

Parental and school bonding in Iranian adolescent perpetrators and victims of bullying

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Abstract

This study compared parental and school bonding in adolescents in Iran who are perpetrators of bullying, victims of bullying and not-involved in bullying. Secondary school students ($N=240$) were selected by cluster random sampling and screening, and categorized as perpetrators of bullying ($N=80$), victims of bullying ($N=80$) and non-involved ($N=80$) by teacher and vice-principal nominations. The Parental Bonding Instrument and the School Bonding Scales were completed by the students. With some exceptions (i.e., no between-group differences in maternal overprotectiveness and boys reported higher levels of school involvement than girls), results suggest similar patterns in Iran as in Western societies. With regard to parental bonding, perpetrators of bullying reported lower levels of maternal and paternal care than victims of bullying and non-involved students, higher levels of paternal overprotectiveness than non-involved students, higher levels of paternal authoritarianism (or lower levels of autonomy) than victims and non-involved students, and higher levels of maternal authoritarianism than victims. For school bonding, perpetrators of bullying reported lower levels of school and teacher attachment than the other two groups and victims reported lower levels of school and teacher attachment than non-involved students. Implications for school psychologists are discussed.

Keywords

bullying, female and male students, parental bonding, school bonding, victimization

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Bullying is defined as systematic and repeated aggressive behaviour against others in the context of a power imbalance in the relationship (Garcia & Margallo, 2014). Although prevalence estimates vary depending on the country and the methods used to assess bullying, Craig et al. (2009) found self-reports of involvement in bullying as a perpetrator or victim among adolescents (ages 11, 13, and 15) in 40 countries ranging from 8.6% to 45.2% for boys, and from 4.8% to 35.8% for girls. In Iran, the country where the current study was conducted, Rezapour, Soori, and Khodakarim (2014) found that 5.4% of middle school students reported being a perpetrator of bullying, 22.1% being a victim of bullying, and 11% being both a perpetrator and victim of bullying. Given the high prevalence of bullying in Iran, understanding the factors contributing to bullying among adolescents in Iran is important.

Bullying is a widespread and serious problem because of the negative consequences for victims, bullies, and the school climate (Holt & Espelage; Jacobsen & Bauman, 2007). Adolescents who are perpetrators of bullying engage in antisocial behaviours such as physical and indirect aggression; they are also more likely to engage in substance abuse, and become involved in delinquency and criminal behaviour (Oliveira et al., 2016; Sangalang, Tran, Ayers, & Marsiglia, 2016; Sigfusdottir, Gudjonsson, & Sigurdsson, 2010). Although victims of bullying sometimes have externalizing behaviour problems, they more typically have internalizing problems such as high levels of stress, anxiety, depression, suicidal ideation, loneliness, and low self-esteem (Brito & Oliveira, 2013; Chu, Hoffman, Johns, Reyes-Portillo, & Hansford, 2015; Geoffroy et al., 2016; Olenik-Shemesh, Heiman, & Eden; Schneider, O'Donnell, Stueve, & Coulter, 2012). Although bullying is linked to personality, neurodevelopmental, and psychiatric disorders (Copeland, Wolke, Angold, & Costello, 2013; Timmermanis & Wiener, 2012; Valmaggia et al., 2015; Wiener & Mak, 2009), several studies have shown that some aspects of children's relationships with parents, peers, and school personnel may promote or decrease involvement in bullying (Chan & Chui, 2013; Larochette, Murphy, & Craig, 2010; Nikiforou, Georgiou & Stavriniades, 2013; Walden & Beran, 2010) and, as will be discussed below, student bonding with parents and the school are especially important. Accordingly, the overall purpose of the current study was to investigate whether parental and school bonding contributes to bullying and victimization in female and male secondary school students in Iran.

There are several aspects of the culture of Persian people that might affect the perception of Iranian adolescents of parental and school bonding and the relationship between social bonding and bullying. The culture is collectivistic and patriarchal, and traditions are typically respected (Tavakoli, 2012). The extended family has traditionally been the basic unit of society and its social and psychological bonds are intense (Waxler-Morrison, Anderson, Richardson, & Chambers, 2005). Adolescents are not generally given the autonomy that is typical in Western cultures (Jalali, 2005; Tavakoli, 2012) to the extent that it is considered sacrilegious to disobey parents, whose authority is important (Qadir, Stewart, Khan, & Prince, 2005). Schools are segregated by gender and are often

overcrowded (Wiseman, 2008). Furthermore, boys and girls in Iran may have different educational and occupational aspirations and opportunities (Khodarahimi, 2014; Sharepour, 2005). It is therefore important to investigate the association between parental and school bonding and bullying in Iran because it might differ from the findings in Western and Asian countries. Although studies performed in Western cultures did not report gender differences in the association between parental bonding, school bonding, and bullying, given the Persian cultural and school context, useful information may be obtained by studying the role of gender in parental and school bonding, as well as its interaction with bullying.

