

## Aggression and Violence among Iranian Adolescents and Youth: A 10-year Systematic Review

Saeid Sadeghi, Ziba Farajzadegan<sup>1</sup>, Roya Kelishadi<sup>1</sup>, Kamal Heidari<sup>2</sup>

Isfahan Welfare Organization, Isfahan, Iran,  
<sup>1</sup>Child Growth and Development Research Center,  
Research Institute for Primordial Prevention of  
Non-Communicable Disease, Isfahan University  
of Medical Sciences, Isfahan, Iran, <sup>2</sup>Social  
Determinants of Health Research Center, Isfahan  
University of Medical Sciences, Isfahan, Iran

### Correspondence to:

Dr. Saeid Sadeghi,  
Apadana Street, Isfahan Welfare  
Organization, Isfahan, Iran.  
E-mail: sadeghi\_sa@yahoo.com

**Date of Submission:** Jun 17, 2014

**Date of Acceptance:** Nov 11, 2014

**How to cite this article:** Sadeghi S, Farajzadegan Z, Kelishadi R, Heidari K. Aggression and Violence among Iranian Adolescents and Youth: A 10-year Systematic Review. *Int J Prev Med* 2014;Special issue 2:S83-96.

### ABSTRACT

**Background:** Although the overwhelming majority of Iranian adolescents are well-adjusted, a substantial group exhibits high levels of maladjustment and deficient functioning. Escalation of criminal violence among the youth population has become a major public policy issue and a serious public health problem. In reviewing a 10-year literature, this article aimed to describe and propose primary assumptions regarding the correlates of aggressive and violent behaviors in Iranian adolescents and youth.

**Methods:** Bibliographic databases such as PubMed and Google Scholar along with Iranian databases including PubMed, IranMedex, Magiran, Irandoc, Psychoinfo, and Emrofor Scientific Information Database, and Magiran constituted the databases which we searched for the relevant literature. Overall 98 articles met the inclusion criteria, allowing us to initiate the discussion.

**Results:** Reportedly, prevalence of violence and aggression among the Iranian adolescents and youth ranged from 30% to 65.5% while males being 2½ times more affected than females. The role of gender, family environment, family size, socioeconomic status, and victimization in perpetuating the circumstances was apparent.

**Conclusions:** Relatively high prevalence of violence and aggression among Iranian youth and adolescents is a warning sign and a great challenge to the social system. Reviewed studies suffer from certain methodological and conceptual limitations. Undertaking community-based studies to estimate the actual extent of the problem is warranted.

**Keywords:** Adolescents, aggression, Iranian youth, school mental health, violence

### INTRODUCTION

Youth violence encompasses a myriad of behaviors ranging from homicide to lesser forms of aggressive behavior such as bullying,<sup>[1]</sup> proscribed acts such as aggravated assault, harassment, intimidation, sexual assault, stalking, burglary, theft, and robbery.<sup>[2]</sup> Industrial nations claim that since the early 1990s violent crimes and arrests among youth and adults

have declined.<sup>[1-3]</sup> As a multifactorial and long developmental phenomenon,<sup>[4-6]</sup> youth violence emanates from biological vulnerability,<sup>[3-5]</sup> faulty upbringing of children, where parents exercise inconsistent, permissive or harsh discipline<sup>[6]</sup> as well as environmental factors including community deprivation,<sup>[6-8]</sup> easy access to guns,<sup>[9]</sup> and exposure to violence.<sup>[10,11]</sup> There is usually a strong continuity in violence among childhood, adolescence, and adult life.<sup>[12-15]</sup> Almost half of the referrals at child guidance clinics comprise of maladjusted children and youth.<sup>[16]</sup> Negative impacts of youth violence on perpetrators and victims, perceptions of school<sup>[6]</sup> behavior problems,<sup>[7]</sup> school performance,<sup>[8]</sup> and social activities<sup>[9,17,18]</sup> are well-documented.

