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The relationship between parenting styles and fourth graders' levels of empathy and aggressiveness

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Abstract
This survey-based study examines the relationship between, on the one hand, the empathy and aggressiveness levels of 634 randomly selected Turkish fourth graders, and on the other, their perceptions of their mothers' and fathers' parenting styles. Its data-collection tools consisted of a Background Information Form, the Scale of Empathy for Children, the Parenting Style Scale, and the Aggressiveness Scale. Analysis revealed that the sampled children's empathy skills did not differ significantly according to gender, age, school type (private/public), or parental monthly income, but did vary significantly according to their number of siblings. The fourth graders' aggressiveness levels, in contrast, did not exhibit any significant differences according to number of their siblings, school type, or income, but did vary significantly with gender and age. There was also a negative correlation between the children's aggressiveness levels and their perceptions related to all dimensions of the Parenting Style Scale (i.e., psychological autonomy, acceptance/involvement, and strictness/supervision), but no significant relationship between their empathy levels and such perceptions. Lastly, no significant relationship was detected between the surveyed children's empathy skills and aggressiveness levels.

Keywords Parenting styles · Empathy · Aggressiveness · Primary school

Introduction

Each human being is a social entity who must establish relationships with other people at every stage of life. Among the most important determinants of the quality of such relationships are strong empathy and lack of aggressiveness. In the 1880s, German psychologist Theodore Lipps used the term *einfuhlung* for emotional appreciation of the feelings of others (Ioannidou and Konstantikaki 2008), though more recently, empathy has been defined in other ways. For Keen (2007), for example, empathy meant recognizing others' feelings and the causes of such feelings, and being able to participate in others' emotional experiences without becoming part of those experiences. Other scholars have couched their definitions in terms of putting oneself in other people's places, trying to understand their thoughts and feelings correctly and taking a sensitive approach when establishing communication with them (Dökmen 2016; Pala 2008). And for Rogers (1975) and Gagan (1983), empathy was not merely to perceive the feelings of the other person, but to *show* him/her that those feelings were understood. Based on an extensive review of the relevant literature, Cuff et al. (2016) concluded that empathy

> *is an emotional response (affective), dependent upon the interaction between trait capacities and state influences. Empathic processes are automatically elicited but are also shaped by top-down control processes. The resulting emotion is similar to one's perception (directly experienced or imagined) and understanding (cognitive empathy) of the stimulus emotion, with recognition that the source of the emotion is not one's own* (p. 150).

In current study, empathy was accepted as a vicarious emotional response to the perceived emotional experiences of others (Bryant 1982; p. 414). In addition to the above-noted differences in definitions of empathy as a unitary construct, scholars have disagreed about whether it has three or four components: with Goldstein and Michaels (1985) dividing it into cognitive, affective, communicative and perceptive empathy, whereas Hoffman (1977) divided it as affective, cognitive and motivational.

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Empathy can also be dichotomized into empathic tendency and empathic skill: the first being its emotional dimension, consisting of people's potential to empathize, while the second comprises their actually doing so (Dökmen 2016; Gürsel 2016). Considered as a skill, empathy is important to individuals' psychological well-being: operating through their cognitive and moral development to help improve their interpersonal relations, communication and conflict-resolution abilities. As such, it enhances individuals' chances of success in their home and business lives, and of getting along well with people from other cultures (Pala 2008). Bandura (1969) argued that empathy develops through social learning: in the first instance, via the observer's attention to others' facial expressions, tones of voice, and postures, as a means of acquiring information about their feelings. The same study reported that emotional reflection was easier if the observer's emotions and the other person's were similar.

Ünal (2007) emphasized that parents and teachers should be empathic towards children, and serve as examples to them of empathic behaviors. Parents should also acknowledge that they feel, understand and accept their children's emotions, and talk to them about the effects of their behaviors, not only on events but also on other people's feelings. Parents should also emphasize to children that differences between people should be welcomed and accepted, and behave in this way themselves, as this will contribute to the development of their children's empathy skills (Cotton 2001).

Parents play a major role in children's socialization, and the most important components of the parent-child relationship are the attitudes and behaviors exhibited by parents (Maccoby 1992), which also affect children's physical, psychosocial, cognitive, linguistic and sexual development (Çınar 2016), their psychological profiles (Kagan 1999) and their current and future behavior (Yeşilyaprak 1993). The attitudes and behaviors of parents towards their children have also been classified into various parenting models or styles, including but not limited to the democratic, over-tolerant, protective, authoritarian, and inconsistent styles (Çınar 2016).

Parenting styles were first proposed by Baumrind, who divided them into three types: authoritarian, permissive and authoritative (Baumrind 1966, 1967, 1971). Authoritarian parents evaluate and try to control their children's behaviors based on a strict or absolute standard and/or a wider aim of preserving traditional structures, and use punishment when the children's beliefs or behaviors fail to meet their expectations (Baumrind 1966). At the other extreme, permissive parents accept and approve of their children's behaviors and desires, and never use punishment, though they still tend to have a limited number of rules and expectations for them. Also, they give children opportunities to make their plans but they do not control them and encourage obeying the rules (Baumrind 1966). Lastly, authoritative parents attach importance to their own perspectives, and apply them, but without ignoring their children's needs and interests; and they share with their children the rationales behind most of their parenting decisions (Baumrind 1966).

Children's personalities and other individual characteristics – notably including aggressivity – are influenced by their parents' attitudes and disciplinary practices. There are disagreements among researchers on the definition, causes and types of aggression, quite apart from the fact that whether a behavior is considered aggressive is societally and culturally dependent. Freedman et al. (1974) defined aggression as any kind of behavior aimed at hurting others (in current study, this definition was considered), whereas for Bandura (1973), it was behavior that distorted or destroyed social rules without being evaluated within the notions of intention and purpose. Although anger, grudges, and hatred often accompany aggression, it can also occur without these feelings, since it is arguably caused by a range of factors including instinct, psychopathology, personality traits, and societal and family characteristics (Gültekin 2008).

Buss (1961) categorized aggression as (1) physical or verbal, (2) active or passive, and (3) direct or indirect. Rivers and Smith (1994), in contrast, placed much more stress on the distinction between its physical and verbal forms, while Fromm (1995) divided destructive aggression from advocacy (cited in Walker and Richardson 1998). According to Freedman et al. (1974), there are three kinds of aggression: altruistic, hostile, and allowed aggression. And Hogg and Vaughan (2013) dichotomized aggression as emotional and instrumental. In short, aggression has been classified into an almost bewildering array of different structures based on its physical, verbal, symbolic, emotional, sexual, political, and instrumental characteristics (Fromm 1982).

According to biological theory, aggression is rooted in the effects of testosterone on the brain and chromosomes, and this has led to claims that men are more aggressive than women (Tiryaki 2000). For Sigmund Freud, aggression was the individual's direction of self-destructive tendencies onto external objects; and behaviors developed during the oral phase, such as biting, may give rise to verbal violence later (Geştan 2014). Authoritarian parental attitudes to toilet training during the anal phase, meanwhile, can lead to physical violence (Çınar 2016). On the other hand, etiological theory holds that aggression does not emerge in response to stimuli from the outside world, but is inborn (Lorenz 1963). Moreover, from an etiological viewpoint, aggression – as an instinct fed by a constantly flowing energy spring – can emerge without any external stimulus enough of this energy has accumulated (Fromm 1973). Those who support the frustration-aggression hypothesis, meanwhile, have claimed that the crucial precondition for aggression is frustration, and that more aggression results from arbitrary obstacles created with bad intentions than from accidental, non-arbitrary, and non-malicious/justifiable ones (Freedman et al. 1974). And according

to social learning theory, aggressiveness can be learned by observing the behaviors of a model – often a parent – and the consequences of such behaviors (Tuzgöl 1998; see also Bandura 1973). Therefore, in current study, aggressiveness was considered in social learning theory context.