Social bonding

According to Hirschi's (1969) social control (bond) theory, people with stronger social bonding tend to accept conventional norms and values, while those with poor social bonding are more likely to deviate from these values. Hirschi indicated that key components of social bonding include attachment to family and school, commitment to conventional pathways of achievement, and belief in the legitimacy of social contracts.

The term parental bonding, as used in the current study and bullying research in general, is closely related to the concept of attachment proposed by Bowlby (1969, 2005). Attachment is a strong emotional bond between parent and child that develops in the first two years of life, and affects the child's development and functioning lifelong. Secure attachment allows children to confidently explore the world, whereas insecure attachment can adversely affect their development and may contribute to the development of various psychiatric disorders (see Mikulincer & Shaver, 2007 for review). Bonding, however, specifically refers to parental behaviours that contribute to attachment (Bowlby, 2005). Parker, Tupling, and Brown (1979) argued that bonding-related parental behaviours can be described as part of two dimensions: *Care/warmth* as opposed to *indifference*, and *control/ overprotection* as opposed to *the encouragement of autonomy*. Affection, considering the needs of the child or adolescent, and providing support are key aspects of care and warmth, whereas intrusiveness and demands for obedience are parental behaviours that are viewed as controlling and overprotective. Distorted attachment typically occurs when the child perceives low levels of care and high levels of control (Bowlby, 1969; Parker et al., 1979).

The concept of school bonding or connectedness captures the connections students experience at school, the extent to which they feel cared for and respected by their teachers, their level of participation and involvement in their school, and their commitment to the values and beliefs of the school (see Oelsner, Lippold & Greenberg, 2010 for review). School bonding or connectedness has been found to be predictive of positive outcomes in youth including achievement motivation (Lee, Shek, & Sun, 2015), academic achievement, self-esteem, and reduction in substance use and antisocial behaviours (see Maddox & Prinz, 2003 for a review of this literature).

The association between bullying and bonding

Using the Psycinfo Proquest database we identified 23 studies published between January 2001 and December 2015 that investigated the association between parental and/or school bonding and bullying in youth. These studies were conducted in the Australia, East Asia, several European countries, and North America (see Table 1, online supplemental materials). None of these studies were conducted in the Middle East. In all of these studies, youth self-report measures of bullying and school bonding were used. Parental bonding was also assessed using youth self-report measures in most of the studies, but two studies used a parent report questionnaire (Georgiou, 2008; Stevens, De Bourdeaudh, & Van Oost, 2002).

With regard to parental bonding, parent caring, warmth, support, involvement, communication, and trust were negatively associated with bullying and victimization in several studies (Chan & Chui, 2013; Chan & Wong, 2015; Georgiou, 2008; Holt & Espelage, 2007; Idsoe, Solli, & Cosmovici, 2008; Nikiforou et al., 2013; Popp & Peguero, 2012; Stevens et al., 2002; Walden & Beran, 2010; Wang, Iannotti, & Nansel, 2009). Conversely, student perceptions of feeling alienated from parents and that parents engaged in high levels of punishment were associated with both bullying others and being a victim of bullying (Nikiforou et al., 2013; Stevens et al., 2002; Walden & Beran, 2010). Furthermore, adolescent perceptions that they were not given sufficient autonomy and their perceptions that they were overprotected were associated with their reports of being victimized by others (Mitsopoulou & Giovazolias, 2013; Nation, Vieno, Perkins, & Santinello, 2008). Although none of the above studies found differences in the pattern of the associations between parental bonding and bullying, the findings are inconsistent in terms of gender differences in parental bonding *per se*. The most recent study by Mitsopoulou and Giovazolias (2013) found no gender differences in any aspects of parental bonding. Other studies have shown that girls report lower levels of maternal overprotection (Brewin, Firth-Cozens, Furnham, & McManus, 1992), parental control (Nation et al., 2008), and paternal care (Todd & Gynther, 1988) and higher levels of paternal overprotection than boys (Richman & Flaherty, 1990).

The studies also demonstrated a clear connection between school bonding and bullying and victimization. Perpetrators and victims of bullying often felt that they were not being supported by teachers (Lam, Law, Chan, Wong, & Zhang, 2015; Nation et al., 2008; Wei, Williams, Chen, & Chang, 2010), and did not feel connected with school values (Chan & Chui, 2013; Chan & Wong, 2015; Cunningham, 2007; Duy & Yildiz, 2014). Furthermore, bully, victim, and bully/victim classification was associated with having fewer friends (Wang et al., 2009) and victims of bullying had a more negative perception of the school climate than non-involved students (Giovazolia, Kourkoutas, Mitsopoulou, & Georgiadi, 2010). Although none of the studies showed gender differences in the pattern of the association between school bonding and bullying, studies performed in Western cultures tend to show that girls have higher levels of school bonding than boys (Cunningham, 2007; Popp & Peguero, 2012).

