, Frankowski, Murray, Zhang, & Mcalister, 2000).

The *Social Development Model* (Catalano, Kosterman, Hawkins, Newcomb, & Abott, 1996; Huang, Kosterman, Catalano, Hawkins, & Abott, 2001) seeks to explain antisocial behaviors through specification of predictive

developmental relationships. Social developmental model incorporates the effects of empirical predictors "risk factors" and "protective factors" for antisocial behavior together, and seeks to synthesize the most strongly supported propositions of Control Theory, Social Learning Theory, and Differential Association Theory. The model states that the most important units of socialization, family, schools, peers, and community, influence behavior sequentially. Positive socialization is achieved "when youths have the opportunity within each unit to be involved in conforming activities, when they develop skills necessary to be successfully involved, and when those with whom they interact consistently reward desired behaviors" (Hawkins & Weiss, 1985, p.1). If these conditions are supplied children's attachment to others, commitment to conforming behavior and belief in the conventional order will increase. As a result, the social bonds to conventional society limit associations with delinquent peers and finally this may prevent delinquent behaviors of adolescents (Hawkins & Weiss, 1985).

2.2 Gender Difference and Aggression

The literature constantly states that physical aggression is more common among boys (e.g., Lindeman, Harakka, & Keltikangas-Jarvinen, 1997; Kia-Keating, 2006; Snyder & Sickmund, 1999). For instance, Karataş (2008) examined anger and aggression levels of 260 high school students (9^{th}, 10^{th}, 11^{th} graders) in relation to some other variables. Results showed that there is a statistically significant gender difference in physical aggression levels of students, and boys reported more aggression than girls in all grades. Similarly, Kaner (1996) stated that among adolescents (n=897) between

ages 14 and 21, deviant behaviors were significantly higher in boys than girls. Delikara (2001) also stated that deviant behaviors of boys were higher than girls in her study among 696 high school students. Similarly, Kurnaz (2009) found that boys had higher overt aggression than girls.

Gender differences in physical aggression have been explained by different approaches. Three of the most influential approaches were biological evolutionary approach, gender socialization approach, and emotion regulation approach. The first one basically focuses on genes and hormones to find an explanation to boys' higher involvement rate in physical aggression. Research aiming to understand biological and evolutionary effects investigated the gender difference in aggressive behavior with children under 2 years of age since differential socialization occurs later on. There are some research reporting that gender difference in aggression exists before 2 years of age (e.g., Hay, Castle, & Davies, 2000; Tremblay, Japel, Perusse, McDuff, Boivin, Zoccolillo, & Montplaisir, 1999). Similarly, some other research (Baillargaeon, Zoccolillo, Keenan, Cote, Perusse, Wu, Boivin, & Tremblay, 2007) found that substantial gender differences in the prevalence of physical aggression at 17 months of age, with 5% of boys but only 1% of girls manifesting physically aggressive behaviors on a frequent basis. Thus, there are results supporting the assumptions of biological evolutionary approach.

The second explanation focuses on culture-specific, differential gender role socialization as possible explanation to boys' physically aggressive behaviors. Socialization practices of parents, teachers, peers, and society in general may contribute to the development of sex-typed emotional

expression (Brody, 1999). According to socialization theorists, boys are exposed to parenting practices that promote rough and tumble, physically aggressive behaviors (Ruble & Martin, 1997). Moreover, boys are typically encouraged being separate and autonomous self which is disconnected from others, and they are encouraged to compete (Jordan, Walker, & Hartling, 2004). On the contrary, girls are exposed to parenting practices that promote caring and close interpersonal relationships (Gilligan, 1982). Additionally, girls are generally socialized to display less active behavior, anger, and physical aggression than boys (Brody, 1993). Similarly, Keenan and Shaw (1997) stated that gender differences emerge because socializing agents, such as parents, selectively encourage traditional sex type behaviors (e.g., shyness, fearfulness, and withdrawal in girls) and/or discourage non-sex type behaviors (e.g., aggressive behavior in girls) Furthermore, girls typically tend to care about the impact of their feelings and actions on the other person (relational awareness), and they are attentive to self, the other and the relationship (anticipatory empathy). Moreover, they speak and move considering the possible consequences of their feelings and actions alongside their own needs and others needs (relational awareness) (Jordan, 2004). Tok (2001) examined the aggressiveness of 531 freshman and senior university students who have different gender role stereotypes in Ankara. Results of the analysis indicated that the aggressiveness levels of male students were higher than the female students. Additionally, male students who have traditional gender role stereotypes were the most aggressive group among the others.

Third explanation is that children who have difficulty in regulating their emotions are more likely to engage in physically aggressive behaviors with peers (Eisenberg & Fabes, 1999). Conway, (2005) states that there are different rules for the expression of anger in girls early in life and greater emphasis is placed on girls' utilization of emotion regulation strategies, such as negative emotional suppression, compared with boys. By early adolescence, girls are twice as likely as boys to exhibit depressive symptomatology, and this rate applies to every subsequent age group except the elderly. On the other hand, boys' early aggressive behavior predicts subsequent antisocial outcomes, such as fighting and stealing, whereas girls' early aggressive behavior predicts subsequent internalizing problems, such as depression and anxiety (Nolen-Hoeksema, 1994). Moreover, Cole, Zahn-Waxler, and Smith (1994) stated that at risk-girls' responses differed from at-risk boys.

Alternative to these explanations, Zoccolillo (1993) suggested that the difference in physical aggression indicating higher rates of boys' aggressive behaviors may be due to the assessment tools and their inability to measure manifestations of aggression that are normative for girls. Another explanation regarding this issue is, boys and girls use of different types of aggression (Loeber, Stouthamer-Loeber, 1998) but the literature has not reached a consensus on whether girls and boys use different forms of aggression (e.g., Crick & Grotpeter, 1995; Salmivalli & Kaukiainen, 2004).

Some research states that relational aggression is more frequent among females than males (Campbell, 1999; Crick & Werner, 1998; Vaillancourt, 2005). For instance, Lagerspetz, Björkqvist, and Peltonen (1988) examined gender differences regarding aggressive behavior in 167 children (11-12 years old). Self report, peer rating and interview methods were used for data collection and results indicated that girls made greater use of indirect aggression while boys use direct forms of aggression mostly. Similarly, Österman, Björkqvist, Lagerspetz, Kaukiainen, Landau, Fraczek, and Cappara (1998) investigated three types of aggression among adolescents (8, 11, 15 years old) in Finland, Israel, Italy, and Poland (n=1094). Self-report data was used for the analysis and results yielded that indirect aggression was the aggressive style mostly used by girls, across nations, ethnic groups, and age groups studied. Verbal aggression was their second most used style, and physical aggression was applied least often by girls. However, among boys, indirect aggression was, in all ages, the least used aggressive style. Physical and verbal aggression was used equally often at ages 8 and 11, but at age 15 verbal aggression had exceeded physical aggression and was the most used style. Likewise, Hun-Soo, Hyun-Sil, (2005) examined gender differences in the rate, type, and relevant variables underlying delinquent behavior among South Korean adolescents (n=2100, 12 to 18 years old). Adolescents' self-report data was used for the analyses, and the results indicated that the rate of delinquent behavior was found to be much lower among female than among male adolescents, and female adolescents were much less involved in antisocial, aggressive, and psychopathic delinquent behavior compared to male adolescents.

On the other hand, some other research which investigated the gender difference on aggression stated that boys are more aggressive than girls and the type of the aggression does not make any difference. Such as, Salmivalli and Kaukiainen (2004) investigated whether girls are more indirectly aggressive than boys among 526 children (10, 12, 14 years old). Self report data was used for the analysis and results showed that boys used all three types of aggression more than girls. Likewise, Peets and Kikas (2006) conducted a study to analyze the frequency of physical, verbal, and indirect aggression as well as victimization across two genders and grades among 257 fifth and seventh graders in Estonia. They used self-report as well as peer report and teacher report data. Results indicated that boys were more directly and indirectly aggressive than girls.

Similarly, Scheithauer, Hayer, Peterman, and Jugert (2006) examined gender difference on self reported bullying forms. Results indicated that significantly more boys than girls reported bullying others, regardless of bullying form, and significantly more boys than girls were classified as bully/victims. Correspondingly, Linderman, Harakka, and Keltikankas-Jarvinen (1997) examined how aggression, prosociality, and withdrawal, as reactions to interpersonal conflict situations, manifest themselves in pre-, mid-, and late adolescence (n=2594). Participants' self-report data was used for the analysis, and results revealed that aggression develops curvilinearly with age, and both direct and indirect aggression was typical among boys than among girls. More recently, Kim, Kamphaus, Orpinas, and Kelder (2010) examined how the manifestation of overt aggression changes during early adolescence among 2199 students. The examination of gender effects revealed that boys were more physically and verbally

aggressive than girls in the 6th grade. Yet boys did not differ from girls in the growth of physical and verbal aggression. Moreover, Kartal (2008) investigated the prevalence and types of bullying among 1086 elementary school students (4th and 5th graders). Students' self-repot data was used for the analysis and results indicated that boys reported more bullying behavior than girls. Furthermore, verbal bullying found to be the most prevalent form of bullying, and it is followed by physical bullying. Moreover, participants reported that playground and classroom are the most likely location for bullying to occur.

Yet some other research has revealed gender differences in the manifestation of aggression according to grade level. For example, Zimmer-Gembeck, Geiger, and Crick (2005) conducted a prospective study with 458 students (3rd, 6th graders) in order to examine the bidirectional associations between children's relations with schoolmates and behaviors by using SEM. Results indicated that males in all grades were more physically aggressive than females. Moreover, no gender difference in relational aggression was detected in grade 3; however, in grade 6, girls found to be more relationally aggressive. Moreover, Karriker-Jaffe, Foshee, Ennett, and Suchindran (2008) compared the timing and patterns of physical and social aggression and examined sex differences in development using five waves of in-school surveys (n=5151). Multilevel growth curve models showed that physical and social aggression followed curvilinear trajectories from ages 11 to 18, with increases in each type of aggression followed by subsequent declines. Physical aggression peaked around age 15, social aggression peaked

around 14. It was also found that boys consistently perpetrated more physical aggression than girls. However, girls and boys perpetrated the same amount of social aggression at all ages.

2.3 Factors Contributing Adolescent Aggressive Behaviors

A large amount of research has tried to understand the underlying causes of problem behaviors by examining risk and protective factors (e.g. Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002; Coie, Watt, West, Hawkins, Asarnow, Markman et al., 1993; Boulter, 2004; Cunningham & Henggeler, 2001; Mazza & Overstreet, 2000). The reason behind studying risk factors is that these factors can be used to identify adolescents who are at risk for subsequent problem behaviors (Lipsey & Derzon, 1998), and knowing which factors increase the risk for violence is a essential first step toward designing empirically based prevention strategies (Herrenkohl, Maugin, Hill, Hawkins, Abbott, & Catalano, 2000). Risk factors typically defined as the presence of one or more factors, which increase the likelihood that a young person will become violent. However, risk factors are not direct causes of youth violence; instead, risk factors contribute to youth violence (Coie, Watt, West, Hawkins, Asarnow, Markman et al., 1993; DHHS 2001; Garmezy, 1983; Richman & Fraser, 2001; Kirby & Fraser, 1997; "Youth Violence: A Report" 2004). Protective factors are those factors that mediate or moderate the effect of exposure to risk factors, resulting in reduced incidence of the problem behavior (Gramezy, 1985). In other words, protective factors usually defined as individual or environmental safeguards that improve a person's ability to resist stressful life events, risks, or hazards, and promote adaptation and capability (Doll

& Lyon, 1998; Durant, Cadenhead, Pedergrast, Slavens, & Linder, 1994; Guest, & Biasini, 2001; Mazza & Overstreet, 2000; Murry, Byrum, Brody, Willert, & Stephans, 2001; Rollin, Kaiser-Ulrey, Potts, Creason, 2003; Rutter, 1987; "Youth Violence: A Report" 2001). Until recently, protective factors have not been studied as extensively or rigorously as risk factors. However, identifying and understanding protective factors are equally as important as researching risk factors. For instance, studies of resilient children suggest that a number of psychological "protective factors" are common to those children who grow up successfully, despite their exposure to multiple serious psychological risk factors (Garmezy, 1991). Nevertheless, the mere existence of protective factors does not rescue a child from becoming a violent individual (Stoiber & Good, 1998; "Youth Violence: A Report" 2001).

Research to date suggested five broad contributory factors associated with high levels of aggression in children and adolescents. These include individual, family, peer, school, and neighborhood factors (Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002; Smith & Furlong, 1994; Tolan, Guerra, & Kendall, 1995).

Hawkins, Herenkohl, Farrington, Brewer, Catalano, Harachi, and Cothern (2000) conducted a meta-analytic study to identify the predictors of youth violence. Study inclusion criteria were as follows; (1) subjects were juveniles living in their community when they were first assessed, (2) subjects were not chosen for having committed a prior criminal or violent offenses, (3) studies measured interpersonal physical violence or acts resulting in physical injury to other person, excluding suicidal behavior,

(4) studies identified a modifiable indicator of meaningful predictor or risk factor. Studies of interactions between multiple risk factors were excluded, as were discussions of race and gender, as predictors of violence, (5) study design was longitudinal with results based on prospective data so that exposure to risk factors preceded violence, and (6) individual subjects served as the unit of analysis for both independent and dependent variables. Results of analysis indicated that predictors of violence can be grouped under five domains: (1) individual factors: pregnancy and delivery complications, low resting hearth rate, internalizing disorders, hyperactivity, concentration problems, restlessness, risk taking, aggressiveness, early initiation in other forms of antisocial behavior, beliefs and attitudes favorable to aggression; (2) family factors: parental criminality, child maltreatment, poor family management practices, low levels of parental involvement, poor family bonding and family conflict, parental attitudes favorable to substance use and violence, parent-child separation; (3) school factors: academic failure, low bonding to school, truancy and dropping out of school, frequent school transitions; (4) peer related factors: delinquent siblings, delinquent peers, gang membership; (5) community and neighborhood factors: poverty, community disorganization, availability of drugs and firearms, neighborhood adults involved in crime, exposure to violence and racial prejudice.

Recently, Leschied, Chiodo, Nowicki, and Rodger (2008) conducted a meta-analytic study with selected prospective and longitudinal studies, tracking a variety of early childhood and family factors that could potentially predict later involvement in the adult criminal justice system.

Thirty-eight studies met the selection criteria. Within the set of dynamic predictors, childhood and adolescent factors that rate most highly include a variety of behavioral concerns including early identification of aggression, attention problems, motor restlessness, and attention seeking. Emotional concerns consistent with depression including withdrawal, anxiety, self-deprecation, and social alienation are also represented. Predictors also included family descriptors such as a variety of negative parenting strategies including coerciveness, authoritarian behaviors, lack of child supervision, and family structure variables such as witnessing violence, inter-parental conflict, family stressors, and poor communication.

Siyez and Aysan (2007) conducted the most comprehensive study on risk and protective factors in Turkey. The researchers examined the role of psychological risk and protective factors in adolescent problem behaviors (smoking, drinking alcohol, illicit drug use, antisocial behaviors, and precocious sexual intercourse) among 1237 high school students (aged between 15 and 17). Student self-report data was used for the analyses and results revealed that; collective risk factors (alienation, depression, stress, dropout school, reasons of alcohol use, risk taking, parent models of problem behaviors, friend models for problem behaviors, student models for problem behaviors, neighbor models for problem behaviors, availability of gangs, availability of illicit drugs, peer pressure and neighborhood quality) accounted for 68% of the total variance in problem behavior, protective factors (disapproval of problem behaviors from parents, friends and neighborhood, parents model for conventional behaviors, perceived social support from parents, friends, and teachers;

control levels of parents', friends', school and neighborhood; family relationship satisfaction index, value on academic achievement of parents and teachers; influence of parents and friends) accounted for 41% of the total variance in problem behaviors. Moreover, risk, protection, socio-demographic factors interaction accounted for 59 % of the total variance in problem behaviors of adolescents.

2.4 Research on Conceptual Model Variables

This part of the review will focus on family level and personal level risk and protective factors of adolescents' aggressive behaviors which were included in the integrated conceptual model. In the present study family factors were considered as exogenous variables (not predicted by any other variable), and personal cognitive factors were studied as endogenous variables (predicted by at least one other variable).

2.4.1 Family Factors (Exogenous Variables)

In the current study, perceived parental support for fighting, perceived family conflict and perceived parental monitoring were studied as contributing family factors to physical aggression of adolescents.

Literature states that parents are the primary socialization agents of their children (Kuczynski & Grusec, 1997). Parent-child relationship and specific parenting practices, such as parental control and supervision, positively affect socialization of youth (Baumrind, 1991; Darling & Steinberg, 1993; Sokol-Katz, Dunham, and Zimmerman (1997) and this in

turn help children in acquiring the essential skills and behaviors to function as a member of society. Socialization determines a child's: (1) self-regulation of emotion, thinking, and behavior; and (2) acquisition of cultural standards, attitudes, and values (Grusec, 2002, p.143). Moreover, it is pointed out that family and parenting variables are particularly significant in the intervention and prevention of juvenile delinquency due to their potential for change as compared to other environmental factors (Klein, Forehand, Armistead, and Long, 1997). For example, Hatunoğlu (1994) examined the relationship between parental attitudes and aggressiveness among 11th graders of five schools in Erzurum and found out that, adolescents whose family had an authoritarian attitude showed greater tendency for aggression rather than democratic and indulgent families. Likewise, Yıldırım (2001) investigated the relationship between bullying and family environment among 140 fourth graders in Istanbul. Results of the study did not revealed significant differences in family environment among bullies, victims, bully/victims and controls. For instance, Aral, Bütün-Ayhan, Türkmenler, and Akbıyık (2004) conducted a study to understand the relationship between aggression and some other variables (gender, socio-economic status, parents' education level) among 300 eight graders (100 from each SES levels). Self-report data was used for the analyses and results revealed that boys, low socio-economic level students, and students whose parents have lower education level behave more aggressively than other students and these differences were found to be statistically significant. Akgün (2005) investigated the role of parenting style and parent-adolescent relationship on peer victimization and bullying among adolescents among 379 senior high school students (71% females). The results revealed that psychological autonomy and

strictness/supervision dimension of parenting style and communication with fathers significantly predicted overall bullying behavior. Similarly, Yalçın (2007) conducted a study to find out whether aggression levels of high school students (n=639) whose perceived levels of support from their families changes in relation to gender, class, perception of family financial status, perception of the violence in the family and satisfaction about friendships in the school. Student self-report data was used for the analyses and results indicated that the main effects of perceived level of social support from the family, family financial status and the violence in the family on aggression were significant. Moreover, the interaction effect between perceived level of social support from family and the satisfaction about the friendships in school on aggression scores was significant.

Ulusoy, Özcan-Demir, and Görgün-Baran (2005) conducted a study to investigate the relationship between parents' way of raising children and adolescents' problems among 726 high school students (8^{th} graders) in Ankara. Students' self-repot data was used for the analyses and results indicated that harsh and neglecting parenting behaviors were significantly and positively related to adolescents' problem behaviors (self harming, school truancy, and escaping from home). Likewise, Aktaş and Güvenç (2006) examined the relations among age, gender, parental and peer attachment, interpersonal reactivity, aggressive and prosocial behavior of 286 adolescents (aged between 11 and 16). Student self-report data was used for the analyses and the results revealed that most dimensions of adolescents' aggressive behavior were negatively predicted by parental attachment.

In a recent study, Eichelsheim, Buist, Deković, Wissink, Frijns, van Lier, et al. (2009) examined whether the patterns of association between the quality of the parent–adolescent relationship on the one hand, and aggression and delinquency on the other hand, are the same for boys and girls of Dutch and Moroccan origin living in the Netherlands. Two study groups were examined separately; Dutch sample (n=288, mean age= 14.9), Moroccan sample (n=306, mean age=13.2). Results of multi-group structural analyses revealed no ethnic and no gender differences in the patterns of association between support, autonomy, disclosure, and negativity in the parent–adolescent relationship and aggression and delinquency. Negative parent-child relationship was found to be significantly and positively related to aggression and delinquency. Likewise a study from Turkey also pointed out the importance of family factors in explaining aggressive behavior. Avcı (2006) conducted a study (1) to investigate the families of violent and nonviolent adolescents in terms of family functioning, trait anger and anger expression, and (2) to compare psychological problems, alcohol usage, and delinquent behaviors. Families of violent (n=54) and nonviolent (n=54) adolescents (aged between 14 and 18) were included in the study. Results of the analysis revealed that families of violent adolescents had more deficits and conflicts in problem solving, communication, role assignment, affective responses, affective involvement, behavior control and general functioning when compared with families of nonviolent adolescents.

Similar findings from the literature have revealed that the presence of violence at home, parent-child bonding, parental control, and poor family relationships are important determinants of youth aggression (Baldry &

Farrington, 1998; Bates, Pettit, Dodge, & Ridge, 1998; Eron, Huesmann, Zelli, 1991; Jackson & Foshee, 1998; Jackson, Henriksen, & Foshee, 1998; Kaner, 1996; Leventhal & Brooks-Gunn, 2000; Olweus, 1980; Paschall, Flewelling, & Ennett, 1998; Strassberg, Dodge, Pettit, & Bates, 1994). Moreover, Larzelere and Patterson (1990) found out that even after controlling for other predictors of delinquency, parenting variables have direct effects on delinquency.

2.4.1.1 Parental Support for Aggression

Perceived parental support for aggression is considered as a family level risk factor of physically aggressive behaviors of adolescents in this study. In the literature it is stated that parental support or approval of aggression and antisocial behavior is a significant predictor of adolescent aggressive behaviors (Olweus, 1980; Orpinas, Murray, & Kelder, 1999). Moreover, according to Akers' Social Learning Theory of Adolescent Deviance (1985; 2000), if an individual associates with people who model behaviors and hold beliefs that are in support of deviance, such as aggressive acts, the individual is more likely to engage in those behaviors and hold those beliefs themselves.

Olweus (1980), as being the pioneer in aggression research among adolescents, conducted a study to test a causal model among Swedish boys (76, thirteen years old and 51, sixteen years old). Participants' habitual aggression levels were assessed through peer ratings. Additionally, retrospective interviews with all mothers and most of the fathers were conducted to understand the child rearing conditions and

temperamental characteristics. Results indicated that mother's negativism, mother's permissiveness for aggression, mother's and father's use of power-assertive methods, and boy's temperament all contributed to the development of an aggressive reaction pattern, with the former two factors having the greatest causal impact. Results for two age groups were found to be similar and a substantial amount of variance in the boy's aggression levels could be explained by the variables included in the model.

Malek, Chang, and Davis (1998) conducted a study; (1) to compare attitudes toward violence and weapon-carrying among seventh-grade students in three dissimilar U.S. communities, and (2) to determine students' understanding of their parents' violence-related guidance behavior among 566, 7th grade students. Self-report data was used for the analysis and results indicated that students whose parents used nonviolent disciplinary techniques fought less frequently than those whose parents relied on hitting and using more violent disciplinary methods. Moreover, fighting was significantly more common among students who believe that their parents want them to fight if insulted. Additionally, thirty percent of the students reported that they know their parents want them to fight or they believe their parents would want them to fight if they are confronted or insulted.

Orpinas, Murray, and Kelder (1999) conducted a study to find out the associations between four family constructs (family structure, relationship with parents, parental monitoring, and perception of parental attitudes toward fighting) and aggressive behaviors and weapon carrying among

middle school students (n=8865, 6th, 7th, and 8th graders) from 8 urban schools in Texas. Results revealed that students who lived with their both parents were less likely to report aggression than students in other living arrangements. Additionally, the perception of parents' attitudes toward fighting was found to be the strongest predictor of aggression. Moreover, these four family constructs accounted for almost one-third of the total variance in the aggression score.

Wyatt and Carlo (2002) carried out a study to test the hypothesis of adolescents' expected parental reactions (left to the adolescent to determine) to prosocial behaviors were expected to predict prosocial behaviors; expectations regarding antisocial behaviors were expected to predict antisocial behaviors. Eighty adolescents and their parents participated in the study and results indicated that expected parental reactions to antisocial behavior predicted lower levels of delinquency and aggression. Expected parental reactions to prosocial behavior predicted higher levels of prosocial behavior and lower levels of delinquency and aggression.

Ohene, Ireland, McNeely, and Borowsky (2006) examined the relationship between perceived and stated parental expectations regarding adolescent violent behavior, parental use of physical punishment as discipline, and young adolescents' violence related attitudes and involvement among 134 youth (aged between 10 and 15). Youth self-reports and parent-reports were used for the analyses. Results revealed that perceived parental disapproval of the use of violence was associated with more prosocial attitude toward interpersonal peer violence and decreased likelihood of

physical fighting by the youth. Parental report of whether they would advise their child to use violence in a conflict situation was not related to adolescents' attitudes toward interpersonal peer violence, intentions to fight, physical fighting, bullying, or violence victimization. On the contrary, parents' use of corporal punishment as a discipline method was found to be negatively correlated with prosocial attitude and positively correlated with youths' intentions to fight and fighting, bullying, and violence victimization.

Copelan-Linder, Jones, Haynie, Simmons-Morton, Wright, and Cheng (2007) conducted a study; (1) to describe the attitudes regarding retaliation among adolescents who have been assaulted, (2) to examine assault-event characteristics, personal, parental, and environmental factors associated with the retaliatory attitudes of adolescents who have been assaulted. The sample of the study consisted of 164 adolescents (aged from 10 to 15) who were attacked and came to emergency service of a hospital. Self-report and parent/caregiver report data was used for the analysis and results indicated that adolescents' perceptions of their parents' attitudes toward fighting had the greatest impact on retaliatory attitudes.

Murray (2008) conducted her dissertation on understanding the relationship between parenting and early adolescent aggression in an urban low-income sample (n=209, 6th graders). The aims of the study were as follows: (1) to examine whether aggression-specific parenting practices and parenting style predicted subsequent early adolescent aggression, (2) to examine the extent to which parenting style moderated the relationship between aggression-specific parenting practices and subsequent early

adolescent aggression, and (3) to explore the bidirectional relationship between parenting and early adolescent aggression. Student self-report data was used for the analysis and results indicated that early adolescents who reported having a parent who supported aggression avoidance strategies were less likely to engage in overt aggression. Further, results revealed that parent support for aggression avoidance strategies increased the tendency toward aggressive behavior when parenting styles were at their least protective levels.

Solomon, Bradshaw, Wright, and Cheng (2008) investigated the associations among parental and youth attitudes toward fighting, parent-child relationships, and youth aggressive behavior in adolescent (n=72, aged between 12 and 17) at risk for future interpersonal violence (youth who presented to an emergency department because of assault-related injuries). Youth self-report and parent-report data were used for the analyses. Results revealed that there is a significant relationship between parents' and youth's attitudes toward fighting. Moreover, youth's and parents' attitudes were positively correlated with aggressive behavior, fighting, and school suspension. Additionally, even after controlling for youths attitudes, parents' attitudes predicted youth's aggressive behavior.

2.4.1.2 Parental Monitoring

Perceived parental monitoring is considered as a family level protective factor for physically aggressive behaviors of adolescents in this study. As defined clearly in the literature, parental monitoring involves knowledge of the child's whereabouts and activities (Laird, Pettit, Bates, & Dodge,

2003; Laird, Pettit, Dodge, & Bates, 2003). Child and adolescent development literature has constantly revealed negative relations between parental monitoring knowledge and different types of problem behaviors including; externalizing behaviors (Krishnakumar, Buehler, & Barber, 2003), deviance (Forehand, Miller, Dutra, & Chance, 1997; Patterson, Reid, & Dishion, 1992), use of tobacco, alcohol, and other drugs in adolescents (e.g., Barnes, Reifman, Farrell, & Dintcheff, 2000; Dishion, Capaldi, Spracklen, & Li, 1995; Flannery, Vaszonyi, Torquati, & Fridrich, 1994; Fletcher, Steinberg, & Williams-Wheeler, 2004; Markey, Ericksen, Markey, & Tinsley, 2001; Simons-Morton, Chen, Abroms, & Haynie, 2004), delinquency (Barber, 1996; Barber, Olsen, & Shagle, 1994; Bean, Barber, & Crane, 2006; Fletcher, Steinberg, & Williams-Wheeler, 2004; Gray & Steinberg, 1999; Kaner, 1996; 2001; Patterson & Stouthamer-Loeber; 1984; Patterson, Forgatch, Yoeger, & Stoolmiller, 1998; Pettit, Bates, Dodge, & Meece, 1999; Pettit, Laird, Dodge, Bates, & Criss, 2001; Reid & Patterson, 1989), and school violence (Sümer & Çetinkaya, 2004). It is also formulated in the literature that this kind of involvement with antisocial and delinquent peers' increase the likelihood of child's becoming friends with deviant peers, learn more about deviant behavior, and be reinforced for deviant behaviors (Dishion, Capaldi, Spracklen, & Li, 1995; Dishion, Nelson, & Kavanagh, 2003; Fridrich & Flannery, 1995; Wiesner & Capaldi, 2003; Wiesner & Silbereisen, 2003).

Vazsonyi and Flannery (1997) examined the importance of family variables in the prediction of early adolescent delinquent behavior among 1170 early adolescents. Participants self report data was used for the analysis and the results indicated that the strongest associations between

delinquency and family processes were parental monitoring and parent-child relationship. Similarly, Orpinas, Murray, and Kelder (1999) investigated the association between parenting predictors (family structure, relationship with parents, parental monitoring, and perception of parental attitudes toward fighting) and aggression in a middle school sample (n= 8865, 6th, 7th, 8th, graders). This study revealed that as the levels of behavioral control declined, adolescent involvement in fighting increased. Moreover, a frequency of aggressive acts variable was also related to parent behavioral control. Frequency of aggression was nearly three times lower among students with very high parent behavioral control compared to students with very low parent behavioral control.

Frick, Christian, and Wootton (1999) examined the relation between parenting practices and conduct problem behavior among 170 clinic-referred children and adolescent. Parenting practices were assessed using a multi-method (interview and questionnaires) and multi-informant (youth and parent) format. Results indicated that lower levels of parental knowledge were associated with greater involvement in antisocial and delinquent behavior.

Pettit, Laird, Dodge, Bates, and Criss (2001) studied the early childhood antecedents and behavior-problem correlates of monitoring and psychological control in a prospective, longitudinal, and multi-informant study. Parenting data were collected during interviews with 440 mothers, and their 13 year old children. Behavior problems were assessed via

mother, teacher, and/or adolescent reports at ages 8 through 10 years and again at ages 13 through 14 years. Results indicated that monitoring was associated with fewer delinquent behavior problems.

Rodgers and Rose (2004) surveyed 2,144 adolescents in 7th, 9th, and 11th grade regarding support and monitoring during marital transition (the period during and after divorce) of their parents. Adolescent self-report data was used for the analyses and results indicated that parental monitoring and attachments at school were negatively associated with externalizing problem behavior.

Simons-Morton, Hartos, and Haynie (2004) examined the influence of parent and school variables on minor aggression among early adolescents (6th grade, n=1082). The result of this longitudinal, multi-ethnic study revealed that parental monitoring was negatively and directly associated with Time 2 aggression and indirectly to Time 2 affiliation with problem behaving friends.

Results of some other research on parental monitoring and aggressive behaviors of adolescents revealed gender differences. For instance, Richards, Miller, O'Donnell, Wasserman, and Colder (2004) investigated the direct and meditational effects of parental monitoring knowledge in their study of urban, African American early adolescents and their parents. Using a cross-sectional design, researchers found an inverse relation between parental monitoring knowledge and aggression. Results further indicated that parent monitoring knowledge mediated the relationship between sex and aggression. Specifically, parents were more

aware of girls' whereabouts than boys' whereabouts, despite the significantly higher prevalence of male aggression. These findings may indicate that parents monitor girls more than boys because they perceive girls as more prone to victimization. This was the only study reviewed that indicates a gender interaction with parent monitoring knowledge.

Likewise, Stevens, Vollebergh, Pels, and Crijnen (2005) obtained 415 parent reports, 376 youth reports, and 238 teacher reports of youth externalizing problem behavior in an immigrant population. Parents completed proximal family (affection and monitoring) and contextual family (parent-child conflict and destructive communication) questionnaires. Multiple regression analyses revealed a relation between parental monitoring and externalizing problem behavior, with boys at higher risk of externalizing problems than girls. In the same vein, Wienke Totura, MacKinnon-Lewis, Gesten, Gadd, Divine, Dunham, et al. (2009) conducted a study (among 2506 middle school students and their teachers) hypothesizing that students with internalizing and/or externalizing difficulties are less likely to be categorized as bullies and/or victims if they report coming from more cohesive and adaptable families and attending schools characterized by higher adult monitoring, lower levels of aggression and disorder, and higher levels of school bonding. Home and school environments in which these characteristics are less evident to students were expected to exacerbate the likelihood of being bullies and/or victims. Results revealed that increased student-reported adult monitoring decreased the likelihood for students with externalizing problems to be characterized as bullies, particularly for girls.

Some other research however, provided evidence that increased parental monitoring is not related to adolescent aggression. For instance, Griffin, Botvin, Scheier, Diaz, and Miller (2000) revealed that parental monitoring knowledge was not significantly related to aggressive behavior in a predominantly African American sample of sixth graders. Conversely, monitoring knowledge was the most predictive parenting variable for the other problem behavior dependent variables (smoking cigarettes, alcohol use, and delinquency) in this study. Nonetheless, authors of the study interpreted that aggression was more normative in this study population since higher levels of monitoring knowledge failed to impact aggressive behaviors but did impact more serious problem behaviors. Regardless of this finding, the adolescent problem behavior literature provides strong evidence that monitoring knowledge is highly predictive of problem behaviors including aggression. Majority of the studies stated behavioral control was negatively related to aggression.

2.4.1.3 Family Conflict

Perceived family conflict is considered as a family level risk factor for physically aggressive behaviors of adolescents in this study. Literature on problem behaviors of children and adolescents persistently stated that children growing up in homes with higher levels of conflict are at risk for behavioral adjustment problems (Cummings & Davies, 2002; Emary, 1982; Harold, Shelton, Goeke-Morey, & Cummings, 2004; O'Keefe, 1994). Moreover, it is revealed that family conflict, particularly discord between

parents, teaches children to accept aggressive behaviors as a way of accomplishing their goals (Baldry & Farrington, 2001; Ingoldsby, Shaw, & Garcia, 2001).

Ferguson and Horwood (1998) studied the relationship between retrospective reports of exposure to inter-parental violence in childhood and rates of psychological adjustment problems in young adulthood. Data were collected during the course of 18 year longitudinal study of a birth cohort of 1265 New Zealand children. Results indicated that there is a robust correlation between observing domestic violence and later antisocial behavior, including anxiety, conduct disorder, problems with alcohol, and criminal offending.

Şirvanlı-Özen (1998) investigated the effects of marital conflict and divorce on behavior and adjustment problems of children in Turkey. The sample of the study consisted of 421 children from different age groups (5, 10, 13, and 16). Child-report and parent-report data was used for the analyses and results revealed that children of the more conflicted and divorced parents had more psychological problems and more total problems than less conflicted parents. Moreover, there were significant positive correlations between self-report measure of psychological problems of children and their mothers. There were also significant negative correlations between the level of marital adjustment scores of parents and the psychological problem scores of their children.

Jaffee, Moffit, Caspi, Taylor, and Arsenault (2002) employed a twin research design to find out whether domestic violence accounted significantly for the variation and covariation of externalizing and internalizing problems of children. Mothers and teachers reported internalizing and externalizing problems for 1116 monozygotic and dizygotic 5 year old twin pairs in the UK. SEM analysis results indicated that adult domestic violence accounted for five percent of the variance in child antisocial behavior, even controlling for genetic factors.

Baldry (2003) studied the relationship between bullying and victimization in school and exposure to inter-parental violence in a nonclinical sample (n=1059) in Italy. Self-report data was used for the analyses and results revealed that bullying and victimization were predicted by exposure to inter-parental violence, especially mother-to-father violence, over and above age, gender, and child abuse by the father.

Karataş (2005) examined the relationship between 276 high school students' aggression and their parents' aggression in Adana. Student self-report data and parent report data was used for the analysis and results indicated that there is a significant positive relationship between parents' aggression and adolescents' aggression.

Bauer, Herrenkohl, Lozano, Rivara, Hill, and Hawkins (2006) conducted a study to describe the prevalence of bullying and to examine the relationship of bullying and exposure to intimate partner violence among 112 children (6-13 years old) from a multigenerational study. Both child self-report and parent measures were used to gather data. Results

revealed that intimate partner violence-exposed children were at increased risk for problematic levels of externalizing behavior, physical aggression, and internalizing behavior.

Ayan (2007) examined the aggression tendencies of Turkish children who exposed to domestic violence. The sample included 655 children from 6th, 7th, and 8th grades. Student self report data was used for the analysis and results revealed that the children who were exposed to parental violence tended to behave more aggressively. Similarly, Karahan, Özcan, and Ağlamaz (2009) investigated the relationship between high school students' (n=1223) aggressiveness levels and their family structure. Student self-report data was used for the analyses and results showed that students from divorced or separated families, students with stepmother or stepfather have high levels of aggressiveness.

Bradford, Vaughn, and Barber (2008) examined direct and indirect associations between overt and covert inter-parental conflict, parent-child conflict, and their links to youth problems among 641 school aged youth (12-18 years old). SEM was used for the analyses and results showed direct positive relationship between overt inter-parental conflict and antisocial behavior and between covert inter-parental conflict and depression and antisocial behavior.

In a more recent study, Tanaka, Raishevich, and Scarpa (2009) examined the role of anxiety in moderating the relationship between family conflict and childhood aggression in a sample of 50 children (7-13 years old).

Children and parent report data were used for the analysis, and results indicated that family conflict was related to increased proactive aggression in children with high levels of anxiety.

2.4.2 Personal Cognitive Factors (Endogenous Variables)

Beliefs supporting aggression, self-efficacy for alternatives to aggression, and personal value on achievement were studied as personal level cognitive factors in contributing physical aggression of adolescents and they were also included in the model as the mediators of family factor variables.

2.4.2.1 Beliefs Supporting Aggression

Beliefs supporting aggression is considered as a personal level risk factor for physically aggressive behaviors of adolescents. Research pointed out that aggressive and non aggressive child can be differentiated on the basis of their social problem-solving skills and beliefs supporting aggression (Bandura, 1980; Dodge, 1980; Slaby & Guerra, 1988). Several studies have found a mutual relationship between beliefs favorable to delinquency and aggressive behavior (Agnew, 1985; Elliott, 1994; Matsueda, 1989; Zhang, Loeber, & Stouthamer-Loeber, 1997). Most of the other research shares the conclusion of Huesmann and Guerra (1997) study, which demonstrated that children who believe that aggression is an appropriate response are more aggressive, relative to those who believe aggression is an inappropriate or unacceptable behavior in social situations.

For instance, Slaby and Guerra (1988) investigated the role of cognitive mediators in identifying differences in aggression. For the purpose of the research, male (n=72) and female (n=72) adolescents incarcerated for antisocial aggression offenses and high school students rated as high or low in aggression were compared in terms of skills in solving social problems and beliefs supporting aggression. Results indicated that antisocial-aggressive individuals were most likely to solve social problems by defining problems in hostile ways, adopting hostile goals, seeking few additional facts, generating few alternative solutions, and anticipating few consequences for aggression. Antisocial aggressive individuals were also most likely to hold a set of beliefs supporting the use of aggression, including beliefs that aggression: is a legitimate response; increases self-esteem; helps avoid a negative image; and does not lead to suffering by the victim.

Later, same researchers (Guerra & Slabby, 1990) tested the effectiveness of 12-session intervention program based on a model of social-cognitive development among 120 male and female adolescents (equally divided into cognitive mediation training program, attention control group, and no-treatment group). Self-report and staff-report data was used for the analyses. Results indicated that subjects in the treatment group showed increased skills in solving social problems, decreased endorsement of beliefs supporting aggression, and decreased aggressive, impulsive and inflexible behaviors, as rated by staff.

Similarly, Bentley and Li (1996) conducted a study to examine the prevalence and nature of bullying in elementary school children, and investigate the bullies and victims' beliefs supporting aggression. A total of 379 (grades 4 to 6) students in Calgary were surveyed. Results revealed that bullies were more likely than victims and students who were neither victims nor bullies to endorse certain aggression-supporting beliefs.

Likewise, Crane-Ross, Tisak, and Tisak (1998) conducted a study to determine whether aggressive and conventional rule-violating behaviors could be predicted by social-cognitive beliefs and values regarding aggression and conventional rule violations among 398 adolescents (9th through 12th graders). Self-report and peer-report data was used and results demonstrated that aggressive and conventional rule-violating behaviors were predicted by beliefs about the legitimacy of aggressive and conventional rule-violating behavior, and values placed on the expected outcomes of these acts, such as negative self evaluations, peer disapproval, and tangible rewards, and beliefs about the effects of these acts on others.

Moreover, Jemmott, Jemmott, Hines, and Fong (2001) conducted a study to test the theory of planned behavior as a model for predicting and understanding behavioral intentions for fighting among inner-city adolescents (n=956, 6th, 7th, and 8th graders). Hierarchical regression analyses revealed that adolescents who had more favorable attitudes toward fighting, who perceived subjective norms more supportive of fighting, and who had less confidence that they could avoid fighting expressed stronger intentions to fight.

Additionally, Sukhodolsky and Ruchkin (2004) examined the association of anger experience and two types of normative beliefs with physical aggression and nonaggressive antisocial behavior among male juvenile offenders (n=361) and male high school students (n=206) in Russia. The participants' self-report data was used for the analyses and results indicated that higher frequency of aggressive acts was significantly associated with higher levels of anger and stronger beliefs that physical aggression is an appropriate course of action in conflicts.

Nash and Jong Sung (2007) investigated the relationship over time between beliefs legitimizing aggression and use of aggression. Data from seven waves (from 1977 to 1987) indicated that beliefs legitimizing aggression risk was associated with onset of serious aggression by early adolescence. Beliefs legitimizing aggression risk status was significantly related to aggression at all seven waves, but the magnitude of the relationships was smaller at later waves.

Normative beliefs are defined as cognitive representations of what one should or should not do (Huesmann, Guerra, Zelli, & Miller, 1992). Therefore, when considering beliefs about aggression, normative beliefs should also been included in the discussion. Literature states that aggressive children were found to have higher levels of normative beliefs about the legitimacy of aggression than nonaggressive children (Lochman & Dodge, 1994; Slaby & Guerra, 1988). In cross-sectional and longitudinal studies, individual differences in children's normative beliefs about aggression have been shown to predict aggressive behavior as rated by peers, teachers, and self-reports (Huesmann & Guerra, 1997; Zelli, Dodge,

Lochman, Laird, & Conduct Problems Research Group, 1999). For instance, in a recent study, Lim and Ang (2009) investigated the contribution of general normative beliefs about aggression and specific normative beliefs about retaliatory aggression in predicting physical, verbal, and indirect aggressive behaviors among 249 boys from 4th and 5th grades. Self report data was used for the analysis, and results showed that general normative beliefs about aggression contributed significantly in predicting all three types of aggressive behaviors.

Similarly, McMahon, Felix, Halpert, and Petropoulos (2009) examined the impact of community violence on behavior through cognitive mediators: normative beliefs about aggression and self-efficacy to control aggression. Self-report data was collected from two samples; cross sectional (n=126, 5th, 6th, 7th, and 8th graders), and longitudinal (n=81, starting from 5th grade to 8th grade). SEM was used for the analysis and results demonstrated a good fit with both samples. Moreover, results indicated that exposure to community violence was associated with more retaliatory beliefs supporting aggression, which led to more aggressive behavior.

Researchers enriched the contribution of normative beliefs to aggression by adding other dimensions of normative belief measures in a school context, such as classmates and teacher measures. For instance, Henry, Guerra, Huesmann, Tolan, VanAcher, and Eron (2000), tested the effects of personal normative beliefs, descriptive classroom norms (the central tendency of classmates' aggressive behavior), injunctive classroom normative beliefs (classmates' beliefs about the acceptability of aggression), and norm salience (student and teacher sanctions against

aggression) on longitudinal changes in aggressive behavior and beliefs among samples of 614 (exploratory sample) and 427 (cross validation sample) urban elementary school children. Results revealed that injunctive norms affected individual normative beliefs and aggression, but descriptive norms had no effect on either. Moreover, in classrooms, where students and teachers made norms against aggression salient, aggressive behavior diminished over time.