The elementary-school period is critically important to the later phases of a person's life, in terms of basic skills gained, including empathy skills. The absence of empathy skills has been linked to undesirable behaviors, including aggressiveness (Eisenberg et al. 2010; Marshall and Marshall 2011; Miller and Eisenberg 1988; Sohravardi et al. 2015), and it is thougth that parenting styles can have profound effects on both the empathy skills and the aggressiveness levels of children. Numerous studies have focused on the relationships between parenting styles, on the one hand, and on the other, empathy (Çelik 2015; Çetin 2008; Hasdemir 2007; Kehale 2002; Parsak 2015; Sayın 2010; Uyaroğlu 2011) or aggressiveness (Çınar 2016; İzmir-Karaduman 2012; Köksal 2016; Kutlu 2014; Sağkal 2011; Şahin 2015) or both (Doyle 2014; Filiz 2009; Miller and Eisenberg 1988; Stanger et al. 2016; Woolley 2012). However, no studies have hitherto focused on the interrelationships of all three of these factors with a sample of primary-school children. To fill this gap in the literature, the present study seeks to answer the following four research questions:

1) Are there significant differences between individual fourth graders' empathy skills, aggressiveness levels, or perceptions related to sub-dimensions of the Parenting Style Scale, associated with their:

a) Gender,
b) Age,
c) Number of siblings,
d) School type (private/public), or
e) Parents' monthly income?

2) Is there a relationship between fourth graders' aggressiveness levels and their mothers' and fathers' parenting styles?
3) Is there a relationship between fourth graders' empathy skill levels and their mothers' and fathers' parenting styles?
4) Is there a relationship between fourth graders' empathy skills and aggressiveness levels?

Some hypotheses which are based on literature review are below.

- *Hypothesis 1:* There is a relationship between fourth graders' empathy skill levels and their mothers' and fathers' parenting styles (Antonopoulou et al. 2012; Parsak 2015).
- *Hypothesis 2:* There is a relationship between fourth graders' aggressiveness levels and their mothers' and fathers' parenting styles (Çınar 2016; Köksal 2016; Llorca et al. 2017; Lotfi Azimi et al. 2012; Şahin 2015; Torre-Cruz et al. 2014; Trenas et al. 2013).
- *Hypothesis 3:* There is a relationship between fourth graders' empathy skills and aggressiveness levels (Akdemir 2016; Eisenberg et al. 2010; Filiz 2009; Strayer and Roberts 2004).
- *Hypothesis 4:* There are significant differences between individual fourth graders' empathy skills, aggressiveness levels, or perceptions related to sub-dimensions of the Parenting Style Scale, associated with their gender, age, number of siblings, school type (private/public), or parents' monthly income (Crick and Grotpeter 1995; Çetin 2008; Poresky 1990; Sak et al. 2015; Tezel-Şahin and Özyürek 2008).

Methods

Research Design

A quantitative survey-based approach was selected for this study, as being best suited to capturing a situation that still exists (Karasar 2005) in terms of a defined group's skills, opinions, attitudes, beliefs and/or knowledge (Fraenkel and Wallen 2006) – in this case, empathy, aggression, and parenting styles. In current study, data were collected from a sample determined to reflect the population, using different scales to reveal the existing state of empathy, aggression and parenting styles.

Population and Sample

The studied population comprised all 12,803 fourth graders attending public or private schools in the central district of the city of Van, Turkey. To ensure that the sample was representative of this population, it was selected randomly. Of the 654 fourth graders initially selected, 20 did not provide complete survey responses, leaving 634 students for analysis. Of these 634, approximately half ($n = 305$, 48.1%) were girls, and most ($n = 488$, 77.0%) were public-school students. Their ages were nine ($n = 98$, 15.5%), 10 ($n = 432$, 68.1%) and 11 ($n = 104$, 16.4%). All had between one and five and more siblings, with approximately one third ($n = 198$, 31.2%) having three.

Nearly half of the sampled children's mothers had no education beyond the end of primary school, with 14.5% ($n = 92$) not having completed it and 33.9% ($n = 215$) having graduated. Among the bare majority of mothers who had completed at least middle school, 120 (18.9% of the total sample) had finished high school and 119 had compeleted university (18.8%). Among the fathers, under a third were illiterate ($n = 42$; 6.6%)

or had only finished primary school ($n = 158$, 24.9%), while three-fifths had graduated from high school ($n = 141$, 22.2%) or university ($n = 239$, 37.7%). Most of the mothers ($n = 365$, 57.6%) and nearly half of the fathers ($n = 310$, 48.9%) were between 31 and 40 years old. Most of the parents' monthly incomes were approximately US$425 or less ($n = 332$, 52.4%), while fewer than one in five of the respondents' households earned US$1300 or more ($n = 110$, 17.4%). In other words, most of the parents were in low SES, while fewer than one in five of the parents were in high SES in Turkish context.

Data-Collection Tools

Background Information Form

A Background Information Form developed by the researchers collected data on the students' genders, ages, school type (public/private), number of siblings and position in their birth order, housing type (detached/apartment), and parents' educational levels, ages, current jobs, and monthly incomes.

Scale of Empathy for Children

This self-report, paper-and-pencil instrument is Yılmaz-Yüksel's (2003) 20-item Turkish-language adaptation of Bryant's (1982) 22-item Index of Empathy for Children and Adolescents. The Cronbach's alpha coefficient for the internal consistency of the Turkish scale was.70, and its test-retest correlation was $r = .694$, $p < .001$. In current study, Bryant's empathy definition (Bryant 1982) was considered and Turkish adaptation of Bryant's Scale of Empathy for Children was used. There is no any subscale in scale and the some example items are below:

- It makes me sad to see girl who can't find anyone to play with.
- I get upset when I see a boy being hurt.
- I really like to watch people open presents, even when I don't get a present myself.
- I get upset when I see an animal being hurt.

Parenting Style Scale

This instrument is Yılmaz's (2000) Turkish adaptation of the Parenting Style Scale originally developed by Lamborn, Mounts, Steinberg and Dornbusch (Lamborn et al. 1991). The Turkish version consists of 26 items divided into three: acceptance/involvement (nine items), strictness/supervision (eight items), and psychological autonomy (nine items). Yılmaz calculated these dimensions' Cronbach's alpha coefficients for internal consistency as .72, .76 and .82, respectively.

The acceptance/involvement dimension measures childrens' perceptions of the parenting they receive as warm and relevant. The strictness/supervision dimension measures their perception of their parents as controllers and supervisors; and the psychological autonomy dimension, the degree to which children perceive their parents as giving them opportunities to express their individuality (Yılmaz 2000).

Aggressiveness Scale

This instrument was developed by Şahin (2004) to measure the aggressiveness levels of primary-school children, based mainly on social-learning and cognitive theories. Factor analysis conducted to establish its construct validity determined a one-factor construct, defined as "the extent that a child intentionally causes physical damage to other people, objects and animals". The highest possible score is 39 and the lowest, 13, with higher scores indicating higher aggressivity; and respondents whose scores are at least one standard deviation higher than the group average are defined as aggressive. Five items (5, 7, 10, 15 and 17) are neutral with respect to the respondents' aggression, and are therefore not included in the scores. The total item-correlation coefficients, based on a comparison of the scores obtained from each item with those obtained from the entirety of the scale, ranged from .33 to.65, indicating that each item was consistent with the scale as a whole; and each item's power to distinguish between aggressive and non-aggressive students was at an appropriate level. Şahin reported that the instrument's Cronbach's alpha coefficient was .77 and its test-retest correlation was .71 ($p < .01$).

Data Analysis

Initially, the researchers checked whether the collected data were distributed normally, using a Kolmogrov-Simirnow test. The results showed that it was distributed normally ($n = 634$, $p > .05$), and parametric tests were therefore used for data analysis, which was conducted using a software. After the descriptive statistics were calculated, independent-samples t-testing was used to make comparisons between two groups' variables, and one-way ANOVAs to compare the variables of three or more groups, while Pearson Moments Multiplication Correlation was used to determine the relation between those variables that were used as parametric tests.