The current study

The purpose of the current study was to investigate whether Persian male and female adolescents whose teachers classify them as perpetrators of bullying, victims of bullying, or not involved in bullying differ in their perceptions of parent and school bonding. The previous research reported above demonstrated the association of parent and school bonding and bullying. Nevertheless, further research is required to determine whether this is the case in the Middle East in general, and Iran in particular where, as described above, there are specific cultural factors that may change the pattern of these associations. Previous research has shown cultural differences in the ways that children perceive parental bonding behaviours. For example, children from Eastern cultures (Korean and Chinese) experience behaviours that in European cultures are considered to reflect behavioural control as parental warmth and acceptance (Kim, 2005; Liu, Li, & Fang, 2011).

The current study was guided by two main objectives. The first objective was to determine whether Iranian secondary students who were teacher-identified as perpetrators of bullying, victims of bullying, or non-involved in bullying differ in their perceptions of parental bonding. It was predicted that perpetrators of bullying would perceive their parents as showing less care and warmth and as being more controlling than non-involved students and that students identified as victims of bullying would report higher levels of parent overprotectiveness. The second objective was to determine whether Iranian secondary students who were teacher-identified as perpetrators of bullying, victims of bullying, or non-involved in bullying differ in their perceptions of school bonding. It was predicted that non-involved students would report higher levels of school bonding compared to bullies and victims. In this study we also explore potential gender differences but do not make any predictions because of the absence of data from previous studies.

Method

Participants

The population pool consisted of all male and female high school students attending public schools in Tabriz, Iran during the second academic semester of the 2014–2015 academic year. Cluster random sampling and screening methods were used to select the sample for the study. To this end, five high schools serving male students and six high schools serving female students were randomly selected from two districts that were previously chosen at random from the five districts of the Tabriz Department of Education. From these 11 schools, teacher and vice-principal nomination were used to select the study sample. The vice-principal and all of the teachers of students in the second, third and fourth grades of secondary school (equivalent to grades 10, 11, and 12 in most North American and European jurisdictions) were given a statement describing the behavioural characteristics of perpetrators and victims of bullying and asked to nominate students whom they would categorize as bullies,

victims, and non-involved (this measure is described further below). A total of 353 students were nominated by at least three of their teachers or the vice-principal as displaying these behavioural characteristics.

Of the 353 students, 240 were selected to complete the measures of parental and school bonding (see selection procedure in Appendix 1, online supplemental materials). Of these students, 80 were classified as perpetrators of bullying (40 males, 40 females), 80 as victims of bullying (40 males, 40 females) and 80 as non-involved (40 males, 40 females). The age range of students was 15- to 19-old-years. The mean age (and standard deviation) of the students in the bully, victim, and non-involved groups were 16.54 (0.91), 16.57 (0.94) and 16.43 (0.95), respectively. The three groups of students did not differ in age, $F(2, 199) = 0.6, p = 0.53$.

Measures

Bully/Victim Nominations (vice-principal and teachers). The vice-principal of each school and the students' teachers were given a list of 32 behavioural characteristics of perpetrators of bullying based on research performed by Haynie et al. (2001) and Olweus (1996) (e.g., physical aggression such as hitting; verbal aggression such as name calling; and relational aggression such as spreading rumours and excluding individuals from the group) and the following statement describing the essential criteria for identifying perpetrators: 1) the behaviours were performed deliberately with the aim of harming others; 2) the behaviours were repeated three or more times over the previous three months; and 3) the targets of these behaviours were someone the perpetrator perceived as weaker. The vice-principals and teachers were also given a list of 20 behavioural characteristics of victims of bullying based on the research performed by Haynie et al. (2001) and Olweus, (1996) (e.g., being the object of physical aggression such as hitting; being the object of verbal harassment such as being called names; being the object of relational aggression such as being rejected or excluded by the peer group; being unable to defend themselves) and the following describing the essential criteria for identifying victims of bullying: The student was harassed physically, verbally, or relationally 1) by someone who does this intentionally; 2) by someone who is stronger physically or emotionally; and 3) by someone who does this three or more times during the previous three months. Teachers and vice-principals were also asked to nominate an equal number of students whom they considered as non-involved in bullying (neither a perpetrator nor victim) as the number of students they nominated as bullies or victims. Students who were nominated by at least three of the vice-principal and teachers as a perpetrator of bullying (but were not nominated by the vice-principal or any teacher as a victim or non-involved) were classified as bullies. Students who were nominated by at least three of the vice-principal and teachers as a victim of bullying (but were not nominated by the vice-principal or any teacher as a bully or non-involved) were classified as victims. Students who exclusively received three nominations as non-involved were classified as such.

Parental Bonding Instrument. A modification by Kendler (1996) of the Parental Bonding Instrument (Parker et al., 1979) was used to measure students' perceptions of their mothers' and fathers' bonding behaviours. The Parental Bonding Instrument comprises 16 items that use a four-point Likert-type scale, and can be completed separately for mothers and fathers. In Kendler's sample these items loaded on three factors: Care (items 1, 2, 3, 7, 8, 11, 12; e.g., 'Frequently smiled at me'), overprotectiveness (items 5, 6, 9, 13, 15; e.g., 'Did not want me to grow up') and what Kendler called authoritarianism (items 4, 10, 14, 16; e.g., 'Let me decide things for myself').¹ Both Terra et al. (2009) and Cox et al. (2000) found support for this factor structure using confirmatory factor analysis. Lichtenstein et al. (2003) reported that this instrument had high internal consistency (Cronbach alpha ranges from 0.82 to 0.91 for the three scales for each of mothers and fathers).