Furthermore, Werner, and Nixon (2005) contributed to the discussion by revealing that beliefs-behavior associations were specific to aggression forms, in their study among 1208 students (5^{th} and 6^{th} graders). In other words, beliefs about relational aggression were uniquely associated with engagement in relationally aggressive acts, whereas beliefs about physical aggression, but not relational aggression, contributed unique information about adolescents' level of physical aggression. No gender effects were found. Regression analyses when physical aggression served as the dependent variable revealed that general (children's beliefs about the acceptability of using aggression, in general) and retaliatory beliefs (children's beliefs about the acceptability of using aggression in response to a provocation) about physical aggression were the only significant predictors.

Moreover, some other researchers investigated whether this relationship is different for different ethnic groups. For example, Bellmore, Witkow, Graham, and Juvonen (2005) conducted a study to evaluate the complementary roles that aggressive normative beliefs and hostile response selections play in predicting adolescents, aggressive behavior

among 2003 (6th graders) young adolescents from different ethnic backgrounds. The self-report, peer-report, and teacher-report data was used to test the hypothesis that adolescents' hostile response selections mediate the association between their normative beliefs and aggressive reputations among their peer and teachers. Results of SEM analyses suggested that general process linking cognitions and their behaviors is the same for all young adolescents' from different ethnic backgrounds and from different genders. Similarly, Thanzami and Archer (2005) tested the hypothesis that people from an individualistic culture would show higher instrumental and lower expressive beliefs about aggression than those from collectivist culture among 100 student from each group. Results did not support the hypothesis and no association between cultural orientation and beliefs about aggression was found.

In Turkey, Aktaş, Şahin, and Aydın (2005) investigated the hostile attributional biases of aggressive and nonaggressive fifth graders (n=523) in Ankara. Researchers presented 11 ambiguous pictures with negative outcomes and for each picture a questionnaire with multiple choice answers was presented. Results indicated that aggressive children attributed more causality, negative intentions to the ambiguous negative outcomes represented in the pictures than nonaggressive children. Moreover, physically aggressive children displayed more hostile attribution than the nonaggressive ones. Additionally, a main effect of sex was obtained, indicating that boys attributed more personal causality, more negative intention and hostile attributional bias when compared to girls.

Kılıçarslan (2009) examined relationships between irrational beliefs and aggression of early adolescents among 955 7th and 8th graders in Elazığ. The results of the analysis yielded that the demand for comfort and success and respect subscales of international beliefs scale for adolescents were the significant predictors of aggression.

Moreover, in a recent study, Şahin and Sarı (2010) investigated the relations between bullying behavior with cognitive distortions and dysfunctional attitude among 300 high school students. Results revealed that there is a significant negative relationship between bullying behaviors and cognitive distortions of the participants and boys tend to have more dysfunctional attitudes and behaviors than girls.

2.4.2.2 Self-efficacy for Alternatives to Aggression

Self-efficacy for alternatives to aggression is considered as a personal level protective factor for physically aggressive behaviors of adolescents in the present study. Self-efficacy concept is often confused with self-esteem; however, self-efficacy is an estimation of faith in one's ability to carry out the actions necessary to handle life events (Willoughby, King, & Polatajko, 1996). Self-esteem and self-efficacy differ in that the former is more stable while the latter is variable (Willoughby, King, & Polatajko, 1996). Bandura (1997) postulated that self-efficacy is a domain-specific concept, which means that it can be best conceptualized as a differentiated set of self-beliefs specific to different areas of functioning (e.g., social self-efficacy, academic self-efficacy). Moreover, researchers stated that compared to general self-efficacy concept, the concept of self-efficacy as domain-

specific has been stated as a better predictor of actual behavior (Bandura, 1980, 1997; Multon, Brown, & Lent, 1991; Valentine, DuBois, & Cooper, 2004). Besides, it was found out that if the adolescents have strong self-efficacy to overcome peer pressure they are less likely to be involved in problem behaviors (Caprara Scabini, Barbaranelli, Pastorelli, Regalia, & Bandura, 1998; Ludwig & Pittman, 1999).

Furthermore, self-regulatory efficacy has been shown to have a negative correlation with engagement in delinquent conduct, substance abuse (Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003; Caprara, Scabini, Barbaranelli, Pastorelli, Regalia, & Bandura, 1998), emotional irascibility, physical and verbal aggression, and moral disengagement (Caprara, Barbaranelli, & Comrey, 1992). It was also found out that students who have a high sense of self-regulatory efficacy are better equipped to resist peer pressures to engage in risky or antisocial conduct (Bandura, 1997; Bandura, Caprara, Barbaranelli, Pastorelli & Regalia, 2001). According to Caprara, Barbaranelli, Pastorelli, and Cervone (2004), self-regulatory efficacy is related to people's perceptions for relating their actions in accord with personal norms when they encountered peer pressure for engaging in antisocial conduct.

Caprara, Regalia, and Bandura (2002) examined the impact of perceived self-regulatory efficacy and parental communication on violent conduct among 350 adolescents with a mean age of 16 years. Adolescents' perceived efficacy to resist peer pressure for transgressive activities counteracted engagement in violent conduct both directly and by

fostering open communication with parents. Gender difference stating that more boys involve in violence was found in the level of involvement in violence but the causal structures were found to be the same.

Moreover, in a recent study, Caroll, Houghton, Wood, Unsworth, Hattie, Gordon, and Bower (2009) investigated the structural relations among self-efficacy, academic aspirations, and delinquency on academic achievement of 935 students aged between 11 and 18. Results indicated that children with higher self-regulatory self-efficacy reported being involved in fewer delinquency behaviors, and therefore, had higher academic grades.

Self-efficacy for alternatives to aggression can also be discussed from emotion regulation perspective. Self-efficacy for alternatives to aggression as a regulated phenomenon means that an adolescent's perceived capacity to control emotional arousal and to adaptively cope with aggression provoking situation (Zeman, Shipman, & Suveg, 2002). Thus, it is stated that difficulty in controlling anger (Furlong & Smith, 1994; Granic & Butler, 1998) or inability to produce nonaggressive solutions to interpersonal conflicts (Dodge, 1991) are other risk factors that may lead to increased aggression among adolescents.

Silk, Steinberg, Sheffield-Morris (2003) examined the relationship between emotion regulation and adjustment in a sample of 152 adolescents in grades 7 and 10. Results revealed that adolescents who reported more intense and labile (unstable) emotions and less effective regulation of these emotions also reported more depressive symptoms and problem behavior.

2.4.2.3 Personal Value on Achievement

Valuing academic achievement is a protective factor against involvement in problem behaviors because it reflects positive engagement with school, which is a conventional social institution (Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995). When considering the opposite angle, which affirms that low value on academic achievement is a risk factor for aggressive behavior, researchers state that students who have low sense of self-regulatory and academic self-efficacy are more likely to engage in problem behaviors such as delinquency, dropping out of school, and school failure (Bandura, 1997; Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Bandura, Caprara, Barbaranelli, Pastorelli, & Regali, 2001). Likewise, low commitment to school (Bowker and Klein 1983; Maxson, Whitlock, Klein, 1998) is also found to be related to aggressive behaviors of adolescents. Hill, Howell, Hawkins, and Battin-Perason (1999) conducted a longitudinal study aiming to predict gang membership in adolescence from factors measured in childhood on a ethnically diverse gender balanced sample (n=808). Results indicated that neighborhood, family, school, peer and individual factors significantly predicted joining gang in adolescence. Moreover, poor school achievement, low attachment to school, low commitment to school, and low educational aspirations at ages 10 to 12 predicted later gang membership.

Without considering the personal value given on academic achievement, researchers have studied the relationship between adolescents' academic achievement and their aggressive behaviors. Hence, adolescents' academic

achievement was found to be related to their aggressive behaviors in many studies (e.g., Gorski & Pilotto, 1993; Katsiyannis, Ryan, Zhang, & Spann, 2008). Some theories have tried to explain the association between academic achievement and delinquency, such as, differential association theory (Matsueda, 1988) and social control theory (Gottfredson & Hirschi, 1990). Strong opposite relationship between delinquency and academic performance was found in several empirical studies (Farrington, 1987; Glueck & Glueck, 1950; Lynam, Moffitt, & Stouthamer- Loeber, 1993; Silberberg & Silberberg, 1971). Furthermore, Maguin, and Loeber (1996) conducted a meta-analysis of naturalistic studies to identify an academic performance-delinquency relationship. They concluded that students who perform poorly in their schoolwork offend more frequently, more violently, and over longer periods of time.

Although the direction of relationship is studied conversely, longitudinal research has supported the negative effects of early problem behaviors, including inattention, problems with social skills, and aggression, on school failure and lower achievement across elementary and secondary schools (Katsiyannis, Ryan, Zhang, & Spann, 2008; Malecki & Elliott, 2002). Similarly, Meltzer, Levine, Karniski, Palfrey, and Clarke (1984) conducted a study comparing the academic achievement of delinquent (n=53) and nondelinquent (n=51) junior high school students and found poorer performance across all subject areas for delinquent youths. In a longitudinal study, Cairns, Cairns, and Neckerman (1989) noticed that those students (248 girls, 227 boys) most likely to drop out of school before receiving diplomas showed a history of poor academic performance while in school and demonstrated aggressiveness. Likewise, low grades and

aggressive behavior early in the school career and high school dropout were also found to be related in another longitudinal study (Ensminger & Slusarcick, 1992). More recently, Fleming, Haggerty, Brown, Catalano, Harachi, Mazza, and Gruman (2005) concluded that students who had better social skills and decision-making abilities earned better grades, while those who exhibited negative and aggressive behavior made lower grades.

Özbay and Özcan (2006) conducted a study to test Hirschi's social bonding theory in Ankara, Turkey, among 1710 high school students. Results indicated that social bonding theory is replicated in Turkey sample. Moreover, attachment to teachers, conventionality of peers, family supervision, school commitment, belief and school involvement were found statistically significant and negatively correlated to total delinquency.

2.5 Summary of the Literature Review

Starting from the early 1900s aggression among youth has widely been studied in the literature. The reason behind the popularity of the subject is due to hurtful consequences of aggression to the individuals and to the whole society. Hence, several theories and models have been developed to understand the forces at work in the development of aggression.

In the last years, with the help of large scale systemic research, literature reached to a conclusion that not only a single factor causes aggression but rather several factors from different ecological domains (individual,

family, peer, school, and neighborhood) contribute to the development of aggressive behaviors. Accordingly, contemporary research on aggression focused on testing risk and protective factors under theoretical models to find out a better strategy to prevent aggression among youth. As a result, literature also stated that more powerful influences in the development of aggressive behaviors are coming from proximal ecological domains (e.g., individual, family).

Other research, having a resiliency framework, revealed that some adolescents even though exposed to high risk factors from different ecological domains do not behave aggressively. Results of the studies investigating the reason behind this phenomenon revealed that personal cognitive factors (e.g., anger control, beliefs about aggression, emotion regulation, valuing achievement, self-efficacy, and locus of control) act as mediators of the relationships between ecological factors and aggressive behaviors of the youth. In other words, adolescents' personal cognitive factors seem to act as filtering mechanisms and play a central role in the development of physical aggression.

CHAPTER 3

METHOD

This chapter involves descriptions of the methodological procedures followed in the present study. First, design of the study and procedures related to sampling were presented. Later, psychometric properties of the measures and the pilot study were explained. Afterward, information regarding the data collection procedure was given. Subsequently, data analyses procedures were explained and finally the limitations of the study were presented.

3.1 Research Design

The purpose of this correlational study is to examine the personal cognitive variables (adolescents' beliefs supporting aggression, adolescents' self efficacy for alternatives to aggression, and adolescents personal value on achievement) as potential mediators of the relationship between perceived family factors (parental support for aggression, family conflict, and parental monitoring) and adolescent physical aggression among Turkish adolescents living in Ankara. 2443 sixth, seventh, and eighth grade students from randomly selected 36 primary schools were voluntarily participated in the study. Physical Aggression Scale, Beliefs Supporting Aggression Scale, Self-efficacy for Alternatives to Aggression Scale, Personal Value on Achievement Scale, Parent Adolescent

Relationship-Monitoring Scale, Parental Support for Aggression Scale, and Family Conflict Scale were used in the data collection. Structural Equation Modeling was utilized as the primary analytic method to measure the relationships among variables simultaneously when predicting adolescents' physical aggression.

3.2 Sampling Procedure and Participants

In order to get a representative sample, random sampling procedure was used for the selection of the schools to be included in the study. To achieve this, first, the lists of the primary schools in seven central provinces (Altındağ, Çankaya, Etimesgut, Keçiören, Mamak, Sincan, and Yenimahalle) of Ankara with the enrollments were obtained from Ankara Provincial Directorate of National Education. It was understood from the list that the total number of primary schools located in 7 central provinces of Ankara was 488. Later, 45 primary schools were selected randomly by using random numbers table. The target grade level of this study was 6th, 7th, and 8th. Hence, the researcher asked for the permissions of school principals to assign 6th, 7th and 8th grade classes to conduct the research. Nine of the school principals refused to take part in the study for several reasons (e.g. administrators' unwillingness, teachers' unwillingness, the inappropriateness of the course schedules). Therefore, the researcher was able to collect the data from a total of 2584 sixth, seventh, and eighth graders studying at 36 primary schools located in 7 different central provinces of Ankara (Figure 3.1). Of these students, 141 were excluded

because they had an excess of missing data over 10% (Little & Rubin, 1987). After employing the missing value analysis explained in the results chapter, the sample size finalized as 2443 participants.

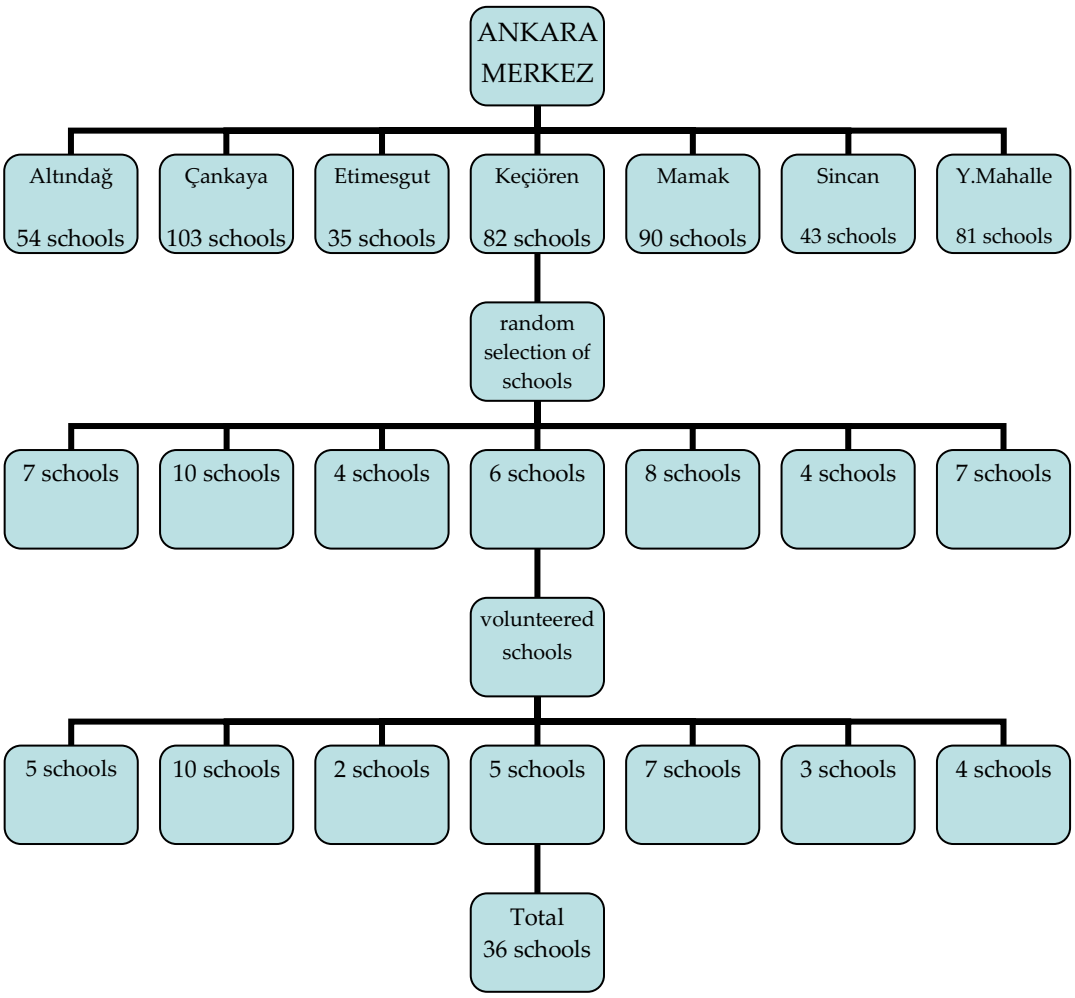

Figure 3.1 Population and the Distribution of Randomly Selected Schools Regarding Seven Central Districts

3.2.1 Participants

Data were collected from a sample of 2443 sixth, seventh, and eighth grade students from 36 primary schools in Ankara during spring semester of 2008-2009 academic years. Of these participants1228 (50.3%) were girls,

1215 (49.7%) were boys. The mean age of the participants was 13.09 (SD= .93) and nearly one third (n=851, 34.9%) of the participants were 13 years of age. The sample was almost equally distributed among grades. When having a close look at parents' education level, 36.8 % of the participants reported that their mothers were elementary school graduates and 25.3 % of the participants reported that their fathers were high school graduates. Most of the participants (82 %) reported that they want to continue their education till graduating from university. Moreover, most of the participants reported that their mothers (98.1 %) and their fathers (96.2 %) were alive. Furthermore, nearly 44 % of the participants reported having one sibling. Table 3.1 provides the detailed demographic information gathered from the participants of the present study.

3.3 Measures

A set of 7 measures (43 items) and a demographic form (10 items) were used in this study. These measures were: Physical Aggression Scale (MVPP, 2004), Beliefs Supporting Aggression Scale (MVPP, 2004), Self-efficacy for Alternatives to Aggression Scale (MVPP, 2004), Personal Value on Achievement Scale (Jessor & Jessor, 1977), Parent Adolescent Relationship Scale (Kaner, 2002), Parental Support for Aggression Scale (Orpinas, Murray, & Kelder, 1999), and Family Conflict Scale (Community Youth Development Study, 2004) (see Appendices A through H).

Table 3.1

Demographic Information of the Participants

	N*	Percentage
Gender		
Female	1228	50.3
Male	1215	49.7
Age		
11	50	2
12	674	27.6
13	851	34.9
14	752	30.8
15 or more	114	4.7
Grade		
6	822	33.6
7	819	33.5
8	799	32.7
Mothers' education level		
Illiterate	89	3.6
Elementary school	898	36.8
Secondary school	429	17.6
High school	580	23.7
University	324	13.3
Don't know	109	4.5
Fathers' education level		
Illiterate	11	.5
Elementary school	570	23.3
Secondary school	512	21
High school	618	25.3
University	570	23.3
Don't know	137	5.6
How far would you like to continue your education?		
Till graduating from elementary school	51	2.1
Till graduating from high school	123	5
Till graduating from university	2004	82
Don't know	250	10.2
Do their mothers alive?		
Yes	2394	98.1
No	12	.5
Do their fathers alive?		
Yes	2349	96.2
No	46	1.9
How many siblings they have?		
0	242	9.9
1	1077	44.1
2	738	30.2
3	242	9.9
4	94	3.8
5 or more	50	2.1

Note: *N varies due to missing cases/ and values

3.3.1 Translation and Adaptation Process of the Measures

In order to adapt the scales into Turkish culture, several steps (see Figure 3.2) were pursued. After getting the official permission from the authors, the scales were given to 3 academicians (1 from English language teaching and 2 from psychological counseling field) who had the proficiency in both languages. After the completion of translation, the items that best reflect the original meaning were chosen by the researcher and her supervisor. Following the selection of best fitting items, the Turkish version of the scales were given to 2 academicians, one from Psychological Counseling and Guidance field and one from English Language Teaching field to receive feedback prior to administration. Academicians were asked to evaluate the instruments on cultural fit, content, wording, and layout. Afterwards, the changes that the academicians requested were made (e.g., excluding an item or changing the response format) and the measures were concluded for pilot administration.

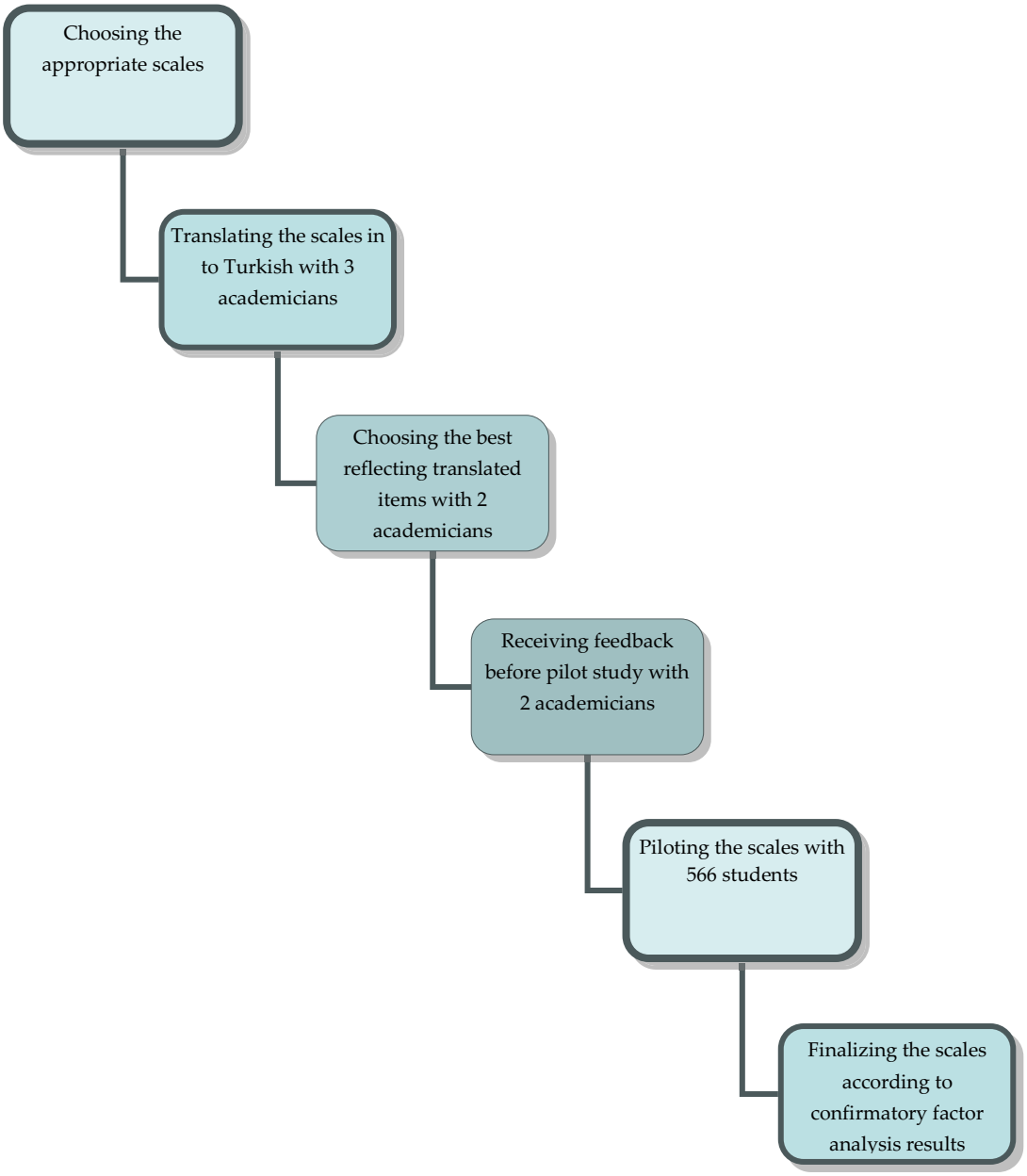

Figure 3.2 The Translation and Adaptation Process of the Scales Used in the Study

3.3.2 Pilot Study for Adapting the Measures

In order to see the usability of the measures and to provide evidence for reliability and validity of the adapted/translated measures, a pilot study was conducted. The translated measures were piloted with 566

participants (283 female and 283 male) from 6th, 7th and 8th grades studying at 7 primary schools located in 7 different central provinces of Ankara during the fall semester of 2008-2009 academic years. The participants involved in the pilot study were not included in the sample of the actual study. These seven schools were randomly selected from school lists of the seven central provinces of Ankara. One school from each province was included in the pilot study sample. The distribution among grades were almost equal, nearly one third (33.8%) of the participants were 6th graders, 33.3% were 7th graders, and 32.9% were 8th graders. The mean age of the participants was found to be 13.09 (SD= .95).

After obtaining permissions from Human Subjects Ethics Committee of Middle East Technical University, and implementation permission from Ankara Provincial Directorate of National Education, pilot study for scale adaptation was completed during fall semester of 2008-2009 academic years.

Before starting the analysis of the pilot study, data were screened to check for incorrect or missing values. No incorrect entry was detected. However there were some missing values in demographic variables and in measure items, but they were not exceeding 5 percent. With the help of Little's MCAR Test (Little & Rubin, 1987), it was found that missing values followed a random pattern. Therefore, researcher decided to impute the missing values by using the *Expectation Maximization (EM) algorithm* (Tabachnick & Fidell, 2007). Skewness and kurtosis values for each item of the scales were examined to check out the normality. The researcher identified several cases as outliers while some variables indicated

deviations from normality. Nevertheless, these findings were consistent with the variables under study. For instance, the items of the Physical Aggression Scale or the items of Value on Achievement Scale were identified as not being normally distributed, in other words they are not fitting the criteria of being in between -3, and +3 (Tabachnick & Fidell, 2007). Moreover, it was found that only a small proportion of the population engages in physical aggression. Hence, researcher decided not to remove the outliers in order not to reduce the precision of the study.

Later, Confirmatory Factor Analysis (CFA) was conducted to find out the factorial structure of the scales by using AMOS 18 (Analysis of Moment Structures). Finally, Cronbach's Coefficient Alpha was computed to evaluate the reliability of measures for the present study. Cronbach's Coefficient Alpha was considered as more conservative and provides more information about internal consistency than other analysis such as split-half reliability (Bloom, Fischer, & Orme, 1995). Estimated scale reliabilities in the case of if any item deleted were also examined to check whether there was any problem with the items.

Fit indices and their acceptable threshold levels were presented in Table 3.2. One important thing to notice about the fit indices was the sensitiveness of Chi-Square value to sample size. Since χ^2 statistics is easily influenced by the large sample size, researchers (Bentler & Bonett, 1980; Byrne, 2001) suggested using multiple goodness of fit indices to evaluate the fit between the model and the sample data.

Table 3.2

Fit Indices and their Acceptable Threshold Levels

Fit Index	Acceptable Threshold Levels
Chi-Square	Low $\chi 2$ relative to degrees of freedom with an nonsignificant p value ($p > 0.05$)
Chi-Square/*df*	$\chi^2 / df < 5$ (Wheaton et al, 1977) $\chi^2 / df < 3$ (Kline, 1998) $\chi^2 / df < 2$ (Tabachnick & Fidell, 2007)
CFI	CFI> 0.90, acceptable (Schumacker and Lomax, 1996; Maruyama, 1998) CFI ≥0.95 (Hu & Bentler, 1999)
NNFI (TLI)	NNFI> 0.90 , acceptable (Schumacker and Lomax, 1996; Maruyama, 1998) NNFI≥ 0.95 (Hu & Bentler, 1999)
RMSEA	RMSEA < 0.05, close fit; 0.05 < RMSEA <0.10, mediocre fit; RMSEA >1, poor fit (Browne & Cudeck, 1993). RMSEA < 0.08, adequate model fit (Jaccard & Wan, 1996). 0.08 < RMSEA < 0.10, mediocre fit; RMSEA > 0.10, poor fit (MacCallum, Browne, & Sugawara, 1996). RMSEA < 0.06 (Hu & Bentler, 1999) RMSEA < 0.07 (Steiger, 2007)

3.3.2.1 Physical Aggression Scale

The Physical Aggression Scale (PAS) is one of the scales included in Problem Behavior Frequency Scales (PBFS; Multisite Violence Prevention Project, 2004). PBFS which is a set of scales that assess the frequency of problem behaviors including physical aggression, non-physical aggression, relational aggression, overt victimization, relational victimization, drug use, and delinquency. Physical Aggression Scale (PAS) consisting of 7 items was used in the present study with the permission granted from the authors. The internal consistency of the total Physical Aggression Scale has been found .81 in the original study (MVPP, 2004).

In order to adapt Physical Aggression Scale (PAS) into Turkish culture the steps explained under the title of *Translation and Adaptation Process of the Measures* (p. 87; see Figure 3.2) were pursued. Finally, the changes that the academicians requested were made and the instrument was concluded for pilot administration. However, in the permission process Ankara Provincial Directorate of National Education required one of the items to be excluded since it was an item about threatening teachers. Therefore, the instrument was finalized as one factor 6-item scale.

Confirmatory Factor Analysis of the Physical Aggression Scale

Researcher proposed a single factor structure for PAS. CFA resulted in significant χ^2 value (=86.0170), *df* was 6, and the fit indices were; CFI value of .92, NNFI value of .86, and RMSEA value of .123 and this indicated poor fit (MacCallum, Browne, & Sugawara 1996; see Table 3.2 for fit indices and their acceptable threshold levels). Therefore, researcher checked the modification indices (e.g. error covariance) of errors, and detected the ones with high values (Arbuckle, 1999). The pairs with high error covariances were ε1- ε8, ε2- ε8, and ε10- ε11. Afterwards, related error pairs were connected in the model since they were belonging to the same factor, meaning they were measuring same concepts, and the analysis was run again. After this change, RMSEA value decreased to .048 and this value indicated good model fit (Hu & Bentler, 1999). In addition, resulting NNFI (.98) and CFI (.99) values supported good fitting model due to being higher than .95 (Hu & Bentler, 1999). This indicated that the CFA model for PAS representing a good fit. Besides, χ^2 statistics still resulted in a significant value of 13.67 ($p < .05$). However, the researcher

did not consider the χ^2 statistics since it is sensitive to sample size. Figure 3.3 represents the final CFA model with standardized estimates ranged from .54 to .74.

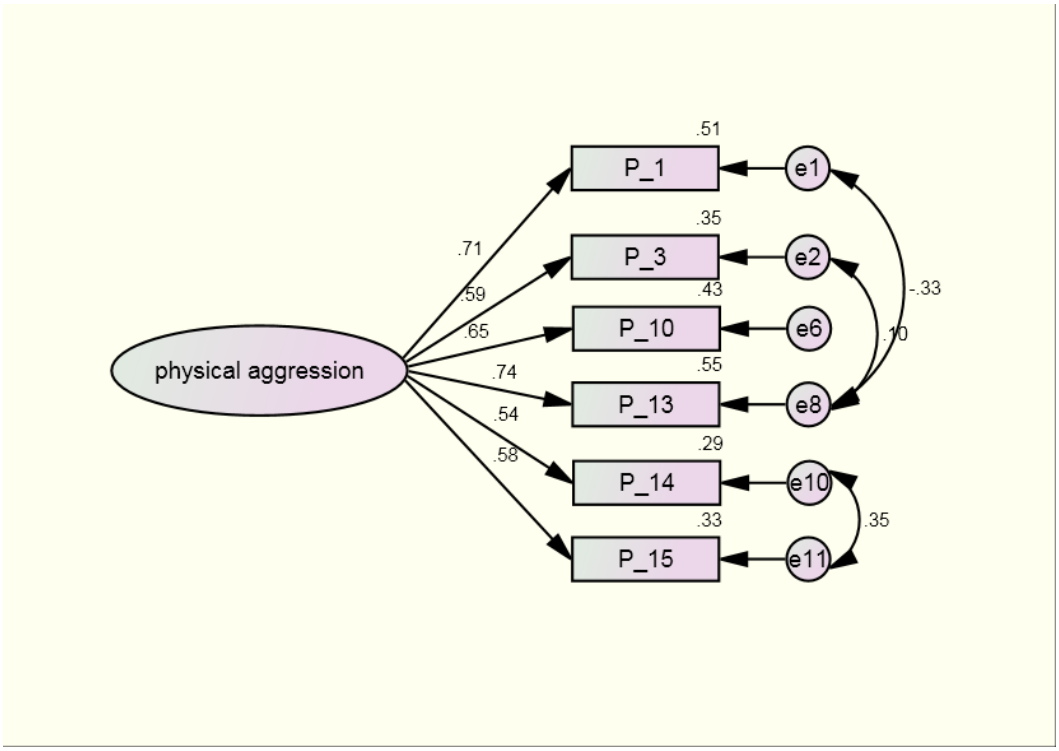

Figure 3.3 Single Factor CFA Model of PAS with Standardized Estimates

Reliability of Adapted Physical Aggression Scale

Cronbach's Coefficient Alpha of PAS was computed. Table 3.3 displays the reliability coefficient of PAS and the reliability coefficients if item deleted. Cronbach's Coefficient Alpha of PAS was found to be .80 and when examining if item deleted column, it appeared that all of the items were contributing to PAS and none of the items seemed problematic. Therefore, the researcher made no changes on PAS.

Table 3.3

Reliability Coefficients of PAS and Related Items

	Reliability	*Alpha If Item Deleted*
Physical Aggression	.80	
Item 1		.77
Item 3		.77
Item 10		.77
Item 13		.76
Item 14		.77
Item 15		.77

3.3.2.2 Beliefs Supporting Aggression Scale

The Beliefs Supporting Aggression Scale (BSAS) was developed by Multisite Violence Prevention Project Research Group (2004). This measure is a 7-item scale aiming at assessing students' favorable beliefs about the use of aggression. Responses are coded using the following 4-point rating scale: Strongly agree (4), Agree somewhat (3), Disagree somewhat (2), and Strongly disagree (1). The score is calculated by summing up the scores of all of the items with a high score reflecting more favorable beliefs supporting aggression. In the original study, the internal consistency of the scores, as measured by Cronbach's alpha was found .72 for Beliefs Supporting Aggression Scale (MVPP, 2004).

In order to adapt Beliefs Supporting Aggression Scale (BSAS) in to Turkish culture the steps explained under the title of Translation and Adaptation Process of the Measures (p. 87; see Figure 3.2) were pursued. The academicians were requested no changes for this scale, therefore the scale was finalized for pilot administration as a 7-item, 4-point rating scale.

Confirmatory Factor Analysis for Beliefs Supporting Aggression Scale

Researcher proposed a single factor structure for BSAS. CFA resulted in significant χ^2 value (56.541), *df* value was 14, and the fit indices were; CFI value of .94, NNFI value of .91, and RMSEA value of .073 and this indicated mediocre fit (Browne & Cudeck, 1993; MacCallum, Browne, & Sugawara, 1996). Therefore, researcher checked the modification indices (e.g. error covariance) of errors, and detected the ones with high values (Arbuckle, 1999). The pairs with high error covariances were ε1- ε4, and ε2- ε4. The items related to these errors were belonging to the same factor since there was only one factor being estimated. Hence, related error pairs were connected in the model and analysis was run again. After this change, RMSEA value decreased to .040 and this value indicated good model fit (MacCallum, Browne, & Sugawara 1996). In addition, resulting NNFI (.97) and CFI (.99) values supported good fitting model due to being higher than .95 (Hu & Bentler, 1999). Additionally, χ^2 statistics resulted in a significant value of 22.77 ($p < .05$). Therefore, researcher considered the result which was proved by other fit indices (CFI, NNFI, and RMSEA). Figure 3.4 represents the final CFA model with standardized estimates ranged from .42 to .64.

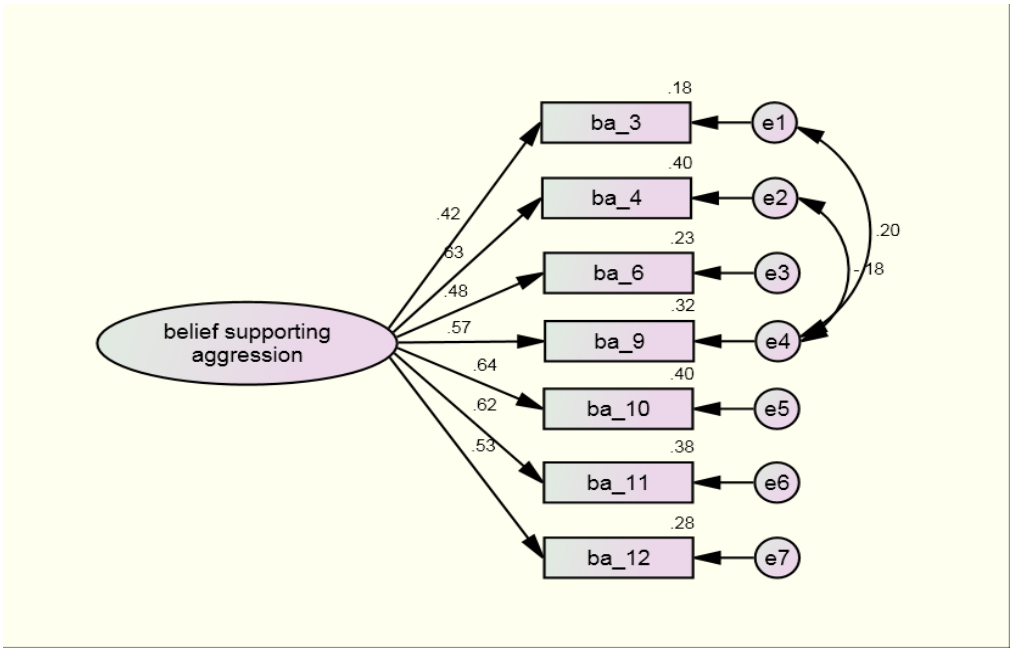

Figure 3.4 Single Factor CFA Model of BSAS with Standardized Estimates

Reliability of Beliefs Supporting Aggression Scale

Cronbach's Coefficient Alpha of BSAS was computed. Table 3.4 displays the reliability coefficient along with the reliability coefficients if item deleted. The reliability coefficient for total BSAS was found to be .76. When alpha if item deleted table column was examined, it appeared that all of the items were contributing to BSAS and none of the items seemed problematic. Therefore, the researcher made no changes in the BSAS.

Table 3.4

Reliability Coefficients of BSAS and Related Items

	Reliability	*Alpha If Item Deleted*
Beliefs Supporting Aggression	.76	
Item 3		.74
Item 4		.72
Item 6		.74
Item 9		.72
Item 10		.71
Item 11		.71
Item 12		.73

3.3.2.3 Self-efficacy for Alternatives to Aggression Scale

The Self-efficacy for Alternatives to Aggression Scale (SAAS) was developed by Multisite Violence Prevention Project (2004). SAAS is a seven-item scale aiming to assess how confident students are that they could control anger and resolve potential conflicts in non-violent ways. Responses are based on the following five-point scale: Not confident at all (1), Not very confident (2), Unsure (3), Somewhat confident (4), and Very confident (5). The score is based on the mean response to the seven items. A high score reflects a high level of confidence to control anger and resolve potential conflicts in non-violent ways. Based on the MVPP (2004) data, the internal consistency of the scale as measured by Cronbach alpha was .83.

Self-efficacy for Alternatives to Aggression Scale (SAAS) was adapted to Turkish culture by following abovementioned steps (p. 87; see Figure 3.2). According to the feedback of the academicians, no change from the original scale was needed. Consequently, the scale was finalized for pilot administration.

Confirmatory Factor Analysis for Self-efficacy for Alternatives to Aggression Scale

Researcher proposed a single factor structure for SAAS based on the original structure of the scale. CFA resulted in significant χ^2 value (68.39), *df* value was 12, CFI value of .94, NNFI value of .91, and RMSEA value of .083. Although CFI and NNFI values were found to be above .90, RMSEA value indicated mediocre fit (Browne & Cudeck, 1993; MacCallum, Browne, & Sugawara, 1996). Thus, researcher checked the modification indices of errors, and detected the ones with high values (Arbuckle, 1999). The pairs with high error covariances were ε1- ε2, ε2- ε3, ε2- ε5, and ε6- ε7. Since there was single factor being measured related error pairs were connected in the model and analysis was run again. After this change, RMSEA value decreased to .047 and this value indicated good/close fit (Browne & Cudeck, 1993; MacCallum, Browne, & Sugawara, 1996). In addition, resulting NNFI (.97) and CFI (.99) values supported good fitting model due to being higher that .95 (Hu & Bentler, 1999). Moreover, χ^2 statistics resulted in a significant value of 22.50 ($p < .05$), indicating that the CFA model unlikely representing a good fit. Therefore researcher

considered the result which was proved by other fit indices, CFI, NNFI, and RMSEA. Figure 3.5 shows the final CFA model for SAAS with standardized estimates ranged between .40 and .66.

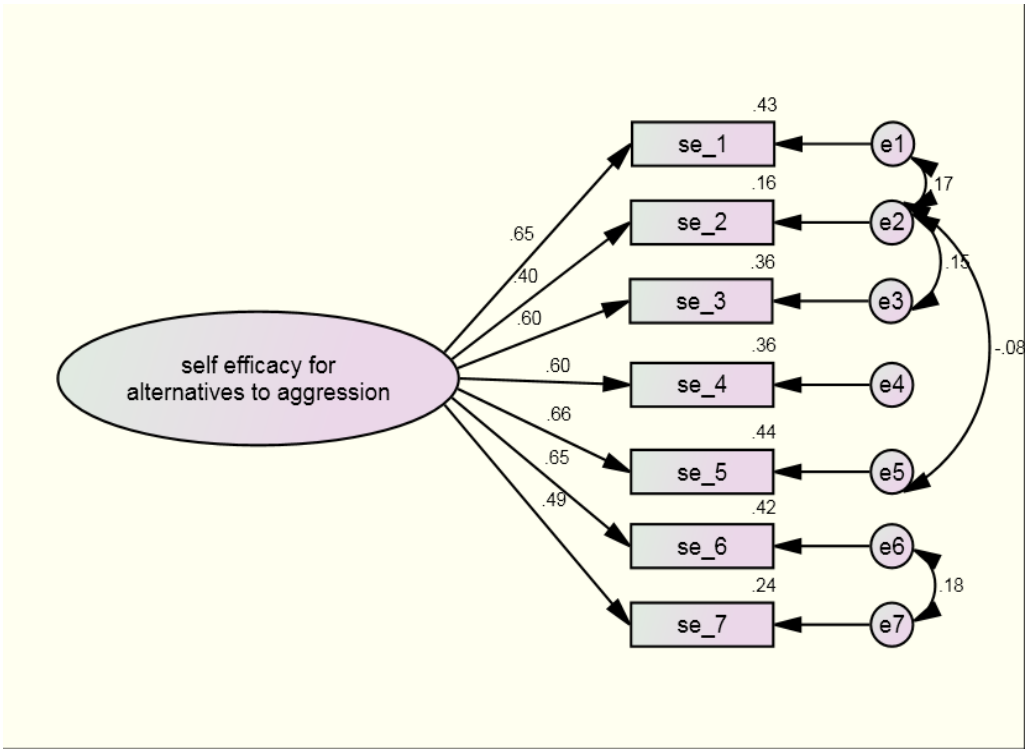

Figure 3.5 Single Factor CFA Model of SAAS with Standardized Estimates

Reliability of Self-efficacy for Alternatives to Aggression Scale

Cronbach's Coefficient Alpha of SAAS was computed. Table 3.5 displays the reliability coefficient along with the reliability coefficients if item deleted. The reliability coefficient for total SAAS was found to be .79. When alpha if item deleted table column was examined, it appeared that all of the items were contributing to SAAS and none of the items seemed problematic. Therefore, the researcher made no changes in the SAAS.