Results

Empathy Skill Levels by Gender, Age, and School Type

An independent-samples t-test conducted to compare the empathy skill levels of the male and female respondents, and between the public-school and private-school attendees, found

no significant differences between either of these pairs of groups (gender: $t_{632} = .144$, $p > .05$; school type, $t_{632} = -.768$, $p > .05$). A one-way ANOVA compare empathy skill levels across the respondents' three age groups (Group A: nine, Group B: 10 and Group C: 11) and found no statistically significant differences between them ($F_{631} = .184$, $p > .05$).

Empathy Skill Levels by Number of Siblings

The respondents were divided into five groups according to how many siblings they had (Group A: one sibling, Group B: two, Group C: three, Group D: four, Group E: five or more) and a one-way ANOVA was conducted to compare these groups' empathy skill levels. It found statistically significant differences ($F_{629} = 2.472$, $p < .05$), and Scheffe testing further revealed that Group E's mean score ($\overline{X}$ =10.59) was higher than either Group A's ($\overline{X}$ =9.55) or Group B's ($\overline{X}$ =9.87) Table 1.

Empathy Skill Levels by Monthly Household Income

A one-way ANOVA compared the fourth graders' empathy skill levels across five groups sorted by parental monthly income (Group A: 2000 TL or less, Group B: 2001–4000 TL, Group C: 4001–6000 TL, Group D: 6001–8000 TL, and Group E: 8001 TL or above) and found no statistically significant differences between them ($F_{629} = .496$, $p > .05$).

Aggressiveness Levels by Gender, Age, and School Type

An independent samples t-test found that the aggressiveness levels of the male and female respondents were significantly different ($t_{632} = 7.170$, $p < .05$), with the boys' mean scores ($\overline{X}$ =18.57) higher than the girls' ($\overline{X}$ =16.10), but that there were no significant differences in aggressiveness between the privately educated and others ($t_{632} = 1.525$, $p > .05$) Table 2.

When the respondents were divided into the same three age groups noted above (Table 3), and a one-way ANOVA conducted to compare these groups' aggressiveness levels, statistically significant differences were found ($F_{631} = 5.074$, $p < .05$). Scheffe testing further revealed that there were significant differences between Groups A and B, and between Groups A and C, with Group B's ($\overline{X}$ =17.18) and Group C's ($\overline{X}$ =18.64) aggressiveness levels being higher than Group A's ($\overline{X}$ =16.90) Table 3.

Aggressiveness Levels by Number of Siblings

A one-way ANOVA compared the differences in aggressiveness levels across the same five number-of-siblings groups described above, and found no statistically significant differences between them ($F_{629} = .717$, $p > .05$).

Aggressiveness Levels by Monthly Household Income

ANOVA comparison of the same five parental-income groups discussed above found no statistically significant differences between them ($F_{629} = 1.360$, $p > .05$).

Perceptions of Parenting Style by Student Gender

Independent-samples t-testing conducted to compare the male and female respondents' perception scores on each of the three sub-dimensions of the Parenting Style Scale found no statistically significant differences in the case of the acceptance/involvement dimension ($t_{632} = -.812$, $p > .05$). However, statistically significant differences were found between these groups' scores for the psychological-autonomy and strictness/supervision dimensions ($t_{632} = -2.042$, $p < .05$ and $t_{632} = -5.109$, $p < .05$), with the girls' mean scores being higher in both cases ($\overline{X}$ =21.84 vs. the boys' $\overline{X}$ =21.11, and $\overline{X}$ =28.79 vs. the boys' $\overline{X}$ =27.23, respectively) Table 4.

Perceptions of Parenting Style by Student Age

Shows that no significant age-related differences were found in the students' perceptions of acceptance/involvement ($F_{631} = 1.966$, $p > .05$) or psychological autonomy ($F_{631} = .133$, $p > .05$). However, there were statistically significant differences across age groups in the students' scores for the strictness/supervision dimension ($F_{631} = 6.796$, $p < .05$), with Scheffe testing indicated that the mean scores of Groups A ($\overline{X}$ =28.53) and B ($\overline{X}$ =28.16) were higher than that of Group C ($\overline{X}$ =26.73) Table 5.

Perceptions of Parenting Style by Students' Number of Siblings

As indicates, no significant differences were found with the respondents' numbers of siblings in the cases of psychological autonomy ($F_{629} = 2.170$, $p > .05$) and strictness/supervision ($F_{629} = 1.813$, $p > .05$). However, there were statistically significant differences across number-of-sibling groups in the scores for acceptance/involvement ($F_{629} = 8.867$, $p < .05$). Scheffe testing indicated that Group B's ($\overline{X}$ =30.52), Group C's ($\overline{X}$ =29.62) and Group D's ($\overline{X}$ =29.42) mean scores were all higher than Group E's ($\overline{X}$ =27.88) Table 6.

Perceptions of Parenting Style by Students' School Type

An independent-samples t-test was conducted to compare the public-school and private-school students' perceptions of their households' parenting styles. No significant differences were

Table 1 Empathy skill levels of fourth graders by number of siblings: Means, standard deviations and one-way ANOVA results

	Number of siblings	N	$\overline{X}$	Sd	df	F	P	Significant difference
Empathy skills	1	34	9.55	2.31	4/629	2.472	.043	E-A
	2	173	9.87	2.31				E-B
	3	198	10.23	2.28				
	4	133	10.40	2.38				
	5+	96	10.59	2.22				

A = one sibling; B = two siblings; C = three siblings; D = four siblings; E = five or more siblings

found for acceptance/involvement ($t_{632} = -.508$, $p > .05$) or strictness/supervision ($t_{632} = .655$, $p > .05$), but a significant difference was found in the case of psychological autonomy ($t_{632} = 3.017$, $p < .05$), with the private-school students mean scores being higher ($\overline{X}$ =22.45 vs. $\overline{X}$ =21.17) Table 7.

Perceptions of Parenting Style by Monthly Household Income

A one-way ANOVA comparing parenting-style perceptions across the same five monthly-income groups discussed above found no statistically significant differences between them in any of the Parenting Style Scale's three dimensions (acceptance/involvement: $F_{629} = 1.222$, $p > .05$; psychological autonomy: $F_{629} = 2.246$, $p > .05$; strictness/supervision: $F_{629} = 1.801$, $p > .05$).

Relationships among Empathy Skill Levels, Aggressiveness Levels, and Parenting-Style Perceptions

Pearson correlations revealed a negative relationship between students' perceptions of the psychological-autonomy and acceptance/involvement dimensions of the Parenting Style Scale ($r = -.167$, $p < .01$), and between their perceptions of the psychological-autonomy dimension and their aggressiveness levels ($r = -.085$, $p < .05$). There were no statistically significant relationships between perceptions of psychological autonomy and of strictness/supervision dimensions ($r = .006$, $p > .05$), or between perceptions of psychological autonomy and empathy skills ($r = -.045$, $p > .05$) Table 8.

There was a positive correlation between perceptions of acceptance/involvement and perceptions of strictness/supervision dimensions ($r = .120$, $p < .01$), and a negative correlation between acceptance/involvement perceptions and aggressiveness ($r = -.115$, $p < .01$). There was no statistically significant relationship between acceptance/involvement perceptions and empathy ($r = -.016$, $p > .05$).

A negative correlation was found between strictness/supervision perceptions and aggressiveness ($r = -.264$, $p < .01$). However, there was no significant correlation between such perceptions and empathy ($r = -.021$, $p > .05$), or between aggressiveness and empathy ($r = -.045$, $p > .05$).