In the current study, Cronbach's alpha was used to assess the reliability of the Parental Bonding Instrument; reliability coefficients for paternal and maternal bonds were 0.74 and 0.71 respectively. Cronbach's alpha coefficients for each sub-scale were acceptable for some sub-scales and weak for others: Paternal care (0.75); paternal overprotectiveness (0.48); paternal authoritarianism (0.57); maternal care (0.80); maternal overprotectiveness (0.52); maternal authoritarianism (0.52). Because of the modest internal consistency of several of the sub-scales in our sample, we performed two exploratory factor analyses, one for paternal bonding and another for maternal bonding, to identify the factor structures of the scales in our Iranian sample. With regard to paternal bonding, high factor loadings were obtained for seven items on the first factor (paternal care), four items on the second factor (paternal overprotectiveness), and two items on the third factor (paternal authoritarianism). The exploratory factor analysis for the maternal bonding scale showed that seven items loaded on the first factor (maternal care), four items on the second factor (maternal overprotectiveness), and four items on the third factor (maternal authoritarianism) (see supplementary online materials, Tables 2 and 3). Cronbach alpha's were as follows: Paternal care (0.75); paternal overprotectiveness (0.45); and paternal authoritarianism (0.61); maternal care (0.80); maternal overprotectiveness (0.56); and maternal authoritarianism (0.70). Although the Paternal and Maternal Care and Authoritarianism scales had acceptable internal consistency, the Overprotectiveness scales were less reliable.

School Bonding Scales. This questionnaire, designed by Cernkovich and Giordano (1992) to measure the students' school bonding, consists of 33 items that are responded to using a five-point Likert scale. The items from the following four of the original seven scales (18 items) were used in the present study: School attachment, which assesses the extent to which students feel that they belong at school (e.g., 'I wish I could drop out of school'); attachment to teachers, which assesses whether students have positive feelings about their teachers (e.g., 'I like my teachers'); school commitment, which assesses the degree to which students value school and learning (e.g., 'How far would you *like* to go in school?'); and school

involvement, which measures the degree to which students participate in school events and programs (e.g., 'How many days a week do you spend attending athletic events, plays, and school dances'). Cernkovich and Giordano (1992) evaluated the reliability of this scale using Cronbach's alpha; reliabilities were 0.74 for school attachment, 0.70 for attachment to teachers, 0.74 for commitment to school, and 0.54 for school involvement. In their study, the results of exploratory and confirmatory factor analysis also confirmed the validity of the scale. In the present study, Cronbach's alpha was used to assess the reliability of the total score of the scale and a value of 0.67 was obtained. Cronbach's alpha coefficients for each sub-scale were 0.26, 0.59, 0.70, and 0.66 for school attachment, attachment to teachers, commitment to school and school involvement, respectively. Because of the low internal consistency of the school attachment scale, and the modest internal consistency of the attachment to teachers scale in the current study, we conducted an exploratory factor analysis in order to identify a factor structure that is valid for the sample of adolescents in Iran. As shown Table 4 of the online supplemental materials, 11 of the items loaded on a single factor reflecting the affective component of bonding including attachment to school and teachers, as well as commitment to school values, which we label the School Attachment Scale, and six items loaded on a scale reflecting the behavioural component of bonding such as involvement in school activities, which we label the School Involvement Scale. The internal consistency of the School Attachment scale (Cronbach alpha = 0.75) and the School Involvement Scale (Cronbach alpha = 0.66) was acceptable.

Procedure

The Research Ethics Board of Tabriz University approved this study. With the permission and coordination of the principals, the researchers (first and second author of this paper) met with the teachers and vice-principals of the randomly selected schools. Separate meetings were held at each school. At these meetings the overall purpose of the study and procedures for maintaining confidentiality were communicated, and they were given instructions as to how to complete the bully/victim nomination forms. The teachers and vice-principal were then asked to give their written consent for participation in the study, and complete the bully/victim nomination forms. Once the nomination forms were analysed and potential student sample participants were identified, the researchers returned to the schools to collect the parent and school bonding data from the students. After obtaining their informed consent, the participants completed the parent and school bonding questionnaires in groups in a designated classroom or the auditorium in their schools, under the supervision of the researchers.

Data analysis plan

Two 3×2 two-way multivariate analyses of variance (MANOVA) were conducted with group (bullies, victims, non-involved) and student gender (males and females)

as the independent variables. The dependent variables in the first MANOVA were the six scales from the Parent Bonding Instrument (maternal and paternal care, overprotectiveness, and authoritarianism) and the dependent variables in the second MANOVA were the two factors of the School Bonding Scales. When the comparisons in the MANOVA were significant, univariate analyses of variance were used to examine group and gender differences on each variable separately. The Bonferroni test for pairwise comparisons was used to compare perpetrators and victims of bullying, perpetrators of bullying and non-involved students, and victims of bullying and non-involved students.