Table 3.5

Reliability Coefficients of SAAS and Related Items

	Reliability	*Alpha If Item Deleted*
Self-efficacy for Alternatives to Aggression	.79	
Item 1		.75
Item 2		.78
Item 3		.75
Item 4		.76
Item 5		.75
Item 6		.73
Item 7		.77

3.3.2.4 Personal Value on Achievement Scale

The Personal Value on Achievement Scale (PVAS) (Jessor & Jessor, 1977) is composed of 9 items that assess students' personal values on academic performance and achievement. For all items, students are asked to rate how important it is to achieve particular goals in an academic setting using a 4-point response scale. Responses range from Not important (1) to Extremely important (4). The total score is based on the mean response, with high scores indicating a high degree of personal value on achievement. Based on the MVPP (2004) data, the internal consistency of the scale as measured by Cronbach alpha was .78.

When adapting Personal Value on Achievement Scale (PVAS) in to Turkish culture, several steps explained previously under Translation and Adaptation Process of the Measures title (see Figure 3.2; p. 87) were pursued. Afterwards, the changes that the academician requested were

made. In the Turkish version, a new item "for my family to think I am a good student" was added to nine original items, and the item number reached to ten. However, during the data collection procedure, the first item "getting at least grade 4 from all of the courses" was not easily understood by the participants. Therefore, this item was removed from the study. Furthermore, the response format was changed to a five-point scale ranging from "Not important" (1) to "Extremely important" (5). To finish, the instrument finalized as a single factor, 9-item scale for the analysis.

Confirmatory Factor Analysis for Personal Value on Achievement Scale

Researcher proposed a single factor structure for PVAS based on the original structure of the scale. CFA resulted in significant χ^2 value (=228.86), *df* value was 27, CFI value of .91, and NNFI value of .88, but RMSEA value was .115 and this indicated poor fit (MacCallum, Browne, & Sugawara, 1996). As a result, researcher checked the modification indices of errors, and detected the ones with high values (Arbuckle, 1999). The pairs with high error covariances were ε4- ε6, ε8- ε10, and ε9- ε10. Since there was single factor being measured related error pairs were connected in the model and analysis was run again. After this change, RMSEA value decreased to .08 and this value indicated mediocre fit (Browne & Cudeck, 1993). In addition, resulting NNFI (.97) and CFI (.98) values supported good fitting model due to being higher that .95 (Hu & Bentler, 1999). Besides, χ^2 statistics resulted in a significant value of 110.81 (p <.05), indicating that the CFA model unlikely representing a good fit. However, the researcher considered the result which was proved by other fit indices

because of the sample size sensitivity of χ^2 statistics (Byrne, 2001). Figure 3.6 shows the final CFA model for PVAS with standardized estimates ranged between .56 and .76.

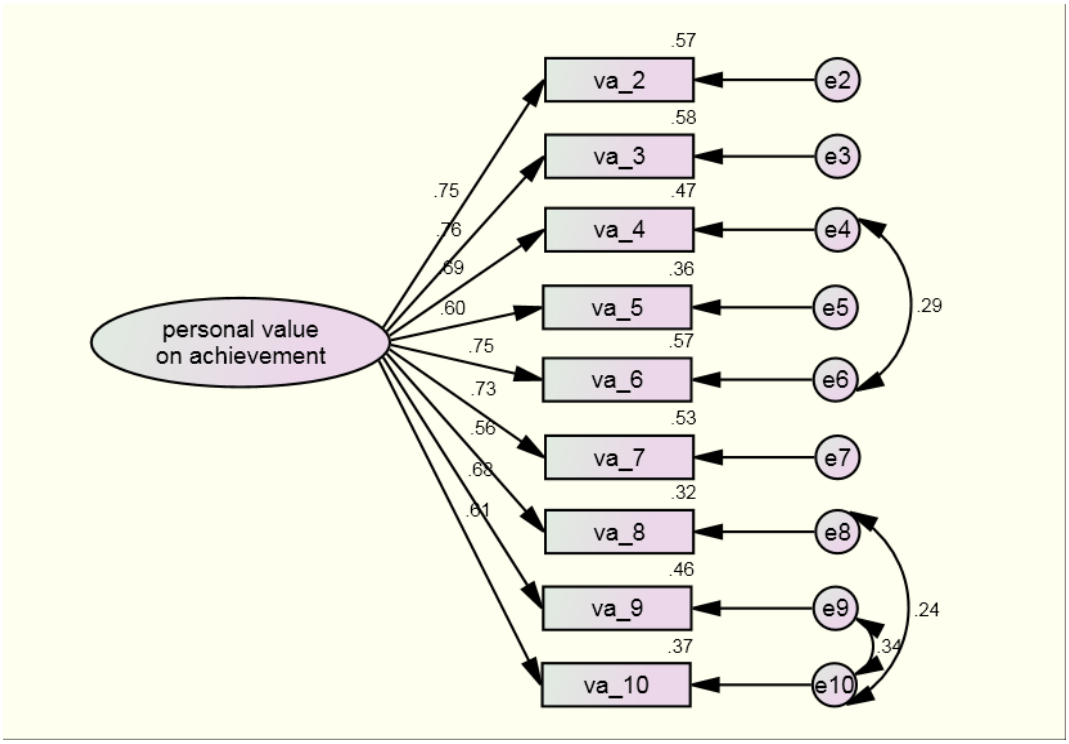

Figure 3.6 Single Factor CFA Model of PVAS with Standardized Estimates

Reliability of Personal Value on Achievement

Cronbach's Coefficient Alpha of PVAS was computed. Table 3.6 displays the reliability coefficient along with the reliability coefficients if item deleted. The reliability coefficient for total PVAS was found to be .89. When alpha if item deleted table column was examined, it appeared that all of the items were contributing to PVAS and none of the items seemed problematic. Therefore, the researcher made no changes in the PVAS.

Table 3.6

Reliability Coefficients of PVAS and Related Items

	Reliability	*Alpha If Item Deleted*
Personal Value on Achievement	.89	
Item 2		.87
Item 3		.87
Item 4		.87
Item 5		.88
Item 6		.87
Item 7		.87
Item 8		.88
Item 9		.87
Item 10		.88

3.3.2.5 Parental Monitoring Scale

In the present study, parental monitoring was measured by Parental Monitoring subscale of Parent-Adolescent Relationship Scale (PARS). The PARS, developed by Kaner (2002), based on Control Theory, aims at assessing adolescent perceptions of relationships with their mothers and fathers. Each question was asked to be answered for mothers and fathers separately. Therefore, this measure consists of two parallel forms which measures adolescents' perceptions of their relationships with their mothers and adolescents' relationships with their fathers. As a result, two scores were attained for each subscale (e.g., mother monitoring score, and father monitoring score, mother love and trust relationship, and father love and trust relationship).

The mother form of PARS consists of 30 items and 7 factors. Factor analysis results (Kaner, 2002) indicated that 61.4% of the variance is explained by 7 factor structure. The first factor (Close Relationships) explained 31% of the variance. The reliability scores of PARS was calculated by two methods; Cronbach Alpha and Split half. The Cronbach Alpha coefficients of the mother form were as follows: Total Scale: .92, Close Relationships: .84, Involvement Activities: .85, Sensitivity: .79, Love and Trust: .83, Monitoring: .63, Norm Regulations: .67, and Meeting Expectations: .70. Split half reliability coefficients of mother form were reported as: Total Scale: .83, Close Relationships: .85, Involvement Activities: .83, Sensitivity: .81, Love and Trust: .81, Monitoring: .60, Norm Regulations: .66, and Meeting Expectations: .70.

The father form of PARS consists of 37 items converging under 8 factors. Factor analysis revealed that 8 factor structures explained 60.1% of the variance and the first factor, as it is on the mother form, explained 30.7% of the variance. Internal consistencies of the PARS father form were assessed by computing Cronbach's alpha coefficients, which were cited as: Total Scale: .93, Close Relationships: .86, Involvement Activities: .85, Sensitivity: .83, Love and Trust: .80, Monitoring: .64, Norm Regulations: .78, Meeting Expectations: .74, and Home Regulations: .52. Split half reliability coefficients of father form were indicated as: Total Scale: .82, Close Relationships: .86, Involvement Activities: .83, Sensitivity: .84, Love and Trust: .73, Monitoring: .64, Norm Regulations: .76, Meeting Expectations: .74, and Home Regulations: .52.

The PARS items were rated on a five-point rating scale and weighted from never (1) to always (5). High scores indicated that adolescents perceive their relationships with their parents as more close, parents have more monitoring knowledge on their activities, more love and trust relationship exist between adolescents and their parents, norms and regulations are more clear among adolescents and their parents, adolescents and parents are more sensitive to each other, adolescents and parents are meeting their expectations, and they are doing activities together more. PARS mother and father form was designed in a way that respondents can answer items for mother and father simultaneously. In the combined form, item 5 and 19 were answered for mothers only and item 6, 7, 10, 11, 12, 13, 18, 27, and 28 were answered for fathers only.

However, in the present study, with a given permission from the author of the scale, all 39 items were asked to be answered for mothers and fathers to get a total parent score by adding the mother and father scores of each item. With respect to the goal of this study, only monitoring subscale was used in the present study.

Confirmatory Factor Analysis for Parental Monitoring Scale

Researcher proposed a single-factor structure for Parental Monitoring Scale (PMS) based on the original structure of the scale. CFA resulted in significant χ^2 value (51.41), and *df* value was 9, indicating that the CFA model unlikely representing a good fit for PMS. However, CFI value of .96, NNFI value of .93 values were above .90 which is acceptable (Schumaker & Lomax, 1996), and RMSEA value of .091 indicated mediocre

fit (MacCallum, Browne, & Sugawara, 1996) for PMS model. Therefore, researcher decided to check the modification indices of errors, and detected the ones with high values. The pairs with high variances were ε5-ε6. Thus, researcher decided to connect the related error pair and the analysis was run again. After this change, RMSEA value decreased to .060 and this value was acceptable (Hu & Bentler, 1999). In addition, resulting NNFI (.97) and CFI (.98) values supported good fitting model due to being higher that .95 (Hu & Bentler, 1999). Besides, χ^2 statistics resulted in a significant value of 24.41 (p <.05). Therefore, the researcher considered the result which was proved by other fit indices. Figure 3.7 shows the final CFA model for PMS with standardized estimates ranged from .47 to .78.

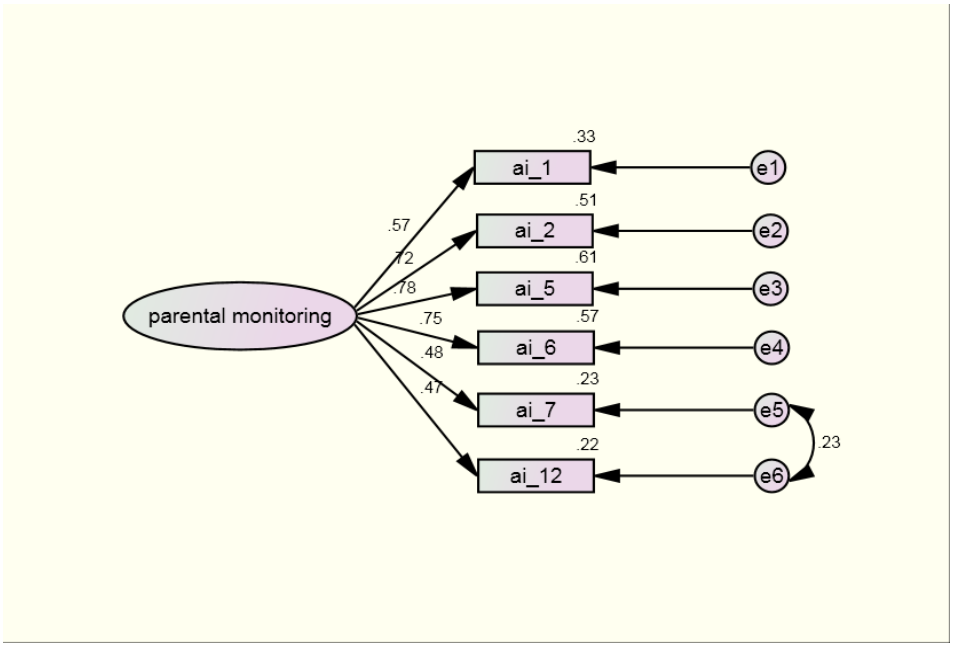

Figure 3.7 Single Factor CFA Model of PMS with Standardized Estimates

Reliability of Parental Monitoring Scale

Cronbach's Coefficient Alpha of PMS was computed. Table 3.7 displays the reliability coefficient along with the reliability coefficients if item deleted. The reliability coefficient for total PMS was found to be .80. When alpha if item deleted table column was examined, it appeared that all of the items were contributing to PMS and none of the items seemed problematic. Therefore, the researcher made no changes in the PMS.

Table 3.7

Reliability Coefficients of PMS and Related Items

	Reliability	*Alpha If Item Deleted*
Parental Monitoring Scale	.80	
Item 1		.78
Item 2		.75
Item 3		.75
Item 4		.75
Item 5		.79
Item 6		.79

3.3.2.6 Parental Support for Aggression Scale

Parental Support for Aggression was measured by a subscale of Parental Support for Fighting Scale (PSFS; Orpinas, Murray, & Kelder, 1999). Parental Support for Fighting Scale was designed to measure students' perception of their parents' support for aggressive and non-aggressive solutions to conflict. This 10-item measure was developed for the Students for Peace Project (Orpinas, Murray, & Kelder, 1999) and consists of two

subscales with five items in each; Parental Support for Aggression and Parental Support for Non-aggressive Solutions. At the beginning of the questionnaire students are asked, "Does your parent tell you these things about fighting?" Items are listed as declarative statements, and students respond "yes" or "no" to each item. Scores are based on the mean item response. The internal consistency of Parental Support for Aggression subscale as measured by Cronbach's Coefficient Alpha was .62 (MVPP, 2004).

Parental Support for Aggression Scale (PSAS) was adapted into Turkish culture by following several steps explained before (see Figure 3.2). The final PSAS has some modifications. In the present study, dual answering structure was changed to a five-point rating scale, weighted from never (1) to always (5). High scores indicate a perception of parental support for aggressive solutions.

Confirmatory factor analysis for Parental Support for Aggression Scale

Researcher proposed a single-factor structure for PSAS based on the original structure of the scale. CFA resulted in significant χ^2 value (=38.76), and *df* value was 5, but the researcher did not consider chi-square statistics since it is sensitive to large sample sizes (Byrne, 2001). CFI value of .96, NNFI value of .92 were within the acceptable limits since they were above .90 (Schumaker & Lomax, 1996, Maruyama, 1998), and RMSEA value was found to be .109, which indicated poor fit (MacCallum, Browne, & Sugawara, 1996). Therefore, researcher decided to check the modification indices of errors, and detected one pair with high values. The pair with

high variances was ε3- ε4. Thus, researcher decided to connect the related error pairs and the analysis was run again. After this change, RMSEA value decreased to .064 and this value was acceptable (Steiger, 2007) or called mediocre fit (MacCallum, Browne, & Sugawara, 1996). In addition, resulting NNFI (.97) and CFI (.99) values supported good fitting model due to being higher that .95 (Hu & Bentler, 1999). Besides, χ^2 statistics resulted in a significant value of 13.16 (p <.001). Threfore, the researcher considered the result which was proved by other fit indices, CFI, NNFI, and RMSEA. Figure 3.8 shows the final CFA model for PSAS with standardized estimates ranged from .62 to .79.

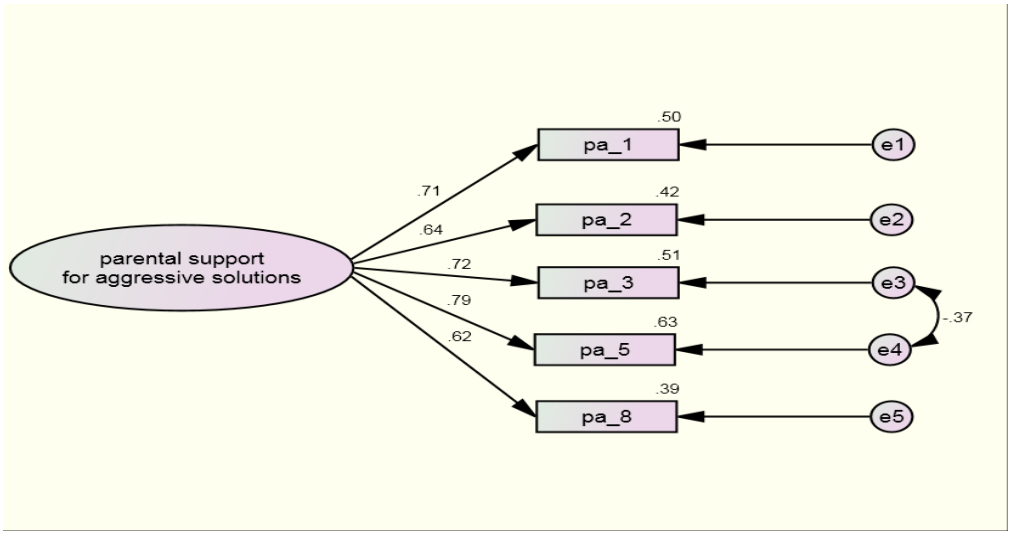

Figure 3.8 Single Factor CFA Model of PSAS with Standardized Estimates

Reliability of Parental Support for Aggression Scale

Cronbach's Coefficient Alpha of PSAS was computed. Table 3.8 displays the reliability coefficients along with the reliability coefficients if item deleted. The reliability coefficient for PSAS was .81. When alpha if item

deleted table column was examined, it appeared that all of the items were contributing to scale and none of the items seemed problematic. Therefore, the researcher made no changes in the PSAS.

Table 3.8

Reliability Coefficients of PSAS and Related Items

	Reliability	*Alpha If Item Deleted*
Parental Support for Aggressive Solutions	.81	
Item 1		.76
Item 2		.78
Item 3		.78
Item 5		.76
Item 8		.78

3.3.2.7 Family Conflict Scale

Family Conflict Scale (FCS; Community Youth Development Study, 2005) was developed to assess family conflict based on the average of four items, each rated on a 4-point rating scale and weighted from 1 (No!) to 4 (Yes!). A higher score reflects greater family conflict. Internal consistency of the scale as measured by Cronbach alpha coefficient was found .74 (Community Youth Development Study, 2005).

In order to adapt Family Conflict Scale (FCS) into Turkish culture, several steps explained before (p. 83) were pursued. The only change made was about the response format of the scale, it was changed from a four–point to a five-point rating scale ranging from never (1) to always (5).

Confirmatory Factor Analysis for the Family Conflict Scale

Researcher proposed a single-factor structure for FCS based on the original structure of the scale. CFA resulted in insignificant χ^2 value (.251) ($p > .05$), and *df* value was 2, indicating that the CFA model likely representing a good fit. CFI value of 1.00, and GFI value of 1.00 were within the acceptable limits since they were above .90 (Schumaker & Lomax, 1996, Maruyama, 1998), and RMSEA value was found to be .00 (low=.00, high=.04), which indicated good fit (MacCallum, Browne, & Sugawara, 1996). Figure 3.9 shows the final CFA model for FCS with standardized estimates ranged from .29 to .72.

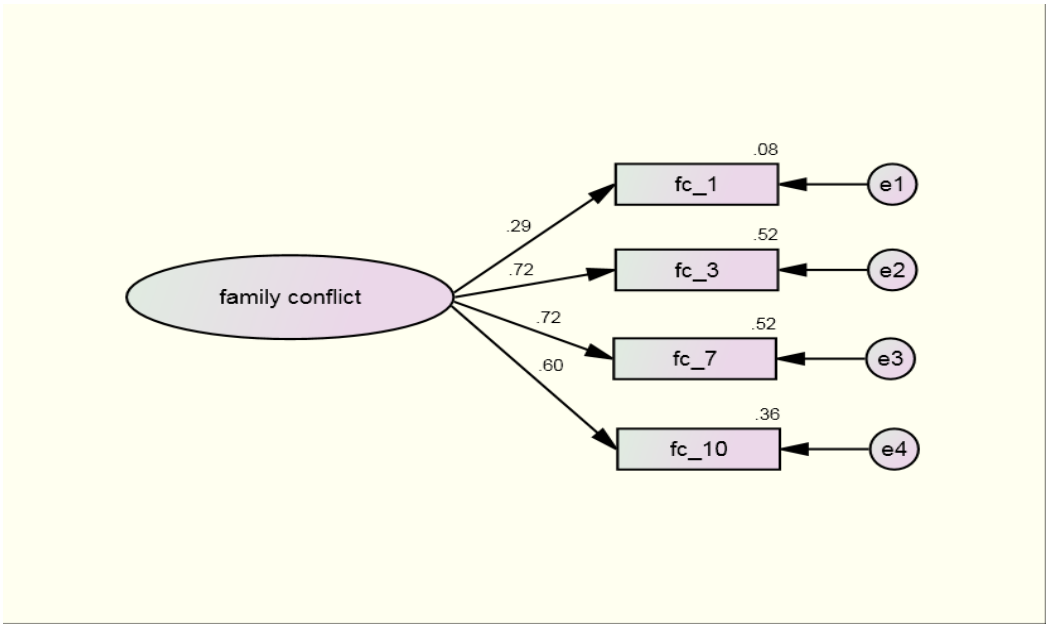

Figure 3.9 Single Factor CFA Model of FCS with Standardized Estimates

Reliability of Family Conflict Scale

Cronbach's Coefficient Alpha of FCS was computed. Table 3.9 displays the reliability coefficient along with the reliability coefficients if item deleted. The reliability coefficient for total FCS was found to be .66. When alpha if item deleted table column was examined, the first item seemed problematic. If item 1 ("In my family, we argue about the same things over and over") was deleted, the alpha value would increase to .72 from .66. Therefore, the researcher decided to consult with the academicians regarding this item. Finally, it was thought that this item had a compound structure and was not easy to understand, so that the researcher decided to exclude the item from the scale.

Table 3.9

Reliability Coefficients of FCS and Related Items

	Reliability	*Alpha If Item Deleted*	*Reliability of the New 3-Item Scale*	*Alpha If Item Deleted in New 3-Item scale*
Family Conflict	.66		.72	
Item 1		.72		-
Item 3		.52		.60
Item 7		.52		.60
Item 10		.57		.68

The results of the pilot study analyses (confirmatory factor analysis and reliability analysis) indicated that measurement models that form the hypothesized structural model were adequate in explaining the measured constructs. Table 3.10 summarizes the measures used in the present study with sample items from original and translated measures.

Table 3.10

Measures of the Present Study

Name of the scale	*Description*	*Original sample items*
Parental Support for for Aggression Scale	5-item 5-point rating	"If someone hits you, hit them back."
Parental Monitoring Scale	6-item, 10-point rating	"Okuldan sonra hemen eve gelmeyeceksem nerede ve kimlerle olacağımı söylememi ister."
Family Conflict Scale	3-item, 5-point rating	"People in my family have serious arguments."
Beliefs Supporting Aggression Scale	7-item , 4-point rating	"Sometimes a person doesn't have any choice but to fight."
Self-efficacy for Alternatives to Aggression Scale	7-item, 5-point rating	"Stay out of fights by choosing other solutions?"
Personal Value on Achievement Scale	9-item, 5-point rating	"To have good enough grades to go to college."
Physical Aggression Scale	6 item, 4-point rating	"Thrown something at someone to hurt them "

3.4 Data Collection Procedure

Data for the present study were collected by the researcher during the 2008-2009 spring semester in a 3-month period. After obtaining Human Subjects Ethics Committee permission from the Middle East Technical University and permission from Ankara Provincial Directorate of National Education, researcher arranged appointments with each school's principal to organize the distribution of information letters and consent forms.

Students were recruited and consented via information letters and consent forms which were sent to their home. After consent forms were signed and collected back, researcher kept in touch with the school administration to set up the data collection schedule for each classroom. Scales were completed during school hours with parent permission. Students were told that they were free not to fill out the scales and participate in the study even though their parents gave permission for their participation. Students choosing not to participate in the study were told to return blank scales to the researcher. All of the participants volunteered to participate in the study without any incentives. It took approximately 50 minutes for students to fill out the measures. To ensure confidentiality and anonymity, participants were not asked for any identifying information and all completed scales were collected at the end of the administration and placed in sealed envelopes.

3.5 Data Analyses

The purpose of this study was to develop a theoretical model of aggressive behavior and to test its empirical validity. Particularly, this study examined personal cognitive variables (adolescents' beliefs supporting aggression, adolescents' self-efficacy for alternatives to aggression, and adolescents' personal value on achievement) as potential mediators of the relationship between perceived family factors (parental support for aggression, family conflict, and parental monitoring) and adolescents physical aggression among Turkish adolescents living in Ankara.

An additional interest of this study was determining whether this model fits similarly across male and female populations. For the purpose of this study, Structural Equation Modeling (SEM) was utilized as the primary analytic method and AMOS was chosen as the program for conducting analyses. AMOS (Analysis of Moment Structures) is an easy-to use program for visual SEM (Arbuckle & Wothke, 1999). Structural Equation Modeling (SEM) "is a statistical methodology that takes a confirmatory approach to the analysis of a structural theory bearing on same phenomenon" (Byrne, 2010 p.3). Moreover, SEM is a strong statistical technique for analyzing data in studies which are planned to assess relationships among both observed (directly measured variables) variables and latent (e.g., the underlying hypothetical constructs) variables. In other words, SEM is a multivariate method mingling features of factor analysis and multiple regression in analyzing a set of interrelated relationships among observed and latent variables simultaneously.

3.5.1 Operationalization of Variables

This section provides the operational definitions of variables investigated in this study. As mentioned, the proposed model examines the relationship between perceived family variables and physical aggressive behaviors of adolescents in conjunction with personal cognitive variables. All variables included in this study are latent variables, therefore no composite or total scores were calculated. Variables are discussed under two categories: exogenous variables (perceived family factors) and endogenous variables (personal cognitive factors and physical aggression). Exogenous variables are synonymous with independent

variables and they "cause" fluctuations in the values of other latent variables in the model. On the other hand, endogenous latent variables are synonymous with dependent variables, and they are influenced by the exogenous variables in the model, either directly or indirectly (Byrne, 2010).

3.5.1.1 Exogenous Variables (Perceived Family Factors)

Parental Support for Aggression

Parental support for aggression was measured by Parental Support for Aggressive Solutions Scale (PSASS), which is a 5-item, 5 point rating scale, and obtained high scores indicating adolescents' perception of parental support for aggression. Research has demonstrated a positive link between parental support for aggression and aggressive behaviors of adolescents (Orpinas, Kelder, Frankowski, Murray, Zhang, & McAlister, 2000).

Parental Monitoring

Parental monitoring was measured by Parental Monitoring subscale of Parent Adolescent Relationship scale, which is a 6-item, 5-point rating scale, and obtained high scores indicating adolescents' perceptions of increased parental monitoring of their everyday social activities. Research has demonstrated a negative association between aggressive behaviors of adolescents and their perception of parental monitoring (Jacobson & Crockett, 2000; Griffin, Botvin, Scheier, Diaz, & Miller, 2000).

Family Conflict

Family conflict was measured by Family Conflict Scale, which is a 3-item, 5-point rating scale, and obtained high scores indicating adolescents' perceptions of increased family conflict. Perceived family conflict was another risk factor for adolescents' aggressive behaviors. Research has demonstrated the deleterious effect of family conflict on adolescents' externalizing behavior (Gorman-Smith, Tolan, Loeber, & Henry, 1998; Shek, 2002).

3.5.1.2 Endogenous Variables (Personal Cognitive Factors)

Beliefs Supporting Aggression

Beliefs supporting aggression was measured by Beliefs Supporting Aggression Scale, which is a 7-item, 4-point rating scale, and obtained high scores representing more favorable beliefs supporting the use of aggression. Research has demonstrated a positive link between personal beliefs about aggressive solutions and aggressive behaviors of adolescents (Farrell, Meyer, & White, 2001).

Self-efficacy for Alternatives to Aggression

Self-efficacy for alternatives to aggression was measured by Self-efficacy for Alternatives to Aggression Scale, which is a 7-item, 5-point rating scale, and obtained high scores representing adolescent's increased confidence in his or her ability to control anger and resolve conflict in non-violent ways. Research has demonstrated a negative link between self-efficacy for alternatives to aggression and aggressive behaviors of adolescents (Crick & Dodge, 1994).

Personal Value on Achievement

Personal value on achievement was measured by Personal Value on Achievement Scale, which is a 9-item, 5-point rating scale, and obtained high scores indicating adolescents' higher personal value on academic achievement. Research has demonstrated a negative link between personal value on achievement and aggressive behaviors of adolescents (Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995).

Physical Aggression

Physical aggression was measured by Physical Aggression subscale of Problem Behavior Frequency Scale, which is a 6-item, 4-point rating scale, and obtained high scores representing higher levels of physically aggressive behavior.

3.5.2 Model Testing

In this part, the steps of proper model testing required for using SEM as suggested by several researchers (Byrne, 2010; Kenny, Kashy, & Bolger, 1998) and the researcher's model testing steps for the present study were explained. The steps were (1) model specification, (2) model identification, (3) model estimation, and (4) model evaluation, respectively.

In model specification, basically researcher develops a model (see Figure 1.1 on page 17) in consideration with the theory. In a latent model, specification is the presentation of a theoretical model detailing the proposed relationships between factors. However, specification in a measurement model refers to the delineation of the variables which

compromise these factors. The latent variable model for this study was developed and specified in chapter 1 and illustrated in Figure 1.1. The measurement models that make up the latent variables in the structural model were specified under the title of measures.

Model identification compares the number of variables in the analysis and the number of parameters estimated by the model. In order for the model to be identified, the model should be able to calculate a unique estimate for every one of the parameters in a measurement model and model as a whole. A proposed model should be over identified to meet basic requirement for model identification. The number of parameters must be less than the number of observations. In other words, the difference between these two is known as *degrees of freedom* (*df*) and this value should be positive to indicate that the model is identified. In the present study all of the measurement models except family conflict (it includes only three items, $df = 0$) and the hypothesized model of physical aggression were over identified, which means that the number of parameter estimates were less than number of observations, and degrees of freedom values of the models were positive.

In the model estimation phase, after the determination of model identification, the specified (theoretical) model is compared to what the data represent (observed model) by the statistical program, AMOS 18 in this study. In the present study, the following measurement models were estimated using CFA; physical aggression, personal beliefs supporting aggression, self-efficacy for alternatives to aggression, personal value on achievement, parental support for aggressive solutions, parental

monitoring, and family conflict. After the completion of the estimation phase an evaluation of how well the model reflects patterns in the data begins.

In the model evaluation phase, overall model fit is assessed with several fit indices since a single index reflects only a particular aspect of fit. To assess the adequacy of measurement or structural models, three types of fit indices, suggested by Jaccard and Wan (1996), were examined: (a) absolute fit indices, (b) relative fit indices, (c) parsimony fit indices, and (d) Noncentrality-based Indices. Absolute fit indices address how closely the fitted model parallels a "perfect" model based on the variance/covariance matrix. Chi-square value is the traditional measure for evaluating overall model fit and it measures the magnitude of discrepancy between the sample and fitted covariances matrices (Hu & Bentler, 1999). To assess the adequacy of the chi-square statistic and its corresponding p-value, Schumacker and Lomax (1996) suggest that p-values should be non-significant. However, chi-square test has two weaknesses. The first one is that, chi-square test assumes multivariate normality and severe deviations from normality may result in model rejections even when the model is properly specified (McIntosh, 2006). Second weakness is chi-square statistic is sensitive to sample size which means that the chi-square statistic nearly always rejects the model when large samples were used (Bentler & Bonnet, 1980; Jöreskog & Sörbom, 1993; Schumacher & Lomax, 1996). Conversely, where small samples were used, the chi-square statistic lacks power and it is hard to discriminate good fitting models from poor fitting models (Kenny & McCoach, 2003). Hence, other fit indices have been developed to supplement the chi-square

statistics. Relative fit indices, or comparative fit indices (Miles & Shevlin, 2007), or incremental fit indices (Hair, Anderson, Tatham, & Black, 2006) address how well a particular model fits the data compared to alternative, possible models. NNFI-TLI (Tucker-Lewis Index; Bentler & Bonett, 1980) and CFI (Bentler, 1990) are the examples of relative fit indices. Moreover, Parsimony fit indices reflect how well a model combines fit and parsimony. Parsimony fit indices can identify models that account for much variance by leaving few parameters free to vary. PGFI and PNFI (Mulaik, James, Van Alstine, Bennett, Lind, & Stillwell, 1989) and AIC (Akaike, 1974) are three examples of relative fit indices. Noncentrality-based indices are the other group of fit indices. The rationale for the noncentrality parameter is that our usual chi-square fit is based on a test that the null hypothesis is true ($X^2 = 0$). The examples of noncentrality-based indices include RMSEA and RI. For the present study, chi-square statistics (Hoyle, 1995), Comparative Fit Index (CFI; Bentler, 1990), Non-Normed Fit Index-Tucker-Lewis Index (NNFI-TLI; Bentler & Bonett, 1980), and Root Mean Square Error of Approximation (RMSEA; Steiger & Lind, 1980) were examined to assess the model fit (see Table 3.2 Fit Indices and their Acceptable Threshold Levels, p. 90).

3.6 Limitations of the Study

Study findings should be interpreted in light of several limitations. First of all, the current study is a correlational study that based on perceptions of adolescents who have participated in the study. The correlational nature of the study does not allow causal inferences to be made of the findings discussed in the subsequent section. Assumptions regarding the direction

of effects in the structural model were made in accordance with past theory and research. In the absence of longitudinal data, model results only represent covariations among variables.

Secondly, this study is limited in that findings were based on self report data. Considering the sensitive nature of the study, results may be skewed by students who were reluctant to admit physically aggressive behaviors as a result of regret or shame. Although confidentiality was assured, students may be fearful of getting in trouble for their responses on the measures, and might not answer them honestly.

The third limitation of the current study is the dependence on adolescent reports of parenting behaviors. For example, the measure of parental monitoring in this study assessed adolescents' perceptions of parental knowledge about adolescents' whereabouts rather than actual parent knowledge. Students may also be reluctant to portray their parents negatively or positively through their responses, which again may have skewed the results. Past research has suggested that adolescents who participated in delinquent behaviors were more likely to report negative relationships with their parents (Hayes, Hudson, & Matthews, 2003). Laird, Pettit, Dodge and Bates (2003) found that antisocial behavior among adolescents reduced the quality of parent-adolescent relationships and weakened adolescents' beliefs that their parents should possess monitoring knowledge. Clearly, longitudinal data are needed to capture the temporal and reciprocal nature of these relationships. However,

considering the absence of longitudinal data, the findings of the present study were based upon the assumption that the answers of the students were honest.

Fourth limitation of the present study is that this study was based on the representative sample of 6th, 7th, and 8th grade students from 36 primary schools in Ankara. The results may not be indicative of existing patterns in other cities or in other geographical areas in Turkey.

Fifth limitation of the current study is that aggressive behaviors are influenced by a multitude of factors, but only three parenting factors and three personal variables were considered in this study. Other parenting variables may also play a critical role in aggression. Therefore, the variables used in this study should not be considered exclusively representative of such patterns. Additionally, other socio-ecological variables, including peer influence, were not considered in this study. However, they should not be disregarded as factors influencing aggression.

CHAPTER 4

RESULTS

In this chapter, the results of data analyses were explained under the following titles: (1) preliminary analyses, (2) measurement model testing, (3) bivariate model testing, and (4) latent variable model testing.

4.1 Preliminary Analyses

First of all, the assumptions of SEM were tested and the results were presented. Later, the results gathered from descriptive statistics were explained.

4.1.1 Assumptions

Before conducting Confirmatory Factor Analysis (CFA) and testing the models with SEM (Structural Equation Modeling) several assumptions (data accuracy, independent observation, sample size, missing data, outliers, univariate and multivariate normality, and multicolinearity) regarding the characteristics of the data were examined with using PASW-SPSS-18.

To begin with, independent observation assumption was met by the researcher being present during the data collection procedure. The researcher either prevented subjects' responses being affected from each other or excluded the optic forms that were filled out without independent observation; nineteen forms were excluded due to this reason. Afterward, collected data were examined to find out uncompleted (cases with missing values over 10%) or damaged optic forms and 141 forms were excluded owing to this reason.

Later, data file was reviewed using the PASW-SPSS-18 anomaly detection procedure and unusual cases were checked. There were no wrong or unusual entries in the data set since data collection forms were designed in optic format. The sample size adequacy was not an issue of the present study since all the set criteria such as; sample size should be at least 50, more than 8 times the number of the variables in the model (Tabacknick & Fidell, 2001), and sample size should be at least 15 cases per measured variable or indicator (Stevens, 1996) were met. Later, the frequencies of the missing values were calculated and it was found that the missing values were not exceeding 5 percent. Additionally, the pattern of the missing data was examined using Little's Test for MCAR (Little, 1988; Little & Rubin, 1987) and it was found that the missingness followed a random pattern. Therefore, researcher decided to impute the missing values by using the Expectation Maximization (EM) algorithm, since SEM is sensitive to the presence of missing values. Tabachnick and Fidell (2007) reported that this method is a commonly used one when missing values are at random. In Expectation Maximization, two steps are followed: estimation of missing values and then estimation of parameters by

regression analysis (Hair, Anderson, Tatham, & Black, 2006). In addition, Allison (2002) reported that EM is practical because it checks for all appropriate variables to impute missing values.

Subsequently, to check out the normality, outliers were examined and indices of skewness and kurtosis values for each item of the scales were examined. The researcher identified several cases as outliers while some variables indicated deviations from normality. Nevertheless, these findings were consistent with the variables under study. Some of the items (from Physical Aggression Scale and Personal Value on Achievement Scale) were identified as not normally distributed, in other words they were not fitting the criteria of being in between -3, and +3 (Tabachnick & Fidell, 2007). However, keeping in mind that only a small proportion of the population engages in physical aggression, or for most of the students being a good student is important, researcher decided not to remove the outliers in order not to reduce the precision of the study. Additionally, square-root transformation method used and it was realized that variables identified as non-normal showed either little improvement or worsened. Therefore, no transformed data were used for the further analysis. Multicolinearity assumption was also reviewed. Correlations among study indicators were examined and it was found out that there were a couple of indicators, which were under the same latent variable and had high correlations (e.g., the indicators that belong to personal value on achievement latent variable were highly correlated, and the coefficients ranged between .57 and .79). Still, this did not seem problematic.

4.1.2 Descriptive Statistics

The means and standard deviations of the study indicators for girls and boys are presented in Table 4.1.

Table 4.1

Means and Standard Deviations for Study Indicators, for Girls and Boys

			Girls (n = 1228)		Boys (n = 1215)	
Factor	Range	Indicator	*M*	*SD*	*M*	*SD*
Parental support for aggression	1-5					
If someone hits you, hit them back		1	1.74	1.12	2.25	1.38
If someone calls you names, hit them		2	1.27	0.74	1.60	1.12
If someone calls you names, call them names back		3	1.84	1.22	2.19	1.46
If someone asks you to fight, hit them first		4	1.40	1.00	1.90	1.38
If you can't solve the problem by talking, it is best to solve it through fighting		5	1.41	0.98	1.87	1.32
Family conflict	1-5					
People in my family often insult or yell at each other		6	1.68	1.11	1.88	1.24
People in my family have serious arguments.		7	2.01	1.24	2.18	1.32
We interrupt one another when we talk or argue		8	1.81	1.14	2.00	1.26

Table 4.1 (cont.)

Means and Standard Deviations for Study Indicators, for Girls and Boys

			Girls (*n*=1228)		Boys (*n*=1215)	
Factor	Range	Indicator	*M*	*SD*	*M*	*SD*
Parental monitoring	2-10					
Arkadaşlarımla gezmeye gittiğimde, nerede olduğumla ve ne yaptığımla ilgilenir		9	9.15	1.41	8.91	1.59
Okuldan sonra hemen eve gelmeyeceksem, nerede ve kimlerle olacağımı bilir		10	9.24	1.46	8.99	1.69
Eve geç geldiğimde nerede ve kimlerle olduğumu merak eder		11	9.49	1.21	9.22	1.43
Nerede ve kimlerle olduğumu bilmek onun için önemlidir		12	9.44	1.16	9.20	1.47
Gittiğim yerden belirli bir saatte dönmemi ister		13	8.99	1.56	8.69	1.83
Arkadaşlarımla gezmeye gitmek için onun onayını almam gerekir		14	9.23	1.40	8.75	1.82
Beliefs supporting aggression	1-4					
It's O.K. for me to hit someone to get them what I want		15	1.46	0.76	1.66	0.87
Sometimes a person doesn't have any choice but fight		16	2.14	1.02	2.50	1.08
If I back down from a fight, everyone will think I'm a coward		17	2.34	1.12	2.70	1.10
I feel big and tough when I tough someone around		18	1.67	0.86	1.95	0.93
If people do something to make me really mad, they deserve to be beaten up		19	2.33	1.07	2.67	1.04
Sometimes I have only two choices: get punched or punch the other kid first		20	1.82	1.01	2.43	1.13
If I get crazy with anger it's O.K. to hit someone		21	2.24	1.05	2.44	1.06

Table 4.1 (cont.)

Means and Standard Deviations for Study Indicators, for Girls and Boys

			Girls (*n*=1228)		Boys (*n*=1215)	
Factor	Range	Indicator	*M*	*SD*	*M*	*SD*
Self-efficacy for alternatives to aggression	1-5					
Stay out of fight by choosing other solutions		22	4.22	1.06	3.91	1.16
Talk out a disagreement		23	3.81	1.23	3.65	1.22
Calm down when you are mad		24	4.09	1.81	3.79	1.28
Ignore someone who is making fun of you		25	3.59	1.42	3.40	1.46
Avoid a fight by walking away		26	3.40	1.43	3.14	1.47
Apologize to other student		27	3.57	1.39	3.29	1.44
Seek help from an adult		28	3.56	1.43	3.27	1.44
Personal value on achievement	1-5					
To understand the class lessons		29	4.71	0.75	4.59	0.83
To have enough grades to go to college		30	4.74	0.75	4.63	0.85
To do better on tests than most of the other students		31	4.50	0.92	4.47	0.94
For other students to thing I am a good student		32	4.37	1.06	4.30	1.07
To do well in tough classes		33	4.59	0.91	4.48	1.01
To be on Honor Roll all year		34	4.54	0.92	4.43	1.00
To be able to help other students with school work		35	4.27	1.02	4.15	1.13
For the teachers to think I am a good student		36	4.61	0.89	4.46	1.01
For my family to think I am a good student		37	4.65	0.87	4.50	1.01
Physical aggression	1-4					
Thrown something at someone to hurt them		38	1.73	1.02	1.89	1.06
Been in a fight in which someone was hit		39	1.82	1.09	2.21	1.15
Showed or pushed another kid		40	1.75	0.99	1.93	1.08
Hit or slapped another kid		41	1.79	0.98	2.04	1.07
Been in a fight in which you were injured and had to be treated by a doctor or nurse		42	1.15	0.56	1.34	0.76
Threatened to hit or physically harm another kid		43	1.19	0.58	1.33	0.76

Correlation matrices of the study variables for girls and boys are presented in Table 4.2 and Table 4.3. A closer look at the correlation matrices revealed that the significant and nonsignificant relationships differ in two gender samples. For instance, in girls' sample all of the study variables were found to be significantly correlated with each other. However, in boys' sample, the relationship between personal value on achievement variable and parental support for aggression was found to be nonsignificant. Moreover, the relationship between personal value on achievement and beliefs supporting aggression was also found to be nonsignificant.

Furthermore, when examining the correlation matrix of study indicators (see appendix A & B), it was found out that, although not many, some indicators have very weak and nonsignificant correlations. For instance, without considering gender differences, the majority of the relationships between the indicators that belong to personal value on achievement (I_29-I_37) latent variable and parental support for aggressive (I_1-I_5) were not significant. Similarly, most of the relationships between the indicators that belong to personal value on achievement (I_29-I_37) latent variable and beliefs supporting aggression (I_15-I_21) were not significant. However, the present study decided to incorporate these indicators since the inclusion and exclusion of a relationship should be based on theory. Although theory and empirical evidence states a correlation between these indicators, weak correlations among variables can deteriorate the finding of the present study. To check the impact of these weak correlations, the present study examined the full model with different combinations of indicators to examine whether the results would be altered depending on

the addition and omission of indicators in the model. For the most part, correlations between measures within constructs were higher than those across constructs.