Discussion

This study examines the relationship between, on the one hand, the empathy and aggressiveness levels of Turkish fourth graders, and on the other, their perceptions of their mothers' and fathers' parenting styles. This study's finding of no statistically significant difference between fourth-grade girls' and boys' empathy skills echoes Köksal (1997), but contradicts many other scholars' findings that girls' empathy skill levels are significantly higher than boys', either specifically in primary school (Çetin and Aytar 2012; Küçükkaragöz et al. 2011) or at various other ages (Barnett et al. 1980; Sayın 2010; Uyaroğlu 2011; see also Derntl et al. 2010). The lack of any statistically significant age-related differences in the empathy skills of the present study's respondents also contradicts the findings of several prior studies, including Sayın (2010) and Alkaya (2004). However, this may simply reflect that the present study's sample consisted solely of fourth graders, more than two-thirds of whom were aged 10.

The empathy skill levels of the respondents who had five or more siblings were higher than those of their peers who had one or two siblings. Theoretically, this might be due to factors including sharing, cooperating and solidarity between siblings, and it broadly echoes prior findings by Köksal (1997) and Sayın (2010). However, Küçükkaragöz et al.

Table 2 T-test results, aggressiveness levels of fourth graders by gender

	Gender	n	$\overline{X}$	Sd	t	p
Aggressiveness	Boy	329	18.57	4.97	7.170	.000
	Girl	305	16.10	3.52		

Table 3 Aggressiveness levels of fourth graders by age: Means, standard deviations and one-way ANOVA results

	Age	N	$\overline{X}$	Sd	df	F	P	Significant difference
Aggressiveness	9	98	16.90	4.35	2/631	5.074	.007	B-A
	10	432	17.18	4.22				C-A
	11	104	18.64	5.51				

A = 9; B = 10; C = 11

(2011) did not find any significant differences in children's empathy levels related to how many siblings they had.

To the best of the researchers' knowledge, no prior studies have tested the relationship between schoolchildren's empathy and the status of their schools as public or private. Nevertheless, the lack of any statistically significant difference in empathy between these two groups tends to contradict the received wisdom that private schools equip their students with superior empathy skills by affording them more opportunities for mutual communication and interaction via cultural and sportings activities.

Similarly, the present study found no significant difference between the sampled fourth graders' empathy skills and their parents' monthly incomes. This parallels Taner-Derman's (Taner-Derman 2013) finding that socioeconomic status did not influence 10 and 11 year olds' empathy skills. However, Çetin (2008) and Sayın (2010) both reported that the empathy skills of children who perceived their parents' monthly incomes as high were higher than those of their peers who thought their parents had low incomes.

Turning to aggressiveness, the prior findings are mixed: with Aytekin (2015) stating that gender did not influence children's aggressiveness, whereas Murray-Close and Ostrov (2009) found that girls were more aggressive than boys. However, the present studies finding of the reverse situation, i.e., that the male respondents were more aggressive than the female ones, echoes the majority of previous studies (Çınar 2016; İzmir-Karaduman 2012; Kılıçarslan 2009; Kılınç 2012; Köksal 2016; Ovens and Macmulling 1995; Sezer et al. 2013; Tuzgöl 1998). Conner et al. (1969), observed that higher testosterone levels increased aggression on animals (cited in Tiryaki 2000), but cultural factors are also widely believed to play a role. In Turkey specifically, aggressive behaviors in boys are perceived as natural and acceptable, while in girls they are regarded as inappropriate and strange (Kılıçarslan 2009).

The present study's finding that the aggressiveness levels of 11-year-old children were higher than those of nine and 10 year olds echoes research by İzmir-Karaduman (2012) and Köksal (2016), but contradicts studies by Çınar (2016) and Tuzgöl (1998). In this context, it is worth noting Murray-Close and Ostrov's (2009) finding that older preschoolers were less physically aggressive than younger ones, and Finkenauer, Engels and Baumeister (Finkenauer et al. 2005) argument that as adolescents become older, they tend to feel stronger and freer and to resist authority more, and so their tendency to aggression increases with age.

The present study's finding of no statistically significant differences between the aggresiveness levels of fourth graders with differing number of siblings is in line with prior findings by Aytekin (2015), İzmir-Karaduman (2012), Kılıçarslan (2009) and Köksal (2016). Likewise, there was no significant difference between the aggresiveness levels of children with differing monthly household incomes, and this too was in keeping with previous findings (Aytekin 2015; Köksal 2016; Tuzgöl 1998; Ustabaş 2011). As in the case of empathy, no significant difference was found between the aggression levels of the privately and publicly educated respondents, which was somewhat surprising because in Turkey, it is expected that private schools have more opportunities than public schools to improve empathy skills of children through communication and interaction chances during several activities such as science, sports and cultural activities. However, results of current study did not support this expectation.

Turning now to parenting styles, while there was no statistically significant difference between the male and female

Table 4 T-test results, fourth graders' perceptions by gender of Parenting Style Scale sub-dimensions

	Gender	n	$\overline{X}$	Sd	t	p
Acceptance/involvement	Boy	329	29.39	3.8353	−.812	.417
	Girl	305	29.63	3.5199		
Psychological autonomy	Boy	329	21.11	4.8035	−2.042	.042
	Girl	305	21.84	4.1489		
Strictness/supervision	Boy	329	27.23	4.1306	−5.109	.000
	Girl	305	28.79	3.5352		

Table 5 Fourth graders' perception of Parenting Style Scale sub-dimensions by their ages: Means, standard deviations and one-way ANOVA results

	Age	N	$\overline{X}$	Sd	df	F	P	Significant difference
Acceptance/involvement	9	98	29.44	3.54	2/631	1.966	.141	–
	10	432	29.67	3.71				
	11	104	28.88	3.67				
Psychological autonomy	9	98	21.68	4.30	2/631	.133	.76	–
	10	432	21.42	4.50				
	11	104	21.46	4.77				
Strictness/supervision	9	98	28.53	3.34	2/631	6.796	.001	A-C
	10	432	28.16	3.85				B-C
	11	104	26.73	4.48				

A = 9; B = 10; C = 11

respondents' perceptions of the acceptance/involvement dimension, there were significant differences in these two groups' perceptions of both psychological autonomy and strictness/supervision, with girls scoring higher in both of these dimensions. This could reflect that parental acceptance of and involvement with their children are not affected by the latter's genders, and/or that parents are more indulgent about girls expressing their individuality, while also controlling them more. In Turkish society, the idea that women should be more controlled and cautious is commonplace, and parenting styles will naturally reflect such social expectations (Yılmazer 2007). Köksal (2016) found that girls perceived their parents' attitudes as being more democratic than boys did, and that boys perceived them as more authoritarian than girls did. Ersin (2010) and Turan (2017), meanwhile, reported no differences in parents' attitudes related to their children's genders.

The present study's finding of no statistically significant age-based differences in fourth graders' perceptions of parental acceptance/involvement and psychological autonomy echoes recent findings by Ersin (2010), Köksal (2016), and Turan (2017), who found no correlations between children's ages and parenting styles. Regarding the strictness/supervision dimension, however, the scores of the present study's nine and 10-year-old respondents were higher than those of the 11 year olds in the same sample. In other words, while the children's ages did not influence their parents' involvement with them or granting of opportunities for them to express themselves, parental strictness was lower when their children were older. It may be a result of that children can get more autonomy as they get older (Bigner 2006; Smetana et al. 2005).