Results

Parental bonding

The two-way MANOVA based on Wilks' Lambda test showed that there was an overall significant difference between groups on parental bonding, $F(12, 458)=6.69, p=0.001$ with the main effect of group accounting for nearly 14% of the variance. No differences were found between male and female students, $F(6, 229)=1.06, p=0.38$, and the group by gender interaction effect was not significant, $F(12, 458)=0.61, p=0.83$. As shown in Table 1, univariate analyses of variance revealed significant group differences on all of the parental bonding scales, except maternal overprotectiveness. Table 2 shows the results of the pairwise comparisons. With regard to paternal bonding, perpetrators of bullying reported lower levels of paternal care, and higher levels of paternal overprotectiveness and

Table 1. Univariate comparisons in paternal, maternal, and school bonding.

	Bullies		Victims		Non-Involved				
	M	SD	M	SD	M	SD	<i>F</i> <i>df</i> = 2	<i>p</i>	η_p^2
Paternal bonding									
Care	19.25	3.88	21.82	3.54	23.00	3.12	23.35	0.001	0.16
Overprotectiveness	10.99	2.28	10.34	2.43	9.95	2.37	3.95	0.020	0.03
Authoritarianism	4.84	1.54	4.20	1.69	3.75	1.23	10.73	0.001	0.08
Maternal bonding									
Care	20.85	4.15	23.44	3.84	23.97	3.65	14.71	0.001	0.11
Overprotectiveness	10.08	2.68	9.37	2.56	9.22	2.56	2.48	0.086	0.02
Authoritarianism	9.78	3.09	8.39	2.25	8.85	2.87	5.27	0.006	0.04
School bonding									
School and teacher Attachment	34.56	5.07	40.54	5.31	43.82	5.37	63.99	0.001	0.35
School Involvement	11.53	4.85	11.83	3.73	10.71	3.72	1.74	0.177	0.015

Table 2. Pairwise comparisons of paternal, maternal and school bonding for perpetrators and victims of bullying and non-involved students.

(I)	(J)	Mean difference (I-J)	SE	p
Paternal care				
Bullies	Victims	-2.56*	0.56	0.001
	Non-involved	-3.74*	0.56	0.001
Victims	Bullies	2.56*	0.56	0.001
	Non-involved	-1.17	0.56	0.110
Paternal overprotectiveness				
Bullies	Victims	0.64	0.37	0.253
	Non-involved	1.04*	0.37	0.017
Victims	Bullies	-0.64	0.37	0.253
	Non-involved	0.39	0.37	0.881
Paternal authoritarianism				
Bullies	Victims	0.64*	0.23	0.021
	Non-involved	1.09*	0.23	0.001
Victims	Bullies	-0.64*	0.23	0.021
	Non-involved	0.45	0.23	0.178
Maternal care				
Bullies	Victims	-2.59*	0.61	0.001
	Non-involved	-3.12*	0.61	0.001
Victims	Bullies	2.59*	0.61	0.001
	Non-involved	-0.52	0.61	1.000
Maternal overprotectiveness				
Bullies	Victims	0.70	0.41	0.262
	Non-involved	0.86	0.41	0.113
Victims	Bullies	-0.70	0.41	0.262
	Non-involved	0.15	0.41	1.000
Maternal authoritarianism				
Bullies	Victims	1.39*	0.43	0.005
	Non-involved	0.93	0.43	0.101
Victims	Bullies	-1.39*	0.43	0.005
	Non-involved	-0.46	0.43	0.885
School and teacher attachment				
Bullies	Victims	-5.97*	0.83	0.001
	Non-involved	-9.26*	0.83	0.001
Victims	Bullies	5.97*	0.83	0.001
	Non-involved	-3.28*	0.83	0.001

(continued)

Table 2. Continued

(I)	(J)	Mean difference (I–J)	SE	p
School involvement				
Bullies	Victims	–0.29	0.62	1.000
	Non-involved	0.82	0.62	0.553
	Bullies	0.29	0.62	1.000
	Non-involved	1.11	0.62	0.219

authoritarianism than non-involved students, and lower levels of paternal care, and higher levels of paternal authoritarianism than victims of bullying. With regard to maternal bonding, perpetrators of bullying reported lower levels of maternal care than non-involved students and victims of bullying, and higher levels of maternal authoritarianism than victims of bullying. There were no significant differences for maternal overprotectiveness.