Table 4.2

Correlation matrix of study variables for girls (N=1228)

	Variables	1	2	3	4	5	6	7
1.	Parental support for aggression	1.00						
2.	Parental monitoring	-.20**	1.00					
3.	Family conflict	.23**	-.24**	1.00				
4.	Beliefs supporting aggression	.42**	-.21**	.29**	1.00			
5.	Self-efficacy for alternatives to aggression	-.26**	.28**	-.15**	-.44**	1.00		
6.	Personal value on achievement	-.08**	.25**	-.14**	-.08**	.20**	1.00	
7.	Physical aggression	.29**	-.20**	.27**	.44**	-.39**	-.32**	1.00

**$p < .01$

Table 4.3

Correlation matrix of study variables for boys (N=1215)

	Variables	1	2	3	4	5	6	7
1.	Parental support for aggression	1.00						
2.	Parental monitoring	-.17**	1.00					
3.	Family conflict	.21**	-.21**	1.00				
4.	Beliefs supporting aggression	.39**	-.20**	.24**	1.00			
5.	Self-efficacy for alternatives to aggression	-.21**	.27**	-.04**	-.39**	1.00		
6.	Personal value on achievement	-.04	.27**	-.12**	-.02	.18**	1.00	
7.	Physical aggression	.24**	-.19**	.24**	.39**	-.35**	-.30**	1.00

**$p < .01$

4.1.3 Measurement Models

In this section, measurement models of the present study were tested among girls sample (n=1228), and among boys sample (n=1215) with the help of CFA. The chi-square statistics and the fit indices (CFI, NNFI, GFI, and RMSEA) values were reported.

4.1.3.1 Parental Support for Aggression Measurement Model

For the girls sample, CFA resulted in significant χ^2 value (=8.906), and *df* value was 5. However, CFI value of .998, NNFI value of .995, GFI value of .997 values were well above .95 and RMSEA value was .025 and this indicated good fit (Hu & Bentler, 1999; MacCallum, Browne, & Sugawara, 1996) to data. Figure 4.1 shows the final CFA model for PSAS with standardized estimates ranged from .62 to .73.

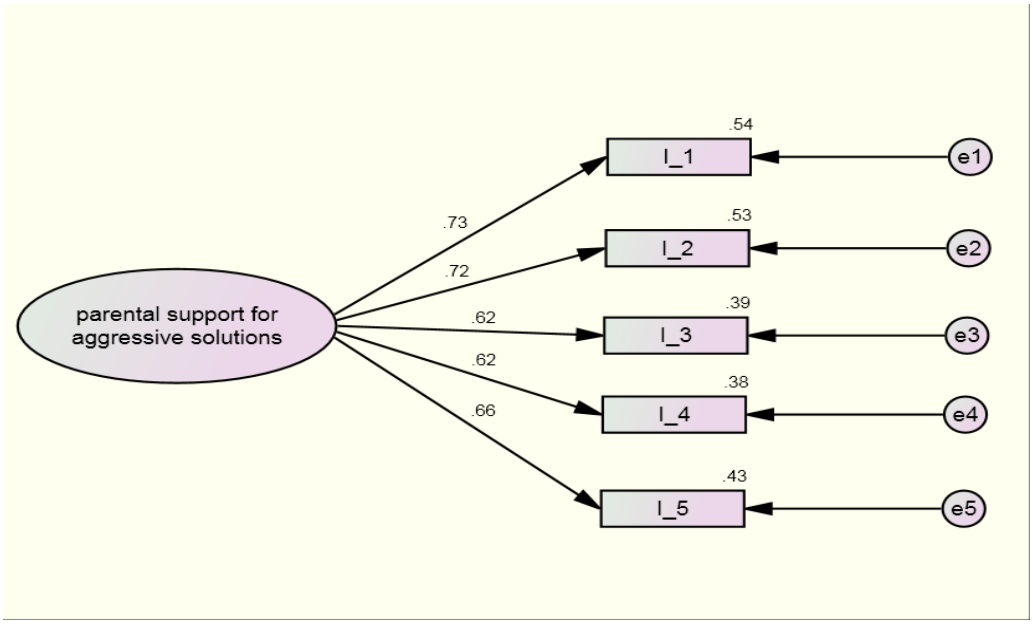

Figure 4.1 Single Factor CFA Model of PSAS for Girls' Group with Standardized Estimates

For the boys sample, CFA resulted in significant χ^2 value (=14.08), and *df* value was 5. However, CFI value of .996, NNFI value of .991, GFI value of .995, and RMSEA value of .039 indicated good fit (Hu & Bentler, 1999; MacCallum, Browne, & Sugawara, 1996) to data. Figure 4.2 shows the final CFA model for PSAS with standardized estimates ranged from .65 to .76.

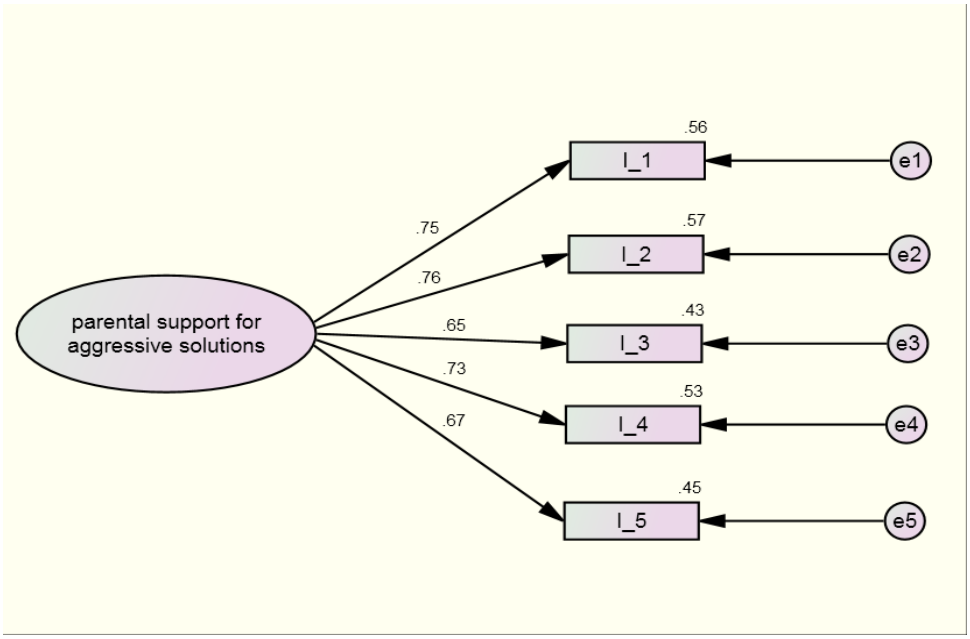

Figure 4.2 Single Factor CFA Model of PSAS for Boys' Group with Standardized Estimates

4.1.3.2 Parental Monitoring Measurement Model

For girls sample, CFA resulted in significant χ^2 value (=73.527),and *df* value was 9. Yet, CFI value of .967, NNFI value of .946, GFI value of .981 were above .90 (Schumaker & Lomax, 1996), and RMSEA value was .076, and this indicated mediocre fit (MacCallum, Browne, & Sugawara, 1996) to data. Figure 4.3 shows the final CFA model for PMS with standardized estimates ranged from .56 to .69.

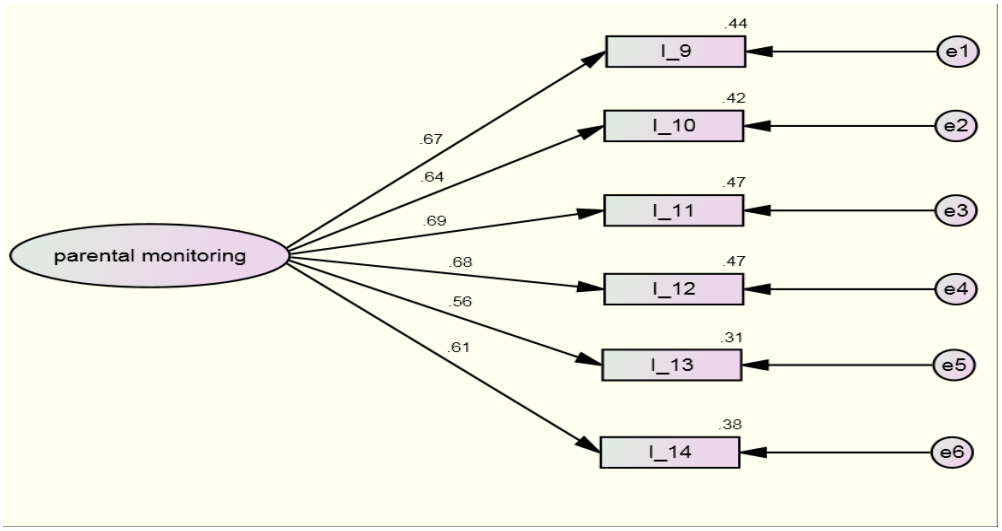

Figure 4.3 Single Factor CFA Model of PMS for Girls' Group with Standardized Estimates

For boys sample CFA resulted in significant χ^2 value (=49.500) and *df* value was 9, CFI value of .981, NNFI value of .969, GFI value of .986 were above .95 (Hu & Bentler, 1999), and RMSEA value was .061 and this indicated close fit (Steiger, 2007) to data. Figure 4.4 shows the final CFA model for PMS with standardized estimates ranged from .55 to .76.

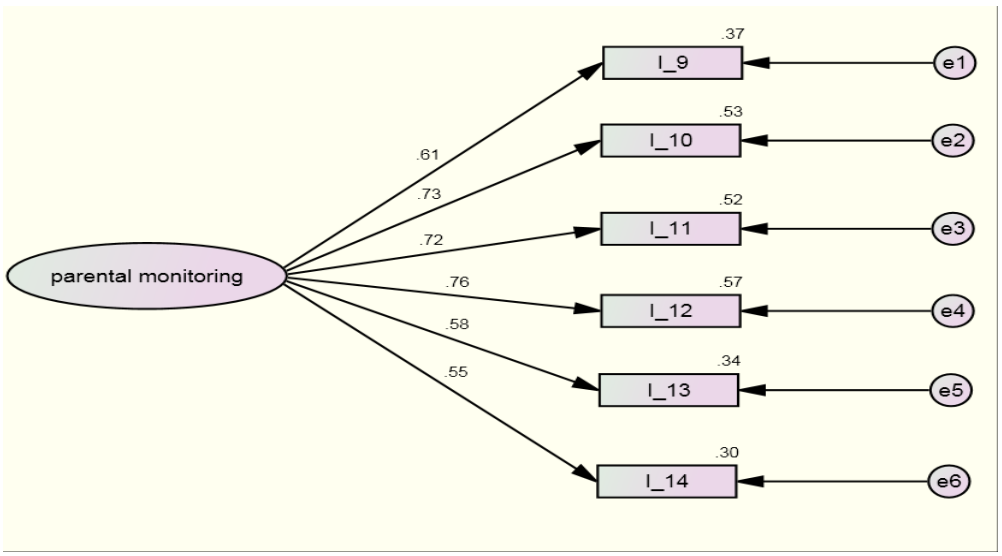

Figure 4.4 Single Factor CFA Model of PMS for Boys' Group with Standardized Estimates

4.1.3.3 Family Conflict Measurement Model

Since family conflict measure involves three indicators, this model was a just identified model with no degrees of freedom. Therefore, it was not possible to obtain a measure of model fit; however, factor loadings were possible to estimate. Figure 4.5 shows the final CFA model of FCS for girls group with standardized estimates ranged from .61 to .77. Figure 4.6 shows the final CFA model of FCS for boys sample with standardized estimates ranged from .61 to .72.

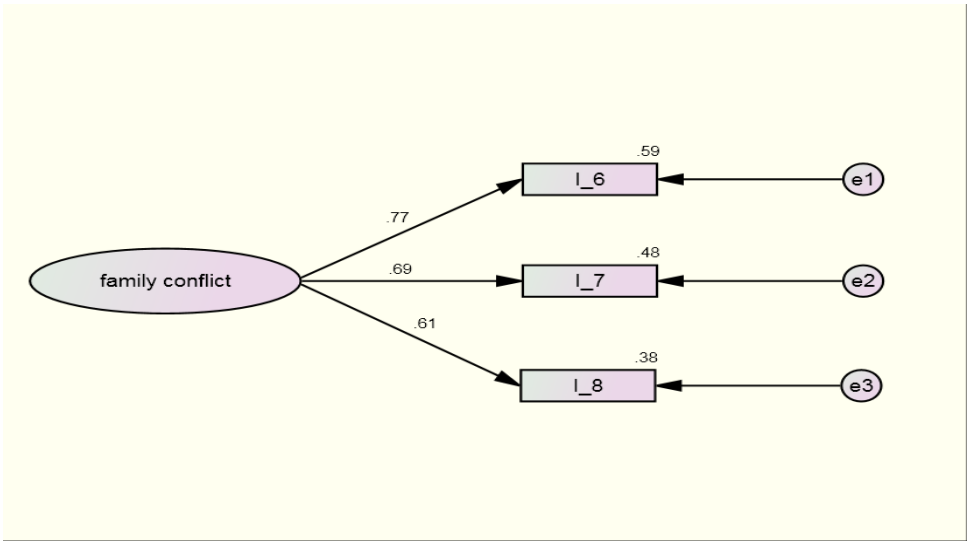

Figure 4.5 Single Factor CFA Model of FCS for Girls' Group with Standardized Estimates

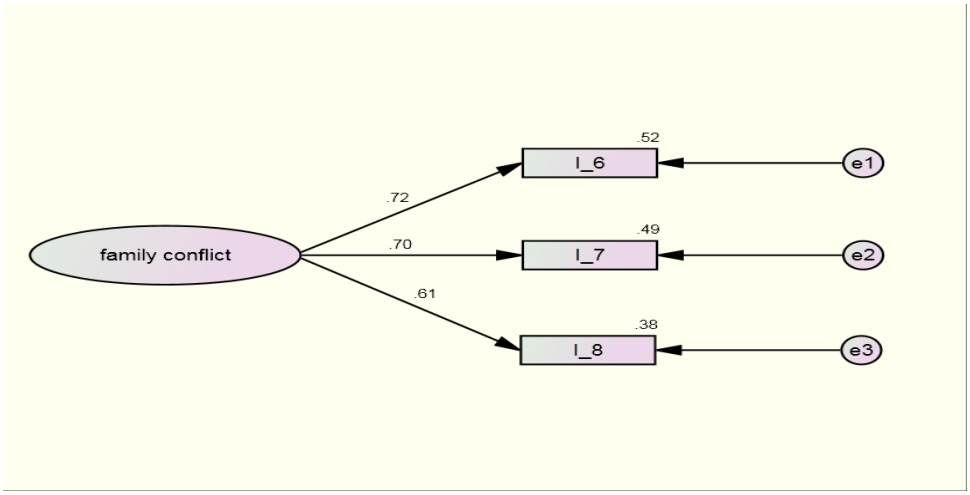

Figure 4.6 Single Factor CFA Model of FCS for Boys' Group with Standardized Estimates

4.1.3.4 Belief Supporting Aggression Measurement Model

For the girls, CFA resulted in significant χ^2 value (=80.522), and *df* was 14. However, CFI value of .965, NNFI value of .947, GFI value of .981 were above .90 (Schumaker & Lomax, 1996), and RMSEA value of .062, indicated close fit (Steiger, 2007) to data. Figure 4.7 represents the final CFA model with standardized estimates ranged from .48 to .72.

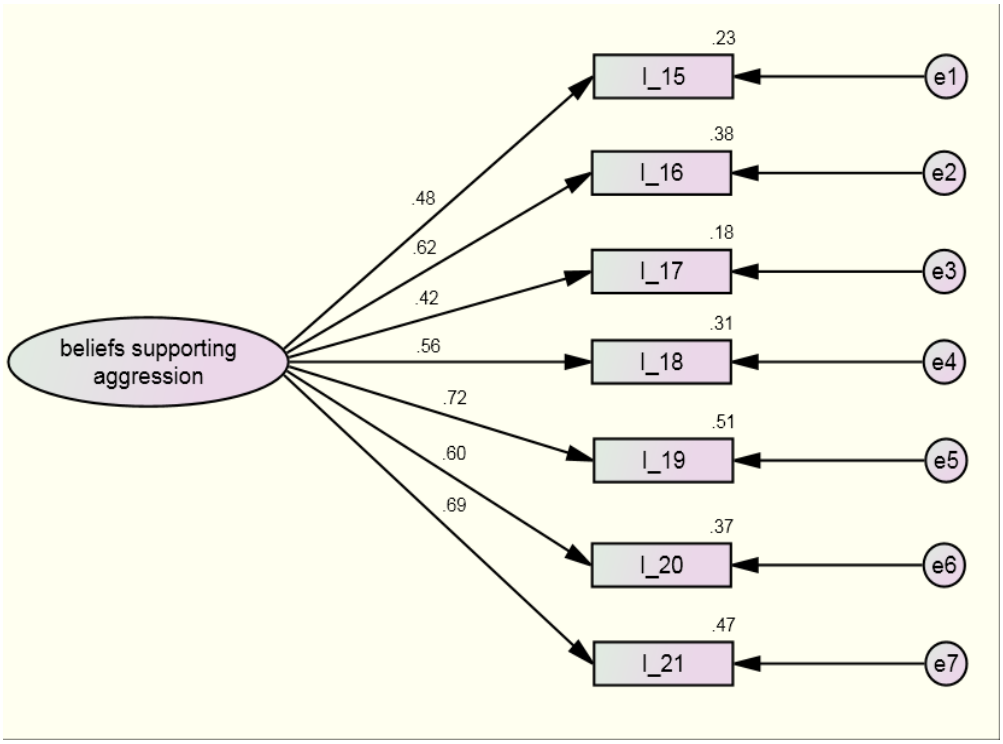

Figure 4.7 Single Factor CFA Model of BAS for Girls' Group with Standardized Estimates

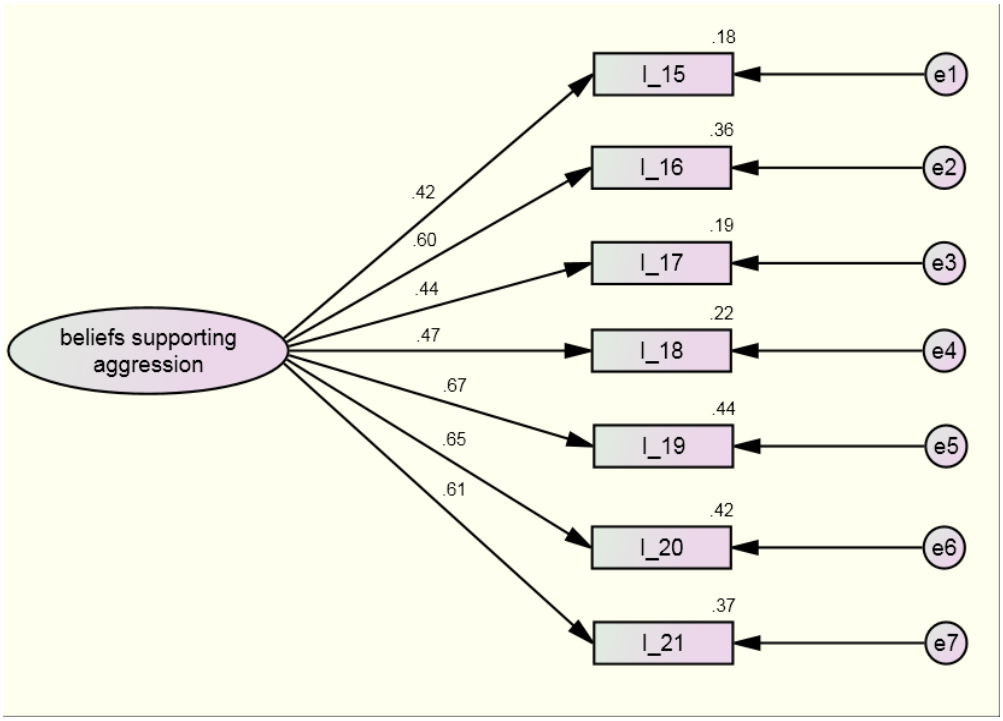

Figure 4.8 Single Factor CFA Model of BAS for Boys' Group with Standardized Estimates

For the boys group, CFA resulted in significant χ^2 value (130.541), and *df* was 14. However, CFI value of .959, NNFI value of .939, and GFI value of .983 were above .90 (Schumaker & Lomax, 1996), and RMSEA value was .061 and this indicated close fit (Hu & Bentler, 1999, Steiger, 2007) to data. Figure 4.8 represents the final CFA model with standardized estimates ranged from .42 to .67.

4.1.3.5 Self-efficacy for Alternatives to Aggression

For the girls group, CFA resulted in significant χ^2 value (97.331), and *df* was 14. However, when considering other fit indices, CFI value of .946, NNFI value of .919, and GFI value of .977 were all above .90 indicating adequate model fit (Schumaker & Lomax, 1996), and RMSEA value of .070, which indicated mediocre fit (MacCallum, Browne, & Sugawara, 1996), this model was considered as acceptable fit to data. Figure 4.9 shows the final CFA model of SAAS for girls with standardized estimates ranged between .43 and .63.

For the boys group, CFA resulted in significant χ^2 value (131.111), and *df* was 14. On the other hand, when considering CFI value of .947, NNFI value of .921, and GFI value of .968, which were all above .90 (Schumaker & Lomax, 1996), and RMSEA value of .083 indicating mediocre fit (MacCallum, Browne, & Sugawara, 1996), this measurement model was stated as acceptable fit to data. Figure 4.10 shows the final CFA model for SAAS with standardized estimates ranged between .51 and .67.

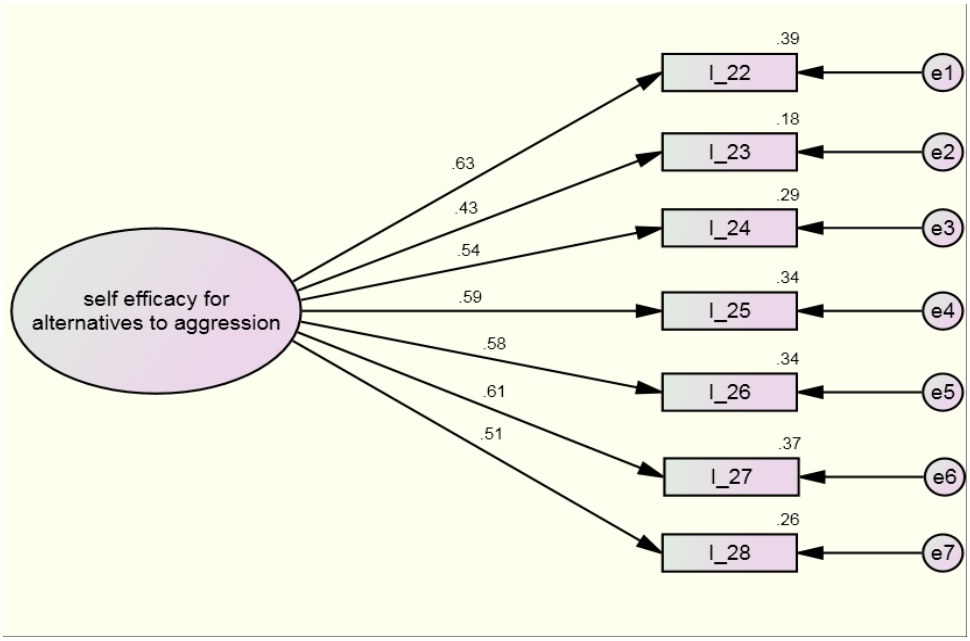

Figure 4.9 Single Factor CFA Model of SAAS for Girls with Standardized Estimates

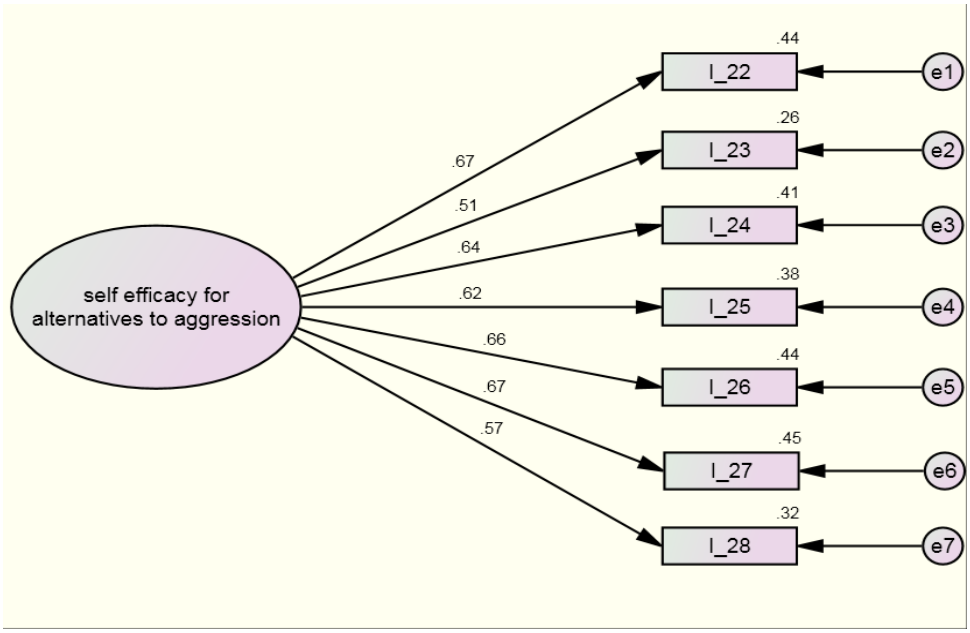

Figure 4.10 Single Factor CFA Model of SAAS for Boys with Standardized Estimates

4.1.3.6 Personal Value on Achievement Measurement Model

For the girls group, CFA resulted in significant χ^2 value (347.051), and *df* was 27. However, CFI value of .962, NNFI value of .949, and GFI value of .939 were all above .90 (Schumaker & Lomax, 1996). RMSEA value was .098 and this indicated poor fit (MacCallum, Browne, & Sugawara, 1996). Therefore, researcher checked the modification indices (e.g. error covariance) of errors, and detected the ones with high values (Arbuckle, 1999). The pairs with high error covariances were ε3- ε4, and ε8- ε9. Afterwards, since they were belonging to same factor, related error pairs were connected in the model and the analysis was run again.

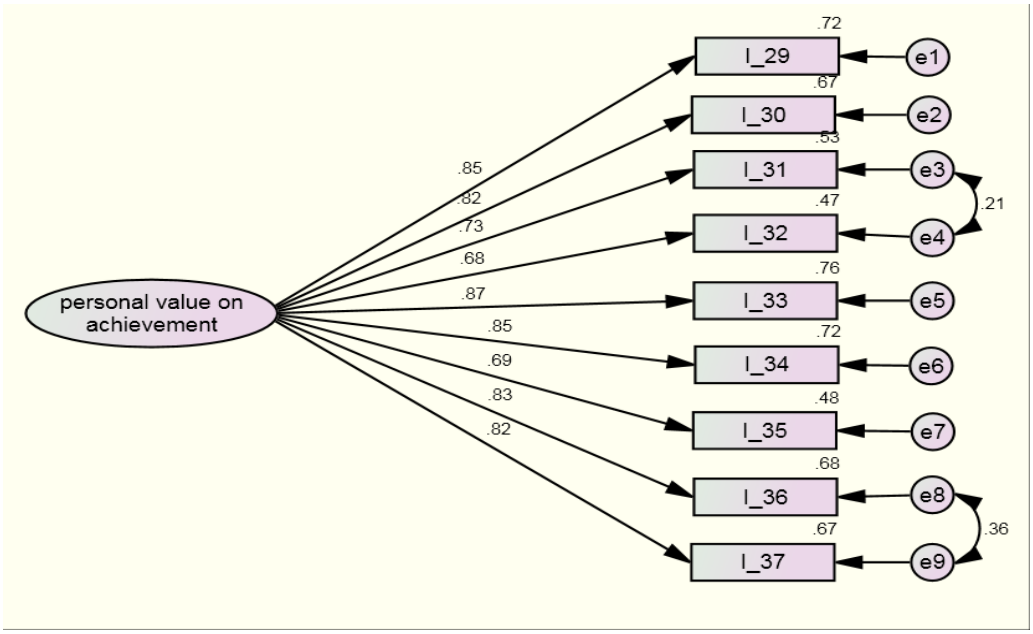

Figure. 4.11 Single Factor CFA Model of PVAS for Girls with Standardized Estimates

After this change, RMSEA value decreased to .067 and this value indicated mediocre fit (MacCallum, Browne, & Sugawara 1996) to data. In addition, resulting NNFI (.977), CFI (.984) , and GFI (.970) values supported good fitting model due to being higher than .95 (Hu & Bentler, 1999). Besides, χ^2 statistics still resulted in a significant value of 161.312 (p <.05). However, the researcher did not consider the χ^2 statistics since it is very sensitive to sample size. Figure 4.11 represents the final CFA model of PVAS for Girls with standardized estimates ranged from .68 to .87.

For the boys group, CFA resulted in significant χ^2 value (177.550), and *df* was 27. However, CFI value of .982, NNFI value of .976, and GFI value of .969 were all above .95 (Hu& Bentler, 1999), and RMSEA value was .068, which was below .70 (Steiger, 2007) and this indicated acceptable fit to data. Figure 4.12 shows the final CFA model for PVAS with standardized estimates ranged between .70 and .89.

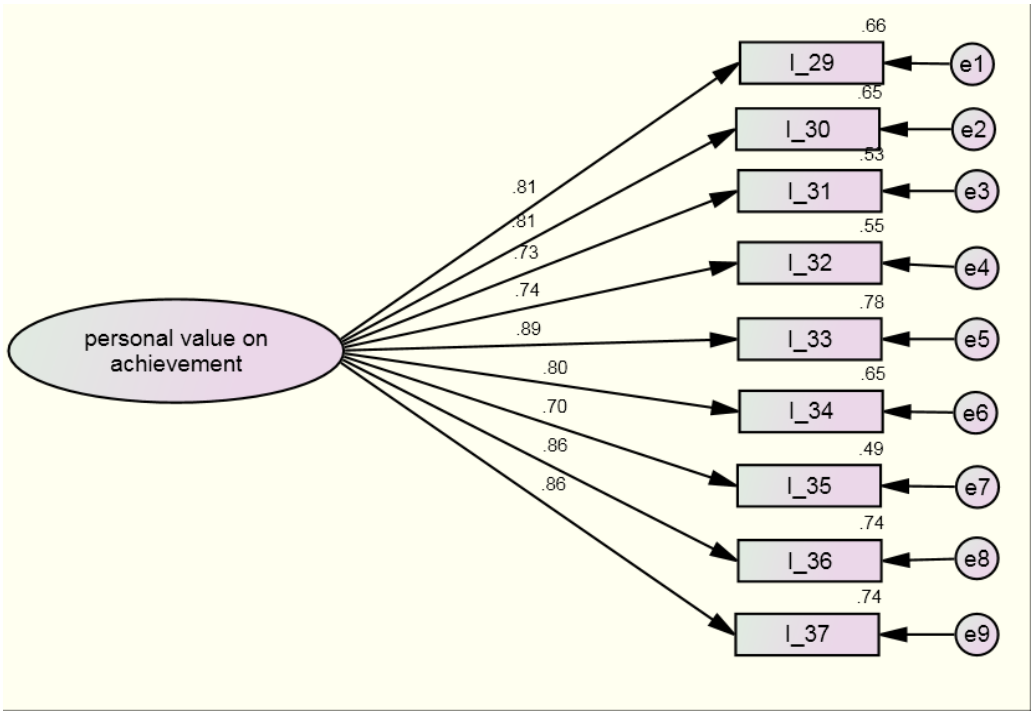

Figure 4.12 Single Factor CFA Model of PVAS for Boys with Standardized Estimates

4.1.3.7 Physical Aggression Measurement Model

For the girls group, CFA resulted in significant χ^2 value (259.521), and *df* was 9. In addition, CFI value of .814, NNFI value of .691, GFI value of .934, and RMSEA value of .151 indicated poor fit (MacCallum, Browne, & Sugawara 1996). Therefore, researcher checked the modification indices (e.g. error covariance) of errors, and detected the ones with high values (Arbuckle, 1999). The pairs with high error covariances were ε3- ε4, ε1- ε5, and ε3- ε5. Afterwards, since they were belonging to same factor, related error pairs were connected in the model and the analysis was run again. After this change, RMSEA value decreased to .072 and this value indicated mediocre fit (MacCallum, Browne, & Sugawara 1996). In addition, resulting NNFI (.928), CFI (.971) , and GFI (.988) values supported good

fitting model due to being higher than .90 (Schumaker & Lomax, 1996). This indicated that the CFA model representing adequate fit to data. Besides, χ^2 statistics still resulted in a significant value of 44.591 (p <.05). But the researcher did not consider the χ^2 statistics since it is very sensitive to sample size. Figure 4.13 represents the final CFA model with standardized estimates ranged from .42 to .74.

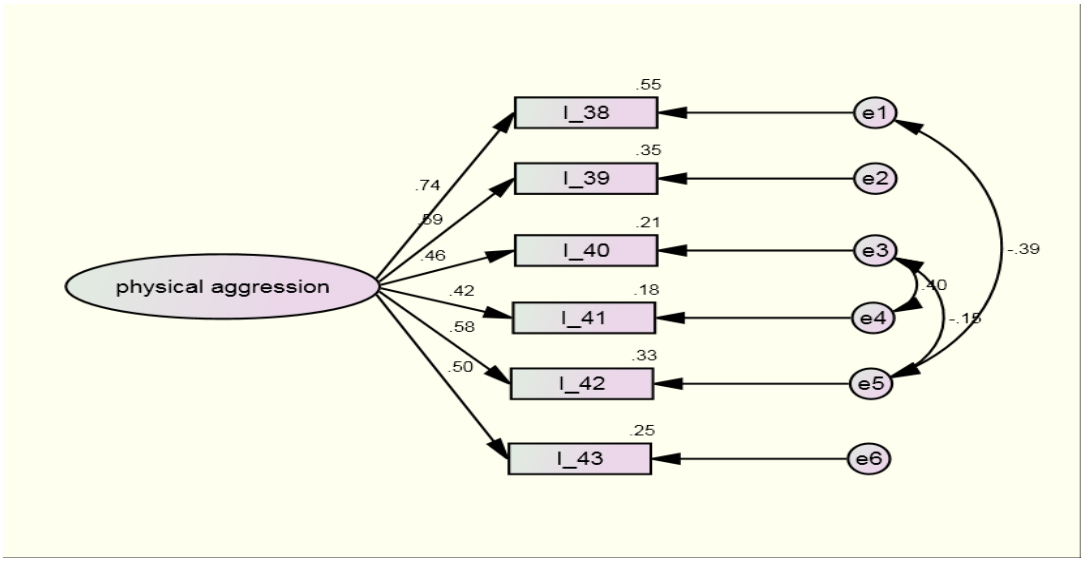

Figure 4.13 Single Factor CFA Model of PAS for Girls with Standardized Estimates

For the boys group, CFA resulted in significant χ^2 value (236.634), and *df* was 9. Moreover, CFI value of .866, NNFI value of .777, GFI value of .941, and RMSEA value of .144 indicated poor fit (MacCallum, Browne, & Sugawara 1996) to data. Therefore, researcher checked the modification indices (e.g. error covariance) of errors, and detected the ones with high values (Arbuckle, 1999). The pairs with high error covariances were ε1- ε2, ε1- ε4, and ε5- ε6. Afterwards, since they were belonging to same factor, related error pairs were connected in the model and the analysis was run

again. After this change, RMSEA value decreased to .063 and this value indicated close fit (Steiger, 2007). In addition, resulting NNFI (.957), CFI (.983) , and GFI (.991) values supported good fitting model due to being higher than .95 (Hu & Bentler, 1999). This indicated that the CFA model representing a good fit to data. Besides, χ^2 statistics still resulted in a significant value of 35.359 (p <.05). But the researcher did not consider the χ^2 statistics since it is very sensitive to sample size. Figure 4.14 represents the final CFA model with standardized estimates ranged from .52 to .69.

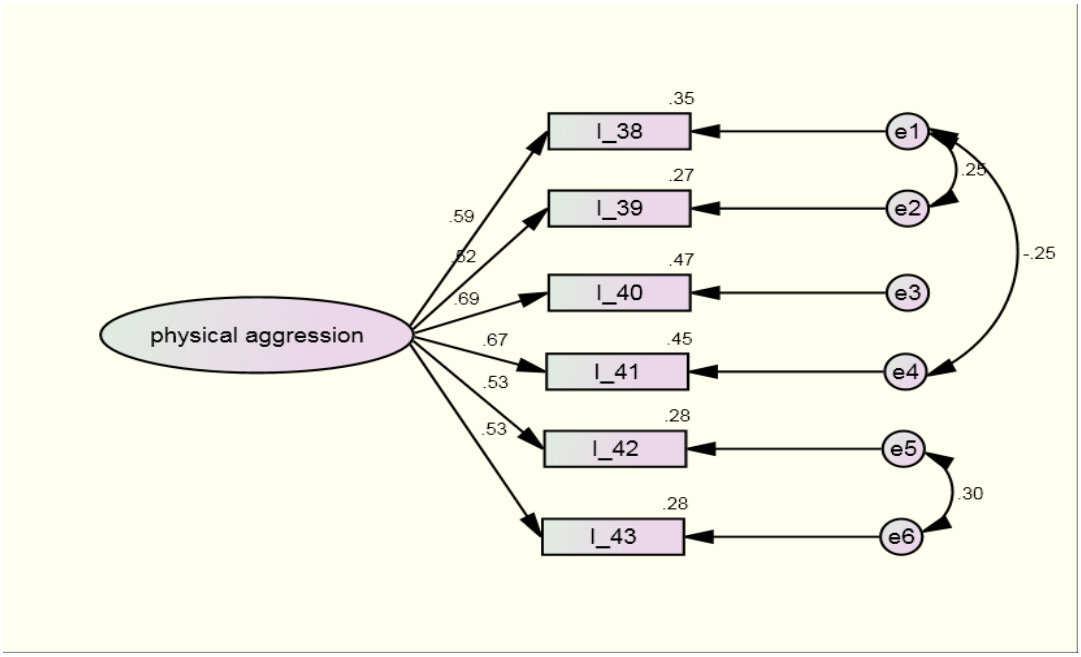

Figure 4.14 Single Factor CFA Model of PAS for Boys with Standardized Estimates

Table 4.4 shows the standardized and unstandardized factor loadings and the percentage of variance explained by its respective factors for 43 indicators of the present study. Results showed that some indicators had low percentage of explained variance; however, these items were not excluded from the study that would remain a potential limitation of the present study.

Table 4.4

Standardized and Unstandardized Factor Loadings and Percentage of Variance Explained by Its Respective Factors for Indicators

		Girls (n=1228)			Boys (n=1215)		
Indicator		*β*	*b*	R^2	*β*	*b*	R^2
Parental support for aggression							
1	If someone hits you, hit them back	.735	1.000	.540	.746	1.000	.556
2	If someone calls you names, hit them	.725	.650	.525	.757	.825	.573
3	If someone calls you names, call them names back	.622	.924	.386	.653	.929	.426
4	If someone asks you to fight, hit them first	.620	.758	.384	.730	.974	.532
5	If you can't solve the problem by talking, it is best to solve it through fighting	.659	.788	.434	.669	.857	.448
Family conflict							
6	People in my family often insult or yell at each other	.766	1.000	.587	.723	1.000	.523
7	People in my family have serious arguments.	.691	1.009	.477	.699	1.024	.489
8	We interrupt one another when we talk or argue	.614	.828	.377	.614	.860	.377
Parental monitoring*							
9	Arkadaşlarımla gezmeye gittiğimde, nerede olduğumla ve ne yaptığımla ilgilenir	.665	1.000	.443	.606	1.000	.367
10	Okuldan sonar hemen eve gelmeyeceksem, nerede ve kimlerle olacağımı bilir	.645	1.004	.416	.727	1.276	.529
11	Eve geç geldiğimde nerede ve kimlerle olduğumu merak eder	.689	.887	.475	.724	1.072	.524
12	Nerede ve kimlerle olduğumu bilmek onun için önemlidir	.684	.845	.468	.756	1.152	.572
13	Gittiğim yerden belirli bir saatte dönmemi ister	.560	.928	.314	.579	1.103	.335
14	Arkadaşlarımla gezmeye gitmek için onun onayını almam gerekir	.613	.916	.376	.552	1.042	.305

Note: parental monitoring scale is originally in Turkish*

Table 4.4 (cont.)

Standardized and Unstandardized Factor Loadings and Percentage of Variance Explained by Its Respective Factors for Indicators

		Girls (n=1228)			Boys (n=1215)		
Indicators		*β*	*b*	R^2	*β*	*b*	R^2
Belief about aggression							
15	It's O.K. for me to hit someone to get them what I want	.480	1.000	.230	.421	1.000	.177
16	Sometimes a person doesn't have any choice but fight	.620	1.740	.384	.599	1.782	.422
17	If I back down from a fight, everyone will think I'm a coward	.424	1.295	.179	.441	1.333	.443
18	I feel big and tough when I push someone around	.557	1.317	.311	.474	1.201	.225
19	If people do something to make me really mad, they deserve to be beaten up	.715	2.097	.512	.666	1.891	.195
20	Sometimes I have only two choices: get punched or punch the other kid first	.604	1.670	.365	.650	2.010	.359
21	If I get crazy with anger it's O.K. to hit someone	.689	1.987	.475	680	1.764	.177
Self efficacy about alternatives to aggression							
22	Stay out of fight by choosing other solutions	.628	1.000	.395	.666	1.000	.443
23	Talk out a disagreement	.428	.787	.183	.509	.804	.259
24	Calm down when you are mad	.536	.948	.287	.636	1.053	.406
25	Ignore someone who is making fun of you	.586	1.242	.343	.616	1.164	.379
26	Avoid a fight by walking away	.580	1.245	.337	.664	1.262	.441
27	Apologize to other student	.612	1.273	.374	.671	1.253	.450
28	Seek help from an adult	.509	1.090	.259	.566	1.051	.321
Personal value on achievement							
29	To understand the class lessons	.849	1.000	.686	.814	1.000	.743
30	To have enough grades to go to college	.821	.947	.658	.809	1.013	.738
31	To do better on tests than most of the other students	.726	1.045	.529	.731	1.016	.489
32	For other students to thing I am a good student	.682	1.127	.519	.745	1.183	.646
33	To do well in tough classes	.874	1.246	.771	.886	1.331	.785
34	To be on Honor Roll all year	.846	1.216	.676	.804	1.189	.555
35	To be able to help other students with school work	.692	1.104	.488	.700	1.168	.534
36	For the teachers to think I am a good student	.826	1.144	.731	.859	1.289	.654
37	For my family to think I am a good student	.819	1.121	.728	.862	1.289	.743

Table 4.4 (cont.)

Standardized and Unstandardized Factor Loadings and Percentage of Variance Explained by Its Respective Factors for Indicators

		Girls (n=1228)			Boys (n=1215)		
Indicator		β	b	R^2	β	b	R^2
Physical aggression							
38	Thrown something at someone to hurt them	.743	1.000	.552	.588	1.000	.345
39	Been in a fight in which someone was hit	.593	.847	.352	.524	.970	.274
40	Showed or pushed another kid	.461	.599	.213	.687	1.190	.472
41	Hit or slapped another kid	.421	.544	.177	.671	1.151	.450
42	Been in a fight in which you were injured and had to be treated by a doctor or nurse	.578	.423	.334	.531	.653	.282
43	Threatened to hit or physically harm another kid	.496	.381	.246	.529	.645	.279

4.2 Bivariate Models Testing

In this part of the analysis, bivariate models were tested. In order to test a latent model with mediation in it, preexisting relationships needs to be tested (Baron & Kenny, 1986). To test a bivariate relation using AMOS, a latent variable model was set up using two constructs. A statistically significant parameter (pathway) value would indicate a priori relationship between constructs and sufficient evidence to test for mediation.