There were no statistically significant differences between fourth graders with differing numbers of siblings when it came

Table 6 Fourth graders' perceptions, by number of siblings, of Parenting Style Scale sub-dimensions: Means, standard deviations and one-way ANOVA results

	Number of siblings	N	$\overline{X}$	Sd	df	F	P	Significant difference
Acceptance/involvement	1	34	28.67	4.11	4/629	8.867	.000	B-E
	2	173	30.52	3.30				C-E
	3	198	29.62	3.42				D-E
	4	133	29.42	3.45				
	5+	96	27.88	4.35				
Psychological autonomy	1	34	23.00	4.78	4/629	2.170	.071	–
	2	173	21.68	4.59				
	3	198	20.86	4.61				
	4	133	21.42	4.38				
	5+	96	21.86	4.07				
Strictness/supervision	1	34	28.20	2.30	4/629	1.813	.125	–
	2	173	28.27	3.84				
	3	198	28.11	3.83				
	4	133	28.06	3.91				
	5+	96	27.01	4.61				

A = one sibling; B = two siblings; C = three siblings; D = four siblings; E = five and more siblings

Table 7 T-test results, fourth graders' perceptions by school type of Parenting Style Scale sub-dimensions

	School type	n	$\overline{X}$	Sd	t	p
Acceptance/involvement	Private	146	29.37	3.74	−.508	.612
	Public	488	29.55	3.67		
Psychological autonomy	Private	146	22.45	4.55	3.017	.003
	Public	488	21.17	4.46		
Strictness/supervision	Private	146	28.17	3.87	.55	.513
	Public	488	27.92	3.95		

to their perceptions of the psychological-autonomy and strictness/supervision dimensions of the Parenting Style Scale. However, regarding the in acceptance/involvement dimension, the scores of those students who had two, three or four siblings were higher than their peers who had five siblings or more. This apparent discrepancy may relate to children's expectations that their parents will care for each of them individually and establish a warm and close relationship, which may be subverted if the total number of children in the household is very large. Previously, Yılmazer (2007) found a statistically significant difference in the acceptance/involvement dimension by number of children, but Turan (2017) and Uyaroğlu (2011) did not.

While there were no statistically significant differences between public- and private-school students' perceptions of the acceptance/involvement and strictness/supervision dimensions of the Parenting Style Scale, the private-school group's perception scores for the psychological-autonomy dimension were higher than those of their public-school peers. It may be related to that parents whose children attend private schools give their children more opportunities for individuality and autonomy because they are usually more flexible and responsive than other parents in public schools because of facilities and safety of private schools.

The lack of statistically significant household-income-related differences between the sampled students' perceptions of any of the three parenting-style dimensions parallels some prior findings (Enginbay 2014; Köksal 2016). However, Turan (2017) found that the parenting styles that prevailed in households with monthly incomes of 3000 TL or less were more democratic than those of households with higher incomes; and Yılmazer (2007) reported that parents' monthly income was negatively related with their children's perceptions of their mothers' strictness/supervision, and positively related with their children's perceptions of both parents' psychological autonomy and acceptance/involvement.

Table 8 Relationships among fourth graders' empathy skill levels, aggressiveness levels and parenting-style perceptions

Variables	1	2	3	4	5
1. Psychological autonomy	1	−.167**	.006	−.085*	−.045
2. Acceptance/involvement		1	.120**	−.115**	−.016
3. Strictness/supervision			1	−.264 **	.021
4. Aggressiveness				1	−.045
5. Empathy					1

*$p < .05$, **$p < .01$

The present study found a negative relationship between 3fourth graders' aggressiveness and their perceptions of all three parenting-style dimensions. The literature refers to parents who follow all three parenting styles as democratic parents. Democratic parents encourage each child to have an individual personality and a sense of responsibility, and set clear boundaries between acceptable and unacceptable behaviors, but within the realm of the acceptable, the child is free. This approach has been found to produce individuals who are self-confident, responsible, productive, self-sufficient and respectful to other people (Mutallimova 2014). Thus, it is perhaps unsurprising that the democratic parenting style may decrease children's aggressiveness. Lotfi et al. (Lotfi Azimi et al. 2012) found that there was a negative relationship between authoritarian parenting attitudes and adolescents' aggressiveness levels; but conversely, İzmir-Karaduman (2012) reported that the children of fathers with authoritarian parenting styles were more aggressive than their peers whose fathers' attitudes were democratic. But in any case, as Köksal (2016) has pointed out, it is possible that less aggressive children merely tend to perceive their parents' attitudes as democratic, whereas their more aggressive peers think of their parents as authoritarian, irrespective of the reality of the situation.

The present study found no relationship between the respondents' parenting-style perception scores and their empathy skills. Similarly, Mete (2005) examined the problem-solving, communication, emotional response, care and behavior-control functions of high-school students' parents, and found no relationship between such functions and their children's empathy levels. However, Sayın (2010) identified a positive relationship between children's empathy levels and their parents' acceptance/involvement and psychological-autonomy dimensions, as well as a negative relationship between children's empathy and the strictness/supervision dimension (see also Parsak 2015).

No relationship was found between the present sample's empathy and aggressiveness, in keeping with Er's (2014)

findings. However, several studies appear to confirm the intuitive link between increases in empathy and decreases in aggressiveness (e.g., Akdemir 2016; Çankaya 2014). Having examined some prior studies on this topic, Lovett and Sheffield (2007) concluded that when examining the relationship between aggressiveness and empathy, scholars often ignore other variables: for instance, a high level of cognitive empathy and a low level of emotional empathy within an individual may increase that person's aggressiveness, leading to unexpected results. In other words, if the child knows which behaviors will disturb other person but does not experience the same feelings, aggression can increase.

Conclusion and Recommendations

This study's seven key findings are as follows. First, the sampled Turkish fourth graders' empathy skills were related with the total number of siblings. Second, the male respondents were more aggressive than the female ones, and 11 year olds more aggressive than their nine- and 10-year-old counterparts. Third, girls' perceptions of the psychological-autonomy and strictness/supervision dimensions of parenting styles were higher than boys' perceptions of those two dimensions. Fourth, nine- and 10-year-old respondents perceived higher levels of the strictness/supervision dimension than their 11-year-old peers did. Fifth, students with two, three or four siblings reported higher perceptions of the acceptance/involvement parenting dimension than their counterparts who had more siblings. Sixth, an important difference between private-school and public-school children was found in terms of the former's higher perception of the dimension of psychological autonomy. And seventh, there was a negative correlation between the sampled students' aggressiveness levels and their perceptions of all three dimensions of the Parenting Style Scale, but no significant relationship between empathy and parenting-style perceptions, or between empathy and aggressiveness.

In the light of these findings, it is recommended that Turksh primary schools organize empathy training programs for parents, to better inform them about how they can support their children's development of empathy. Since empathy is considered a learnable skill, schools could also create empathy training programs for their students.

With regard to the above-noted finding of a negative relation between children's aggressiveness and the democratic parenting style, television and film productions should be encouraged by the Turkish government to depict democratic parenting attitudes more frequently, and in a positive light. Additionally, educational institutions could usefully provide training to their students – especially boys – in aggression reduction, anger management, peer mediation and problem-solving skills.

Future researchers on this subject should consider incorporating qualitative data-collection methods such as observation, interviews and document analysis to supplement the quantitative data obtained through questionnaires and to provide a more in-depth examination of the subject. Aggressiveness and empathy skill levels should also be examined in terms of additional variables that were not addressed in the current study: for example, the relationship between parents' own empathy and aggressiveness levels and those of their children. Lastly, the efficacy of any proposed empathy-training and aggressiveness-reduction programs for children should be tested via experimental methods.

Compliance with ethical standards

This article was extracted from the first author's Ms. thesis.

Conflict of Interest There is no conflict of interest.

References

Akdemir, S. (2016). *İlkokul öğrencilerinde hayvana yönelik kötü davranış ile saldırganlık ve empati düzeyleri arasındaki ilişki [The relationship among cruelty to animals in primary school children, their aggression and empathy levels]*. Unpublished master's thesis, İstanbul University, İstanbul.

Alkaya, Y. (2004). *Lise öğrencilerinin iletişim ve empati becerilerinin sosyo-demografik değişkenler açısından incelenmesi [Studying high school students' communicative and emphatical abilities as regards to socio-demographical variations]*. Unpublished doctoral dissertation, Dokuz Eylül University, İzmir.