School bonding

The two-way MANOVA based on Wilks’ Lambda test showed that there was an overall significant difference between groups on school bonding, $F(4, 466) = 29.50$, $p = 0.001$. The gender main effect was significant, $F(2, 233) = 12.48$, $p = 0.001$, but the group by gender interaction effect was not significant $F(4, 466) = 1.83$, $p = 0.12$. Based on the partial eta-squared (η_p^2) indexes provided in this analysis, 20% of the variance in school bonding was accounted for by group and 9% of the variance in school bonding was accounted for by gender. As shown in Table 1, univariate analyses of variance revealed significant group difference on the School and Teacher Attachment scale. Boys ($M = 39.46$, $SD = 6.82$) and girls ($M = 39.81$, $SD = 6.16$), however, did not differ in their level of school and teacher attachment, $F(1) = 0.275$, $p = 0.600$, $\eta_p^2 = 0.001$. There were no significant group differences in School Involvement $F(1) = 1.74$, $p = 0.177$, $\eta_p^2 = 0.015$. Boys ($M = 12.62$, $SD = 4.31$), however, reported higher levels of School Involvement than girls ($M = 10.10$, $SD = 3.57$), $F(1) = 24.63$, $p = 0.001$, $\eta_p^2 = .0095$. Table 2 shows the results of the pairwise comparisons. Perpetrators of bullying reported lower levels of school and teacher attachment than both victims of bullying and non-involved students. Victims of bullying also reported lower levels of school and teacher attachment than non-involved students.

Discussion

Consistent with Hirshi’s (1969) social bonding theory, which postulates that individuals with stronger social bonding (attachment to family and school, commitment to societal values, and school and community involvement) are less likely to

deviate from societal norms and values and thus be less likely to be bully others, and the results of previous studies conducted in Western societies and East Asia with regard to self-reported bullying (Chan & Chui, 2013; Chan & Wong, 2015; Cunningham, 2007; Duy & Yildiz, 2014; Mitsopoulou & Giovazolias, 2013; Stevens et al., 2002), Iranian secondary school students who were teacher-nominated as perpetrators and victims of bullying had less adaptive patterns of parental bonding and school bonding than non-involved students. With regard to students' perceptions of their fathers' bonding behaviours, perpetrators of bullying reported lower levels of caring and higher levels of overprotection and what Kendler (1996) termed as authoritarianism than victims of bullying and non-involved students. Similarly, perpetrators of bullying reported that their mothers were less caring than mothers of victims of bullying and non-involved students and more authoritarian than mothers of victims. Contrary to findings from previous studies (Georgiou, 2008; Mitsopoulou & Giovazolias, 2013; Nation et al., 2008), there were no group differences in reports of maternal overprotectiveness, although the comparisons approached conventional levels of statistical significance. The three groups differed from each other with regard to their attachment and commitment to school and teachers with perpetrators of bullying reporting lower attachment than victims of bullying, who in turn reported lower attachment than non-involved students. There were no group differences, however, in involvement in school activities. Although there were no gender differences in the pattern of the association between bullying and social bonding, boys reported higher levels of involvement in school activities than girls.

Parental bonding and bullying/victimization

Relative to victims of bullying and non-involved students, male and female perpetrators of bullying described their fathers and mothers as being less caring and supportive, and as granting them less autonomy, and their fathers as being more overprotective. As mentioned above, several investigators (Cox et al., 2000; Kendler, 1996, Terra et al., 2009) suggested reverse coding items that appear to be measuring autonomy (e.g., making my own decisions; dressing the way I please) and labelling this factor authoritarianism. However, in addition to providing little autonomy, Baumrind (1968) described authoritarian parents as not displaying caring and warmth, expecting conformity, and using harsh punishment when their children do not comply. These components of low caring and warmth and high levels of control are present in the items on the Parental Bonding Instrument as a whole; however, they are not explicitly reflected in the scale that Kendler (1996) labelled as Authoritarian. Furthermore, none of the items on the Parental Bonding Instrument refer to harsh punishment. Therefore, when we discuss the results of the Authoritarian scale, we use the term *autonomy*.²

According to Bowlby's attachment theory (1988), attachment patterns formed in infancy are maintained over time and affect human relationships as children

develop into adolescence and adulthood. As several studies have shown, children of parents who model caring behaviours and attributes such as warmth, empathy, kindness and compassion typically emulate these behaviours in interactions with their peers, and typically are not aggressive (Georgiou, 2008). According to Eisenberg, Spinrad, and Sadovsky (2006), parental warmth and care can provide the opportunity for children to observe social perspective taking and emotional attachment, which creates a learning environment conducive to the development of empathy. Conversely, children who perceive their parents as less caring and warm are likely to be less empathic than other children and, as a result, be at risk for bullying others (Mitsopoulou & Giovazolias, 2013). The finding that perpetrators of bullying view their parents as giving them less autonomy and, in the case of fathers, as being more overprotective than non-involved students is consistent with previous research (Flouri & Buchanan, 2003; Georgiou, 2008; Mitsopoulou & Giovazolias, 2013). In combination with low levels of warmth and caring, parents who are overprotective and who do not allow their children autonomy may overstep the fine line between providing guidance and advice and controlling their children's behaviour (Georgiou, 2008), thus modelling bullying behaviour in the home environment.