In the present study, the hypothesized conceptual model included mediation; personal cognitive factors acted as mediators for the relationship between family factors and physical aggression. Therefore, the necessary preexisting relationships (i.e. parental support for aggression and physical aggression, parental monitoring and aggression, and family conflict and aggression) were tested to set up mediation in the model. Results of the mediation analysis yielded that all bivariate models had sufficient degrees of freedom to calculate the parameter estimates and

provide model fit indices. Three bivariate models were estimated, each representing a necessary pathway for establishing mediation. Bivariate models were tested separately for girls, and boys groups. Table 4.5 shows the results of the model estimation for each group.

In all of the bivariate model tests among different groups, the chi-square values were significant. However, chi-square statistics is a very sensitive to sample size (Byrne, 2001); therefore, fit indices were considered. All bivariate models tested among different groups had adequate fit indices of CFI, GFI, NNFI (almost all values over .95 with one exception .944) (Hu & Bentler, 1999). In addition, all RMSEA values were within the acceptable values (values below .06) (Hu & Bentler, 1999). Thus, it was concluded that testing a latent model including mediation was possible with these variables.

Table 4.5

Estimated Direct Relationships between Constructs Prior to test of Mediation: Girls

Path	Model (Girls)	*b*	*β*	χ^2	*df*	χ^2/df	CFI	NNFI	GFI	RMSEA
Path 1 (+)	PAR-SUP [a] → PHY-AGR [b]	.396	.347	121.741***	40	3.044	.974	.965	.982	.041
Path 2 (-)	PAR-MON [d] → PHY-AGR [b]	-.187	-.214	195.969***	50	3.919	.957	.944	.975	.049
Path 3 (+)	FAM-CONF [c] → PHY-AGR [b]	.377	.364	95.498***	23	4.152	.968	.950	.983	.051

Note. b = unstandardized beta coefficient, *β* = standardized beta coefficient, ****p*< .001,
[a] parental support for aggression, [b] physical aggression, [c] family conflict, [d] parental monitoring

Table 4.6

Estimated Direct Relationships between Constructs Prior to test of Mediation: Boys

Path	Model (Boys)	*b*	*β*	χ^2	*df*	χ^2/df	CFI	NNFI	GFI	RMSEA
Path 1 (+)	PAR-SUP [a] → PHY-AGR [b]	.209	.298	107.135***	4o	2.678	.983	.976	.984	.037
Path 2 (-)	PAR-MON [d] → PHY-AGR [b]	-.126	-.204	155.234***	50	3.105	.973	.965	.979	.042
Path 3 (+)	FAM-CONF [c] → PHY-AGR [b]	.252	.315	89.653***	23	3.898	.974	.959	.984	.049

Note. b = unstandardized beta coefficient, *β* = standardized beta coefficient, ****p*< .001,
[a] parental support for aggression, [b] physical aggression, [c] family conflict, [d] parental monitoring

4.3 Latent Model Testing

The hypothesized latent variable model (Figure 1.1) of the present study was tested separately for girls and boys group. This analysis was used to determine whether the model had obtained adequate fit for each sub-sample. Since the measurement models were differed among groups (see CFA results on pages between 132 and 144), different modifications were made on measurement models for girls and boys sample. Therefore, two models with different parameter numbers were tested. Latent variable models that met the criteria (see Table 3.2) were viewed as having adequate model fit: a) χ^2/df ratio less than or equal to 5.0, b) CFI, NNFI, and GFI values greater than .90, and c) RMSEA values below .08.

Table 4.7

Model Fit for Girls and for Boys

Model	Parameters	χ^2	*df*	χ^2/df	CFI	NNFI	GFI	RMSEA
Girls	106	2369.469***	840	2.821	.924	.919	.915	.039
Boys	104	2197.000***	842	2.609	.935	.930	.920	.036

*** $p<.001$

Table 4.7 shows the model fit for girls, and for boys. In general, results indicated that all model fit indices within the range of acceptable scores. These values indicated that the model had an acceptable fit to data. However, setting statistically significant factor loadings and parameter estimates were other criteria when deciding whether a model had adequate model fit. In order to facilitate the comparison of models, statistically

significant pathways were drawn in black and nonsignificant paths were drawn in red. The result of the latent model for girls presented in Figure 4.15, and the result of the latent model for boys presented in Figure 4.16.

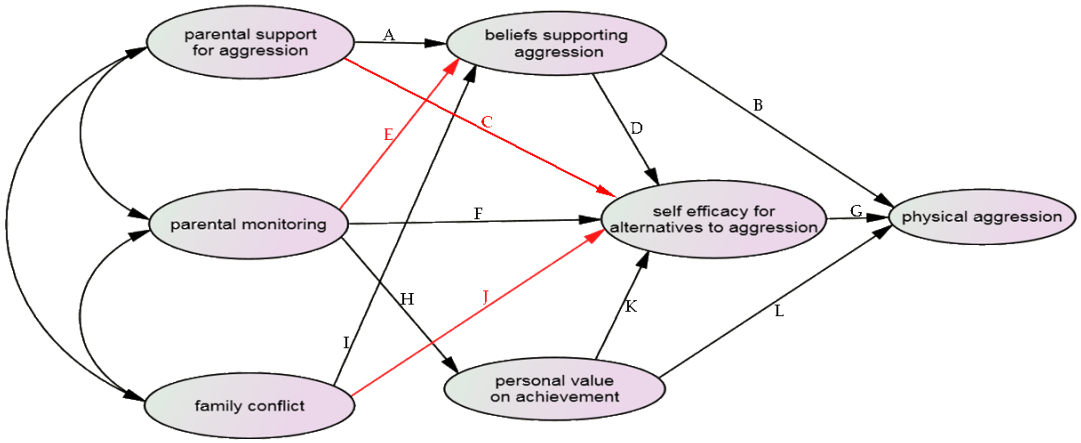

Figure 4.15 Results for Model of Adolescent Physical Aggression, Girls Sample

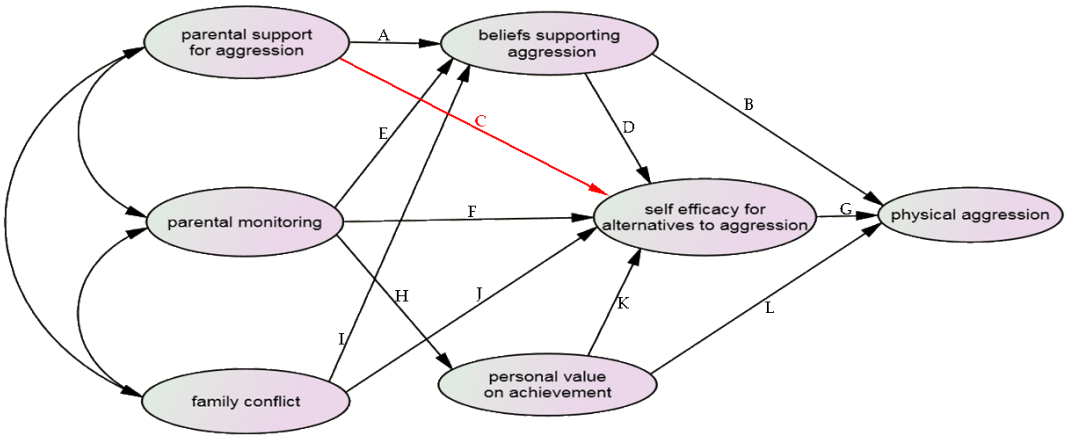

Figure 4.16 Results for Model of Adolescent Physical Aggression, Boys Sample

Before focusing in detail, one important thing to notice was that none of the groups (girls and boys group) have replicated all of the significant parameters specified in the hypothesized latent variable model (see Figure 1.1).

4.3.1 Latent Model for Girls

The results of the SEM analysis suggested three pathways (Path C, Path E, and Path J) were nonsignificant. These relationships were; the relationship between parental support for aggression and self-efficacy for alternatives to aggression (Path C), the relationship between parental monitoring and beliefs supporting aggression (Path E), and the relationship between family conflict and self-efficacy for alternatives to aggression (Path J). All other paths were statistically significant ($p < .001$) (regression weights can be seen in Appendix E and covariances can be seen in Appendix F). The model fit for girls' physical aggression was presented in Table 4.7. Figure 4.17 shows the structural model for girls (see Appendix C for structural portion of the full latent model for girls).

With respect to the research question, the latent model which is compromised of perceived family factors (parental support for fighting, parental monitoring, family conflict) and personal cognitive factors (beliefs supporting aggression, self-efficacy for alternatives to aggression, and personal value on achievement) explained 48% of the variance of adolescent girls' physical aggression.

Moreover, 43% of the variance in adolescent girls' self-efficacy for alternatives to aggression, 33% of the variance in adolescent girls' beliefs supporting aggression, and 5% of the variance in adolescent girls' personal value on achievement were explained in the latent model.

Path A: In the latent model, a significant and positive relationship (β = .42) was identified between parental support for aggression and adolescent girls' beliefs supporting aggression, indicating that adolescent girls whose parents support aggression were more likely to have more favorable beliefs supporting aggression.

Path B: A significant positive relationship was identified between beliefs supporting aggression and physical aggression (β =.39). This indicates that adolescent girls who had more favorable beliefs about aggression were more likely to behave physically aggressively.

Path C: The relationship between parental support for aggression and self-efficacy for alternatives to aggression was not found to be significant in the girls' sample.

Path D: The relationship between beliefs supporting aggression and self-efficacy for alternatives to aggression was significant and negative (β = -56), indicating that adolescent girls who had more favorable beliefs about aggression had lower levels of self-efficacy for alternatives to aggression.

Path E: The relationship between parental monitoring and beliefs supporting aggression was not found to be significant in the girls' sample.

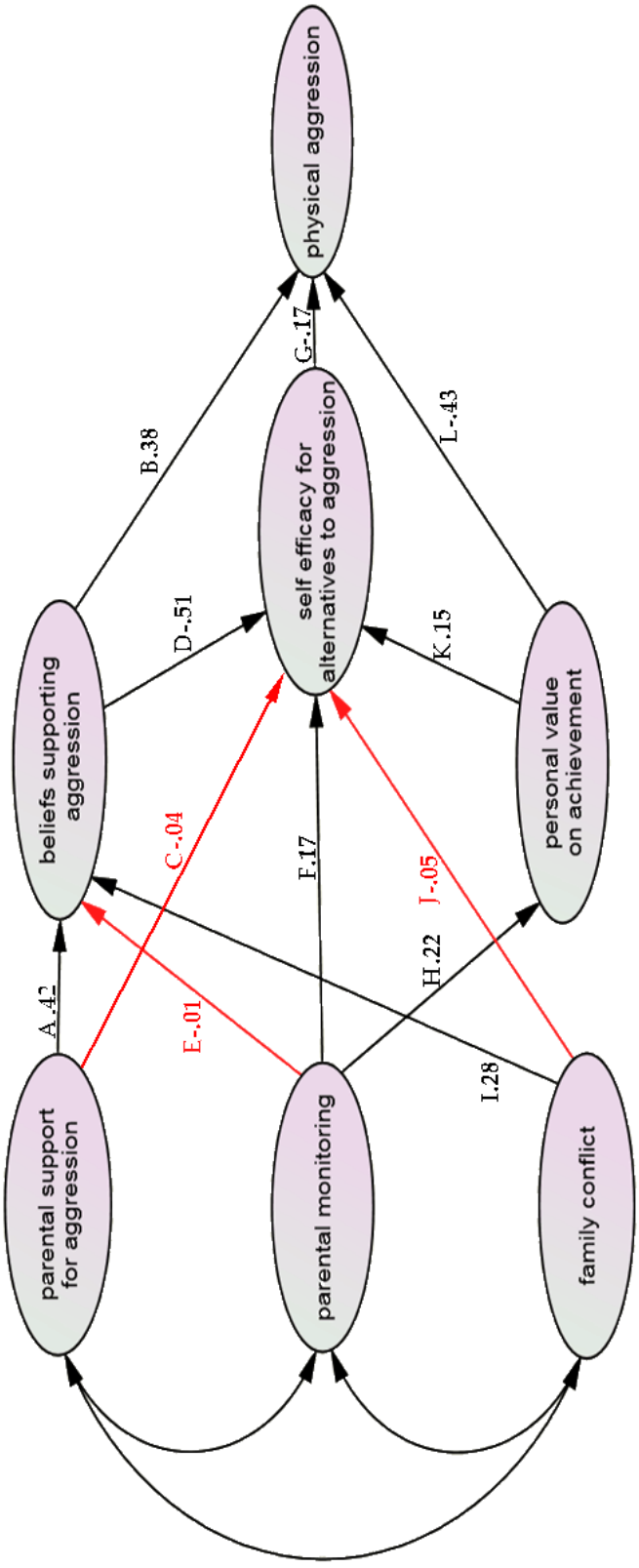

Figure 4.17 Structural Portion of the Latent Model for Girls (see Appendix C for Structural Portion of the Full Latent Model)

Path F: The relationship between parental monitoring and self-efficacy for alternatives to aggression was significant and positive (β = .19) meaning that adolescent girls whose parents monitor their social life more were more likely to have high self efficacy in finding alternatives to aggression when faced with conflict.

Path G: The relationship between self-efficacy for alternatives to aggression and adolescent girls' physical aggression was significant and negative (β = -.16), indicating that adolescent girls who had high self efficacy in finding alternatives to aggression when faced with conflict were less likely to behave physically aggressively.

Path H: A significant and positive relationship was identified between parental monitoring and personal value on achievement (β = .22). This indicates that adolescent girls whose parents monitor their social life more were more likely to value academic achievement.

Path I: A significant and positive relationship (β =.28) was identified between family conflict and adolescent girls' beliefs supporting aggression, indicating that adolescent girls who experienced more family conflict at home were more likely to have more favorable beliefs supporting aggression.

Path J: The relationship between family conflict and self efficacy for alternatives to aggression was not found to be significant in the girls' sample.

Path K: A significant and positive relationship was identified between adolescent girls' personal value on academic achievement and their self-efficacy for alternatives to aggression (β = .15), meaning that adolescent girls who value academic achievement more were more likely to have high self efficacy in finding alternatives to aggression when faced with conflict.

Path L: The direct association of personal value on achievement was significant and negative (β = -.43), indicating that adolescent girls who value academic achievement more were less likely to behave physically aggressively.

4.3.2 Latent Model for Boys

The results of the SEM analysis suggested one pathway (Path C) was nonsignificant. That is the relationship between parental support for aggression and self-efficacy for alternatives to aggression. Except one path from parental monitoring to beliefs supporting aggression (Path E) which was statistically significant at $p < .05$ level, all the other paths were statistically significant at $p < .001$ level (regression weights can be seen in Appendix E and covariances can be seen in Appendix F). The model fit for boys' physical aggression was presented in Table 4.7. Figure 4.18 shows the structural model for boys (see Appendix D for structural portion of the full latent model for boys).

With respect to the research question, the latent model which is compromised of perceived family factors (parental support for fighting, parental monitoring, family conflict) and personal cognitive factors (beliefs supporting aggression, self-efficacy for alternatives to aggression, and personal value on achievement) explained 40% of the variance of adolescent boys' physical aggression.

Additionally, 36% of the variance in adolescent boys' self-efficacy for alternatives to aggression, 30% of the variance in adolescent boys' beliefs supporting aggression, and 9% of adolescent boys' personal value on achievement were explained in the latent model.

Path A: A significant and positive relationship (β = .43) was identified between parental support for aggression and adolescent boys' beliefs supporting aggression, indicating that adolescent boys' whose parents support aggression were more likely to have more favorable beliefs about aggression.

Path B: A significant positive relationship was identified between beliefs supporting aggression and physical aggression (β = .42). This means that adolescent boys who had more favorable beliefs about aggression were more likely to behave physically aggressively.

Path C: The relationship between parental support for aggression and self-efficacy for alternatives to aggression was not found to be significant in the boys' sample.

Path D: The relationship between beliefs supporting aggression and self-efficacy for alternatives to aggression was significant and negative (β = -.52), indicating that adolescent boys who had more favorable beliefs about aggression had lower levels of self-efficacy for alternatives to aggression.

Path E: The relationship between parental monitoring and beliefs supporting aggression was significant and negative (β = -.09), meaning that adolescent boys whose parents monitor their social life more were less likely to have favorable beliefs about aggression.

Path F: The relationship between parental monitoring and self-efficacy for alternatives to aggression was significant and positive (β = .20). This indicates that adolescent boys whose parents monitor their social life more were more likely to have high self efficacy in finding alternatives to aggression when faced with conflict.

Path G: The relationship between self-efficacy for alternatives to aggression and adolescent boys' physical aggression was significant and negative (β = -.18), indicating that adolescent boys who had high self-efficacy in finding alternatives to aggression when faced with conflict were less likely to behave physically aggressively.

Path H: A significant and positive relationship was identified between parental monitoring and personal value on achievement (β = .29). This indicates that adolescent boys whose parents monitor their social life more were more likely to value academic achievement.

Path I: The relationship between family conflict and adolescent boys' beliefs supporting aggression was significant and positive (β = .19) meaning that adolescent boys who experienced more family conflict at home were more likely to have more favorable beliefs about aggression.

Path J: The relationship between family conflict and adolescent boys' self-efficacy for alternatives to aggression was significant and positive (β = .18) meaning that adolescent boys who experienced more family conflict at home were more likely to have high self-efficacy for alternatives to aggression.

Path K: A significant and positive relationship was identified between adolescent boys' personal value on academic achievement and their self-efficacy for alternatives to aggression (β = .15) indicating that adolescent boys who value academic achievement more were more likely to have high self-efficacy in finding alternatives to aggression when faced with conflict.

Path L: The direct association of personal value on achievement was significant and negative (β = -.28), meaning that adolescent boys who value academic achievement more were less likely to behave physically aggressively.

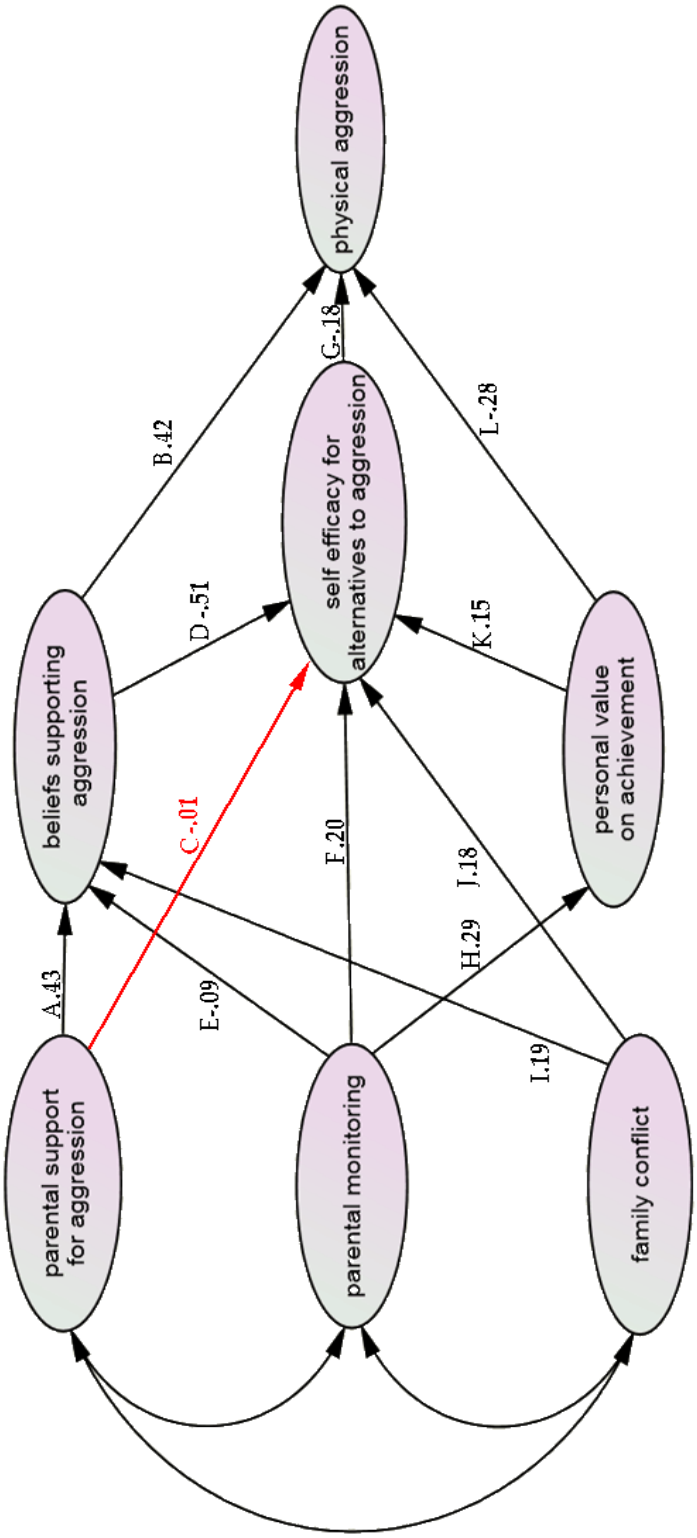

Figure 4.18 Structural Portion of the Latent Model for Boys
(see Appendix D for Structural Portion of the Full Latent Model)

In order to measure model performance, the amount of variance in a measure that was accounted for by the model needs to be examined. Table 4.8 shows the amount of variance in each measure in the model that is accounted for by it associated predictors. Personal value on achievement had the lowest amount of explained variance both in girls' and boys' model.

Table 4.8

Percentage of Variance in Each Indicator Explained by the Model for Girls and Boys Groups

Factors		Girls	Boys
Parental support for aggression		n.a.	n.a.
1	If someone hits you, hit them back	.53	.55
2	If someone calls you names, hit them	.52	.56
3	If someone calls you names, call them names back	.38	.42
4	If someone asks you to fight, hit them first	.39	.54
5	If you can't solve the problem by talking, it is best to solve it through fighting	.45	.46
Family conflict		n.a.	n.a.
6	People in my family often insult or yell at each other	.55	.54
7	People in my family have serious arguments.	.48	.48
8	We interrupt one another when we talk or argue	.41	.37
Parental monitoring		n.a.	n.a.
9	Arkadaşlarımla gezmeye gittiğimde, nerede olduğumla ve ne yaptığımla ilgilenir	.45	.36
10	Okuldan sonra hemen eve gelmeyeceksem, nerede ve kimlerle olacağımı bilir	.41	.52
11	Eve geç geldiğimde nerede ve kimlerle olduğumu merak eder	.46	.52
12	Nerede ve kimlerle olduğumu bilmek onun için önemlidir	.47	.58
13	Gittiğim yerden belirli bir saatte dönmemi ister	.32	.34
14	Arkadaşlarımla gezmeye gitmek için onun onayını almam gerekir	.39	.32

n.a., not applicable, this item was exogenous, not a predicted variable

Table 4.8 (cont.)

Percentage of Variance in Each Indicator Explained by the Model for Girls and Boys Groups

Factors		Girls	Boys
Beliefs supporting aggression		.32	.29
15	It's O.K. for me to hit someone to get them what I want	.24	.19
16	Sometimes a person doesn't have any choice but fight	.39	.35
17	If I back down from a fight, everyone will think I'm a coward	.17	.19
18	I feel big and tough when I tough someone around	.32	.24
19	If people do something to make me really mad, they deserve to be beaten up	.50	.42
20	Sometimes I have only two choices: get punched or punch the other kid first	.37	.40
21	If I get crazy with anger it's O.K. to hit someone	.46	.39
Self-efficacy for alternatives to aggression		.43	.35
22	Stay out of fight by choosing other solutions	.43	.45
23	Talk out a disagreement	.17	.26
24	Calm down when you are mad	.29	.41
25	Ignore someone who is making fun of you	.33	.38
26	Avoid a fight by walking away	.34	.45
27	Apologize to other student	.37	.47
28	Seek help from an adult	.23	.31
Personal value on achievement		.05	.09
29	To understand the class lessons	.72	.66
30	To have enough grades to go to college	.67	.65
31	To do better on tests than most of the other students	.52	.53
32	For other students to thing I am a good student	.47	.56
33	To do well in tough classes	.76	.78
34	To be on Honor roll all year	.72	.65
35	To be able to help other students with school work	.48	.49
36	For the teachers to think I am a good student	.69	.74
37	For my family to think I am a good student	.67	.74
Physical aggression		.48	.40
38	Thrown something at someone to hurt them	.49	.43
39	Been in a fight in which someone was hit	.42	.35
40	Showed or pushed another kid	.18	.43
41	Hit or slapped another kid	.18	.40
42	Been in a fight in which you were injured and had to be treated by a doctor or nurse	.22	.27
43	Threatened to hit or physically harm another kid	.27	.29

n.a., not applicable, these item was exogenous, not a predicted variable

4.4 Summary of the Results

The hypothesized latent model (see Figure 1.1), consisted of perceived family factors, personal cognitive factors, and physical aggression. All of the perceived family factors were hypothesized to be mediated by the personal cognitive factors when predicting physical aggression. The results for different sample groups (i.e., girls and boys) supported this hypothesis. For instance, the relationship between parental support for aggression and physical aggression was mediated by beliefs supporting aggression in all two models. Indeed, parental support for aggression and physical aggression shared a partially mediated relationship via beliefs supporting aggression, and a double-mediated relationship via beliefs supporting aggression and self-efficacy for alternatives to aggression in all two models. Similarly, the relationship between family conflict and physical aggression was partially mediated via beliefs supporting aggression and double mediated via beliefs supporting aggression and self-efficacy for alternatives to aggression in all two models. Likewise, the relationship between parental monitoring and physical aggression was both partially mediated by personal value on achievement and self-efficacy for alternatives to aggression and double mediated via personal value on achievement and self-efficacy for alternatives to aggression in all two models tested.

There were also some differences, for instance, in boys' model, the relationship between family conflict and physical aggression was partially mediated by self-efficacy for alternatives to aggression; however, in girls' model no significant relationship between family conflict and self-efficacy

for alternatives to aggression was found. Similarly, again in girls' model, the relationship between parental monitoring and physical aggression was not mediated by beliefs supporting aggression.

Personal cognitive factors were also consisting of both risk and protective factors to physical aggression. Beliefs supporting aggression was included in the model as a personal risk factor while self-efficacy for alternatives to aggression and personal value on achievement were added as personal protective factors. To begin with, all of the personal level factors were significantly related to physical aggression. For instance, beliefs supporting aggression was found to be significantly positively related to physical aggression in both groups. Furthermore, beliefs supporting aggression and physical aggression shared a direct relationship and a partially mediated relationship via self-efficacy for alternatives to aggression. Additionally, self-efficacy for alternatives to aggression was found to be significantly positively related to physical aggression in all models. Likewise, personal value on achievement was significantly negatively related to physical aggression. Moreover, personal value on achievement and physical aggression share a direct and a partially mediated relationship via self-efficacy for alternatives to aggression in both groups.

Overall, it appears that most of the factors included in the model were significantly related to physical aggression among adolescents. Moreover, as hypothesized perceived family factors were mediated by individual cognitive factors. Considering the acceptable values gathered from the fit indices along with statistically significant parameters, and the differences

between boys and girls models, the hypothesized model of physical aggression for adolescents was partially supported by the boys' and the girls' data.

CHAPTER 5

DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

This chapter discusses the findings and conclusions that can be drawn from the analysis of the data. Implications for practice were presented, and recommendations for further research were suggested.

5.1 General Discussion

Multiple factors are involved in the development of aggressive behavior in adolescence, including individual, family, peer, school, and community factors. Although research documents the numerous influences involved in the development of aggressive behavior, family influences have been cited as the most proximal, and possibly the most malleable, in regard to addressing and preventing the aggressive behavior in adolescence (e.g. Ary, Duncan, Duncan, & Hops, 1999; Caspi, Moffit, Newman, & Sylvia, 1996; Steinberg, Darling, & Fletcher, 1995). Moreover, researchers claim that latent knowledge structures such as family factors indirectly affect aggressive behavior by influencing social-information processing skills (Crick & Dodge, 1994; Huesmann, 1998; Huesmann & Guerra, 1997). Thus, the purpose of the present study was to examine personal cognitive variables (adolescents' beliefs supporting aggression, adolescents' self-efficacy for alternatives to aggression, and adolescents' personal value on achievement) as potential mediators of the relationship between perceived

family factors (parental support for aggression, family conflict, and parental monitoring) and physical aggression among urban youth living in Ankara.

Gender difference, one of the common findings of aggression research, in the rate of physical aggression was also considered in the present study. Moreover, the measurement models in the current study indicated a gender difference on the measurement models; therefore, the hypothesized physical aggression model was tested for two gender groups separately to understand the phenomenon more clearly. Additionally, it was realized that the factors included in the model predicted physical aggression in girls and boys differently, in other words the patterns of interactions and the strength of the relationships in the model differed.

The proposed model of physical aggression in the present study was an integration of problem behavior theory (Jessor, 1987) and social information processing model (Huesmann, 1998). The proposed model was tested by using SEM and results of the analyses revealed that hypothesized relationships in the model were to some extend supported by the data. To begin with, as stated before, measurement models differed across gender; hence no gender invariance test was run. As a result, two different models were tested for girls and for boys. Further, without considering nonsignificant pathways, the hypothesized models did meet the criteria for model fit with adequate fit indices values. However, not all of the pathways were significant. Results revealed that the hypothesized model was almost supported by boys' data with only one nonsignificant

pathway (i.e. parental support for aggression to self-efficacy for alternatives to aggression). On the other hand, the hypothesized model for girls had three nonsignificant pathways (parental support for aggression to self-efficacy for alternatives to aggression, parental monitoring to beliefs supporting aggression, and family conflict to self-efficacy for alternatives to aggression); therefore, the hypothesized model was partially supported by the girls' data. Results of the SEM analyses for latent models showed that the models adequately described the data for adolescent girls' and boys' samples.

When considering the explained variance in physical aggression; the factors in the latent model for boys accounted for 40% of the variance in physical aggression, and the latent model for girls accounted for 48% of the variance in physical aggression. The difference in the variance explained suggests that although girls' model had three nonsignificant pathways, hypothesized model appears to more adequately explain physical aggression for girls compared to boys. In line with the present study, Marte (2005) tested an ecological model and examined whether personal, interpersonal, and contextual risk and protective factors could adequately explain problem behaviors among adolescents and found out that the explained variance was higher for girls. Even though earlier research suggests many of the same risk factors as predictors of antisocial behavior among males and females (Steffensmeier & Allan, 1996), the nature, interaction, and quality of how these factors that are influential may be different for boys and girls (Gorman-Smith & Loeber, 2005). For instance, girls are more likely to invest in interpersonal relationships than boys (Crick & Rose, 2000), and get involved in or be affected by parental

conflict (Henggeller, Edwards, & Bourdin, 1987). Moreover, parental supervision and monitoring is higher for girls than boys. This protective factor may strengthen girls' attachment to parents, teachers, and conventional friends, which may reduce involvement in aggressive behaviors (Giordano, Cernkovic, & Pugh, 1986).

The significant relationships between perceived family factor, personal social cognitive factors, and physical aggression in these latent models also provided support for the premise that hypothesized model can adequately describe physical aggression among Turkish adolescent sample. Furthermore, these results suggested that the influence of perceived family factors on physical aggression can be mediated by social cognitive factors, indicating that the problem behavior theory seems to be supported by the present study sample in Turkish urban context. Similarly, Siyez and Aysan (2007) tested the problem behavior theory in an urban context and concluded that the findings verified problem behavior theory. Moreover, the available literature stressed the importance of social information processing patterns as the mechanisms mediating the relation between family factors and child related outcomes (Dodge, Price, Bachorowski, & Newman, 1990; Dodge, Pettit, Bates & Valente, 1995; Runions & Keating, 2007; Weiss, Dodge, Bates, & Pettit, 1992). In line with the literature, the findings of the current study appear to support the assumptions of social information processing model by proving the mediating effect of personal cognitive factors. Similarly, McMahon, Felix, Halpert, and Petropoulos (2009) investigated the influence of normative beliefs about aggression and self-efficacy to control aggression as cognitive mediators of the relationship between community

violence and aggressive behavior, and found out that more exposure to community violence was associated with more retaliatory beliefs supporting aggression, which in turn, led to less self-efficacy to control aggression, and more aggressive behavior. Moreover, Colder, Mott, Levy, and Flay (2000) studied children's beliefs about aggression as a mediational mechanism in the relationship between neighborhood danger and childhood aggression and found that children's beliefs supporting aggression mediated the mentioned relationship.

Overall, it can be argued that the present study highlighted the important aspects of physical aggression among urban youth in Turkey. An integrated model of physical aggression using the framework of problem behavior theory and social information processing model was tested. Within the conceptual model, several family and personal cognitive factors were examined and their structural relationships were revealed. The present study also showed that both family factors and personal cognitive factors play important roles in the formulation of physical aggression among Turkish urban youth.

The following section discusses the results of the hypothesized relationships among perceived family factors, personal cognitive factors and physical aggression, through which different systems combine to explain physical aggression of girls and boys.

5.1.1 Hypothesized Mediated Relationships across Family Factors

In the present study, findings related to family factors further emphasized the role of the family in understanding adolescent problem behavior (i.e. physical aggression). This general finding is in line with research showing that despite the increased relevance of peers during adolescence, parental influence continues to be important (Simons, Chao, Conger, & Elder, 2001). Family is the place where children and adolescents learn cultural and societal values, how to effectively solve problems, and make use of available resources. Parents have an important mission to monitor their children. If the mission is not be accomplished by the family properly, adolescents have to find out other sources to learn these subjects; they may either learn them on their own, or from other sources which might be inappropriate (Horne, 1993).

5.1.1.1 Parental Support for Aggression to Physical Aggression

One important finding of the current study was the role of parental support for aggression in predicting adolescents' physical aggression. Consistent with the social learning theory and social cognitive theories, adolescents' aggressive behaviors are affected from parents' belief system and/or behavior system (Grusec, 2002). Moreover, research revealed that parents approval of or permissiveness to aggressive behaviors fosters adolescents' aggressive behaviors. The literature on aggression-specific parenting practices have exclusively examined the relationship between parental support for aggressive solutions to conflict and youth fighting behavior, and revealed that students who reported parent support for

fighting were more frequently involved in fighting (Malek, Chang, & Davis, 1998; Orpinas et al, 1999). In addition, adolescents who reported having a parent who they perceived would want them to avoid aggressive behaviors were less likely to engage in aggression (Murray, 2008). The present study provided support for this view by revealing that both in girls' and boys' sample, adolescents' perceived parental support for aggression was significantly and positively related to adolescents' physical aggression (see bivariate model testing section on page 147). That is to say, the increase in adolescents' perceived parental support for aggression led to increased physical aggression among girls and boys. Moreover, this confirmed bivariate relationship led the researcher to test a mediated model testing.

In the present study, the relationship between parental support for aggression and physical aggression share different pathways. In other words, parental support for aggression and physical aggression shared a partially mediated relationship via beliefs supporting aggression, and a double-mediated relationship via beliefs supporting aggression and self-efficacy for alternatives to aggression in boys' and girls' models.

Paths A and B

It was predicted that the paths A and B in Figure 1.1 would be statistically significant. Results also revealed that parental support for aggression was positively related to beliefs supporting aggression, which in turn, was positively related to physical aggression. It seems possible to speculate from these results that adolescents, whose parents support aggression, would develop beliefs supporting aggression and involve in more

physical aggression. This finding is also in line with other research. For instance, Solomon, Bradshaw, Wright, and Cheng (2008) found that there was an association between parents' and youths' attitudes toward fighting, and youth's and parent's attitudes were positively correlated with aggressive behavior. Moreover, Cotten, Resnick, Browne, Martin, McCarraher, and Woods (1994) also reported a positive correlation between youth's attitudes toward fighting and youth's perceptions of their parents' attitudes, as well as their own fighting behavior.

Paths C and G

It was predicted that Paths C and G in Figure 1.1 would be statistically significant. However, results revealed that the relationship between parental support for aggression and self-efficacy for alternatives to aggression (Path C) was found to be nonsignificant both in girls' and boys' sample. On the other hand, self-efficacy for alternatives to aggression (Path G) was found to be significantly and negatively correlated to physical aggression. It seems possible to speculate from these results that adolescents' self efficacy for alternatives to aggression were not affected from parental support for aggression directly. On the contrary, parental support for aggression have an indirect effect on self efficacy for alternatives to aggression via beliefs supporting aggression (see Path A, D, and G)

Paths A, D, and G

It was predicted that Paths A, D, and G in Figure 1.1 would be statistically significant. It was found in the present study that parental support for aggression was positively related to beliefs supporting aggression, which,

in turn, was negatively related to self-efficacy for alternatives to aggression. Self-efficacy for alternatives to aggression, in turn was negatively related to physical aggression. Therefore, it is possible to state that adolescents whose parents support aggression would have more favorable beliefs supporting aggression, leading them to have low self-efficacy for alternatives to aggression, resulting in committing more physical aggression. This chain of social cognitive mediators also indicates that the effect of parental support is filtered through social cognitive mediators and the combination effect plays an important role in the development of physical aggression. This finding of the current study regarding the role of parental support for aggression is in line with Dodge's (2002) statements that parents serve as the regulators of their children's behaviors, and by their interactional patterns which consists of supervising, providing calm discussion and guidance, they provide children messages about the social world, such as, whether the world is a hostile place, or whether the child can trust others. These messages (stored in the child's memory) serve to guide their interactions in social situations and provide a cognitive framework for behaving in situations involving initiating play with a group of peers or a situation involving being provoked by peers. Furthermore, Nelson and Crick (1999) stated that parental interactions characterized by warmth and supportiveness would predispose individuals to have a positive bias in social interactions which in turn would be associated with prosocial behaviors and less aggressive behaviors.

Considering the empirical evidence and cultural factors on parenting styles in Turkey, the aforementioned findings of the present study are not surprising. As, Rubin and Chung (2006) stated parents will attempt to discourage the behavior and prevent its growth and development if the behavior is perceived as maladaptive or abnormal. Further, they added that by which people go about encouraging and discouraging the given behavior may be culturally determined and defined. Thus, in some cultures, the reaction to an aggressive act may be to explain to the child why the behavior is intolerable; in others, physical discipline may be the accepted norm; in yet others, aggression may be ignored or perhaps reinforced. Despite the fact that there is no comparative study exist on parental support for aggression and aggression among different cultures including Turkey, the effect of parental support for aggression on physically aggressive behaviors of adolescents in Turkey seems predictable. As Sümer and Aydın (2000, p.340) stated, in Turkey "there seems to be common agreement between teachers and parents to treat children in rather harsh ways". Several research regarding individuals' experiences about parental punishment also concealed that parents' use of physical punishment is common in Turkey (Ayan, 2007; Bilir, Arı, Dönmez, & Güneysu, 1991; Kağıtçıbaşı, 1973; Kağıtçıbaşı, Sunar, & Bekman, 1988; Turla, Dündar, & Özkanlı, 2009). Moreover, Sunar and Fişek (2005) stated that Islamic teachings spot father as a family disciplinarian and fathers' use of physical punishment as an authority figure is approved due to this reason. Although the family dynamics and parent child relationships in Turkey has a trend of becoming less hierarchical with the sociocultural change that Turkey is going through, still many families from lower and middle class value obedience,

compliance, and family loyalty (Sunar & Fişek, 2005). Hence, the results of the present study might better be understood when bearing in mind the modeling influence of parents' and teachers' use of physical punishment and the influence of dominating aggressive culture presented in media. Moreover, in our society, most of the time aggression is either not punished or rewarded and children usually witness those events. However, as Bandura (1973) stated, if aggressive behavior is rewarded, viewers of the behavior will model or adopt the same aggressive patterns. Another important effect of parent on adolescent aggression shows itself by direct encouragement. Some of the parents in Turkey, especially when the child goes to school either because of following the dominating culture of aggression or due to the need to protect their children from other dangers around, may suggest their children to beat rather than being beaten. In other words, parents may encourage their children's involvement in aggression in case of a conflicting situation.

5.1.1.2 Parental Monitoring to Physical Aggression

Another discussion topic of the results concerns the role of parental monitoring in predicting physical aggression. Consistent with the literature (Jacobson & Crockett, 2000; Rai, Stanton, Wu, Li, Galbraith, Cottrell, Pack, et al 2003; Weintraub & Gold, 1991), results of the bivariate model testing (see bivariate model testing section on page 147) suggested that, both in girls' and boys' sample, parental monitoring is significantly and negatively related to adolescents' physical aggression. That is to say, the decrease in adolescents perceived parental monitoring results in

increased physical aggression among girls and boys. Singer and Miller (1999) also found an association between lack of parental monitoring and higher levels of youth violence. Similarly, Kerr and Stattin (2003) proposed that increased levels of parent knowledge are associated with lower levels of adolescent delinquency (as measured by the number or police contacts).

Proving the direct relationship between parental monitoring and physical aggression, the hypothesized models tested the mediated relationships between parental monitoring and adolescents' physical aggression through personal cognitive mediators.

In the boys' model, the relationship between parental monitoring and physical aggression was partially mediated by beliefs supporting aggression, personal value on achievement, and self-efficacy for alternatives to aggression. Nevertheless, in the girls' model, the relationship between parental monitoring and physical aggression was partially mediated via two cognitive mediators; personal value on achievement and self-efficacy for alternatives to aggression.

Paths E and B

It was predicted that the paths E and B in Figure 1.1 would be statistically significant. This hypothesized path was replicated merely in the boys' latent model, stating that parental monitoring is negatively related to beliefs supporting aggression and which, in turn, was positively related to boys' physical aggression. However, in the girls' model, the relationship between parental monitoring and beliefs supporting aggression (Path E)

was found to be nonsignificant. Therefore, it is possible to speculate from the findings that the formulation of beliefs supporting aggression in girls and boys might be different (see discussion on Path E, D, and G).

Paths E, D, and G

It was predicted that the paths E, D, and G in Figure 1.1 would be statistically significant. This hypothesized path was replicated only in the boys' latent model stating that parental monitoring was negatively related to beliefs supporting aggression, which, in turn was negatively related to self-efficacy for alternatives to aggression and negatively related to boys' physical aggression.

In general, these findings suggest that as a protective factor, parental monitoring found to be influenced by the personal cognitive factors of adolescents. Furthermore, social information processing mechanisms of girls and boys differed when parental monitoring is the subject of discussion. In accordance with findings, parental monitoring is negatively related to boys' beliefs supporting aggression. However, in the girls' model this relationship was not found to be significant in the latent model testing. It can further be interpreted that girls' beliefs about aggression may not be affected from parental monitoring. This might also mean that parental monitoring acted as a protective factor for boys' physical aggression but not girls'. This finding of the study is controversial with the literature. For instance in a study with 543 high school student, Bayraktar, Özdikmenli-Demir, and Sayıl (2008) found that the role of perceived psychological control of mothers and of fathers were similar in predicting adolescent boys' and girls' bullying behaviors. On the other hand, Kaner

(1996) found that although the perceived direct control of girls were higher than the boys, the effect of parental control on deviant behavior was higher among boys, and higher among younger compared to others in the group. In another study, Kaner (2001) found out that monitoring was the best predictor of adolescent girls' delinquent behavior; while it was the third predictor of adolescent boys' delinquent behavior. The observed difference might be as a result of using a combined monitoring score rather than using father and mother monitoring scores. On the other hand, the difference observed in the current study between two models across gender can be interpreted considering the gender role socialization theory (Maccoby & Martin, 1983; Ruble & Martin, 1997). According to gender role socialization, boys typically are encouraged to being separated and autonomous and encouraged to compete. What is more, the socializing agents, such as parents, selectively encourage traditional sex type behaviors and discourage non-sex type behaviors (Jordan, 2004; Keenan & Shaw, 1997). In general, females are believed to be more vulnerable and thus in need of greater supervision. The implications of problem behaviors among females may have far more reaching consequences in comparison to their male counterparts (e.g., sexual activity, teen pregnancy); therefore, parents tend to monitor and limit girls more than boys (e.g., Kaner, 1996; 2001). For instance, Vujeva (2005) found out significant gender difference in the perceived level of parental monitoring, with females reporting greater levels of parental monitoring. Moreover, according to Gilligan (1982), males are exposed to parenting practices that promote rough-and-tumble physically aggressive behaviors

whereas females are exposed to parenting practices that promote caring and close interpersonal relationships. Thus, adolescent boys are usually less monitored than adolescent girls.