Antonopoulou, K., Alexopoulos, D. A., & Maridaki-Kassotaki, K. (2012). Perceptions of father parenting style, empathy, and self-esteem among Greek preadolescents. *Marriage & Family Review, 48*(3), 293–309. https://doi.org/10.1080/01494929.2012.665016.

Aytekin, E. (2015). *Ortaokul öğrencilerinin saldırganlık düzeyinin ebeveyn kabul red algısı ve demografik değişkenlere göre incelenmesi [Elementary school students' aggression level and acceptance/rejection perception to parents and its analysis by demographic variables]*. Unpublished master's tehesis, Gazi University, Ankara.

Bandura, A. (1969). *Principles of behavior modification*. New York: Holt, Rinehart and Winston.

Bandura, A. (1973). *Aggression: A social learning analysis*. Englewood Cliffs: Prentice-Hall.

Barnett, M. A., King, L. M., Howard, J. A., & Dino, G. A. (1980). Empathy in young children: Relation to parents' empathy, affection, and emphasis on the feelings of others. *Developmental Psychology, 16*(3), 243–244.

Baumrind, D. (1966). Effects of authoritative parental control on child behavior. *Child Development, 37*(4), 887–908.

Baumrind, D. (1967). Child care practices anteceding three patterns of preschool behavior. *Genetic Psychology Monographs, 75*, 43–88.

Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology Monographs, 4*, 1–103. https://doi.org/10.1037/h0030372.

Bigner, J. J. (2006). *Parent-child relations: An introduction to parenting*. Merrill: Pearson Education Inc..

Bryant, B. (1982). An index of empathy for children and adolescents. *Child Development, 53*, 413–425.

Buss, A. H. (1961). The psychology of Aggression. New York: Wiley.

Çankaya, G. (2014). *Çocukların oynadıkları oyunlara göre empati ve saldırganlık düzeylerinin incelenmesi [Examining the aggression and empathy level of children by the games they had played]*. Unpublished master's thesis, İstanbul University, İstanbul.

Çelik, E. G. (2015). *Algılanan ebeveyn kontrolü ile ergen iyi oluşu arasındaki ilişkide duygusal özerklik ve empatinin aracı rolü [The role of emotional autonomy and empathy on relation between perceived parental control and adolescent's well-being]*. Unpublished master's thesis, Ankara University, Ankara.

Çetin, C. N. (2008). *İlköğretim dördüncü sınıf öğrencilerinin empatik beceri düzeylerinin ana baba tutumları ve özsaygı ile ilişkisi [The relations of fourth grade students' empathic skill levels with parents' attitude and self-esteem]*. Unpublished master's thesis, Gazi University, Ankara.

Çetin, C. N., & Aytar, A. G. (2012). İlköğretim dördüncü sınıf öğrencilerinin empatik beceri düzeyleri ile algıladıkları anne baba tutumlarının incelenmesi [Study on the empathic skill levels of elementary school fourth grade students and the parental attitudes perceived by them]. *Kastamonu Eğitim Dergisi [Kastamonu Education Journal], 20*(2), 473–488).

Çınar, S. (2016). *İlköğretim 3. ve 4. sınıf öğrencilerinin anne baba tutumlarına ilişkin algılarının problem çözme becerisi ve saldırganlık düzeyleri üzerindeki etkisi [The impact of grade 3 and 4 students' perception of their parents attitude on their problem solving skills and aggression levels]*. Unpublished master's thesis, Beykent University, İstanbul.

Conner, R. L., Levine, S., Wertheim, G. A., & Cummer, J. F. (1969). Hormonal determinants of aggressive behavior. *Annals of the New York Academy of Sciences, 159*, 760–776.

Cotton, K. (2001). Developing empathy in children and youth. *School Improvement Research Series*. http://educationnorthwest.org/sites/default/files/developing-empathy-in-children-and-youth.pdf

Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development, 66*(3), 710–722.

Cuff, B. M. P., Brown, S. J., Taylor, L., & Howat, D. J. (2016). Empathy: A review of the concept. *Emotion Review, 8*(2), 144–153.

Derntl, B., Finkelmeyer, A., Eickhoff, S., Kellermann, T., Falkenberg, D. I., Schneider, F., & Habel, U. (2010). Multidimensional assessment of empathic abilities: Neural correlates and gender differences. *Psychoneuroendocrinology, 35*, 67–82. https://doi.org/10.1016/j.psyneuen.2009.10.006.

Dökmen, Ü. (2016). *Sanatta ve günlük yaşamda iletişim çatışmaları ve empati [communication conflicts and empathy in art and daily life]*. İstanbul: Remzi Kitapevi.

Doyle, A. (2014). *Violent video games, empathy and indirect aggression in primary school children: Is there an association?* Unpublished BA Hons Thesis, Dublin Business School, Dublin.

Eisenberg, N., Eggum, N. D., & Giunta, L. D. (2010). Empathy-related responding: Associations with prosocial behavior, aggression, and intergroup relations. *Social Issues Policy Review, 4*(1), 143–180. https://doi.org/10.1111/j.1751-2409.2010.01020.x.

Enginbay, Ş. (2014). *Ortaokul 5. ve 8. sınıflarda algılanan anne baba tutumları ve ailelerin çocuk yetiştirme stillerinin akademik başarıya etkisi [Effect of perceived parental attitudes and parenting styles on academic achievement of 5th and 8th grade students]*. Unpublished master's thesis, Fatih University, İstanbul.

Er, G. (2014). *Ergenlikte reaktif-proaktif saldırganlık, empati ve çocuk yetiştirme stilleri [The relationships between reactive–proactive aggression, empathy and parenting styles in adolescence]*. Unpublished master's thesis, Mersin University, Mersin.

Ersin, B. (2010). *Lise öğrencilerinin suç eğilimleri ile anne baba tutumları arasındaki ilişki (Beyoğlu ilçesi örneği) [The relation between high school students' crime tendency and parents' attitudes: The sample of Beyoğlu district]*. Unpublished master's thesis, Beykent University, İstanbul.

Filiz, A. (2009). *Farklı lise türlerindeki öğrencilerin empatik eğilimleri ve saldırganlık düzeylerinin incelenmesi (Kartal ilçesi örneği) [The investigation of relationship between different secondary schools' students' empathic tendency and aggressiveness]*. Unpublished master's thesis, Yeditepe University, İstanbul.

Finkenauer, C., Engels, R. C. M. E., & Baumeister, R. F. (2005). Parenting behaviour and adolescent behavioural and emotional problems: The role of self-control. *International Journal of Behavioral Development, 29*(1), 58–69.

Fraenkel, J. R., & Wallen, N. E. (2006). *How to design and evaluate research in education*. New York: McGraw-Hill, Inc..

Freedman, J. L., Carlsmith, J. M., & Sears, D. O. (1974). *Social psychology*. Englewood Cliffs: Prentice-Hall, Inc..

Fromm, E. (1973). *The anatomy of human destructiveness*. New York: Henry Holt.

Fromm, E. (1982). *Sevgi ve şiddetin kaynağı [The heart of man: Its genius for good and evil]*. (Trans. Y. Salman and N. İçten). İstanbul: Palmiye Yayınevi.

Fromm, E. (1995). *İnsanda yıkıcılığın kökenleri [The anatomy of human destructiveness]*. (Trans. Ş. Alpagut). İstanbul: Payel Yayınları.

Gagan, J. M. (1983). Methodological notes on empathy. *Advances in Nursing Science, 5*, 65–72.

Geştan, E. (2014). *Psikanaliz ve sonrası [psychoanalysis and post]*. İstanbul: Metis Yayınları.

Goldstein, A. P., & Michaels, G. Y. (1985). *Empathy: Development, training, consequences*. Hillsdale: Lawrence Erlbaum.