In the current study, however, bullies, victims, and non-involved students did not differ in maternal overprotectiveness, a finding that is inconsistent with the results of previous research (Flouri & Buchanan, 2003; Georgiou, 2008; Mitsopoulou & Giovazolias, 2013). This may be attributed to cultural differences, as suggested by Liu et al., (2011). With regard to the Parental Bonding Instrument, items classified as reflecting maternal overprotection in one culture may be interpreted as reflecting care in another (Qadir et al., 2005; Uji, Tanaka, Shono, & Kitamura, 2006). The results of our study are aligned with studies conducted in East Asia (Liu et al., 2011; Qadir et al., 2005) where adolescents may perceive mothers' not wanting their children to grow up and babying them as positive attributes. In Iran mothers assume the major responsibility for child care, whereas fathers are responsible for providing for the family's livelihood (Aghajanian, 1988). Consequently, mothers are more likely to overprotect their children, but this might not contribute to bullying because it is normative.

No significant differences were found between male and female students in any of the components of parental bonding. Findings from previous research on adolescent perceptions of parental bonding behaviours yielded inconsistent findings. Similar to the present study, Mitsopoulou and Giovazolias (2013) found no gender differences in any aspects of parental bonding. As discussed above, some older studies have found differences but these are not consistent across studies (Brewin et al., 1992; Nation et al., 2008; Richman & Flaherty, 1990; Todd & Gynther, 1988). The different perceptions of paternal and maternal bonding by gender may be explained by cultural differences in parenting styles and parent-child relationships as well as changes in parenting behaviours over time. Parents in Iranian culture typically provide instrumental, financial and emotional care and support for both males and females up to the age of 20 years but they also strongly

emphasize obedience and ethical behaviour (Assadi, Smetana, Shahmansouri, & Mohammadi, 2011; Tavakoli, 2012; Tavassoli, 2009). Consequently, gender differences in parental bonding would not be expected in Iran.

School bonding and bullying/victimization

Consistent with the results of previous studies, perpetrators and victims of bullying in the current study reported that they were less committed to school values such as succeeding academically, following rules, and completing school work and home-work (Chan & Chui, 2013; Cunningham, 2007; Duy & Yildiz, 2014), felt less support from teachers (Idsoe et al., 2008; Nation et al., 2008; Wei et al., 2010) and felt more alienated from school (Natvig, Albrektsen, & Qvarnstrom, 2001) than non-involved students. Conversely, students committed to school values and who view their relationships with teachers are less likely than other students to engage in antisocial behaviours at school (Maddox & Prinz, 2003; Simons-Morton, Crump, Haynie, & Saylor, 1999).

The results of this study showed no significant difference in level of school involvement such as engaging in extra-curricular activities (e.g., sports, music, social activities) between perpetrators and victims of bullying and non-involved students. Students vary considerably in their school involvement and multiple factors play a role in their decision to be involved (Bergquist & Phillips, 1975; Johnson, Crosnoe, & Elder, 2001). In the present study, girls reported less involvement than boys, which is contrary to findings conducted in Western nations (Finn, 1993; Simons-Morton et al., 1999). This may be a result of the role of girls in Iran in the family such as child care and house-keeping responsibilities (Tavassoli, 2009).

Limitations and implications

This study contributes to our understanding of the association between parent and school bonding and bullying because, unlike other studies, teacher (as opposed to self-report) nominations were used to identify the bullies, victims and non-involved students, and because it is the first known study on this topic to be conducted in the Middle East. The advantage of teacher nomination of bullies and victims is that the potential confound of using both self-reports of bullying and bonding is eliminated. Nevertheless, the study has a few limitations. First, all of the students were from an urban area so it is unclear whether the results would be similar if students in rural schools were included. Second, the internal consistency of the paternal and maternal overprotectiveness scale and the paternal authoritarianism scale on the Parental Bonding Instrument were somewhat low. Third, instead of using cut-off scores for identifying each group, the authors used mean number of nominations and then excluded students with the fewest nominations and behavioural indicators to get the desired sample sizes. Fourth, we were not able to include a group of bully-victims because an insufficient number of students ($N=9$) received three or more

nominations in both of these categories. Peer sociometrics might obviate this problem. In order to establish equal size groups, students with the fewest nominations were not included in the sample, creating a potential bias. Fifth, the cross-sectional design of the study limits the possibility of determining the causal relationships between variables. Future studies using experimental and longitudinal designs might assist in determining whether parent and teacher bonding behaviours in relation to individual students contribute to them becoming perpetrators or victims of bullying or victims, or whether the parent and teacher bonding behaviours are a response to a student who is aggressive, anxious, or depressed. In addition, behavioural observation studies in secondary schools may elucidate the types of school structures and teacher behaviours that enhance student-teacher bonds and minimize bullying.

This study has several implications for school psychologists in Iran and other Middle Eastern countries. In addition to school-wide anti-bullying prevention programs that promote awareness of the problem, teacher monitoring, and consequences for bullying (see Smith, Schneider, Smith, & Ananiadou, 2004 for review), it may be appropriate for school psychologists to provide positive parenting programs to parents of children who are aggressive when they enter elementary school so that they might acquire parenting strategies that foster their children's perceptions that they are warm and caring, and that they provide appropriate levels of autonomy. Commercially available programs would have to be adapted to be appropriate in the context of Persian culture. Furthermore, Iranian school psychologists and educators may engage in bullying prevention by encouraging students to follow school rules and assignments which can facilitate their academic achievement. The results of this study suggest that it may be important for their teachers to endeavour to establish a relationship with them that is characterized by warmth, caring, and support.