Similarly, in traditional Turkish society, men are accepted as the head of family and are expected to have control over the members of the household; on the other hand, women are expected to be dependent on their husband and are expected to take care of their family members (Hortaçsu, Kalaycıoğlu, & Rittersberger-Tilic, 2003; Sakallı 2001). Thus, parents may tend to raise their children according to the expectations of the society. Considering the gender specified parental monitoring practices that are over protection and over monitoring of girls behaviors in general, the effect of parental monitoring as a protective factor for developing beliefs supporting aggression might not be explicitly noticed in the girls' model due to the desensitization effect of parental monitoring on girls. In other words, due to differential parental monitoring practices, the protective effect of parental monitoring on girls' beliefs supporting aggression might be perceived as "taken for granted" and hence the effect is no more visible. Additionally, girls might develop auto control system and might behave in a manner as if they are being monitored eventhough their parents are not with them or not monitoring them anymore.

Another explanation to this observed gender difference in the relationship between parental monitoring and beliefs supporting aggression might be due to girls' and boys' relationship patterns with their peers. For instance, Delikara (2001) found that girls' and boys' relationships with their peers were different, and this difference might put adolescents at risk of being

involved in deviant behavior. Girls, compared to boys, establish relationships with their peers based on attachment, love, and trust. An additional difference regarding peer effect was boys' spending more time with deviant peers. These mentioned differences in girls and boys peer relations might also have an influence on the development of adolescent girls' and boys' beliefs supporting aggression. In other words, boys are more at risk of developing aggressive beliefs and behaviors.

Paths F and G

It was predicted that the paths F and G in Figure 1.1 would be statistically significant. This hypothesized path was replicated both in girls' and boys' latent models, stating that parental monitoring is positively related to self-efficacy for alternatives to aggression and which, in turn, was negatively related to physical aggression.

Paths H and L

It was predicted that the paths H and L in Figure 1.1 would be statistically significant. This hypothesized path was replicated both in girls' and boys' latent models, stating that parental monitoring was positively related to personal value on achievement and which, in turn, was negatively related to physical aggression.

Paths H, K, and G

It was predicted that the paths H, K, and G in Figure 1.1 would be statistically significant. This hypothesized path was replicated both in girls' and boys' model, stating that parental monitoring was positively related to personal value on achievement, which, in turn was positively

related to self-efficacy for alternatives to aggression. Self-efficacy for alternatives to aggression, in turn, was negatively related to physical aggression.

The role of personal value on achievement and self-efficacy for alternatives to aggression as a mediator in the relationship between parental monitoring and physical aggression is consistent with the literature (e.g. MacKinnon-Lewis, Gesten, Gadd, Divine, Dunham, & Kambukos, 2009; Simmons-Morton, Hartos, & Haynie, 2004). Parental monitoring of children effect children's achievement and increases their value on achievement. Further, prosocially oriented adolescents tend to have more developed skills when faced with conflicting situations rather than fighting and aggression. Hence, they do not usually involve in physically aggressive behavior. Literature also confirms that self efficacy is a mediator of the relationship between parental monitoring and physical aggression (Caprara, Regalia, & Bandura, 2002). Anger control as a similar cognitive mediator to self-efficacy for alternatives to aggression was found to mediate the relationship between parental monitoring and problem behaviors (Gibbs, Giever, Martin, 1998). Similarly, Griffin, Scheier, Botvin, Diaz, and Miller (1999) examined the perceived social environment and personal control variables as predictors of interpersonal aggression in urban minority youth and found out that the relationship between better perceived parental monitoring practices and aggression was mediated by anger control skills.

5.1.1.3 Family Conflict to Physical Aggression

The relationship between family conflict and physical aggression was also great interest for the present study. The results of the bivariate model testing showed that, both in girls' and boys' sample, adolescents' perceived family conflict was significantly and positively related to adolescents' physical aggression. That is to say, the increase in adolescents' perceived family conflict results in increased physical aggression among girls and boys. This finding is in line with previous research findings (Gonzales, Pitts, Hill, & Roosa, 2000; Shagle & Barber, 1993; Tornincaso, 2006). Furthermore, two meta-analytic studies revealed similar findings. First, Grych and Fincham (1990) reported that 79 % of the studies they reviewed demonstrated that conflict in marriages is related to behavioral and emotional problems among children. Similarly, Amato and Keith (1991) demonstrated that children from divorced and married families with high interparental conflict had an increase in problematic behaviors.

After finding a preexisting relationship among family conflict and physical aggression, mediation model was tested in the hypothesized model. In the conceptual model it was hypothesized that girls and boys who experienced family conflict would have more favorable beliefs supporting aggression, would have low self-efficacy for alternatives to aggression and as a result would demonstrate more physical aggression.

In the boys' model, there are three pathways from family conflict to physical aggression. In other words, the relationship between family conflict and physical aggression was partially mediated by two cognitive mediators; beliefs supporting aggression and self-efficacy for alternatives to aggression. Moreover, the relationship between family conflict and physical aggression was double mediated via beliefs supporting aggression and self-efficacy for alternatives to aggression. On the other hand, in the girls' model, there are two pathways from family conflict to physical aggression. That is, the relationship between family conflict and physical aggression was partially mediated via beliefs supporting aggression and double mediated via beliefs supporting aggression and self-efficacy for alternatives to aggression.

Paths I and B

It was predicted that the paths I and B in Figure 1.1 would be statistically significant. This hypothesized path was replicated both in girls' and boys' latent models, stating that family conflict was positively related to adolescents beliefs supporting aggression and which, in turn, was positively related to physical aggression.

Paths I, D, and G

It was predicted that the paths I, D, and G in Figure 1.1 would be statistically significant. This hypothesized path was replicated both in girls' and boys' model, stating that family conflict was positively related to adolescents beliefs supporting aggression, which, in turn was negatively related to self-efficacy for alternatives to aggression and negatively related to physical aggression.

Paths J and G

It was predicted that the paths J and G in Figure 1.1 would be statistically significant. In other words, it was hypothesized that adolescents who experienced more family conflict at home had lower levels of self-efficacy for alternatives to aggression and would behave more physically aggressively. Surprisingly, this path only replicated in the boys' model with a positive direction. Meaning that, boys in the current study, who have experienced family conflict at home, reported having high self-efficacy for alternatives to aggression. It seems possible to state that family conflict acted as a protective factor in adolescent boys' physical aggression model. This finding might be due to the boys' counter reaction to conflict in his family environment by believing that there are alternative ways to solve problems other than using destructive strategies. Thus, adolescent boys' parents' constitute counter modeling to their child by their conflicting communication. One could also speculate from the findings that although parent- child communication regarding the conflict was not measured in the current study, as other research has stated (Cummings, Ballard, El-Sheikh, & Lake, 1991; Cummings & Davies, 1994) this finding might be the result of parents providing explanations of their conflict to the child that enable him/her to develop a schema of positive ways of handling conflict.

Moreover, no direct relationship between family conflict and self-efficacy for alternatives to aggression was found in the girls' model. This suggests that girls' self-efficacy for alternatives to aggression was not link to family conflict. This finding might be the result of differences in emotion regulation strategies of two genders. As stated by Conway (2005), girls,

throughout their lives, when faced with hard conditions, use different emotion regulation strategies, such as negative emotional suppression, compared to boys. That is to say, they may not develop self-efficacy for alternatives to aggression due to being exposed to family conflict but choose other ways to express their emotions.

Another difference observed regarding family conflict across gender was that the relationship between family conflict and beliefs supporting aggression. Although the models are different, the relationship between family conflict and beliefs supporting aggression was found to be stronger in the girls' model. Considering the aforementioned gender difference in the relationship between family conflict and self-efficacy for alternatives to aggression, it seems possible to state that girls' perceived family conflict is not associated with self efficacy for alternatives to aggression but strongly linked to beliefs supporting aggression than boys. In other words, girls' beliefs supporting aggression is affected more by exposure to family conflict. This finding can be explained by Maccoby's (1998) suggestion, which states that persistent involvement in coercive family environments may exacerbate already existing normative gender differences in response to social challenge. Moreover, Davies and Lindsay (2004) found out that interpersonal conflict is a significant predictor of adolescent internalizing symptoms for girls than boys, and further analysis on the reason of this finding showed that girls' tendencies to experience elevated levels of communion partly accounted for their greater vulnerability to interparental conflict. Nevertheless, the literature on whether girls or boys are more vulnerable to family conflict is not clear, some researchers claim that boys are more vulnerable to family conflict and therefore, show more

maladjustment problems (e.g., Davies & Lindsay, 2001). Some others claim the opposite (e.g., Dornfeld & Kruttschnitt, 1992), and yet some others assert that the vulnerability of girls and boys differ according to developmental periods they are in, and girls become more vulnerable during adolescence (Davies & Windle, 1997). To conclude, the findings suggest that social information processing mechanisms of girls and boys in the sample of the present study differed when family conflict is the case of discussion.

5.1.2 Hypothesized Relationships between Personal Cognitive Factors and Physical Aggression

The role of personal cognitive factors, as a filtering mechanism, in exploring the pathways for adolescents' physical aggression seems to work properly in the conceptual model of the present study. Literature also states that cognitive factors are the mediators of the relationships between family factors and physical aggression. More specifically, the statements of problem behavior theory (Jessor, 1987), social information processing model (Huesmann, 1998), and other cognitive theories (Crick & Dodge, 1994) affirm that personal cognitive factors play crucial role in the enactment of problem behavior. These findings are consistent with other research in Turkey, for instance, Bayraktar, Sayıl, and Kumru (2008) investigated the mediator role of some cognitive factors among 868 high school students and concluded that for bullies, having prosocial tendencies, perspective taking ability, and having high quality friendships might decrease the negative effects of family context. Similarly, Kurnaz

(2009), in her study with 384 6th ,7th and 8th graders, found that emotion regulation and negative cognitive distortions are significantly and possitively related to adolescents aggressive behaviors.

The results of the current study suggests that both in girls' and boys' model, adolescents' favorable beliefs about aggression is significantly and positively, self-efficacy for alternatives to aggression is significantly and negatively, and personal value on achievement is significantly and negatively related to adolescents' physical aggression. In addition to direct effects, all three personal cognitive factors act as mediators of the relationships between perceived family factors and adolescents' physically aggressive behaviors in girls' and boys' latent models.

5.1.2.1 Beliefs Supporting Aggression to Physical Aggression

Path B

It was predicted that the path B in Figure 1.1 would be statistically significant. This hypothesized path was replicated both in girls' and boys' model, stating that beliefs supporting aggression was positively related to adolescents' physical aggression. In the present study, beliefs supporting aggression was found to be significantly and positively related to physical aggression with a strong effect size, suggesting that beliefs supporting aggression is an important predictor in the development of physical aggression. This finding is consistent with the literature. Both problem behavior theory (Jessor, 1987) and social information processing theory (Huesmann, 1998) stated that favorable beliefs about aggression is an important cognitive component of aggression given that adolescents who

have more favorable beliefs supporting aggression tend to behave more aggressively. Other studies also have shown that children's normative beliefs about aggression play an important role in predicting aggressive behavior (Guerra, Huesmann, & Hanish, 1995; Huesmann, Guerra, 1997). Moreover, Guerra and Slaby (1990) reported that weakening the positive beliefs about aggression was associated with actual decreases in children's aggressive behavior.

Path D and G

It was predicted that the paths D and G in Figure 1.1 would be statistically significant. This hypothesized paths was replicated both in girls' and boys' model, stating that beliefs supporting aggression was negatively related to self-efficacy for alternatives to aggression and this, in turn, was negatively related to adolescents' physical aggression. This finding is consistent with the statements of social information processing model (Huesmann, 1998), which pointed out the role of normative beliefs as a primary filter. Moreover, Slaby and Guerra (1988) also reported that high levels of aggression were associated with high endorsement of beliefs supporting aggression as well as low display of problem-solving skills.

5.1.2.2 Self-efficacy for Alternatives to Aggression to Physical Aggression

Path G

It was predicted that the path G in Figure 1.1 would be statistically significant. This hypothesized path was replicated both in girls' and boys' latent model, stating that self efficacy for alternatives to aggression was negatively related to adolescents' physical aggression. In the present

study, self efficacy for alternatives to aggression was found to be significantly and negatively related to physical aggression with a strong effect size, suggesting that self efficacy for alternatives to aggression is an important predictor in the development of physical aggression. This finding is in line with the relevant literature which states that aggressive youth, when compared to their peers, have lower levels of self-efficacy for withdrawing from provocative situations (Crick & Dodge, 1994), and have higher levels of self-efficacy for performing aggressive behaviors (Quiggle, Garber, Panak, & Dodge, 1992). As a similar concept, low anger control skills have also been found as an antecedent of physical aggression (Coles, Greene, & Braithwaite, 2002; Griffin, Scheier, Botvin, Diaz, & Miller, 1999). These findings also add to the growing body of literature suggesting that when individuals have lower levels of self-control (e.g., Pratt & Cullen, 2000) and have low personal competence (Byrne & Mazanov, 2001) they are more likely to engage in deviant behaviors.

It is also noteworthy that in the present study, all study variables' associations with physical aggression, in one way or another, was found to be mediated by self efficacy for alternatives to aggression. Thus, in the present model, self-efficacy for alternatives to aggression was acted as the last mediator (filter) before physical aggression. In the literature, it is also stated that self-efficacy evaluation takes place immediately just before behavior enactment (Crick & Dodge, 1994), and influenced from other cognitive processes such as retaliatory beliefs (MacMahon, Felix, Harpert, & Petropoulos, 2009). Other researchers have also emphasized the role of self-efficacy as a final mediator (Bandura, 1980; Dodge, 1980; Guerra, Huesmann, & Hanish, 1995; Huesmann, 1998).

5.1.2.3 Personal Value on Achievement to Physical Aggression

Path K and G

It was predicted that the paths K and G in Figure 1.1 would be statistically significant. This hypothesized paths was replicated both in girls' and boys' model, stating that personal value on achievement was positively related to self-efficacy for alternatives to aggression and this, in turn, was negatively related to adolescents' physical aggression. This finding is in line with the literature. Research findings suggest that adolescents, who have better grades, tend to have more developed social skills and thus more likely to find out alternative conflict resolutions skills than behaving physically aggressively (Fleming, Haggerty, Catalano, Harachi, Mazza, & Gruman, 2005; Katsiyannis, Ryan, Zhang, & Spann, 2008).

Path L

It was predicted that the path L in Figure 1.1 would be statistically significant. This hypothesized path was replicated both in girls' and boys' latent models, stating that personal value on achievement was significantly and negatively related to adolescents' physical aggression, suggesting that personal value on achievement is an important predictor in the development of physical aggression. This finding of the present study is also consistent with the literature, since valuing academic achievement is a protective factor against involvement in problem behaviors including aggression (Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995). Yasankul (2007) also found out a significant and negative relationship between 4th and 5th grade students aggressiveness tendencies and their desire to continue their education life after compulsory

education. On the other hand, literature reveals that there is a consistent negative relationship between adolescents' academic achievement and aggressive behaviors (Gorski & Pilotto, 1993; Katsiyannis, Ryan, Zhang, & Spann, 2008; Pekel, 2004). Moreover, some other similar indicators to valuing academic achievement, such as commitment to school (Maxson, Whitlock, Klein, 1998), school engagement (Connell, Halpern-Felsher, Clifford, Crichlow, & Usinger, 1995), academic self-efficacy (Bandura, Barbaranelli, Caprara, & Patorelli, 1996), and academic performance (Lynam, Moffitt, & Stouthamer- Loeber, 1993; Maguin and Loeber, 1996; Santrock, 1996; Tornincaso, 2006) were found to be related to aggressive behaviors of adolescents. Conversely, in many other studies, adolescents' aggressive behaviors were found to be related to poor school performance (Meltzer, Levine, Karniski, Palfrey, & Clarke, 1984), having lower grades (Ensminger & Slusarcick, 1992; Fleming, Haggerty, Catalano, Harachi, Mazza, and Gruman, 2005; Santrock, 1996), school failure (Gorman-Smith, Tolan, Zelli, & Huesmann, 1996; Roeser, Eccles, & Sameroff, 1998) and dropping out of school (Cairns, Cairns, & Neckerman, 1989).

In the present study, although the models were tested separately for boys and girls, the size of the correlation between personal value on achievement and physical aggression was found to be more stronger in the girls' sample (-.43) than in the boys' sample (-.28), suggesting that personal value on achievement plays an important role in the development of physical aggression among girls. Literature also suggests that girls appear to possess a general advantage in overall school success (De Bruyn, Dekovic, & Meijnen, 2003; Frome & Eccles, 1998; Osborne, 1997). Moreover, there are some research stating that girls with low levels

of academic achievement are more at risk than boys with low levels of academic achievement for psychological distress and low academic self-concept (Frome & Eccles, 1998; Little and Garber, 2000; Pomerantz, Altermatt, & Saxon, 2002), suggesting that school failure may put girls at more risk than boys for problem behaviors. Atik (2006) also found out that high scores in academic achievement decreases the likelihood of involvement in bullying for female students but not male students.

5.2 Implications for Practice

This study explored the relations between family factors and physical aggression via mediating personal cognitive factors among a large and representative sample of adolescents living in an urban setting in Ankara, Turkey. Therefore, this study has the potential to generate meaningful information for understanding the physical aggression of urban adolescents living in Turkey, and the results of this study have the potential to inform future interventions aiming to either prevent or remediate physical aggression in this population. The current study findings may inform counselors and other mental health professionals of possible important components of interventions for both adolescents and their parents.

In the present study, structural equation modeling, the relative importance of various family and personal factors was clarified, significant and non-significant relations provided important information about the forces at work, or not at work in the emergence of physical aggression in adolescents. Considering the gender difference revealed in the previous

studies, two different models were tested and different relationship patterns with different importances were attained. Therefore, when developing prevention programs (primary, secondary, and tertiary) researchers and counselors should keep gender specific patterns in mind and plan the curriculum accordingly. For instance, this study suggested that family conflict was not link to self-efficacy for alternatives to aggression among girls but among boys, unexpectedly, family conflict acted as a protective factor and found to be positively related to self-efficacy for alternatives to aggression. Similarly, parental monitoring found to be positively and significantly correlated to beliefs supporting aggression in the boys' model but in the girls' model this relationship was found to be nonsignificant. Thus, the result of the current study can help identification of personal and family level risk and protective factors in the development of physical aggression. When considering personal level variables, adolescents who have more favorable beliefs about aggression, who have low self-efficacy for alternatives to aggression, and who do not value achievement are more at risk of behaving physically aggressively. Moreover, personal value on achievement found to be a strong protective factor of physical aggression while beliefs supporting aggression found to be a strong risk factor for boys and girls. The results regarding family factors demonstrated that programs should target adolescents whose parents have more favorable beliefs about aggression, who expose to family conflict more, and whose parents lack monitoring skills and knowledge are more at risk of demonstrating physical aggression.

Furthermore, the results of current study suggest that interventions aiming to prevent or remediate physical aggression should include both adolescents and the parents. Besides, current study highlighted the theoretical basis of problem behavior theory and social information processing theory, both of which state that the relationship between family factors and physical aggression is mediated by social cognitive mediators. Moreover, understanding the adolescents' cognitive mediators between family factors and aggressive behavior has implications for prevention and remediation programs since understanding the genesis of aggressive behavior, or at least part of it is an essential step to approaching the problem, intervening effectively and developing appropriate prevention programming. It is evident that a reasonable starting point for prevention and intervention programs is to focus on social information processing, cognitive mediators in the present model.

Regarding the findings of the present study, teaching aggression prone adolescents how to filter environmental factors (family factors in the present study) by changing their beliefs about aggression, by increasing their self-efficacy for alternatives to aggression, and by escalating the value on achievement would help diminishing adolescent physical aggression. In the literature of aggression prevention, beliefs supporting aggression, as a cognitive mediator, is frequently studied as a proximal risk factor for aggression (e.g., Nash & Kim, 2007; Williams, Ayers, Van Dorn, & Arthur, 2004) and included in intervention programs (e.g., Meyers, Roberto, Boster, & Roberto, 2004) in hoping that changing the belief system would result in decreases in aggressive behavior.

Similarly, intervention programs either aiming at prevention or remediation should include self-efficacy enhancing activities such as anger control skills, problem solving skills, and peaceful conflict resolution skills in order to teach adolescents how to continue their life without being involved in aggression. Similarly, Arslan, Hamarta, Arslan, and Saygın (2010) stated that there is a positive relationship between aggression and with approaching problems in a negative way, lack of self-confidence, unwillingness to take responsibility, and there is a negative relationship between aggression and constructive problem solving and insisting-preserving approach. Therefore, the programs should target improved self-control, less impulsive and inhibited classroom behavior, improved understanding and recognition of emotions, increased ability to tolerate frustration, better cognitive problem-solving strategies, more effective conflict-resolution strategies with peers, improved thinking and planning skills.

Although adolescents' value on achievement (increasing school bonding/attachment) is not a concept that is widely included in aggression prevention program curricula, literature consistently states that prosocially oriented adolescents are less likely to be involved in antisocial behaviors (e.g., Fleming, Haggerty, Brown, Catalano, Harachi, Mazza, & Gruman, 2005). The current study also emphasized the importance of personal value on achievement. Therefore, increasing adolescents' personal value on achievement, enlarging their educational aspirations, and increasing their school bonding should be the other focus of prevention efforts. Moreover, changing the education policy and

following Glasser's (1969) schools without failure suggestion would be a good strategy to develop adolescents' school bonding and educational aspirations.

The findings of the present study suggested that family factors have an influence on adolescents thinking and behaving. Therefore, interventions aiming at reducing aggressive behaviors of adolescents should include families as active participants. Reese, Vera, Simon, and Ikeda (2000) also suggested a shift in the focus of violence prevention programming that is more inclusive of families as both risk and protective agent, since more than half of the effective programs included family or parenting components. The parent interventions should focus strengthening parents' behavioral capabilities through knowledge and skill building activities. Moreover, although the findings of the present study regarding parental monitoring is consistent with literature which has found that parental monitoring is a crucial component in reducing problem behaviors in children and adolescents (Borgenschneider, Wu, Raffaelli, & Tsay, 1998; Brown, Mounts, Lamborn, & Steinberg, 1993; Cottrell, Li, Harris, D'Alessandri, Atkins, Richardson, et al., 2003; Linver & Silverberg, 1997), parent interventions should not only inform parents about parental monitoring but rather focus developing effective parenting skills. That is to say, considering the delicate structure of adolescence, interventions should integrate components that may help parents find the right balance of support, monitoring, and autonomy building activities which are essential to build resiliency in adolescents. Furthermore, according to the results of the current study, parents should be informed about their aggression supporting behaviors and its negative influence on their

children. In addition, the negative influence of family conflict on adolescents' beliefs about aggression should also be explained to the parents in the intervention programs.

5.3 Recommendations for Future Research

This study was an attempt to investigate the role of personal cognitive mediators in the relationship between family factors and physical aggression among adolescents living in an urban context in Ankara, Turkey. Using the frameworks of problem behavior theory and social information processing model, a model was tested to understand whether cognitive mediators influence the relationship between family factors and physical aggression. However, only three family factors were included in the study. There is no doubt that other family factors may have influence on the development of physical aggression. For instance, family cohesiveness, attachment, involvement, and strictness are other factors that may associate with adolescent physical aggression. Moreover, sibling relations can also be investigated within family factors. Furthermore, other than family factors, peer factors, school factors, and neighborhood factors have also been stated as significant predictors of adolescents' aggressive behavior in several theories and in many other research studies. Therefore, testing models including different ecological level variables can be especially fruitful in explaining adolescents' physically aggressive behaviors. Meanwhile as personal level factors, only three cognitive mediators were included in this study. Other cognitive mediators, such as, anger control, social competence, social skills, and hostile attributional

bias can be included in further studies in order to broaden understanding on social information processing mechanism of adolescents physically aggressive behaviors.

Moreover, this study only included physical aggression as an outcome variable. That is to say, current study tried to understand the dynamics explaining physical aggression, which is a form of aggression. Other forms of aggression, such as verbal and relational aggression also deserve further investigations like the current study. The exploratory value of family factors in explaining verbal and relational aggression using problem behavior theory and social information processing model can provide some necessary information in understanding the role of family factors in explaining adolescents' aggressive behaviors in general.

The present study used self-report data for the assessment of aggressive behaviors, and this might also skew the collected data if the respondents replied the questions in a socially desirable manner. Likewise, this study used self-report data to measure family factors (parental monitoring, parental support for aggression, and family conflict); however, some research about aggressive adolescents and parental factors revealed that highly aggressive early adolescents may justify their behavior by reporting that their parents endorse aggressive strategies to conflict situations. Thus, there are plenty of research utilized employing a multi-informant strategy used only early adolescent self-reports of their own behavior and parent self-report of parenting behavior (Griffin, Botvin, Scheier, Diaz, & Miller, 2000; Schiff & McKernan McKay, 2003; Galambos, Barker, & Almeida, 2003). Since it is widely recognized that a multi-

informant strategy is the best way to demonstrate the validity of adolescent behavior measures (Lorenz, Conger, Simon, Whitebeck, & Elder, 1991), the future studies may consider teacher, parent, or peer ratings for the assessment of aggressive behavior. Moreover, using parent report data for comparisons between data reported by the parent and the child would be particularly useful for assessing both the reliability of adolescents' reported home environment and understanding the differences or similarities between parent adolescent perspectives.

Finally, this study is a correlational study meaning that no causal relationships can be drawn from the findings and it is not possible to understand time effect on variables. Thus, future studies may consider collecting longitudinal data to see the development of aggressive behavior, particularly physical aggression in relation to other variables tested over various developmental periods. Furthermore, longitudinal design may be useful in providing important information regarding the stability of adolescents' perceptions of their families' functioning over time. Structural equation modeling is ideally suited to examine possible interactions between family factors and individual factors over time, and this approach seems to be consistent with the recent trend in developmental psychology that recognizes reciprocity and coordination of parent child behaviors.

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APPENDICES

APPENDIX A

Correlation Matrix of Study Variables for Girls (n=1228)

	Variables	I_1	I_2	I_3	I_4	I_5	I_6	I_7	I_8	I_9	I_10	I_11	I_12	I_13	I_14	I_15	I_16
Parental support for aggression	I_1	1															
	I_2	.52**	1														
	I_3	.48**	.45**	1													
	I_4	.46**	.46**	.35**	1												
	I_5	.47**	.48**	.41**	.43**	1											
Family conflict	I_6	.12**	.10**	.10**	.11**	.16**	1										
	I_7	.12**	.13**	.11**	.13**	.16**	.53**	1									
	I_8	.20**	.17**	.14**	.16**	.20**	.47**	.42**	1								
Parental monitoring	I_9	-.12**	-.17**	-.09**	-.12**	-.14**	-.20**	-.15**	-.17**	1							
	I_10	-.09**	-.08**	-.08**	-.10**	-.09**	-.18**	-.16**	-.12**	.47**	1						
	I_11	-.09**	-.13**	-.08**	-.09**	-.18**	-.17**	-.15**	-.10**	.46**	.46**	1					
	I_12	-.10**	-.13**	-.10**	-.10**	-.15**	-.17**	-.15**	-.15**	.44**	.39**	.52**	1				
	I_13	-.08**	-.11**	-.08**	-.06*	-.10**	-.11**	-.10**	-.12**	.32**	.37**	.36**	.39**	1			
	I_14	-.09**	-.17**	-.12**	-.12**	-.12**	-.13**	-.16**	-.15**	.43**	.38**	.36**	.43**	.42**	1		
Beliefs supporting aggression	I_15	.19**	.22**	.20**	.20**	.25**	.14**	.17**	.14**	-.13**	-.14**	-.10**	-.07**	-.06*	-.14**	1	
	I_16	.19**	.16**	.12**	.20**	.23**	.16**	.16**	.18**	-.09**	-.06*	-.01	-.07*	-.08**	-.13**	.33**	1
	I_17	.11**	.13**	.12**	.13**	.13**	.17**	.15**	.16**	-.09**	-.02	-.02	-.08**	-.06*	-.09**	.22**	.25**
	I_18	.18**	.22**	.18**	.20**	.22**	.16**	.17**	.17**	-.07*	-.05	-.07*	-.06*	-.06*	-.11**	.39**	.29**
	I_19	.24**	.22**	.20**	.24**	.27**	.16**	.19**	.19**	-.08**	-.04	-.05	-.07*	-.08**	-.08**	.30**	.44**
	I_20	.23**	.19**	.15**	.29**	.27**	.17**	.20**	.21**	-.10**	-.06	-.08**	-.08**	-.11**	-.14**	.28**	.39**
	I_21	.24**	.20**	.17**	.21**	.23**	.12**	.12**	.23**	-.13**	-.08**	-.03	-.11**	-.14**	-.12**	.28**	.45**

Note. **p< .01 and *p< .05

Correlation Matrix of Study Variables for Girls (n=1228) (cont.)

	Variables	I_1	I_2	I_3	I_4	I_5	I_6	I_7	I_8	I_9	I_10	I_11	I_12	I_13	I_14	I_15	I_16
Self-efficacy for alternatives to aggression	I_22	-.16**	-.18**	-.11**	-.19*	-.20**	-.24**	-.20**	-.24**	.20**	.15**	.13**	.21**	.18**	.19**	-.24**	-.29**
	I_23	-.09**	-.14**	-.09**	-.14**	-.13**	-.10**	-.09**	-.08**	.11**	.11**	.16**	.15**	.12**	.13**	-.13**	-.12**
	I_24	-.11**	-.11**	-.09**	-.13**	-.09**	-.08**	-.14**	-.18**	.16**	.11**	.08**	.12**	.20**	.14**	-.09**	-.21**
	I_25	-.18**	-.18**	-.17**	-.15**	-.15**	-.11**	-.13**	-.11**	.11**	.07*	.06*	.06*	.13**	.16**	-.18**	-.23**
	I_26	-.17**	-.13**	-.14**	-.15**	-.12**	-.10**	-.12**	-.16**	.10**	.10**	.11**	.11**	.15**	.15**	-.17**	-.24**
	I_27	-.15**	-.17**	-.13**	-.15**	-.16**	-.08**	-.12**	-.18**	.12**	.08**	.05	.09**	.12**	.16**	-.15**	-.26**
	I_28	-.11**	-.09**	-.05	-.08**	-.09**	-.09**	-.07**	-.12**	.12**	.08**	.05	.10**	.09**	.14**	-.12**	-.21**
Personal value on achievement	I_29	-.02	-.06*	-.06*	-.08**	-.05	-.08**	-.12**	-.12**	.08**	.06*	.10**	.11**	.13**	.13**	-.09**	-.04
	I_30	.01	-.05	-.03	-.07*	-.03	-.06*	-.09**	-.08**	.14**	.09**	.17**	.11**	.13**	.13**	-.09**	-.02
	I_31	-.04	-.07*	-.04	-.05	-.01	-.03	-.09**	-.10**	.07*	.05	.11**	.07*	.13**	.12**	-.09**	-.04
	I_32	-.04	-.08**	-.07*	-.07*	.01	-.05	-.08**	-.08**	.08**	.08**	.12**	.08**	.17**	.12**	-.05	-.04
	1_33	-.02	-.08**	-.04	-.08**	-.03	-.07*	-.12**	-.12**	.08**	.05	.12**	.11**	.13**	.12**	-.06*	-.04
	I_34	-.05	-.08**	-.06*	-.07**	-.04	-.09**	-.11**	-.12**	.13**	.10**	.16**	.14**	.17**	.16**	-.10**	-.04
	I_35	-.04	-.09**	-.07*	-.06	-.03	-.08**	-.11**	-.14**	.09**	.07*	.08**	.11**	.16**	.15**	-.12**	-.11**
	I_36	-.08**	-.12**	-.09**	-.11**	-.09**	-.13**	-.14**	-.18**	.13**	.09**	.11**	.13**	.15**	.14**	-.12**	-.05
	I_37	-.04	-.08**	-.06*	-.10**	-.05	-.10**	-.09**	-.12**	.08**	.05	.09**	.10**	.14**	.15**	-.09**	-.03
Physical aggression	I_38	.16**	.17**	.16**	.14**	.15**	.18**	.16**	.21**	-.09**	-.07**	-.06*	-.10**	-.08**	-.09**	.16**	.19**
	I_39	.11**	.12**	.11**	.16**	.12**	.16**	.19**	.16**	-.07*	-.06*	-.09**	-.04	-.09**	-.13**	.14**	.18**
	I_40	.17**	.10**	.13**	.11**	.14**	.11**	.11**	.16**	-.05	-.05	-.03	-.06*	-.09**	-.06*	.16**	.21**
	I_41	.17**	.12**	.12**	.13**	.18**	.11**	.13**	.18**	-.02	-.09**	-.03	-.11**	-.11**	-.12**	.21**	.29**
	I_42	.08**	.17**	.07**	.14**	.14**	.10**	.15**	.11**	-.08**	-.13**	-.11**	-.13**	-.09**	-.16**	.15**	.15**
	I_43	.14**	.21**	.12**	.19**	.18**	.11**	.16**	.23**	-.07*	-.02	-.06*	-.04	-.09**	-.11**	.18**	.20**

Note. **p< .01 and *p< .05

Correlation Matrix of Study Variables for Girls (n=1228) (cont.)

	Variables	I_17	I_18	I_19	I_20	I_21	I_22	I_23	I_24	I_25	I_26	I_27	I_28	I_29	I_30	I_31	I_32
Beliefs supporting aggression	I_17	1															
	I_18	.27**	1														
	I_19	.28**	.39**	1													
	I_20	.28**	.35**	.43**	1												
	I_21	.28**	.36**	.54**	.39**	1											
Self-efficacy for alternatives to aggression	I_22	-.16**	-.23**	-.30**	-.28**	-.31**	1										
	I_23	-.08**	-.13**	-.15**	-.10**	-.11**	.37**	1									
	I_24	-.07*	-.13**	-.21**	-.19**	-.21**	.39**	.25**	1								
	I_25	-.13**	-.22**	-.29**	-.20**	-.28**	.34**	.23**	.31**	1							
	I_26	-.10**	-.17**	-.24**	-.15**	-.24**	.31**	.17**	.35**	.38**	1						
	I_27	-.13**	-.22**	-.29**	-.22**	-.29**	.37**	.23**	.27**	.36**	.39**	1					
	I_28	-.11**	-.11**	-.18**	-.16**	-.20**	.30**	.21**	.22**	.31**	.29**	.37**	1				
Personal value on achievement	I_29	-.02	-.09**	-.05	-.08**	-.03	.13**	.05	.26**	.04	.26**	.11**	.02	1			
	I_30	-.03	-.07*	-.05	-.09**	-.01	.12**	.06*	.25**	.03	.18**	.09**	.02	.75**	1		
	I_31	-.02	-.09**	-.08**	-.10**	-.08**	.10**	.08**	.21**	.02	.19**	.07*	.03	.62**	.61**	1	
	I_32	.05	-.05	-.08**	-.09**	-.04	.07*	.05	.21**	.04	.24**	.09**	.05	.54**	.52**	.60**	1
	I_33	-.03	-.10**	-.09**	-.06*	-.04	.14**	.06*	.26**	.01	.23**	.09**	-.01	.73**	.72**	.63**	.61**
	I_34	-.02	-.06*	-.09**	-.08**	-.06*	.12**	.07*	.26**	.01	.21**	.09**	.03	.71**	.68**	.65**	.59**
	I_35	-.04	-.12**	-.12**	-.10**	-.07*	.12**	.07*	.26**	.04	.24**	.16**	.08**	.56**	.55**	.50**	.51**
	I_36	-.03	-.13**	-.09**	-.10**	-.09**	.14**	.05	.24**	.06*	.28**	.10**	.05	.70**	.66**	.58**	.60**
	I_37	.01	-.07*	-.05	-.06*	-.05	.06*	.01	.21**	.01	.27**	.07*	.00	.71**	.66**	.56**	.58**

Note. **p< .01 and *p< .05

Correlation Matrix of Study Variables for Girls (n=1228) (cont.)

	Variables	I_17	I_18	I_19	I_20	I_21	I_22	I_23	I_24	I_25	I_26	I_27	I_28	I_29	I_30	I_31	I_32
Physical aggression	I_38	.08**	.21**	.23**	.17**	.22**	-.19**	-.05	-.24**	-.12**	-.27**	-.20**	-.07*	-.37**	-.30**	-.28**	-.30**
	I_39	.13**	.18**	.21**	.19**	.15**	-.21**	-.07*	-.22**	-.12**	-.33**	-.23**	-.08**	-.36**	-.34**	-.30**	-.30**
	I_40	.12**	.21**	.25**	.19**	.23**	-.22**	-.06*	-.15**	-.17**	-.17**	-.23**	-.16**	-.02	.00	.00	-.03
	I_41	.15**	.20**	.31**	.22**	.35**	-.33**	-.14**	-.15**	-.23**	-.24**	-.30**	-.22**	.02	.06	-.01	-.01
	I_42	.14**	.17**	.13**	.16**	.12**	-.15**	-.08**	-.08**	-.14**	-.05	-.10**	-.05	-.15**	-.13**	-.08**	-.11**
	I_43	.11**	.20**	.19**	.22**	.20**	-.17**	-.10**	-.12**	-.15**	-.15**	-.18**	-.12**	-.20**	-.23**	-.18**	-.16**

Note. **p< .01 and *p< .05

Correlation Matrix of Study Variables for Girls (n=1228) (cont.)

	Variables	I_33	I_34	I_35	I_36	I_37	I_38	I_39	I_40	I_41	I_42	I_43
Personal value on achievement	I_33	1										
	I_34	.75**	1									
	I_35	.61**	.58**	1								
	I_36	.71**	.71**	.61**	1							
	I_37	.72**	.68**	.58**	.79**	1						
Physical aggression	I_38	-.35**	-.34**	-.34**	-.42**	-.40**	1					
	I_39	-.39**	-.36**	-.35**	-.40**	-.39**	.49**	1				
	I_40	-.01	-.02	-.12**	-.05	-.02	.34**	.23**	1			
	I_41	.06*	.01	-.06*	-.01	.06*	.26**	.26**	.51**	1		
	I_42	-.15**	-.16**	-.13**	-.17**	-.14**	.21**	.30**	.17**	.29**	1	
	I_43	-.23**	-.25**	-.25**	-.30**	-.26**	.30**	.27**	.28**	.28**	.32**	1

Note. **p< .01 and *p< .05, bold numbers indicate nonsignificant correlations

APPENDIX B

Correlation Matrix of Study Variables for Boys (n=1215)

	Variables	I_1	I_2	I_3	I_4	I_5	I_6	I_7	I_8	I_9	I_10	I_11	I_12	I_13	I_14	I_15	I_16
Parental support for aggression	I_1	1															
	I_2	.58**	1														
	I_3	.50**	.49**	1													
	I_4	.54**	.55**	.46**	1												
	I_5	.47**	.50**	.45**	.52**	1											
Family conflict	I_6	.16**	.14**	.11**	.14**	.19**	1										
	I_7	.11**	.13**	.13**	.10**	.14**	.51**	1									
	I_8	.12**	.11**	.12**	.11**	.16**	.44**	.43**	1								
Parental monitoring	I_9	-.04	-.08**	-.03	-.05	-.06*	-.13**	-.13**	-.12**	1							
	I_10	-.08**	-.13**	-.05	-.10**	-.11**	-.15**	-.12**	-.09**	.49**	1						
	I_11	-.06*	-.15**	-.07**	-.09**	-.13**	-.15**	-.12**	-.10**	.45**	.53**	1					
	I_12	-.11**	-.15**	-.08**	-.09**	-.14**	-.18**	-.15**	-.17**	.44**	.54**	.57**	1				
	I_13	-.09**	-.09**	-.07*	-.11**	-.15**	-.10**	-.07*	-.08**	.33**	.40**	.41**	.44**	1			
	I_14	-.10**	-.12**	-.07*	-.12**	-.13**	-.16**	-.08**	-.14**	.30**	.40**	.36**	.43**	.41**	1		
Beliefs supporting aggression	I_15	.14**	.16**	.11**	.17**	.19**	.17**	.16**	.12**	-.13**	-.10**	-.11**	-.13**	-.08**	-.17**	1	
	I_16	.21**	.17**	.13**	.18**	.24**	.13**	.09**	.06**	-.12**	-.07**	-.09**	-.09**	-.09**	-.13**	.28**	1
	I_17	.14**	.11**	.12**	.12**	.12**	.13**	.11**	.11**	-.04	-.06*	-.02	-.06*	-.04	-.10**	.11**	.29**
	I_18	.18**	.23**	.23**	.24**	.24**	.18**	.17**	.11**	-.08**	-.12**	-.08**	-.13**	-.05	-.12**	.35**	.25**
	I_19	.24**	.22**	.19**	.21**	.20**	.10**	.11**	.11**	-.07*	-.07**	-.07*	-.10**	-.10**	-.14**	.25**	.38**
	I_20	.22**	.18**	.18**	.27**	.24**	.13**	.14**	.06*	-.07*	-.08**	-.08**	-.09**	-.10**	-.09**	.23**	.41**
	I_21	.27**	.24**	.23**	.25**	.25**	.14**	.13**	.11**	-.12**	-.10**	-.06*	-.12**	-.10**	-.11**	.27**	.35**

Note. **p< .01 and *p< .05

Correlation Matrix of Study Variables for Boys (n=1215) (cont.)

	Variables	I_1	I_2	I_3	I_4	I_5	I_6	I_7	I_8	I_9	I_10	I_11	I_12	I_13	I_14	I_15	I_16
Self-efficacy for alternatives to aggression	I_22	-.18**	-.18**	-.11**	-.20**	-.17**	-.07*	-.03	-.12**	.12**	.14**	.13**	.15**	.16**	.17**	-.21**	-.29**
	I_23	-.09**	-.11**	-.07*	-.09**	-.09**	-.09**	-.02	-.00	-.03	.09**	.10**	.11**	.15**	.14**	-.16**	-.14**
	I_24	-.10**	-.14**	-.10**	-.16**	-.13**	-.08**	-.05	-.11**	.14**	.15**	.18**	.20**	.17**	.20**	-.12**	-.14**
	I_25	-.13**	-.13**	-.10**	-.14**	-.13**	-.02	-.02	-.04	.08**	.13**	.13**	.14**	.11**	.13**	-.14**	-.16**
	I_26	-.08**	-.09**	-.10**	-.18**	-.10**	-.04	-.04	-.00	.10**	.12**	.17**	.13**	.14**	.17**	-.10**	-.19**
	I_27	-.15**	-.13**	-.09**	-.17**	-.12**	-.07**	-.01	-.06	.09**	.09**	.11**	.14**	.16**	.19**	-.16**	-.21**
	I_28	-.09**	-.04	-.04	-.06*	-.04	-.01	-.06*	-.01	.08**	.07*	.08**	.11**	.13**	.16**	-.09**	-.13**
Personal value on achievement	I_29	-.07*	-.04	-.07*	-.07*	-.06*	-.08**	-.09**	-.10**	.14**	.16**	.14**	.15**	.16**	.15**	-.07*	-.01
	I_30	-.02	-.00	-.01	-.03	-.02	-.11**	-.06*	-.10**	.10**	.14**	.13**	.18**	.16**	.17**	-.08**	.05
	I_31	.01	.02	-.00	.00	-.00	-.05	-.05	-.10**	.11**	.13**	.14**	.15**	.18**	.18**	-.07*	.05
	I_32	-.03	-.03	.01	-.04	-.01	-.05	-.02	-.07*	.15**	.18**	.18**	.21**	.19**	.19**	-.03	.04
	1_33	-.06*	-.02	-.04	-.06*	-.04	-.09**	-.09**	-.10**	.16**	.17**	.18**	.18**	.16**	.18**	-.06*	.01
	I_34	-.01	-.01	-.04	-.04	-.04	-.07*	-.09**	-.09**	.17**	.17**	.15**	.22**	.20**	.19**	-.09**	.02
	I_35	-.03	-.02	-.01	-.03	-.00	-.05	-.02	-.08*	.14**	.16**	.12**	.16**	.14**	.16**	-.10**	.01
	I_36	-.03	-.03	-.04	-.06*	-.04	-.10**	-.10**	-.16**	.15**	.16**	.13**	.20**	.18**	.21**	-.08**	.07*
	I_37	-.02	-.00	-.06	-.07*	-.05	-.09**	-.08**	-.09**	.13**	.16**	.15**	.16**	.18**	.18**	-.04	.05
Physical aggression	I_38	.15**	.09**	.10**	.16**	.13**	.17**	.11**	.14**	-.11**	-.09**	-.08**	-.11**	-.10**	-.14**	.14**	.16**
	I_39	.13**	.12**	.09**	.17**	.12**	.13**	.07*	.12**	-.08**	-.10**	-.10**	-.10**	-.07**	-.14**	.13**	.21**
	I_40	.14**	.07*	.08**	.14**	.09**	.14**	.10**	.13**	-.07**	-.06*	-.03	-.09**	-.04	-.07*	.12**	.21**
	I_41	.16**	.14**	.07*	.18**	.17**	.15**	.04	.11**	-.04	-.06*	-.03	-.06*	-.08**	-.13**	.14**	.23**
	I_42	.12**	.13**	.11**	.18**	.19**	.25**	.15**	.15**	-.10**	-.14**	-.09**	-.15**	-.12**	-.13**	.17**	.14**
	I_43	.13**	.15**	.12**	.18**	.16**	.20**	.17**	.16**	-.09**	-.08**	-.11**	-.13**	-.11**	-.16**	.19**	.14**

Note. **p< .01 and *p< .05

Correlation Matrix of Study Variables for Boys (n=1215) (cont.)