Gültekin, F. (2008). *Saldırganlık ve öfkeyi azaltma programının ilköğretim ikinci kademe öğrencilerinin saldırganlık ve öfke düzeyleri üzerindeki etkisi [The effect of aggression and anger reduce program (SOAP) on level of aggression and anger of middle school students]*. Unpublished doctoral dissertation, Hacettepe University, Ankara.

Gürsel, H. E. (2016). *Branş öğretmenlerinin empatik eğilim düzeylerinin çeşitli değişkenler açısından incelenmesi (Avcılar Örneği) [Analysis of the branch teachers' empathic tendency levels in terms of different variables (Avcılar sample)]*. Unpublished master's thesis, İstanbul Aydın University, İstanbul.

Hasdemir, D. (2007). *Ergenlerin ve anne babalarının empatik becerileri ile aile yapılarını değerlendirmeleri üzerine bir araştırma [Research into the empathetic skills of adolescents and parents and their evaluation of family structures]*. Unpublished doctoral dissertation, Gazi University, Ankara.

Hoffman, M. L. (1977). *A three component model of empathy*. Paper presented at the Biennial meeting of the society for research in child development (New Orleans, Louisiana, March 17–20).

Hogg, M. A., & Vaughan, G. M. (2013). *Social psychology*. Pearson: Harlow, England.

Ioannidou, F., & Konstantikaki, V. (2008). Empathy and emotional intelligence: What is it really about. *International Journal of Caring Sciences, 1*(3), 118–123.

İzmir-Karaduman, D. (2012). *İlköğretim I. kademe 4. ve 5. sınıf öğrencilerinin saldırganlık düzeyleri ile anne baba tutumları arasındaki ilişkinin incelenmesi [The relationship between the aggressiveness level of the fourth and the fifth grade primary school students and the parenting styles]*. Unpublished master's thesis, İstanbul Arel University, İstanbul.

Kagan, J. (1999). The role of parents in children's psychological development. *Pediatrics, 104*, 164–167.

Karasar, N. (2005). *Bilimsel araştırma yöntemi [scientific research method]*. Ankara: Nobel Yayın Dağıtım.

Keen, S. (2007). *Empathy and the novel*. New York: Oxford University Press.

Kehale, D. (2002). *Okul öncesi öğretmenliği programı öğrencilerinin algıladıkları anne-baba davranışları, kendilik algısı ve empatik*

beceri düzeyleri ve bunlar arasındaki ilişki [Self-perception, perception of parent behavior and empathic skills, and the correlation between these parameters of the pre-school educators]. Unpublished master's thesis, Marmara University, İstanbul.

Kılıçarslan, S. (2009). *İlköğretim 7. ve 8. sınıf öğrencilerinin akılcı olmayan inançları ile saldırganlık düzeyleri arasındaki ilişkinin incelenmesi [The relationships between irrational beliefs and aggressiveness in adolescent]*. Unpublished master's thesis, Çukurova University, Adana.

Kılınç, E (2012). *Genel lise 9. sınıf öğrencilerinin, bazı değişkenlere ve sürekli kaygı durumlarına göre saldırganlık düzeylerinin incelenmesi [Analysis of aggression level of the 9th class students of general high school according to some variables and the situations of triat anxiety]*. Unpublished master's thesis, Gaziantep University, Gaziantep.

Köksal, A. (1997). *Müzik eğitimi alan ve almayan ergenlerin empatik becerilerinin ve uyum düzeylerinin incelenmesi [Empathic skills and adjustment levels of adolescents getting or not getting education in music]*. Unpublished doctoral dissertation, Ankara University, Ankara.

Köksal, B. (2016). *Özel bir okulda okuyan 2–6 yaş arasındaki çocukların saldırganlık düzeyleri ile anne-baba tutumları arasındaki ilişkinin incelenmesi [Examination of the relationship between aggression levels and parental attitudes on 2–6 years old private school pupils]*. Unpublished master's thesis, Beykent University, İstanbul.

Küçükkaragöz, H., Akay, Y., & Canbulat, T. (2011). Bir grup ilköğretim öğrencisinin bazı psiko-sosyal değişkenlere göre empatik beceri düzeyleri [the level of emphatic skills of a group of elementary school students according to some psycho-social variables]. *Uşak Üniversitesi Sosyal Bilimler Dergisi [Uşak University Journal of Social Sciences], 4*(2), 89–101.

Kutlu, H. (2014). *Okul öncesi kurumuna devam eden 5 yaş grubu çocukların saldırganlık eğilimleri üzerinde anne baba tutumu etkisinin psikanalitik kuram çerçevesinde incelenmesi [Analysis of the parent's attitude effect on the 5 year-old children in the preschool who have aggressive tendency in accordance with the psychoanalytic theory].*]. Unpublished master's thesis, Maltepe University, İstanbul.

Lamborn, S. D., Mounts, N. S., Steinberg, L., & Dornbusch, S. M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development, 62*(5), 1049–1065. https://doi.org/10.2307/1131151.

Llorca, A., Richaud, M. C., & Malonda, E. (2017). Parenting styles, prosocial, and aggressive behavior: The role of emotions in offender and non-offender adolescents. *Frontiers in Psychology, 8*(1246), 1–11. https://doi.org/10.3389/fpsyg.2017.01246.

Lorenz, K. (1963). *On aggression*. New York: Harcourt Brace & Company.

Lotfi Azimi, A., Vaziri, S., & Lotfi Kashani, F. (2012). Relationship between maternal parenting style and child's aggressive behavior. *Procedia-Social and Behavioral Sciences, 69*, 1276–1281.

Lovett, B. J., & Sheffield, R. A. (2007). Affective empathy deficits in aggressive children and adolescents: A critical review. *Clinical Psychology Review, 27*(1), 1–13.

Maccoby, E. E. (1992). The role of parents in the socialization of children: An historical overview. *Developmental Psychology, 28*(6), 1006–1017.

Marshall, L. E., & Marshall, W. L. (2011). Empathy and antisocial behavior. *The Journal of Forensic Psychiatry & Psychology, 22*(4), 742–759.

Mete, B. (2005). *Lise son sınıf öğrencilerinin empatik becerileri ile aile işlevleri arasındaki ilişkinin çeşitli değişkenler açısından incelenmesi [Investigation of the relationship between empathic skills and family functions of High School last grade students with respect to different variables.]*. Unpublished master's thesis, Dokuz Eylül University, İzmir.

Miller, P. A., & Eisenberg, N. (1988). The relation of empathy to aggressive and externalizing/antisocial behavior. *Psychological Bulletin, 103*(3), 324–344.

Murray-Close, D., & Ostrov, J. M. (2009). A longitudinal study of forms and functions of aggressive behavior in early childhood. *Child Development, 80*(3), 828–842.

Mutallimova, S. (2014). *Lise öğrencilerinde depresyon düzeyi ve anne baba tutumu arasındaki ilişkinin incelenmesi [The examination of the depression level among high school students and their relationship between parenting attitude]*. Unpublished master's thesis, İstanbul Arel University.

Ovens, L. D., & Macmulling, C. E. (1995). Gender differences in aggression in children and adolescents in south Australian schools. *International Journal of Adolescence and Youth, 6*(1), 21–35.

Pala, A. (2008). Öğretmen adaylarının empati kurma düzeyleri üzerine bir araştırma [a research on the levels of empathy of prospective teachers]. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi [Pamukkale University Education Faculty Journal], 23*(23), 13–23.

Parsak, B. (2015). *Ebeveyn tutumları ile okul öncesi dönem çocuklarının davranış problemleri arasındaki ilişkide çocukların empati ve sosyal beceri düzeylerinin rolü [The role of empathy and social skill levels of preschool children in relation between parental attitudes and behavioral problems]*. Unpublished master's thesis, Adnan Menderes University, Aydın.

Poresky, R. H. (1990). The young children's empathy measure: Reliability, validity and effects of companion animal bonding. *Psychological Reports, 66*, 931–936.