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Supplementary Material

All supplemental material mentioned in the text, is available in the online version of the journal at <http://spi.sagepub.com/supplemental>

Notes

1. Kendler (1996) and Cox, Ennis, and Clara (2000) labelled this factor as Authoritarianism although the items refer to parental behaviours that reflect allowing the adolescent autonomy. To be consistent with this previous research we also reverse scored these

items and refer to them as Authoritarianism in the method and results sections of this paper. In the Discussion section, however, we use the term autonomy because of the nature of the items on this scale.

2. Note that in Table 2 bullies have higher mean scores than victims or non-involved students due to the reverse scoring of the items.

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Note *Marked references have been cited in online supplementary table 1.

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Appendix I

Screening procedures for selecting the sample of adolescents who were identified as bullies, victims, and non-involved

1. The population pool consisted of all male and female high school students attending public secondary schools in Tabriz, Iran during the second academic semester of the 2014–2015 academic year ($N = 53368$, males = 26034; females = 27334).

2. Two school districts were randomly selected from the pool of five school districts in the City of Tabriz, Iran. We randomly selected 11 high schools, five serving boys and four serving girls in these two districts.
3. All students in the second, third and fourth year of secondary school (equivalent to grades 10, 11, and 12 in most North American and European jurisdictions) in these two high schools were potential participants ($N=3036$, males = 1329, females = 1707).
4. With the permission and coordination of the principals, the researchers (first and second authors of this paper) met with the teachers and vice-principals of the randomly selected schools. Separate meetings were held at each school. At these meetings the overall purpose of the study and procedures for maintaining confidentiality were communicated, and they were given instructions as to how to complete the bully/victim nomination forms. The teachers and vice-principals were then asked to give their written consent for participation in the study, and complete the bully/victim nomination forms. Fifteen vice-principals and 48 teachers agreed to participate in the study.
5. Students who were perpetrators of bullying, victims of bullying, and non-involved in bullying were selected through vice-principal and teacher nomination as follows:
 - a. The vice-principals of each school and the students' teachers were given a list of 32 behavioural characteristics of perpetrators of bullying based on research performed by Haynie et al. (2001) and Olweus (1996) (e.g., physical aggression such as hitting; verbal aggression such as name calling; and relational aggression such as spreading rumours and excluding individuals from the group) and the following statement describing the essential criteria for identifying perpetrators: 1) the behaviours were performed deliberately with the aim of harming others; 2) the behaviours were repeated three or more times over the previous three months; and 3) the targets of these behaviours were someone the perpetrator perceived as weaker. The vice-principal and teachers were informed that students nominated as bullies must have performed at least one of the 32 behaviours and must meet all three of the essential criteria.
 - b. The vice-principals and teachers were also given a list of 20 behavioural characteristics of victims of bullying based on the research performed by Haynie et al. (2001) and Olweus (1996) (e.g., being the object of physical aggression such as hitting; being the object of verbal harassment such as being called names; being the object of relational aggression such as being rejected or excluded by the peer group; being unable to defend themselves) and the following describing the essential criteria for identifying victims of bullying: The student was harassed physically, verbally, or relationally 1)

- by someone who does this intentionally; 2) by someone who is stronger physically or emotionally; and 3) by someone who does this three or more times during the previous three months. The vice-principal and teachers were informed that students nominated as victims must have performed at least one of the 20 behaviours and must meet all three of the essential criteria.
- c. Teachers and vice-principals were also asked to nominate an equal number of students whom they considered as non-involved in bullying (neither a perpetrator nor victim) as the number of students they nominated as bullies or victims. They were informed that non-involved students should not have engaged in any of the behaviours on the lists of behavioural characteristics of bullies and victims within the past three months.
6. Once the vice-principal and teacher nominations were collected, 353 students (187 boys, 166 girls) received at least one nomination as a Bully, Victim or Non-Involved student.
 7. The following procedures were used to form six groups (male bully, male victim, female bully, female victim, male non-involved, female non-involved), each comprising 40 students:
 - a. Thirty-six students with inconsistent nominations (e.g., nomination by one teacher as a bully and by another teacher as non-involved; nomination by one teacher as a bully and another as a victim) were removed.
 - b. The number of nominations for each of bully, victim, and non-involved for the remaining 317 students were recorded.
 - c. As the mean number of nominations per student was 3.1, students with nominations from fewer than three teachers were removed from the list. As a result of this process, there were 270 students of whom 40 were female victims.
 - d. To create six groups (male bully, male victim, male non-involved, female bully, female victim, female non-involved) with an equal number of students ($N = 40$), non-involved students were excluded from the sample on the basis of the least number of nominations, and bullies and victims were excluded on the basis of both the least number of nominations and the least number of behavioural indicators. Of the 30 students dropped from the sample at this stage, 12 were male bullies, nine were female bullies, two were male victims, five were non-involved males, and two were non-involved females.