	Variables	I_17	I_18	I_19	I_20	I_21	I_22	I_23	I_24	I_25	I_26	I_27	I_28	I_29	I_30	I_31	I_32
Beliefs supporting aggression	I_17	1															
	I_18	.22**	1														
	I_19	.31**	.30**	1													
	I_20	.29**	.28**	.45**	1												
	I_21	.24**	.28**	.42**	.40**	1											
Self-efficacy for alternatives to aggression	I_22	-.17**	-.21**	-.27**	-.21**	-.25**	1										
	I_23	-.09**	-.14**	-.14**	-.10**	-.17**	.48**	1									
	I_24	-.12**	-.12**	-.18**	-.18**	-.19**	.45**	.34**	1								
	I_25	-.14**	-.14**	-.26**	-.20**	-.26**	.41**	.28**	.42**	1							
	I_26	-.15**	-.14**	-.19**	-.19**	-.20**	.40**	.28**	.43**	.43**	1						
	I_27	-.21**	-.21**	-.30**	-.23**	-.24**	.41**	.30**	.40**	.39**	.48**	1					
	I_28	-.12**	-.09**	-.17**	-.12**	-.15**	.34**	.25**	.31**	.35**	.40**	.47**	1				
Personal value on achievement	I_29	-.03	-.10**	-.02	-.06	-.05	.03	.01	.19**	.05	.18**	.17**	.01	1			
	I_30	.05	-.07*	-.01	-.02	.02	.01	.03	.13**	.01	.15**	.14**	.00	.71**	1		
	I_31	.03	-.03	-.01	.04	.00	.04	.04	.18**	.05	.19**	.16**	.08**	.61**	.62**	1	
	I_32	.02	-.03	.04	.03	.00	.06*	.07*	.19**	.07*	.21**	.20**	.08**	.60**	.57**	.61**	1
	I_33	.04	-.06*	-.02	-.02	-.01	.03	.03	.21**	.02	.19**	.19**	.00	.72**	.72**	.63**	.66**
	I_34	.06*	-.05	-.02	-.01	-.02	.04	.06*	.16**	.01	.19**	.18**	.04	.65**	.66**	.60**	.56**
	I_35	.03	-.10**	-.05	-.02	-.05	.05	.09**	.21**	.07*	.19**	.20**	.06*	. 59**	.52**	.48**	.54**
	I_36	.05	-.05	-.01	-.00	-.03	.05	.07*	.21**	.03	.21**	.19**	.03	.67**	.68**	.62**	.65**
	I_37	.05	-.03	-.01	-.02	-.00	.01	.02	.18**	.03	.18**	.14**	-.02	.69**	.68**	.60**	.63**

Note. **p< .01 and *p< .05

Correlation Matrix of Study Variables for Boys (n=1215) (cont.)

	Variables	I_17	I_18	I_19	I_20	I_21	I_22	I_23	I_24	I_25	I_26	I_27	I_28	I_29	I_30	I_31	I_32
Physical aggression	I_38	.10**	.15**	.14**	.18**	.22**	-.12**	-.08**	-.21**	-.10**	-.22**	-.24**	-.06**	-.40**	-.36**	-.28**	-.30**
	I_39	.15**	.13**	.23**	.23**	.22**	-.23**	-.11**	-.20**	-.14**	-.29**	-.25**	-.09**	-.29**	-.26**	-.22**	-.23**
	I_40	.15**	.15**	.19**	.19**	.24**	-.19**	-.15**	-.18**	-.18**	-.15**	-.18**	-.12**	-.14**	-.08*	-.08	-.11**
	I_41	.16**	.14**	.24**	.19**	.24**	-.33**	-.19**	-.22**	-.24**	-.20**	-.27**	-.21**	.00	.07*	.05	-.01
	I_42	.12**	.16**	.13**	.20**	.17**	-.15**	-.11**	-.10**	-.13**	-.09**	-.16**	-.04	-.12**	-.12**	-.08**	-.10**
	I_43	.09**	.16**	.16**	.13**	.17**	-.15**	-.12**	-.13**	-.10**	-.11**	-.16**	-.02	-.22**	-.20**	-.18**	-.17**

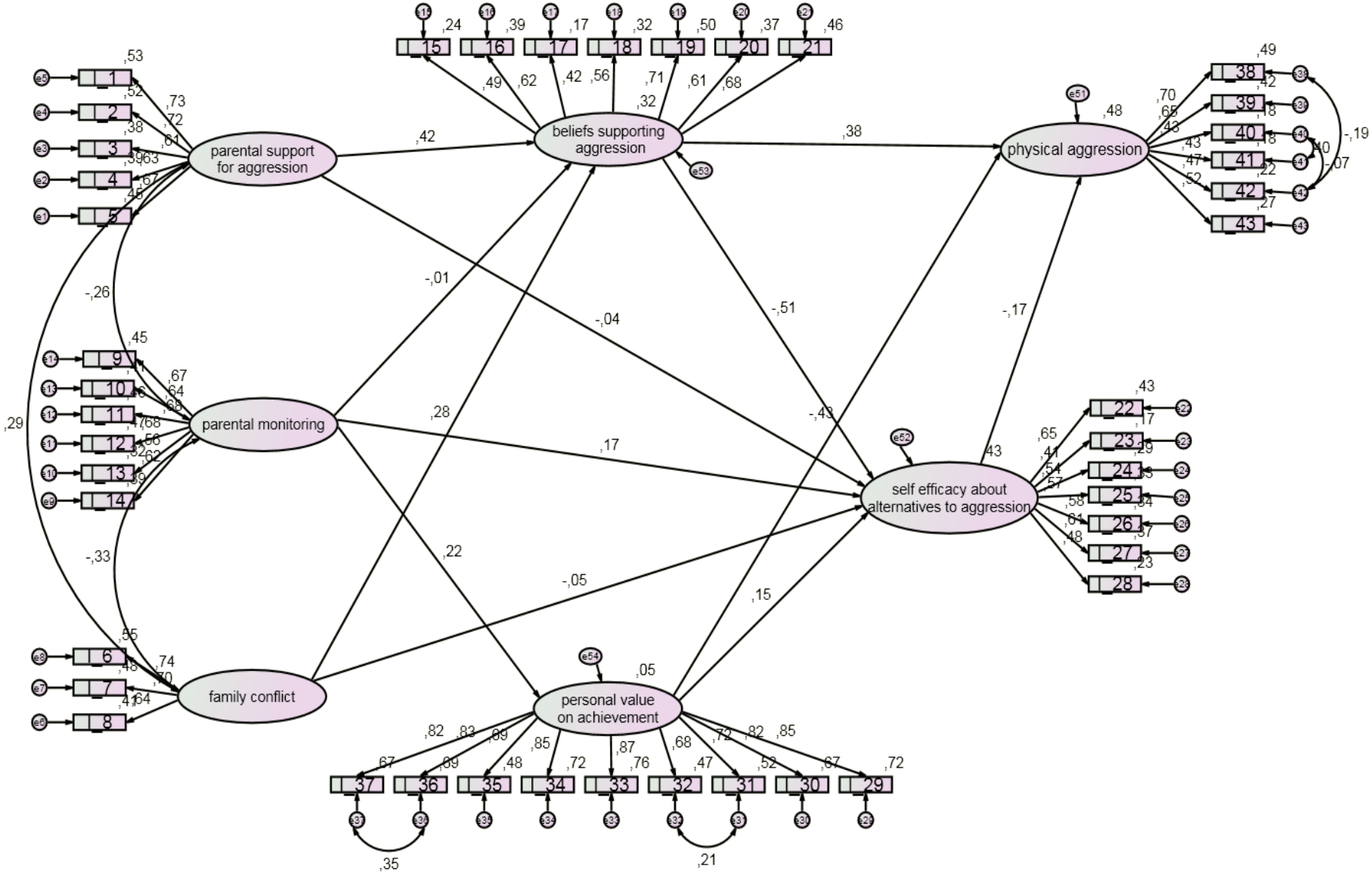
Note. **p< .01 and *p< .05

Correlation Matrix of Study Variables for Boys (n=1215) (cont.)

	Variables	I_33	I_34	I_35	I_36	I_37	I_38	I_39	I_40	I_41	I_42	I_43
Personal value on achievement	I_33	1										
	I_34	.72**	1									
	I_35	.62**	.57**	1								
	I_36	.74**	.71**	.63**	1							
	I_37	.78**	.68**	.61**	.77**	1						
Physical aggression	I_38	-.41**	-.34**	-.33**	-.37**	-.38**	1					
	I_39	-.24**	-.26**	-.24**	-.26**	-.27**	.48**	1				
	I_40	-.15**	-.10**	-.17**	-.11**	-.13**	.39**	.35**	1			
	I_41	.06*	.04	-.02	.04	.06*	.24**	.35**	.47**	1		
	I_42	-.12**	-.10**	-.07*	-.14**	-.13**	.29**	.31**	.34**	.38**	1	
	I_43	-.22**	-.18**	-.18**	-.22**	-.25**	.36**	.26**	.39**	.30**	.50**	1

Note. **p< .01 and *p< .05

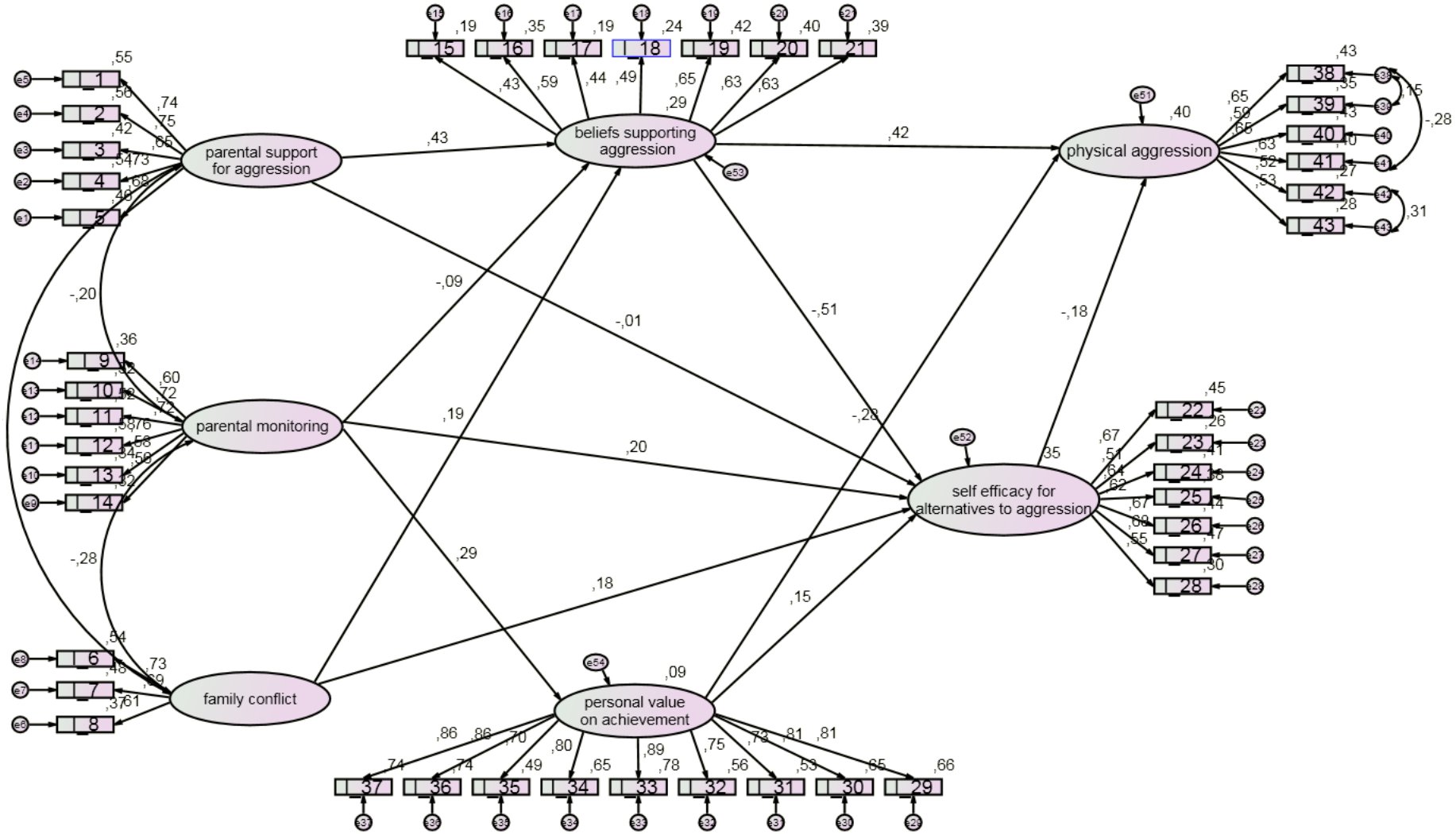
APPENDIX C



Structural Portion of the Full Latent Model for Girls

APPENDIX D

Structural Portion of the Full Latent Model for Boys



APPENDIX E

Reggression Weights of Girls and Boys Latent Model

			Girls		Boys	
			Estimate	*S.E.*	*Estimate*	*S.E.*
beliefs supporting_ aggression	<---	parental support_for aggression	,235**	,024	,179**	,019
personal value_on achievement	<---	parental monitoring	,160**	,024	,193**	,023
beliefs supporting_ aggression	<---	family conflict	,141**	,021	,091**	,020
beliefs supporting_ aggression	<---	parental monitoring	-,004	,015	-,032*	,013
self efficacy for_alternatives to aggression	<---	parental monitoring	,135**	,029	,150**	,028
self efficacy for_alternatives to aggression	<---	personal value_on achievement	,162**	,032	,174**	,036
self efficacy for_alternatives to aggression	<---	beliefs supporting_ aggression	-,958**	,098	-1,074**	,117
self efficacy for_alternatives to aggression	<---	parental support_for aggression	-,040	,041	,186**	,040
self efficacy for_alternatives to aggression	<---	family conflict	-,047	,037	-,013	,033
physical aggression	<---	beliefs supporting_ aggression	,737**	,094	,777**	,094
physical aggression	<---	personal value_on achievement	-,484**	,037	-,285**	,033
physical aggression	<---	self efficacy for_alternatives to aggression	-,172**	,047	-,157**	,036

Reggression Weights of Girls and Boys Latent Model (cont.)

			Girls		Boys	
			Estimate	*S.E.*	*Estimate*	*S.E.*
I_5	<---	parental support_for aggression	1,000**		1,000**	
I_4	<---	parental support_for aggression	,955**	,052	1,127**	,052
I_3	<---	parental support_for aggression	1,137**	,063	1,064**	,055
I_2	<---	parental support_for aggression	,802**	,039	,943**	,043
I_1	<---	parental support_for aggression	1,232**	,060	1,149**	,053
I_8	<---	family conflict	1,000**		1,000**	
I_7	<---	family conflict	1,178**	,069	1,198**	,076
I_6	<---	family conflict	1,119**	,065	1,197**	,076
I_14	<---	parental monitoring	1,000**		1,000**	
I_13	<---	parental monitoring	1,007**	,063	1,045**	,067
I_12	<---	parental monitoring	,908**	,049	1,085**	,059
I_11	<---	parental monitoring	,944**	,051	,998**	,056
I_10	<---	parental monitoring	1,070**	,061	1,187**	,067
I_9	<---	parental monitoring	1,081**	,060	,934**	,059
I_15	<---	beliefs supporting_ aggression	1,000**		1,000**	
I_16	<---	beliefs supporting_ aggression	1,715**	,119	1,722**	,140
I_17	<---	beliefs supporting_ aggression	1,255**	,112	1,299**	,123
I_18	<---	beliefs supporting_ aggression	1,300**	,096	1,212**	,108
I_19	<---	beliefs supporting_ aggression	2,042**	,134	1,806**	,141
I_20	<---	beliefs supporting_ aggression	1,644**	,116	1,911**	,151
I_21	<---	beliefs supporting_ aggression	1,930**	,128	1,779**	,141
I_22	<---	self efficacy for_alternatives to aggression	1,000**		1,000**	
I_23	<---	self efficacy for_alternatives to aggression	,736**	,060	,790**	,051
I_24	<---	self efficacy for_alternatives to aggression	,918**	,060	1,045**	,055
I_25	<---	self efficacy for_alternatives to aggression	1,171**	,072	1,151**	,063

Reggression Weights of Girls and Boys Latent Model (cont.)

			Girls		Boys	
			Estimate	*S.E.*	*Estimate*	*S.E.*
I_26	<---	self efficacy for_alternatives to aggression	1,207**	,073	1,257**	,064
I_27	<---	self efficacy for_alternatives to aggression	1,215**	,072	1,264**	,064
I_28	<---	self efficacy for_alternatives to aggression	,996**	,071	1,015**	,061
I_29	<---	personal value_on achievement	1,000**		1,000**	
I_30	<---	personal value_on achievement	,973**	,027	1,011**	,031
I_31	<---	personal value_on achievement	1,042**	,035	1,016**	,035
I_32	<---	personal value_on achievement	1,128**	,041	1,185**	,040
I_33	<---	personal value_on achievement	1,245**	,031	1,330**	,035
I_34	<---	personal value_on achievement	1,216**	,032	1,189**	,036
I_35	<---	personal value_on achievement	1,109**	,040	1,169**	,043
I_36	<---	personal value_on achievement	1,149**	,031	1,289**	,036
I_37	<---	personal value_on achievement	1,125**	,031	1,288**	,035
I_38	<---	physical aggression	1,000**		1,000**	
I_39	<---	physical aggression	,979**	,055	,984**	,056
I_40	<---	physical aggression	,588**	,047	1,016**	,062
I_41	<---	physical aggression	,588**	,047	,973**	,065
I_42	<---	physical aggression	,364**	,029	,576**	,041
I_43	<---	physical aggression	,421**	,028	,584**	,041

APPENDIX F

Covariances of Girls Latent Model

			Estimate	*S.E.*
parental support_for aggression	<-->	family conflict	,139**	,019
parental support_for aggression	<-->	parental monitoring	-,147**	,022
family conflict	<-->	parental monitoring	-,213**	,027
e31	<-->	e32	,105**	,015
e36	<-->	e37	,087**	,009
e38	<-->	e42	-,067**	,013
e40	<-->	e41	,317**	,027
e40	<-->	e42	-,032*	,012

Covariances of Boys Latent Model

			Estimate	*S.E.*
parental support_for aggression	<-->	family conflict	,181**	,027
parental support_for aggression	<-->	parental monitoring	-,184**	,033
family conflict	<-->	parental monitoring	-,222**	,033
e38	<-->	e39	,110**	,031
e38	<-->	e41	-,187**	,025
e42	<-->	e43	,128**	,014

APPENDIX G

TURKISH SUMMARY

TÜRKÇE ÖZET

ALGILANAN AİLE DEĞİŞKENLERİ VE KİŞİSEL BİLİŞSEL DEĞİŞKENLERİN ETKİLEŞİMİNİN KENTLERDE YAŞAYAN GENÇLERİN FİZİKSEL SALDIRGANLIKLARINI YORDAMADAKİ ROLÜ

1. GİRİŞ

Ergenlik dönemi, biyolojik, psikolojik ve sosyal rol değişimlerini de içeren hayatın birçok alanındaki gelişimsel bir geçiş dönemi olarak tanımlanabilir (örn. Santrock, 1996). Fizyolojik ve bilişsel değişimler, ergeni ebeveynlerini ve daha genel olarak da yetişkin otoritesini sorgulamaya iter (Conger ve Galambos, 1997). Ergenlik dönemi boyunca bireyler özerklik ya da karar vermede daha fazla etkiye sahip olmak için çabalamaya başlarlar (Lachausse, 2008). Ancak bu dönemde giderek artan fiziksel güçleri ve cinsel dürtüleri ergenleri toplumun beklentilerine tam olarak uymayan davranışlar sergilemeye iter (Papalia ve ark., 1999). Diğer taraftan dış dünyadaki riskten haberdar olan ebeveynler, ergenin tam özerkliğine izin vermeme ve sınırlar koyma eğilimindedirler. Dolayısıyla,

ergenlik dönemi bir çok ebeveyn-ergen çatışmasına sahne olur (Allison, 2000; Hill, Bromell, Tyson ve Flint, 2007). Bunun sonucunda, ergenler ebeveynlerinden uzak durarak evin dışında bir hayat bulma arayışına girerken, ebeveynler de kendilerini çocuklarından uzak hissedebilir ve ebeveynlik becerilerini etkili bir şekilde kullanamayabilirler. Oysa araştırmalar, çocuğun aile içindeki sosyalleşme şeklinin, çocukta ortaya çıkan olumlu ve olumsuz gelişimsel sonuçlarla güçlü bir şekilde ilişkili olduğunu göstermektedir (örn; Herrenkohl, Maguin, Hill, Hawkins, Abbott ve Catalano, 2000). Bir başka deyişle, olumsuz ve çatışmalı aile ortamı (örn; Farrington, 1991) ve etkili olmayan ebeveynlik becerileri (örn; Dekovic, 1999), ergenlerin problem davranışları için aile risk faktörlerini oluştururken; olumlu aile ortamı (örn; Formoso, Gonzales ve Aiken, 2000) ve etkili ebeveynlik becerileri (örn; Herrenkohl, Hill, Ick-Joang Chung, Guo, Abbott ve Hawkins, 2003) ergenlerin problem davranışları için koruyucu faktörleri oluşturmaktadır.

Bu fırtınalı dönemde ergenlerin bir takım problem davranışlar (örn. şiddet, alkol) gösterme riski altında oldukları bilinmektedir. Son yirmi yılda, gençlerin saldırgan davranışlarının bir araştırma konusu olarak popülerliği fark edilir bir şekilde artmıştır (Stassen-Berger, 2007). Eğer bilimin toplumun ihtiyaçlarından beslendiği varsayımını kabul edecek olursak durum daha da vahim bir hal almaktadır. Maalesef, bu mantıksal çıkarım Dünya Sağlık Örgütü'nün raporunda belirtilen şiddetin yaygın bir halk sağlığı problemi olduğu ifadesi ile doğrulanmaktadır (DSÖ, 2002). Benzer bir biçimde, (Akiba, LeTendre, Baker ve Goesling, 2002) 37 gelişmiş ve gelişmekte olan ülkeyi kapsayan ve yedinci ve sekizinci sınıf öğrencilerinin okul suçluluğu ile ilgili verileri de içeren TIMSS çalışması,

okul suçluluğunun bu ülkelerde yaygın bir problem olduğunu göstermiştir. Bu konuda yapılan bir diğer önemli çalışma da Okul Çağındaki Çocuklar İçin Sağlık Davranışı (HBSC; Currie, NicGabhainn, Godeau ve ark., 2008) çalışmasıdır. Kırk bir ülkeden 200000 den fazla gencin (11, 13, ve 15 yaş grubu) katıldığı bu araştırmanın verileri incelendiğinde Türkiye'nin bu ülkeler arasında, son bir kaç ayda fiziksel şiddete (kavgaya) dahil olma sıralamasında yaş gruplarına göre ilk üç sırayı aldığı görülmektedir.

Bu konuda Türkiye'de yürütülen en kapsamlı tarama çalışması ise Türkiye Büyük Millet Meclisi tarafından yapılmıştır. Bu araştırma (TBMM, Araştırma Raporu, 2009) 13-18 yaş arası 26009 ergen üzerinde yürütülmüş ve katılımcıların % 29,3'ü son 3 ayda şiddet davranışı sergilediklerini ve %35,5'i ise fiziksel şiddetin en sıklıkla başvurdukları ikinci şiddet türü olduğunu belirtmiştir.

Bu çalışmalar Türkiye'nin de diğer ülkelere paralel olarak ergenlerde görülen şiddet problemi ile karşı karşıya kaldığını göstermektedir. Buna rağmen Türkiye'de bu konuda yürütülen çalışmaların büyük bir çoğunluğu betimsel ve korelatif çalışmalar oluşturmaktadır (örn; Alikaşifoğlu, Erginöz, Ercan, Uysal, Kaymak ve İlter, 2004; Özcebe, Uysal, Soysal, Polat, Şaker ve Üner, 2006). Ne yazık ki, suç kayıtları (örn; polis kayıtları, adli istatistikler) dışında gençlerin saldırgan davranışları ile ilgili boylamsal veriler de mevcut değildir. Bununla birlikte, saldırgan davranışları önlemeye yönelik olarak yürütülen az sayıdaki deneysel çalışmada ya kısa vadeli etkili sonuçlara ulaşılmış (örn; Duran ve Eldeleklioğlu, 2005; Turnuklu, Kaçmaz, Gürler, Sevkin, Türk, Kalender ve

ark., 2009) ya da etkili sonuçlar elde edilememiştir (örn; Kutlu, 2005; Uysal ve Bayık-Temel, 2007). Dahası, ülkemizde doğrudan ya da dolaylı olarak saldırgan davranışları önlemeye yönelik olarak yürütülen programların büyük bir çoğunluğu bilimsel olarak sınanmış koruyucu ve risk faktörlerine dayandırılmamıştır.

Gençler arasında görülen şiddetin gelişmiş ülkelerin sorunu olduğu yönünde yaygın bir düşünce olsa da araştırmalar, okulda şiddetin gelişmekte olan ülkelerde de sıklıkla görüldüğünü (Akiba, LeTendre, Baker ve Goesling, 2002; Currie, NicGabhainn, Godeau ve ark., 2008; Ohsako, 1997), eğitim, öğrenme ve yaşama olan etkisinin de kesinlikle daha ciddi olduğunu ortaya koymuştur (Ohsako, 1997).

Ergenlerin saldırgan davranışları, bireylere ve topluma yansıyan üç temel etkisi nedeniyle araştırmacılar için öncelikli konulardan biri olmuştur. Bunlardan ilki, erken yaşta saldırgan davranış göstermenin ileri yaşlarda anti -sosyal ve suç davranışı sergilemek için risk teşkil etmesi (Côté, Vaillancourt, Leblanc, Nagin ve Tremblay, 2006); ikincisi, problem davranışların birbirleri ile ilişkili olması ve birlikte gerçekleşmesi yani bir çeşit sendrom oluşturması (örn; Donovan, Jessor ve Costa, 1988; Dünya Sağlık Örgütü, 2002); ve üçüncüsü ise gençler arasında görülen şiddetin sadece kurbanları değil aileleri, arkadaşları ve toplumu da etkilemesidir (DSÖ, 2002). Bu ağır maliyet göz önüne alınarak farklı alanlardan pek çok araştırmacı, saldırgan davranışları önlemek amacıyla kuramsal modeller geliştirmiş ve deneysel çalışmalardan elde edilen bulgularla çocuk ve ergen saldırgan davranışlarının gelişmesinde rol oynayan faktörleri saptamaya çalışmışlardır. Bu araştırmaların sonucunda saldırganlıkla ile

ilgili oldukça fazla bilgi üretilmiştir. Örneğin, cinsiyet ve saldırganlık arasındaki ilişki sıklıkla vurgulanmış ve birçok çalışmada özellikle fiziksel saldırganlığın erkeklerde daha sıklıkla görüldüğü bulunmuştur (örn; Blitstein, Murray, Lytle, Birnbaum ve Perry, 2005; Karaman-Kepenekçi ve Çınkır, 2006). Ancak, erkelerin kızlara oranla neden daha fazla saldırgan davranış sergilediği ve bu farkın olası sebepleri hala kesin olarak saptanamamıştır.

Günümüze kadar saldırganlıkla ilgili olarak yürütülen çalışmalar çok değerli bilgiler sağlamış olsa da hala saldırganlığın nedenlerini anlamak için sistematik araştırmalara ihtiyaç vardır. Geçmişte yürütülen araştırmaların (örn; Inoff-Germain, Arnold, Nottelmenn, Susman, Cutler ve Chrousos, 1988) tek tek değişkenler (örn; hormonlar) ile saldırganlık arasındaki ilişkileri araştırdığı, yakın tarihli araştırmaların ise farklı kuramlardan (Bronfenbrenner, 1979; Garbarino, 1990; Loeber ve Farrington, 1998; DSÖ, 2002) esinlenerek ergen saldırgan davranışlarını tam olarak kavrayabilmek için ergeni çevreleyen tüm ekolojik etki alanlarındaki değişkenlerin ve bunlar arasındaki etkileşimin araştırmalara dahil edilmesi gerektiğini savundukları görülmektedir. Ergene en yakın ekolojik sistemde yer alması nedeniyle aile faktörleri, ergen saldırganlığı ile ilgili araştırmalarda sıklıkla çalışılmıştır (Ary, Duncan, Duncan ve Hops, 1999). Bu araştırmaların bulguları bazı aile değişkenlerinin - çocuğun evde saldırgan modellere maruz kalması (örn; Farrington, 1991), aile üyelerinin antisosyal norm ve değerlere sahip olması (örn; Brewer, Hawkins, Catalano ve Neckerman, 1995), ebeveyn izlemesi (örn; Colder, Mott, Levy, Flay, 2000; Fletcher, Steinberg, & Whilliams-Wheeler, 2004), aile bütünlüğü ve bağlılığı (örn; Flannery, Williams ve Vazsonyi, 1999;

Formoso, Gonzales ve Aiken, 2000) ve ailenin çocukla ilgili olması (örn; Loeber ve Stouthamer-Loeber, 1986)- ergenlerin saldırgan davranışları ile güçlü bir şekilde ilişkili olduğunu göstermiştir. Ayrıca, ilgili alan yazında, aile faktörlerinin ergen saldırgan davranışlarının gelişiminde büyük bir role sahip olduğu vurgulanmıştır. Dolayısıyla, aile değişkenleri ve ergen saldırgan davranışları arasındaki ilişkilerin incelenmesi önemli gözükmektedir. Ancak, olumsuz aile koşullarına sahip bütün çocukların neden saldırgan davranış sergilemediği hala cevaplanamamış bir sorudur. Bazı kuramlar (yılmazlık kuramı, sosyal bilgiyi işleme modeli ve problem davranış kuramı), saldırganlığı etkileyen çevresel faktörlerin yanı sıra kişisel bilişsel faktörleri de(örn; güçlü yönler, zayıf yönler, bilişsel özellikler, duygusal özellikler ve değer yargıları) araştırmalarına dahil ederek bu soruya cevap aramaktadırlar. Genel olarak bu kuramlar bireylerin nasıl davranacaklarına kendilerinin karar verdiğini ve bu kararı verirken de geçmiş deneyimlerinden, sosyal-bilişsel becerilerinden ve duygusal süreçlerinden etkilendiklerini öne sürmektedirler. Örneğin, sosyal bilgiyi işleme modeli, bilişsel özelliklerin sosyal durumları anlamada ve yorumlamada önemli olduğunu ve davranışları şekillendirdiğini belirtmektedir (Crick ve Dodge, 1994; Huesmann, 1998). Bu alanda yürütülen benzer çalışmalarda, düşmanca tepki seçimi, düşmanca/olumsuz niyet yükleme, saldırganlığı destekleyen düşüncelere sahip olma, öfke kontrolü ve öfke kontrolü ile ilgili öz-yeterlilik gibi kişisel bilişsel değişkenleri ergen saldırgan davranışları ile birlikte sıklıkla çalışılmıştır (Griffin, Scheier, Botwin, Diaz ve Miller, 1999). Dolayısıyla, ergenlerin fiziksel saldırgan davranışlarına neden olan faktörleri

belirlemede, kişisel bilişsel değişkenlerin, çevresel faktörlerle fiziksel saldırganlık arasındaki ilişkiye aracılık etmedeki rolünü araştırmak oldukça önemli gözükmektedir.

Araştırmanın Amacı

Bu çalışmanın amacı, kişisel bilişsel değişkenlerin (saldırganlıkla ilgili düşünceler, saldırganlığa alternatif davranışlar için öz-yeterlilik ve başarıya verilen değer) algılanan aile değişkenleri (ebeveynin saldırganlığa verdiği destek, ebeveyn izlemesi, ailedeki çatışma) ve fiziksel saldırganlık arasındaki ilişkiye aracılık etmedeki rolünü Ankara'da yaşayan gençler örnekleminde incelemektir. Bir başka ifadeyle;

1. Algılanan aile faktörleri (ebeveynin saldırganlığa verdiği destek, ailedeki çatışma, ebeveyn izlemesi) ve kişisel bilişsel faktörlerden (saldırganlıkla ilgili düşünceler, saldırganlığa alternatif davranışlar için öz-yeterlilik ve başarıya verilen değer) oluşturularak önerilen model ergenlerin fiziksel saldırgan davranışlarını ile ne derecede açıklamaktadır?

Araştırmanın Önemi

Bu tez çalışmasında önerilen model, problem davranış teorisi ile sosyal bilgiyi işleme modelinin entegrasyonu ile oluşturulmuştur. Bu modelin bilimsel olarak sınanmasının ülkemizde psikolojik danışma ve rehberlik alanında önleyici programların geliştirilmesi aşamasında katkı sağlaması hedeflenmektedir. Ayrıca, erken yaşta saldırgan davranışlar sergileyen ergenlerin ya da çocukların ileri yaşlarda şiddete daha fazla eğilimli

olduklarının alan yazında sıklıkla belirtilmesi (örn; Leary, Kowalski, Smith ve Phillips, 2003) fiziksel saldırganlık konusunda çalışmalara hız verilmesi gerektiğini ortaya koymaktadır. Bununla beraber, bu çalışma aile faktörlerinin kişisel bilişsel faktörler aracılığıyla fiziksel saldırganlığı ne ölçüde yordadığını test eden bir modeli araştırmayı hedeflemektedir. Bu model, problem davranış teorisi (Jessor, 1987) ve sosyal bilgiyi işleme modelinden (Huesmann, 1998) faydalanılarak geliştirilmiştir. Dolayısıyla, bu çalışma sadece aile faktörleri ile saldırganlık arasındaki doğrudan ilişkiyi değil bu ilişkinin altında yatan mekanizmaları da araştırmak suretiyle alana katkı sağlayacaktır. Verilerin analizde Yapısal Eşitlik Modeli (YEM)'nin kullanılması, birden fazla aile değişkeninin, kişisel bilişsel değişkenlerin, ve ergenlerin fiziksel saldırgan davranışlarının eş zamanlı olarak araştırılmasına olanak sağlamıştır. Ayrıca, bu çalışma, fiziksel saldırganlığın ve zorbalığın yaygın olduğu, geniş ve temsil ediciliği yüksek olan büyük şehir örnekleminde yürütülmüştür. Daha önce benzer örneklemlerle yürütülen önleyici çalışmaların bazılarının sonuçlarının etkili olmadığı gözlenmiştir. Dolayısıyla, bu araştırmanın gelecekte yürütülmesi planlanan önleyici çalışmalara bazı ipuçları sağlamak suretiyle katkıda bulunması da beklenmektedir. Saldırgan davranışların önlenmesinin sadece bu davranışların kurbanı olan kişileri kurtarmayacağı, aynı zamanda gençlerin toplumdan soyutlanmamalarını, suça karışmamalarını ve toplumun omuzlarında büyük bir yük olan suçun azaltılmasını sağlayacağı (Greenwood, 2008) düşünülmektedir.

2. YÖNTEM

İşlem ve Örneklem

Ankara il merkezinde, yedi merkez ilçede (Altındağ, Çankaya, Etimesgut, Keçiören, Mamak, Sincan ve Yenimahalle) bulunan devlet okulları bu araştırmanın evrenini oluşturmaktadır. Çalışmaya dahil edilmesi planlanan 45 okul, Ankara ilinde bulunan devlet okulları listesinden rastgele örnekleme yoluyla seçilmiştir. Veriler toplanmadan önce Orta Doğu Teknik Üniversitesi Etik Kurulu'ndan ve Ankara İl Milli Eğitim Müdürlüğü'nden gerekli uygulama izinleri alınmıştır. Daha sonra okul müdürleri ile görüşmeler yapılmış, araştırmanın amacı ve içeriği açıklanarak çalışmaya gönüllü olarak katılıp katılmayacakları sorulmuştur. Dokuz okul müdürü çalışmaya katılmayı reddetmiştir. Araştırmaya katılmayı kabul eden okullarda 6., 7. ve 8. sınıflara devam eden öğrencilere gönüllü katılım formu ve veli onay formu dağıtılarak araştırma hakkında bilgi verilmiştir. Araştırmaya katılmaya gönüllü olan ve velilerine onay formunu imzalatan öğrenciler araştırmaya dahil edilmiştir. Verilerin toplanması yaklaşık 50 dakika sürmüştür. Gizliliği sağlamak için katılımcılardan kişisel bir bilgi istenmemiş ve doldurulan formlar uygulama sonunda kapalı bir zarfta toplanmıştır.

Sonuç olarak araştırmanın örneklemini 2008-2009 öğretim yılında Ankara ilindeki 36 ilköğretim okuluna devam eden 2443 (1228 kız, 1215 erkek) altıncı, yedinci ve sekizinci sınıf öğrencisi oluşturmuştur. Katılımcıların yaş ortalaması yaklaşık 13'tür. Örneklemde katılımcıların devam ettikleri sınıflar eşit oranda temsil edilmiştir. Katılımcı öğrencilerin ailelerinin

eğitim durumu incelendiğinde, % 36,8'inin annesinin ilkokul mezunu olduğu, % 25,3'ünün ise babasının lise mezunu olduğu görülmektedir. Katılımcıların büyük bir çoğunluğu (% 98,1) ve babalarının (% 96,2) hayatta olduğunu belirtmiştir. Ayrıca katılımcıların % 82'si üniversiteyi bitirene kadar öğrenimlerine devam etmek istediklerini belirtmiştir.

Ölçme Araçları

Araştırma için gerekli olan veri, Saldırganlık için Ebeveyn Desteği Ölçeği (Orpinas, Murray, & Kelder, 1999), Ailede Çatışma Ölçeği (Community Youth Development Study, 2004), Ana-Baba-Ergen İlişkileri İzleme Ölçeği (Kaner, 2002), Saldırganlığı Destekleyen Düşünceler Ölçeği (MVPP, 2004), Saldırganlığa Alternatif Davranışlar için Özyeterlilik Ölçeği (MVPP, 2004), Başarıya Değer Verme Ölçeği (Jessor & Jessor, 1977) ve Fiziksel Saldırganlık Ölçekleri (MVPP, 2004) ile elde edilmiştir.

Araştırmada kullanılan ölçme araçlarından Ana-Baba-Ergen İlişkileri İzleme Ölçeği hariç diğer tüm ölçme araçlarının Türkçe'ye çevirileri ve uyarlama çalışmaları araştırmacı tarafından yapılmıştır. Bu amaçla, öncelikle, ölçeklerin yazarlarından gerekli izinler alınmış, daha sonra ise üç akademisyen tarafından ölçeklerin çevirisi gerçekleştirilmiştir. Çeviri işleminden sonra orijinal anlamı en iyi yansıtan maddeler araştırmacı ve tez danışmanı tarafından seçilmiştir. Daha sonra ölçme araçlarının Türkçe sürümleri kültüre uygunluk, içerik, dil ve görünüş açısından değerlendirilmek üzere iki akademisyene verilmiştir. Akademisyenlerden gelen geri bildirimlerden sonra ölçme araçlarına pilot uygulama için son halleri verilmiştir. Bu aşamada Başarıya Değer Verme Ölçeği'ne yeni bir

madde (ailemin benim iyi bir öğrenci olduğumu düşünmesi) eklenmiştir. Ayrıca Ailede Çatışma ve Başarıya Değer Verme Ölçeklerinin 4'lü dereceleme ölçeği olan cevaplama şekli 5'li dereceleme ölçeğine dönüştürülmüştür. Benzer olarak Saldırganlık İçin Ebeveyn Desteği Ölçeğinin ikili cevaplama şekli 5'li dereceleme ölçeğine dönüştürülmüştür.

Ölçme araçlarının güvenirlik ve geçerliğini belirlemek için Ankara ilinde bulunan 7 İlköğretim okuluna devam eden 566 (283 kız, 283 erkek) altıncı, yedinci ve sekizinci sınıf öğrencisinin katıldığı bir pilot çalışma yapılmıştır. Pilot çalışma örneklemi gerçek çalışmaya dahil edilmemiştir. Ölçme araçlarının iç tutarlılığı Cronbach alfa katsayısı hesaplanmak suretiyle, faktör yapısı ise doğrulayıcı faktör analizi kullanılarak incelenmiştir. Pilot çalışma sırasında Başarıya Değer Verme Ölçeği'nde yer alan bir madde (Tüm derslerden en azından 4 ortalama getirmek) içerik ve cümle yapısı açısından katılımcılar için anlaşılması zor bir madde olarak ortaya çıkmış, yapılan analizlerde de maddenin iyi çalışmadığı doğrulanmıştır. Dolayısıyla bu madde ölçekten çıkarılmıştır. Ayrıca, Ailede Çatışma Ölçeği'nin bir maddesinin (Bizim ailede aynı konular tekrar tekrar tartışılır) ölçeğin iç tutarlığını düşürdüğü ve tek boyutlu faktör yapısını bozduğu yapılan analizler sonucunda ortaya çıkmış ve bu madde de ölçekten çıkarılmıştır. Yapılan değişiklikler sonucunda bu araştırmada kullanılan ölçme araçları ve psikometrik özellikleri aşağıda özetlenmiştir.

Saldırganlık için Ebeveyn Desteği Ölçeği tek faktörden oluşan, 5 maddelik, 5'li dereceleme ölçeğine sahip bir ölçme aracıdır. Ölçeğin pilot çalışmadan elde edilen iç tutarlık katsayısı .81'dir.

Ebeveyn İzlemesi Ölçeği tek faktörlü, 6 maddelik, 5'li dereceleme ölçeğine sahip bir ölçme aracıdır. Ölçeğin iç tutarlık katsayısı pilot çalışma verilerine göre .80 olarak bulunmuştur.

Ailede Çatışma Ölçeği tek faktörden oluşan, 3 maddelik, 5'li dereceleme ölçeğine sahip bir ölçme aracıdır. Ölçeğin pilot çalışmadan elde edilen iç tutarlık katsayısı .72'dir.

Saldırganlığı Destekleyen Düşünceler Ölçeği tek faktörden oluşan, 7 maddelik, 4'lü dereceleme ölçeğine sahip bir ölçme aracıdır. Ölçeğin pilot çalışmadan elde edilen iç tutarlık katsayısı .76'dır.

Saldırganlığa Alternatif Düşünceler için Öz-yeterlilik Ölçeği tek faktörlü 7 maddeden oluşan 5'li dereceleme ölçeğine sahip bir ölçme aracıdır. Ölçeğin iç tutarlık katsayısı pilot çalışma verilerine göre .79 olarak bulunmuştur.

Başarıya Değer Verme Ölçeği tek faktörden oluşan, 9 maddelik, 5'li dereceleme ölçeğine sahip bir ölçme aracıdır. Ölçeğin pilot çalışmadan elde edilen iç tutarlık katsayısı .89'dur.