Rivers, I., & Smith, P. K. (1994). Types of bullying behaviour and their correlates. *Aggressive Behaviour, 20*, 359–368.

Rogers, C. R. (1975). Empathic: An unappreciated way of being. *The Counseling Psychologist, 5*(2), 2–10.

Sağkal, S. (2011). *Barış eğitimi programının ilköğretim 6. sınıf öğrencilerinin saldırganlık eğilimleri, empati düzeyleri ve barışa ilişkin görüşleri üzerindeki etkisinin incelenmesi [Investigating the effect of peace education program on the sixth grade elementary students' aggressiveness tendencies, empathy levels, and perceptions related to peace]*. Unpublished master's thesis, Dokuz Eylül University, İzmir.

Şahin, H. (2004). Saldırganlık ölçeği geçerlik ve güvenirlik çalışması [The reliability and validity of the Aggressiveness Scale]. *Süleyman Demirel Üniversitesi Burdur Eğitim Fakültesi Dergisi [Süleyman Demirel University Burdur Education Faculty Journal], 5*(7), 180–195.

Şahin, E. (2015). *Ergenlik dönemindeki bireylerde saldırganlık davranışı ve algılanan anne baba tutumları arasındaki ilişkiye benlik saygısı düzeylerinin etkisi [The effects of self-esteem levels on the relationship between agression behaviour and percieved parents attitude on the adolescent individuals]*. Unpublished master's thesis, Beykent University, İstanbul.

Sak, R., Şahin-Sak, İ. T., Atli, S., & Şahin, B. K. (2015). Preschool period: Parenting attitudes. *Mersin University Journal of the Faculty of Education, 11*(3), 972–991.

Sayın, K. B. (2010). *İlköğretim birinci kademe öğrencilerinin empati becerileri ile anne-baba tutumları arasındaki ilişki [Correlation of empathy skills and parenting attitude in primary school students]*. Unpublished master's thesis, Maltepe University, İstanbul.

Sezer, A., Kolaç, N., & Erol, S. (2013). Bir ilköğretim okulu 4, 5, ve 6. sınıf öğrencilerinin saldırganlık düzeylerinin anne-baba tutumları ve bazı değişkenler ile ilişkisi [The relationship between a primary school fourth, fifth, sixth grade students' aggressiveness levels, parent attitudes and some variables]. *Marmara Üniversitesi Sağlık Bilimleri Enstitüsü Dergisi [Journal of Marmara University Institute of Health Sciences], 3*(4), 184–190.

Smetana, J., Crean, H. F., & Campione-Barr, N. (2005). Adolescents' and parents' changing conceptions of parental authority. In: Smetana, J. G. (Ed.), *New Directions for Child and Adolescent Development: Changing boundaries of parental authority during adolescence* (No: 108; pp. 31–46). San Francisco: Jossey-Bass.

Sohravardi, B. B. H., Bafrooei, K. B., & Fallah, M. H. (2015). The effect of empathy training programs on aggression and compatibility students of elementary schools in Yazd, Center of Iran. *International Journal of Pediadrics, 3*(4–2), 841–851.

Stanger, N., Kavussanu, M., McIntyre, D., & Ring, C. (2016). Empathy inhibits aggression in competition: The role of provocation, emotion and gender. *Journal of Sport & Exercise Psychology, 38*, 4–14. https://doi.org/10.1123/jsep.2014-0332.

Strayer, J., & Roberts, W. (2004). Empathy and observed anger and aggression in five-year-olds. *Social Development, 13*(1), 1–13.

Taner-Derman, M. (2013). Çocukların empati beceri düzeylerinin ailesel etmenlere göre belirlenmesi [determining the empathic skill levels of children by their domestic factors]. *The Journal of Academic Social Science Studies, 6*(1), 1365–1382.

Tezel-Şahin, F., & Özyürek, A. (2008). Examining of the effects to child raising attitudes of demographic characteristics of parents that have 5-6 years children group. *Journal of Turkish Educational Sciences, 6*(3), 395–414.

Tiryaki, Ş. (2000). *Spor psikolojisi: Kavramlar, kuramlar ve uygulama [sport psychology: Concepts, theories and practice]*. Ankara: Eylül Kitap ve Yayınevi.

Torre-Cruz, D., Garcia-Linares, M. J., & Casanova-Arias, P. F. (2014). Relationship between parenting styles and aggressiveness in adolescents. *Electronic Journal of Research in Educational Psychology, 12*(1), 147–170.

Trenas, A. F. R., Osuna, M. J. P., Olivares, R. R., & Cabrera, J. H. (2013). Relationship between parenting style and aggression in a Spanish children sample. *Procedia-Social and Behavioral Sciences, 83*, 529–536.

Turan, F. (2017). *Ergenlerde internet bağımlılığının anne baba tutumları açısından incelenmesi [Examination of internet addiction in adolescents in relation to parental attitudes]*. Üsküdar University, İstanbul: Unpublished master's thesis.

Tuzgöl, M. (1998). *Anne baba tutumları farklı lise öğrencilerinin saldırganlık düzeylerinin çeşitli değişkenler açısından incelenmesi [Examining aggressiveness levels of high school students whose parents have different attitudes in terms of various variable]*. Unpublished master's thesis, Hacettepe University, Ankara.

Ünal, F. (2007). Çocuklarda empatinin gelişimi: Empatinin gelişiminde anne-baba tutumlarının etkisi [the development of empathy in children: The effect of parents' attitudes in the development of empathy]. *Milli Eğitim [Journal of National Education], 176*, 134–148.

Ustabaş, S. (2011). *İlköğretim 8. sınıf öğrencilerinin saldırganlık ve algılanan sosyal destek düzeylerinin bazı değişkenlere göre düzenlenmesi [Analyzing the primary school 8th grade students' aggression levels and levels of perceived social support according to some variables]*. Unpublished master's thesis, Hacettepe University, Ankara.

Uyaroğlu, B. (2011). *Üstün yetenekli ve normal gelişim gösteren ilköğretim öğrencilerinin empati becerileri ve duygusal zeka düzeyleri ile anne-baba tutumları arasındaki ilişkinin incelenmesi [Analyzing the relation between the empathy skills, emotional intelligence level and parent attitude of gifted and normally developed primary school students]*. Unpublished master's thesis, Hacettepe University, Ankara.

Walker, S., & Richardson, R. D. (1998). Aggression strategies among older adults: Delivered but not seen. *Aggression and Violent Behavior, 7*(3), 287–294.

Woolley, D. (2012). *Deficiencies in empathy as a predictor of aggression in young children*. Unpublished thesis, University of Cape Town, Cape Town.

Yeşilyaprak, B. (1993). Kişilik gelişiminde ailesel faktörlerin etkisine ilişkin bir araştırma [an investigation of impact of family factors on personality development]. *Sosyal Politika Çalışmaları Dergisi [Journal of Social Policy Studies], 3*(3), 3–16.

Yılmaz, A. (2000). Anne baba tutum ölçeğinin güvenirlik ve geçerlik çalışması [Parenting style scale: Reliability and validity]. *Çocuk ve Gençlik Ruh Sağlığı Dergisi [Turkish Journal of Child and Adolescent Mental Health], 7*(3), 160–172.

Yılmazer, Y. (2007). *Anne baba tutumları ile ilköğretim ikinci kademe öğrencilerinin okul başarısı ve özerkliklerinin gelişimi arasındaki ilişkinin incelenmesi [Assessment of the relation between parenting styles and academic success and autonomy development for 6th, 7th and 8th grade students.]*. Unpublished master's thesis, Hacettepe University, Ankara.

Yılmaz-Yüksel, A. (2003). *Empati eğitim programının ilköğretim öğrencilerinin empatik becerilerine etkisi [The effects of the empathy training programme upon the emphatic ability levels of primary school students]*. Unpublished doctoral dissertation, Ankara University, Ankara.