Fiziksel Saldırganlık Ölçeği tek faktörlü, 6 maddelik, 4'lü dereceleme ölçeğine sahip bir ölçme aracıdır. Ölçeğin iç tutarlık katsayısı pilot çalışma verilerine göre .80 olarak bulunmuştur.

Verilerin Analizi

Bu çalışmanın amacı ergenlerin fiziksel saldırgan davranışlarını açıklamayı hedef alan bir model geliştirip geçerliliğini test etmektir. Bu çalışmanın bir diğer amacı ise geliştirilen bu modelin kız ve erkek örneklemlerine uyup uymadığını araştırmaktır. Bu amaçla AMOS paket programı kullanılarak Yapısal Eşitlik Modeli (YEM) temel analiz metodu olarak uygulanmıştır. Modelin test edilmesi aşamasında araştırmacıların (Byrne, 2010; Kenny, Kashy ve Bolger, 1998) YEM için tavsiye ettiği aşamalar takip edilmiştir. Bu aşamalar, modelin oluşturulması, modelin tanımlanması, modelin kestirilmesi ve modelin değerlendirilmesi şeklinde sıralanabilir. Modelin değerlendirilmesi aşamasında farklı uyum indeksleri kullanılmıştır (örn; ki-kare, NNFI-TLI, CFI, RMSEA).

3. BULGULAR

Çalışmanın temel analizi olan Yapısal Eşitlik Modeli ile model test edilmeden önce değişkenlerin ortalamaları, standart sapmaları (Tablo 4.1) ve birbirleri ile olan korelasyonları hesaplanmıştır (Tablo 4.2 ve Tablo 4.3). Değişkenler arası korelasyonlar incelendiğinde kız ve erkek örneklemi için bazı farklılıkların bulunduğu tespit edilmiştir. Örneğin, kız örnekleminde bütün değişkenlerin birbirleri ile olan korelasyonları istatistiki olarak anlamlı bulunurken, erkek örnekleminde başarıya verilen değer ve

ebeveynin saldırganlığa verdiği destek arasındaki korelasyon ile başarıya verilen değer ve saldırganlığı destekleyen düşünceler arasındaki ilişki istatistiki olarak anlamlı bulunmamıştır. Önerilen modelde bulunan ölçme modellerinin doğrulayıcı faktör analizi ile uygunlukları kız ve erkek örneklemi için ayrı ayrı test edilmiş ve ölçme modellerinde bazı farklılıkların olduğu tespit edilmiştir (bakınız Figür 4.1-4.14). Dolayısıyla, ölçme araçları için farklı düzenlemeler yapılmış, kız ve erkek örneklemi için farklı ölçme modelleri geliştirilmiş, ikili ilişkilerin test edilmesinde ve örtük değişkenlerle fiziksel saldırganlık modelinin test edilmesinde kız ve erkekler için ayrı analizler yürütülmüştür.

Önerilen modelde, kişisel bilişsel faktörlerin, aile faktörleri ve fiziksel saldırganlık arasındaki ilişkiye ne ölçüde aracılık ettiği test edildiği için aracılık ilişkisi test edilmeden önce aile değişkenleri ile fiziksel saldırganlık değişkenleri arasında mevcut olması gereken ikili ilişkiler test edilmiştir. Önerilen modelde olduğu gibi, saldırganlık için ebeveyn desteği ve fiziksel saldırganlık arasında anlamlı ve pozitif bir ilişki, aile izlemesi ve fiziksel saldırganlık arasında anlamlı ve negatif bir ilişki, ailede çatışma ve fiziksel saldırganlık arasında ise anlamlı ve pozitif ilişki tespit edilmiştir (Tablo 4.5). Ayrıca, test edilen ikili ilişkilerle ilgili olarak oluşturulan modellerin uyum indekslerinden (CFI, GFI, NNFI) elde ettikleri değerlerin .90'ın üzerinde ve RMSEA değerinin ise .06'dan az olduğu bulunmuştur. Dolayısıyla, bu değişkenleri kullanarak aracılık ilişkisi test eden bir model oluşturmanın mümkün olduğu sonucuna varılmıştır.

Daha sonra önerilen model, örtük değişkenlerle yapısal eşitlik modeli analizi kullanılarak test edilmiştir. Ölçme modelleri farklı olduğu için kız ve erkek örneklemleri için model ayrı ayrı test edilmiştir. YEM analizi sonucunda test edilen her iki modelinde uyum indekslerinin kabul edilir değerlerde olduğu ortaya çıkmıştır (Tablo 3.2 ve Tablo 4.7). Modellerin; a) ki kare/serbestlik derecesi oranları 5 veya daha az, b) CFI, NNFI, ve GFI değerleri .90'dan büyük ve c) RMSEA değerleri .08 in altında çıkmıştır.

Bu değerler modelin her iki örneklemde de doğrulandığını göstermektedir. Ancak, modelde kurgulanan doğrudan ve dolaylı yolların anlamlı olup olmadığının test edilmesi, modelin tam olarak doğrulanması için gerekli olan bir diğer unsur olduğundan, modeldeki ilişkilerin anlamlı olup olmadıkları standardize edilmiş beta yükleri ile test edilmiştir (Figür 4-17 ve Figür 4.18).

Bu modeller incelendiğinde, kızlar için test edilen modelde 3 ilişkinin (Path C, Path E ve Path J) istatistiki olarak anlamlı olmadığı ve test edilen diğer tüm ilişkilerin $p< .01$ seviyesinde anlamlı olduğu görülmüştür. Erkekler için test edilen modelde ise bir ilişkinin (Path C) istatistiki olarak anlamlı olmadığı, test edilen diğer ilişkilerden birinin (Path E) $p< .05$ seviyesinde anlamlı olduğu ve diğer bütün ilişkilerin $p<. 01$ seviyesinde anlamlı olduğu görülmüştür. Daha detaylı tartışmalara geçmeden önce, elde edilen verilerle, her iki modelin de, önerilen modeli aynen doğrulamadığını söylemek mümkündür.

Ayrıca kız örnekleminde algılanan aile faktörleri ve kişisel bilişsel faktörlerden oluşan önerilen modelin fiziksel saldırganlık varyansının %48'ini açıkladığı görülmektedir. Buna ek olarak kız örnekleminde saldırganlığa alternatif davranışlar için öz-yeterlilik varyansının %43'ü, saldırganlığı destekleyen düşünceler varyansının %33'ü ve başarıya verilen değer varyansının %5'i örtük değişkenlerden oluşan önerilen model tarafından açıklanmaktadır.

Erkek örnekleminde ise algılanan aile faktörleri ve kişisel bilişsel faktörlerden oluşan önerilen modelin fiziksel saldırganlık varyansının %40'ını açıkladığı görülmektedir. Buna ek olarak, erkek örnekleminde, saldırganlığa alternatif davranışlar için öz-yeterlilik varyansının %36'sı, saldırganlığı destekleyen düşünceler varyansının %30'u ve başarıya verilen değer varyansının %9'u örtük değişkenlerden oluşan önerilen model tarafından açıklanmaktadır.

Modelin açıklayıcılık performansını incelemek için modeldeki her bir değişkenin ve her bir maddenin açıklayıcılığının irdelenmesi gerekmektedir. Tablo 4.8, modeldeki değişkenlerin ve maddelerin açıklanan varyanslarını göstermektedir. Her iki modelde de başarıya verilen değer değişkeni varyansı en az açıklanan değişken olarak ortaya çıkmaktadır.

4. TARTIŞMA

Saldırgan davranışın ortaya çıkmasında pek çok faktör rol oynamaktadır. Bu faktörler, birey, aile, arkadaş, okul ve çevre faktörleri olarak gruplandırılabilir. Araştırmalar, saldırgan davranışın oluşumunda pek çok faktörün birlikte etkide bulunduğunu ortaya koysa da aile faktörlerinin, ergene en yakın ekolojik etki alanlarından biri olması sebebiyle, ergenlerin saldırgan davranışları ile ilgili olarak yürütülen önleme çalışmalarında öncelikli olarak çalışılmasının doğru bir yaklaşım olacağını göstermektedir (örn; Ary, Duncan, Duncan ve Hops, 1999). Ayrıca, araştırmalar, aile değişkenlerinin, ergenlerin sosyal bilgiyi işleme becerileri üzerinde etkili olmak suretiyle saldırgan davranışın oluşumunda dolaylı olsa da rol oynadıklarını belirtmişlerdir (örn; Crick ve Dodge, 1994; Huesmann, 1998). Dolayısıyla bu çalışmanın amacı, kişisel bilişsel değişkenlerin (saldırganlığı destekleyen düşünceler, saldırganlığa alternatif davranışlar için öz-yeterlilik ve başarıya verilen değer) algılanan aile değişkenleri (ebeveynin saldırganlığa verdiği destek, ailedeki çatışma, ebeveyn izlemesi) ve fiziksel saldırganlık arasındaki ilişkiye aracılık etmedeki rolünü Ankara'da yaşayan gençler örnekleminde incelemektir.

Saldırganlık konusunda yürütülen birçok araştırmada ortaya çıkan cinsiyet farkına ilişkin bulgu bu çalışmada da göz önünde bulundurulmuştur. Ölçme modellerinin test edilmesi aşamasında kız ve erkek katılımcılar arasında farklılık gözlenmiştir. Bu nedenle önerilen fiziksel saldırganlık modeli her iki cinsiyet için ayrı ayrı test edilmiştir. Ayrıca, önerilen modelin test edilmesi sonucunda elde edilen veriler çalışmaya dahil edilen değişkenlerin kız ve erkek örnekleminde fiziksel

saldırganlığı farklı şekillerde yordadığını göstermiştir. Bir başka ifadeyle, ilişki örüntüleri ve değişkenlerin yordama güçleri kız ve erkek modellerinde farklı bulunmuştur.

Bulgular, problem davranış kuramı (Jessor, 1987) ve sosyal bilgiyi işleme modeli (Huesmann, 1998) temel alınarak oluşturulan fiziksel saldırganlık modelinin elde edilen verilerle belirli bir derecede desteklendiğini ortaya koymuştur. Daha önce de ifade edildiği gibi, ölçme modelleri cinsiyete göre farklılaştığı için, cinsiyet değişmezliği (gender invariance) testi kullanılamamış ancak kız ve erkek örneklemleri için iki ayrı model test edilmiştir. Bununla birlikte, önerilen fiziksel saldırganlık modeli her iki örneklemde de yeterli uyum indeksi değerlerini sağladığı için bu modelin kız ve erkek örnekleminde doğrulandığı söylenebilir. Değişkenler arasındaki ilişkiler incelendiğinde, araştırma bulguları erkek katılımcılar için önerilen modelin, bir ilişki dışında, tamamının doğrulandığını göstermiştir. Öte yandan, kızlar için önerilen modelde 3 ilişki istatistiki olarak anlamlı çıkmadığından, önerilen modelin kızlar için kısmen doğrulandığı söylenebilir.

Fiziksel saldırganlık varyansının kız örnekleminde % 48'inin, erkek örnekleminde ise %40' ının açıklandığı görülmektedir. Açıklanan varyanstaki farklılık, erkek modelinde 1, kız modelinde ise 3 ilişki anlamlı olmamasına rağmen, önerilen modelin kızlarda fiziksel saldırganlığın erkeklerden daha iyi açıkladığını göstermektedir. Bu bulgu Marte'nin (2005) ergenlerin problem davranışlarını açıklamada ekolojik modelin etkililiğini test ettiği çalışması ile paralellik göstermektedir. Bu çalışmada da test edilen modelin kız örnekleminde problem davranış değişkeninin

açıklanan varyansı erkek örneklemindeki açıklanan varyansa göre daha fazla bulunmuştur. Literatürde her ne kadar (Steffensmeier ve Allan, 1996) kızlar ve erkekler için birçok risk faktörünün aynı olduğunu belirtilmiş olsa da bu faktörlerin doğası, etkileşimi ve saldırganlığı yordamada ne kadar etkili oldukları farklılık gösterebilir (Gorman-Smith ve Loeber, 2005). Örneğin, kızlar erkeklere göre kişilerarası ilişkilere daha fazla yatırım yapma eğilimindedirler (Crick ve Rose, 2000) ve ebeveynler arasındaki çatışmalara daha fazla dahil olur ya da bu çatışmalardan daha fazla etkilenirler. Dahası, ebeveyn izlemesi ve kontrolü erkeklere kıyasla kızlar için daha fazladır (Henggeller, Edwards ve Bourdin, 1987). Bu koruyucu faktör, kızların ebeveynlerine, öğretmenlerine ve arkadaşlarına olan bağlılıklarını arttırmalarını sağlayabilir ve dolaylı olarak da saldırgan davranış sergileme ihtimallerini azaltabilir (Giordano, Cernkovic ve Pugh, 1986).

Bulgular algılanan aile faktörleri ile saldırganlık arasındaki ilişkiye kişisel bilişsel faktörlerin aracılık ettiğini göstermiştir. Dolayısıyla, problem davranış teorisinin Türkiye'de şehirlerde yaşayan ergen örnekleminde doğrulandığını söylemek mümkündür. Bu bulgu daha önce Siyez ve Aysan'ın (2007) problem davranış teorisini test ettikleri çalışmanın bulguları ile benzerlik göstermektedir. Ayrıca, mevcut literatür, sosyal bilgiyi işleme örüntülerinin aile faktörleri ile çocuğun davranışları arasındaki ilişkideki aracılık rolüne vurgu yapmaktadır (örn; Dodge, Pettit, Bates ve Valente, 1995). Alan yazındaki çalışmalara paralel olarak bu çalışmanın bulguları da sosyal bilgiyi işleme modelinin varsayımını destekler niteliktedir ve kişisel bilişsel faktörlerin aracılık etkisini ortaya koymaktadır. Benzer olarak, McMahon, Felix, Halpert ve Petropoulos

(2009) saldırganlığı destekleyen düşünceler ile saldırganlığı kontrol etme ile ilgili öz-yeterlilik değişkenlerinin toplumsal şiddet ve saldırgan davranış arasındaki ilişkiye ne derece aracılık ettiğini incelemiş, toplumsal şiddete daha fazla maruz kalan kişilerin saldırganlığı destekleyen düşüncelere daha çok sahip olduğunu ve bunun da saldırganlığı kontrol etme ile ilgili daha düşük öz yeterliliğe sahip olmaya yol açtığını ortaya çıkarmıştır. Colder, Mott, Levy ve Flay (2000) de çocukların saldırganlık ile ilgili düşüncelerinin çevresel tehlike ve çocuk saldırganlığı arasındaki ilişkide aracı rolü üstlendiğini bulmuştur.

Aile Değişkenleri

Bu çalışmanın aile değişkenlerine ilişkin bulguları, genel olarak, ergenlikte giderek artan akran etkisine rağmen ebeveyn etkisinin önemini sürdürdüğünü göstermiştir (Simons, Chao, Conger ve Elder, 2001). Sosyal öğrenme kuramı ve sosyal bilişsel kuramlarla tutarlı olarak bu araştırmada ergenlerin saldırgan davranışlarının ebeveynlerinin düşünce sisteminden etkilendiği bulgusu elde edilmiştir. Araştırmalar, ebeveynlerin saldırganlığı desteklemesinin ya da onaylamasının ergenlerin saldırgan davranış sergilemesine neden olduğunu göstermiştir (örn; Malek, Chang ve Davis, 1998). Benzer bir biçimde, anne babasının saldırganlıktan uzak durmasını isteyeceğini düşünen ergenlerin daha az saldırgan davranış sergiledikleri bulunmuştur (Murray, 2008). Bu araştırmada hem kız hem de erkek örneklemlerin elde edilen ebeveynin saldırganlığa verdiği destek ve fiziksel saldırganlık değişkenleri arasındaki pozitif ve anlamlı ilişkilere ilişkin bulgular da mevcut literatürü desteklemektedir. Bulgular ayrıca ebeveynin saldırganlığa

verdiği destek ile ergenin saldırganlığı destekleyen düşünceleri arasında hem kız hem de erkek örnekleminde pozitif ve anlamlı ilişkiler olduğunu göstermiştir. Aynı zamanda ergenin saldırganlığı destekleyen düşünceleri ile fiziksel saldırganlık değişkeni arasında da pozitif ve anlamlı ilişkiler olduğunu ortaya çıkarmıştır. Bu bulgu da daha önceki çalışmalar ile benzerlik göstermektedir. Örneğin, Solomon, Bradshaw, Wright ve Cheng (2008), ebeveynlerin saldırganlık ile ilgili düşünceleri ile ergenin saldırganlık ile ilgili düşünceleri arasında pozitif ve anlamlı bir ilişki olduğunu ve bunun da saldırgan davranış değişkeni ile pozitif ve anlamlı bir şekilde ilişkili olduğunu ortaya çıkarmıştır.

Önerilen modelde, ebeveynin saldırganlığa verdiği destek ile ergenin saldırganlığa alternatif davranışlar için özyeterliliği arasında negatif ve anlamlı bir ilişki olması beklenirken bulgular, bu ilişkinin her iki modelde de (kız ve erkek) anlamlı olmadığını göstermiştir. Bu bulgulara göre ebeveynin saldırganlığa verdiği destek değişkeninin, saldırganlığa alternatif davranışlar için öz-yeterlilik değişkeni üzerinde doğrudan etkisi olmadığını söylemek mümkündür.

Önerilen modelde ebeveynin saldırganlığa verdiği destek ile ergenin saldırganlığı destekleyen düşünceleri arasında pozitif ve anlamlı bir ilişki olacağı varsayılmıştır. Ergenin saldırganlığı destekleyen düşünceleri ile saldırganlığa alternatif davranışlar için öz-yeterlilik değişkeni ile negatif ve anlamlı bir şekilde ilişkili olacağı ve bunun da fiziksel saldırganlık ile yine negatif ve anlamlı bir şekilde ilişkili olacağı varsayılmıştır. Bulgular tüm bu varsayımları hem kız hem de erkek örnekleminde doğrulamıştır. Kişisel bilişsel değişkenlerle ilgili bu zincir, ebeveynin saldırganlığa

verdiği desteğin kişisel bilişsel değişkenler tarafından filtrelendiğini ve bu kombinasyonun fiziksel saldırganlığın gelişiminde önemli bir rol oynadığını göstermektedir. Bu bulgu, Dodge'un (2002) ebeveynlerin yol gösterme, rehberlik etme ve sosyal dünya ile ilgili bilgiler verme yolu ile çocukların davranışları üzerinde sahip olduğu düzenleyici etkiyi vurguladığı çalışması ile paralellik göstermektedir.

Türkiye'deki çocuk yetiştirme ve ebeveynlik konusundaki ampirik kanıtlar ve kültürel değişkenler göz önüne alındığında, bu çalışmadan elde edilen bulgular şaşırtıcı değildir. Rubin ve Chung'un (2006) da belirttiği gibi hangi davranışların destekleneceği kültür tarafından belirlenmektedir. Dolayısıyla, bazı kültürlerde saldırgan davranışa karşı verilen tepki çocuğa saldırgan davranışların neden kabul edilemez olduğunu açıklarken bazı kültürlerde fiziksel ceza kabul edilmiş bir norm olabilmekte, hatta başka bir kültürde ise saldırganlık görmezden gelinebilmekte ve dahası desteklenebilmektedir. Ebeveynlerin saldırganlığa verdiği destek ile ilgili Türkiye ve diğer ülkelerin dahil edildiği karşılaştırmalı çalışmalar olmamasına rağmen, bu ilişkinin Türkiye'de bu şekilde ortaya çıkacağı tahmin edilebilmektedir. Türkiye'de yürütülen birçok araştırma (Ayan, 2007; Bilir, Arı, Dönmez ve Güneysu, 1991; Kağıtçıbaşı, Sunar ve Bekman, 1988; Sümer ve Aydın, 2000) yetişkinlerin fiziksel ceza yöntemine sıklıkla başvurduğunu göstermektedir. Dolayısıyla, yetişkinlerin saldırgan model olma ve medyada sıkça yer alan saldırgan kültürün etkisi göz önünde bulundurulduğunda bu çalışmanın bulguları daha iyi anlaşılabilmektedir. Dahası, saldırganlık bizim toplumumuzda çoğu zaman cezalandırılmamakta hatta ödüllendirilmekte ve çocuklar da yaşanan bu

olaylara tanık olmaktadır. Bandura'nın (1973) da belirttiği gibi eğer saldırgan davranış ödüllendirilirse, buna tanık olan kişilerde aynı davranışları sergileme eğiliminde olurlar. Dolayısıyla, Türkiye'de çocukların ve ergenlerin saldırgan davranışları yaşayarak öğrendikleri söylenebilir. Bu konu ile ilgili bir başka önemli etkende ebeveynlerin saldırganlığı doğrudan cesaretlendirmesidir. Türkiye'de bazı ailelerin, özellikle çocukları okula başladığı zaman, ya saldırganlık kültürünün etkisinde kalarak ya da çocuklarının zarar görmesini engellemek için, bir tartışma durumunda çocuklarının saldırgan davranışlar göstermesini yüreklendirdikleri gözlenmektedir.

Araştırmanın bir diğer önemli bulgusu da ergenlerin saldırgan davranışlarının oluşumunda ebeveynlerin çocuklarını izlemesinin/denetlemesinin rolüdür. Bulgular hem kız hem de erkek örnekleminde ebeveyn izlemesi ile fiziksel saldırganlık arasında negatif ve anlamlı bir ilişki olduğunu göstermiştir. Bu bulgu literatürdeki diğer bulgular ile tutarlılık göstermektedir (örn; Rai, Stratton, Wu, Li, Galbraith, Cottrell, Pack ve ark., 2003). Örneğin, Singer ve Miller (1999), ebeveyn kontrolü ile gençlerin saldırgan davranışları arasında negatif ve anlamlı bir ilişki bulmuşlardır.

Fiziksel saldırgan davranış ve ebeveyn izlemesi arasında doğrudan ilişki olduğu belirlendikten sonra bu iki değişken arasındaki ilişkiye kişisel bilişsel değişkenlerin aracılık edip etmediği araştırılmıştır. Modelde önerildiği üzere ebeveyn izlemesi ve ergenin saldırganlığı destekleyen düşünceleri arasında ilişki olup olmadığı test edilmiştir ve erkek öğrenci örnekleminde bu ilişkinin negatif ve anlamlı olduğu bulunmuştur. Kız

örnekleminde ise ebeveyn izlemesi ve saldırganlığı destekleyen düşünceler arasındaki ilişki anlamlı bulunmamıştır. Bu bulgudan yola çıkarak kız ve erkek öğrencilerin saldırganlık ile ilgili düşüncelerini oluşturan faktörlerin farklı olduğu vargısına ulaşılabilir.

Bu bulgu ebeveyn izlemesinin erkek öğrenciler için koruyucu bir faktör olduğunu, fakat kız öğrenciler için koruyucu bir faktör olmadığını dagöstermektedir. Araştırmanın bu bulgusu Türkiye'deki diğer çalışmaların bulgularıyla tutarlılık göstermemektedir. Örneğin, Bayraktar, Özdikmenli-Demir ve Sayıl (2008) çalışmalarında ebeveynlerin psikolojik kontrolünün erkek ve kız öğrenciler için benzer etkiler yarattığını belirtmişlerdir. Diğer taraftan Kaner (1996), kızlarda erkeklere oranla algılanan ebeveyn kontrolü fazla olmasına rağmen, ebeveyn izlemesinin ergenlerin sapkın davranışları üzerindeki etkisinin, erkeklerde ve yaşı daha küçük olan kızlarda daha fazla olduğunu belirtmiştir. Gözlenen bu fark anne ve baba kontrolü değişkeninin ayrı ayrı modele dahil edilmeyip toplam ebeveyn izlemesi puanının dahil edilmesinden kaynaklanıyor olabilir. Diğer taraftan, kız ve erkeklerde ortaya çıkan bu farkın toplumsal cinsiyet rollerinden kaynaklandığı düşünülebilir. Buna göre, erkek çocuklar kızlara göre daha fazla özerk olmaya ve yarışmaya özendirilirler. Ayrıca ebeveynler kız ve erkek çocukların cinsiyet rollerine uygun düşen davranışlarını seçerek pekiştirme eğilimindedirler (örn; Keenan ve Shaw, 1997). Kız çocuklarının ise daha zayıf oldukları düşünülür, dolayısıyla kız çocukları ebeveynlerin daha fazla izleme ve kontrolüne maruz kalırlar. Tüm dünyada olduğu gibi, Türkiye'de de kız ve erkek çocuklarına sosyalleşmeleri sürecinde farklı pekiştireçler verilmektedir. Bu farkta dinin ve geleneklerin de rolü bulunmaktadır (Sunar ve Fişek, 2005). Kız

çocukları hangi yaşta olurlarsa olsunlar genel olarak erkelere göre daha fazla kontrol edilirler ve daha fazla izleme davranışına maruz kalırlar. Bu araştırmalarda elde edilen bulgu, kız çocuklarına yöneltilen fazla kontrolden ve fazla korumadan kaynaklanabilir. Bu aşırı koruyucu tutum kız çocuklarının ebeveyn izlemesinin koruyucu etkisine karşı duyarsızlaşmalarına neden olmuş olabilir. Ayrıca, kız çocuklar ebeveynleri yanlarında olmasa da ya da onları kontrol ediyor olmasalar da bazı davranışları içselleştirmiş ve bir öz kontrol sistemi geliştirmiş olabilirler. Bu nedenle ebeveyn izlemesinin koruyucu etkisi artık kızlarda gözlenememiş olabilir. Bir diğer açıklama da ergenlerin saldırganlıkla ilgili düşüncelerinin oluşumunda, kız ve erkeklerde farklı faktörlerin etkili olduğudur. Örneğin bazı araştırmalar, kız ve erkeklerin arkadaş ilişkilerinde farklılıklar olduğunu ortaya koymuştur. Kızlar erkeklere göre daha çok sevgi, güven ve bağlılığa dayanan arkadaş ilişkileri kurmaktadırlar. Erkeklerin ise sapkın davranış sergileyen, suça karışan arkadaşlarla daha fazla vakit geçirme eğiliminde oldukları bulunmuştur (Delikara, 2001). Arkadaş ilişkilerinde ve risk alma davranışlarında gözlenen bu farklılık da kız ve erkeklerin saldırganlık ile ilgili düşüncelerinin oluşumunda farklılık yaratmış olabilir.

Ebeveyn izlemesi ile saldırganlık arasındaki ilişkiye saldırganlığı destekleyen düşünceler değişkeninin aracılık etkisinin dışında başarıya verilen değer ve saldırganlığa alternatif davranışlar için öz-yeterlilik değişkenleri de aracılık etmiştir. Bir başka ifadeyle ebeveyn izlemesi değişkeni ile saldırganlığa alternatif davranışlar için öz-yeterlilik değişkeni arasında negatif ve anlamlı bir ilişki bulunmuştur. Saldırganlık için özyeterlik değişkeni ile fiziksel saldırganlık değişkeni arasında da

negatif ve anlamlı bir ilişki vardır. Buna ek olarak, ebeveyn izlemesi değişkeni ile başarıya verilen değer değişkeni arasında pozitif ve anlamlı bir ilişki bulunmuştur. Ayrıca başarıya verilen değer değişkeni ile fiziksel saldırganlık değişkeni arasında da negatif ve anlamlı bir ilişki bulunmuştur.

Ebeveyn izlemesi ve fiziksel saldırganlık arasındaki ilişkide saldırganlığa alternatif davranışlar için öz-yeterlilik değişkenin ve başarıya değer verme değişkeninin aracı rolleri literatürle tutarlılık göstermektedir (örn; MacKinnon-Lewis, Gesten, Gadd, Divine, Dunham ve Kambukos, 2009). Ebeveynlerin çocuklarını izlemesi ve kontrol etmesi, çocukların başarıya daha fazla değer vermesine neden olmakta ve başarıya değer veren toplum yanlısı çocuklar da saldırganlığa alternatif davranışlar için daha fazla özyeterliliğe sahip olmaktadırlar. Literatürde saldırganlığa alternatif davranışlar için öz-yeterlilik değişkenine benzer olarak ifade edilen öfke kontrolü değişkeninin de ebeveyn izlemesi ve ergenlerin problem davranışları arasındaki ilişkiye aracılık ettiği daha önceki çalışmalarda ortaya konmuştur (örn; Gibbs, Giever, Martin, 1998).

Ergenlerin ailelerindeki çatışma ile ilgili algıları ve fiziksel saldırganlık değişkeni arasındaki ilişki araştırma bulgularına göre pozitif ve anlamlı çıkmıştır. Bir başka ifadeyle, algılanan aile içi çatışma arttıkça kız ve erkek ergenlerin daha fazla saldırgan davranış sergiledikleri söylenebilir. Araştırmanın bu bulgusu alan yazındaki diğer çalışmalarla benzerlik göstermektedir (örn; Gonzales, Pitts, Hill ve Roosa, 2000). Büyük çaplı iki

meta analiz çalışması da eşler arasındaki çatışmanın çocuklarda görülen davranış problemleri ile ilişkili olduğunu ortaya çıkarmıştır (Amato ve Keith, 1991; Grych ve Fincham, 1990).

Ailedeki çatışma ile ergenlerin saldırgan davranışları arasında doğrudan ilişki bulunduğu belirlendikten sonra aracılık ilişkileri test edilmiştir. Önerilen modelde ailedeki çatışma ile ergenlerin saldırganlığı destekleyen düşünceleri arasında pozitif ve anlamlı bir ilişki olması varsayılmıştır. Bu ilişki hem kız hem de erkek örnekleminde doğrulanmıştır.

İkinci aracılık ilişkisinde, ailedeki çatışma ile saldırganlığa alternatif davranışlar için öz-yeterlilik arasında negatif ve anlamlı bir ilişki olacağı varsayılmıştır. Ancak varsayımların aksine bu ilişki erkek örnekleminde pozitif ve anlamlı bulunmuş, kız örnekleminde ise istatistiki olarak anlamlı bulunmamıştır. Bir başka deyişle, ailedeki çatışma algısı yüksek olan erkek ergenlerin saldırganlığa alternatif davranışlar için öz-yeterliliklerinin de yüksek olması beklenmektedir. Bu bulgu literatür ile tutarlı değildir. Bu farklı bulgunun sebebi, erkek ergenlerin ailelerindeki çatışma ortamına tepki olarak karşıt tepki geliştirmelerine bağlanabilir. Diğer bir ifadeyle, ergen erkekler sorunların çözülmesinde saldırganlık ve şiddetten başka yöntemler olduğuna inanarak kendilerine ebeveynlerinin davranışlarının tersi bir model almış olabilirler. Ayrıca, her ne kadar bu çalışmada ebeveyn-ergen iletişimi ile ilgili veri toplanmamış olsa da, bu bulgu için başka bir yorum da şu şekilde yapılabilir. Literatürde ebeveynlerin ailedeki çatışma ile ilgili olarak çocuğu ile konuşmasının ve açıklamalar getirmesinin ergenin kişilerarası çatışmalarını çözme ile ilgili şemalarını geliştirmesine yardımcı olabileceği (örn; Cummings ve Davies,

1994) belirtilmiştir. Bu bulgu ile ilgili olarak ortaya çıkan cinsiyet farkı ergen kız ve erkeklerin duygu düzenleme yöntemlerindeki farklılıktan da kaynaklanıyor olabilir. Conway (2005)'in de belirttiği gibi kızlar yaşamları boyunca zor durumlarla karşılaştıklarında erkeklere oranla daha sıklıkla duygularını bastırma yöntemini seçerler. Bir başka ifadeyle, ailedeki çatışmaya maruz kaldıkları için saldırganlığa alternatif davranışlar için öz-yeterlilik geliştirmek yerine duygularını ifade etmek için başka baş etme mekanizmaları seçiyor olabilirler.

Kişisel Bilişsel Değişkenler

Bu araştırmada fiziksel saldırganlığı açıklayan ilişkiler incelendiğinde, kişisel bilişsel değişkenlerin filtre mekanizması görevlerini, önerilen modeldekine uygun olarak yerine getirdikleri söylenebilir. Başka bir deyişle, problem davranış kuramı (Jessor, 1987), sosyal bilgiyi işleme modeli (Huesmann, 1998) ve diğer bilişsel kuramların de öngördüğü gibi kişisel bilişsel değişkenlerin problem davranışların oluşumunda önemli rol oynadıkları gözlenmiştir. Bu bulgu literatürdeki diğer araştırmaların bulgularıyla da tutarlılık göstermektedir. Örneğin, Bayraktar, Sayıl ve Kumru (2008) bazı bilişsel değişkenlerin olumsuz aile koşulları ile zorbalık arasındaki ilişkide aracı rolü üstlendiğini ortaya çıkarmışlardır. Kurnaz (2009) ise, duyguları düzenleme ve olumsuz niyet yüklemenin ergenlerin saldırgan davranışları ile ilişkili olduğunu bulmuştur.

Araştırma bulguları hem kız hem de erkek örnekleminde kişisel bilişsel değişkenlerin, algılanan aile değişkenleri ile fiziksel saldırganlık değişkeni arasındaki ilişkide aracı rol üstlendiğini göstermiştir. Ayrıca hem kız hem

de erkek örnekleminde ergenlerin saldırganlığı destekleyen düşünceleri ile fiziksel saldırganlık arasında pozitif ve anlamlı ilişkiler bulunmuştur. Bu bulgu literatürdeki diğer çalışmaların bulgularıyla paralellik göstermektedir. Örneğin, Guerra, Huesmann ve Hanish (1995) çocukların saldırganlığı destekleyen düşüncelerinin saldırganlığı yordamada önemli rol oynadığını belirtmiştir. Benzer bir biçimde saldırganlığa alternatif davranışlar için öz-yeterlilik ile fiziksel saldırganlık arasında negatif ve anlamlı bir ilişki olduğu görülmüştür. Bu bulgu da alan yazında pek çok çalışmayla benzerlik göstermektedir. Örneğin, Crick ve Dodge (1994) saldırgan ergenlerin provakatif durumlardan kaçmak için öz-yeterliliklerinin arkadaşları ile kıyaslandığında daha az olduğunu ve saldırgan davranış gösterme ile ilgili öz-yeterliliklerinin ise daha fazla olduğunu bulmuştur.

Bu çalışmanın bir diğer önemli bulgusu da çalışmaya dahil edilen bütün değişkenlerin fiziksel saldırganlık ile olan ilişkisine saldırganlığa alternatif davranışlar için öz-yeterlilik değişkeninin bir şekilde aracılık etmesidir. Bir bir ifadeyle, saldırganlığa alternatif davranışlar için öz-yeterlilik değişkeni fiziksel saldırganlık değişkeninden önce yer alan son değişken olarak modelde yer almıştır ve bu bulgu da literatürdeki benzer çalışmalarla tutarlıdır. Örneğin, Crick ve Dodge (1994) öz-yeterlilik değerlendirmesinin saldırganlık davranışı ortaya çıkmadan hemen önce gerçekleştiğini ifade etmiştir.

Son olarak başarıya değer verme ile fiziksel saldırganlık değişkeni arasında hem kız hem de erkek örnekleminde negatif ve anlamlı ilişkiler bulunmuştur. Bu bulgu literatürdeki diğer araştırmaların bulguları ile

tutarlıdır. Araştırmalar, akademik yönden başarılı ergenlerin sosyal becerilerinin de gelişmiş olduğunu ve saldırgan davranışlar göstermek yerine saldırganlığa alternatif davranışlar bulmaya eğilimli olduklarını ortaya çıkarmıştır (örn; Fleming, Haggerty, Catalano, Harachi, Mazza ve Gruman, 2005). Benzer olarak, ergenlerin akademik başarısı ve saldırgan davranışları arasında negatif ve anlamlı ilişkiler olduğunu literatürde sürekli olarak rapor edilmiştir (örn; Gorski ve Pilotto, 1993). Bu araştırmada her ne kadar kız ve erkekler için model ayrı ayrı test edilmiş olsa da başarıya verilen değer ile fiziksel saldırganlık arasındaki ilişki kızlar örnekleminde (-.43) erkekler örneklemindeki aynı ilişkiden (-.28) çok daha güçlü bulunmuştur. Literatürde düşük akademik başarının, kızlar için daha güçlü bir risk faktörü olduğu vurgulanmaktadır (örn; Frone ve Eccles, 1998). Türkiye'deki bir çalışmada da (Atik, 2006), yüksek akademik başarının kız öğrencilerin zorbalık davranışına dahil olma ihtimallerini düşürdüğü rapor edilmiştir.

Genel olarak, bu çalışmanın, Türkiye'deki ergenlerin fiziksel saldırganlığı ile ilgili önemli noktaları açığa çıkardığı söylenebilir. Problem davranış kuramı ve sosyal bilgiyi işleme modeli entegre edilerek oluşturulan modelin, ergenlerin fiziksel saldırganlığını ne ölçüde açıkladığı test edilmiştir. Test edilen modelde bir takım aile ve bireysel değişkenler incelenmiş ve birbirleriyle olan yapısal ilişkileri ortaya çıkarılmıştır. Bu çalışma, ayrıca, hem aile değişkenlerinin hem de kişisel-bilişsel değişkenlerin Ankara'da yaşayan ergenlerde fiziksel saldırganlığın oluşumunda önemli rol oynadığını göstermiştir.

Psikolojik Danışma ve Rehberlik Uygulamaları için Çıkarımlar

Bu çalışma, algılanan aile değişkenleri ve fiziksel saldırganlık arasındaki ilişkilerde kişisel bilişsel değişkenlerin aracılık rolünü araştıran bir modeli şehirde yaşayan gençler örnekleminde araştırması sebebiyle, Türkiye'de şehirde yaşayan ergenlerin saldırgan davranışlarının anlaşılmasına ilişkin önemli katkılar sağladığı düşünülmektedir. Bu araştırmanın bulgularının gelecekte saldırganlığı önleme veya azaltma konusunda benzer bir örneklemde yürütülecek olan çalışmalara ışık tutacağı düşünülmektedir. Aynı zamanda, çalışmanın bulguları, okul psikolojik danışmanlarına ve diğer ruh sağlığı uzmanlarına, ergenlere ve ebeveynlere yönelik olarak hazırlanacak olan önleyici ve iyileştirici çalışmaların içeriğinin belirlenmesi konusunda bilgi vermesi beklenmektedir.

Bu çalışmanın bulguları, kız ve erkek öğrenciler için fiziksel saldırganlığın oluşumuna etki eden faktörlerin farklılık gösterdiğini de ortaya çıkarmıştır. Örneğin, bu çalışmada kız örnekleminde test edilen modele göre ailedeki çatışma değişkeni saldırganlığa alternatif davranışlar için öz-yeterlilik değişkeni ile ilişkili bulunmazken erkeklerde bu ilişki, pozitif ve anlamlı bulunmuştur. Benzer bir şekilde erkek örnekleminde ebeveyn izlemesi ile saldırganlığı destekleyen düşünceler arasında pozitif ve anlamlı bir ilişki gözlenirken kız örnekleminde bu ilişki anlamlı bulunmamıştır. Dolayısıyla, kız ve erkekler için aile değişkenlerinin farklı etkiler yarattığını söylemek mümkündür ve uygulanacak programlarda bu farklılıklar göz önünde bulundurulmalıdır. Kişisel bilişsel değişkenlerin etkisi incelendiğinde de başarıya verilen değer değişkeni ile fiziksel saldırganlık değişkeni arasında kız örnekleminde erkeklerdekine

oranla daha güçlü bir ilişki olduğu ortaya çıkmıştır. Bununla beraber, saldırganlığı destekleyen düşüncelere sahip olan ergenlerin, saldırganlığa alternatif davranışlar için öz-yeterliliği düşük olan öğrencilerin ve başarıya daha az değer veren öğrencilerin fiziksel saldırganlık gösterme eğilimlerinin fazla olduğunu söylemek mümkündür. Benzer bir biçimde, ebeveynleri saldırganlığı destekleyen izleme ve denetleme yapmayan ve ailesinde çatışmaya sıklıkla tanık olan ergenlerin fiziksel saldırganlık için risk grubunda olduklarını söylemek mümkündür. Bu risk faktörlerini taşıyan ergenlere koruyucu müdahale programlarının hazırlanmasının faydalı olacağı düşünülmektedir. Bu programlarda, ergenlerin saldırganlıkla ilgili düşüncelerini değiştirecek, onların saldırganlığa alternatif davranışlar için öz-yeterliliklerini arttıracak, başarıya daha fazla değer vermelerini sağlayacak içeriklere ve sosyal becerilere yer verilmesinin çevresel risk faktörlerine karşı koruyucu etki yaratacağı düşünülmektedir. Örneğin, programlara öfke kontrolü, problem çözme becerileri, barışçıl ve etkili çatışma çözme becerileri, empatik anlayış, duyguları fark etme ve anlama, düşünme ve planlama becerileri, yaşam becerileri gibi becerileri kazandıracak içeriklerin eklenmesi faydalı olacaktır. Ayrıca ergenlerin okula bağlılığını arttıracak, akademik beklentilerini yükseltecek değişikliklerin yapılması da fayda sağlayacaktır.

Bunlara ek olarak, ergenlerin fiziksel saldırganlığını azaltmaya ya da önlemeye yönelik olarak planlanacak çalışmalarda yalnızca ergenlerin değil ebeveynlerin de hedef kitle olarak ele alınmasının yararlı olacağı düşünülmektedir. Ebeveynlere yönelik olarak hazırlanacak programların içeriğinde, ebeveynlik becerilerinin geliştirilmesinin yanı sıra, ergenlik döneminin hassas yapısının anlatılması ve çocuklarının yılmazlıklarını

arttıracak destek olma, izleme ve özerklik kazandırma etkinliklerini nasıl dengeli bir şekilde çocuklarına sunabileceklerinin öğretilmesi önemli görülmektedir. Son olarak, ebeveynlerin saldırganlığa destek olmasının ergenler üzerinde yaratabileceği olumsuz etkiden ebeveynlerin haberdar olması sağlanmalıdır.

Gelecekteki Araştırmalar İçin Öneriler

Bu çalışmaya, algılanan aile faktörlerinden sadece üç tanesi dahil edilmiştir. Gelecekteki araştırmalarda aile bağlılığı, aile katılımı, aile dayanışması/bütünlüğü, aile desteği, aile kuralcılığı ve kardeş ilişkileri gibi değişkenlerin de dahil edilmesinin, ergen saldırganlığının daha iyi anlaşılması için yararlı olacağı düşünülmektedir. Ayrıca, ebeveyn değişkenleri incelenirken anne ve baba değişkenleri ayrı ayrı modele dahil edilebilir. Bununla beraber, aile faktörleri dışında arkadaş, okul, mahalle gibi farklı ekolojik etki alanlarından değişkenlerin de test edilebileceği modellerin oluşturulmasının saldırgan davranışların ortaya çıkmasına neden olan faktörlerin belirlenmesi açısından önemli olacağı düşünülmektedir. Bununla birlikte, bu araştırmada dahil edilmeyen bazı kişisel bilişsel değişkenlerin de (öfke kontrolü, sosyal yeterlilik, sosyal beceri ve düşmanca niyet yükleme) eklenmesinin ergenlerin filtreleme mekanizmalarının daha iyi anlaşılmasını sağlayabileceği düşünülmektedir. Dahası, bu çalışma sadece fiziksel saldırganlıkla ilgili modeli test etmiştir. Gelecekteki çalışmalarda sözel ve ilişkisel saldırganlık ile ilgili benzer modellerin test edilmesi önerilmektedir. Bu çalışmada veri toplama aşamasında sadece ergenlerden öz değerlendirme yolu ile veri toplanmıştır. Gelecekteki çalışmalarda ebeveynlerden ve arkadaşlardan da

veri toplama yöntemine başvurulması, verilerin daha sağlıklı veri elde edilmesi açısından önemli gözükmektedir. Son olarak, ilişkileri test eden bu çalışmada neden sonuç ilişkisine ulaşmak mümkün olmadığından ergenlerin fiziksel saldırgan davranış göstermesine neden olan değişkenler incelenirken boylamsal araştırma deseni kullanılmasının yararlı olacağı düşünülmektedir.

APPENDIX H

CURRICULLUM VITAE

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FOREIGN LANGUAGES

Advanced English

PUBLICATIONS

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