In the United States, juveniles are accounted for 16% of all violent crime arrests and 10.1% of all homicides in 1990.<sup>[1,2]</sup> Despite small reductions in criminal behavior in Canada, the crime rate is 4 times higher than it was in the 1960s.<sup>[19]</sup> At least 5–18% of American adolescents batter their parents at least once.<sup>[20-22]</sup> In Canada, studies estimate that around 10% of parents are assaulted by their children.<sup>[23]</sup> In Canada, 64% of adolescents were verbally aggressive toward their mother; physical aggressions were committed by 13.8% of adolescents, of which 73.5% pushed or shoved their mother, 24.1% punched, kicked or bit them, 12.3% throw objects, 44.4% threatened physical violence, and 4.3% attacked the mother with a weapon.<sup>[24]</sup> Figures in France are significantly lower and indicate that < 4% of parents are assaulted by their children.<sup>[20,25]</sup> Data from a large-scale longitudinal survey of Canadian children indicate that at least one-third of boys and about 30% of girls aged 4–11 get into many fights, and about one-fifth of boys and one-tenth of girls physically attack people.<sup>[26]</sup> As per Diagnostic and Statistical Manual of Mental Disorders-IV criteria, physical aggression is one of the main indicators for conduct disorder (CD) in elementary-school-aged children.<sup>[27,28]</sup> Epidemiological studies estimated the rates of CD in elementary-school-aged boys between 3% and 7% and considerably lower rates in girls.<sup>[28]</sup> About 30% of American boys aged 12-year-old and 25% of 17-year-old boys got into a serious fight in the past year, as for girls, the rates were only about one-third lower. About 10% of adolescent boys and 3–4% of girls reported that in the past year they attacked someone with

intent to seriously hurt the victim.<sup>[29]</sup> Bullying is a common middle school variant of violent behavior practiced by about 13% of 6<sup>th</sup>–10<sup>th</sup> graders.<sup>[30,31]</sup> About 9% of American adolescents are victims of dating violence.<sup>[32]</sup> The cumulative prevalence of committing a serious violent offense by age 17 is estimated at 30–40% for boys and 16–32% for girls.<sup>[31]</sup> Children and adolescents commit aggression against school property, classmates, teachers, and peers which were well-documented in a few studies, and categorized as a type of behavior which involves direct and manifest violence (e.g. hitting, pushing), relational aggression or harming others through manipulation of interpersonal relationships (e.g. spreading rumors, excluding a peer from a group), and instrumental aggression, used by aggressors to achieve their immediate goals.<sup>[32-35]</sup>

From the early 1970s, Iranian scholars have highlighted the side effects of youth and adolescent aggression.<sup>[36]</sup> A perfunctory review of Iranian newspapers and television talk-shows reveals that violence, particularly violence perpetrated by youths is of major concern in every sector of Iranian society. Accordingly, the prevalence of aggression among boys is higher than girls, and there is a negative correlation between the rate of suicide and educational status.<sup>[37]</sup> Although aggressive and violent behaviors are not new in Iran, the recent escalation of criminal violence among the adolescent population has become a major public policy issue and a serious public health problem.

This study aims at reviewing the existing literature regarding adolescent and youth aggression in the Iranian context. To this end, we initially assessed the conceptual and theoretical frameworks of these studies, which was followed by an assessment of their methodological approaches. The second step includes presentation of gist of the research findings which in turn helped us to examine the plausibility of proposing conjectures and hypotheses regarding the correlates of aggression and violence in Iranian context. Pursuant to that, the individual attributes of violent behaviors are addressed, as well as two levels of the ecological environment: The proximal (near) environment and the distal (far) environment. In the proximal context, the issue of parental involvement is addressed as two separate issues. The final section of the paper argues the

limitations of these studies and their implications for research as well as social and health policies in Iran.

## METHODS

### Literature search

A number of steps in search strategy were used. First, electronic literature searches of PubMed, IranMedex, Magiran, Irandoc, Scientific Information Database, Psycinfo, and Emrofor the years 2003 through 2013 were performed using multiple combinations of the keywords including: Violence, aggression, youth violence, adolescent violence, adolescent aggression, and Iran. Second, we limited our search to those Iranian studies which were published after 2003. A total of 98 discrete articles were identified. Third, abstracts of these articles were then examined to isolate potentially appropriate studies based on the research questions and inclusion criteria given below. A total of 74 abstracts were considered potentially appropriate and were obtained and reviewed by the authors to determine if the study met the inclusion criteria. After screening titles and abstracts, those articles that did not meet the inclusion criteria were eliminated, resulting in a total of 98 articles (encompassing 19 samples) that were included in this review article [Figure 1]. The distinguishing features for inclusion in this study were: (i) The study has to be in Persian, (ii) undertaken by authentic and reliable educational institutions as dissertations, thesis, research grants, and research projects, (iii) should be restricted to violence and aggression in adolescent and youth aged between 12 and 19 years old, (iv) should deal with correlates of aggression and violence among Iranian adolescents and youth, and finally (v) should have been in full text and accessible by the aforementioned engine servers.

### Coding procedures

We developed a detailed coding form that included variables related to the study characteristics (e.g. publication date, authors, source of publication), sample characteristics (e.g. number, age, gender, locale, recruitment setting), and the instrument used to determine

aggressive and violent behavior among the study participants. All 19 eligible studies were coded separately by the primary authors.

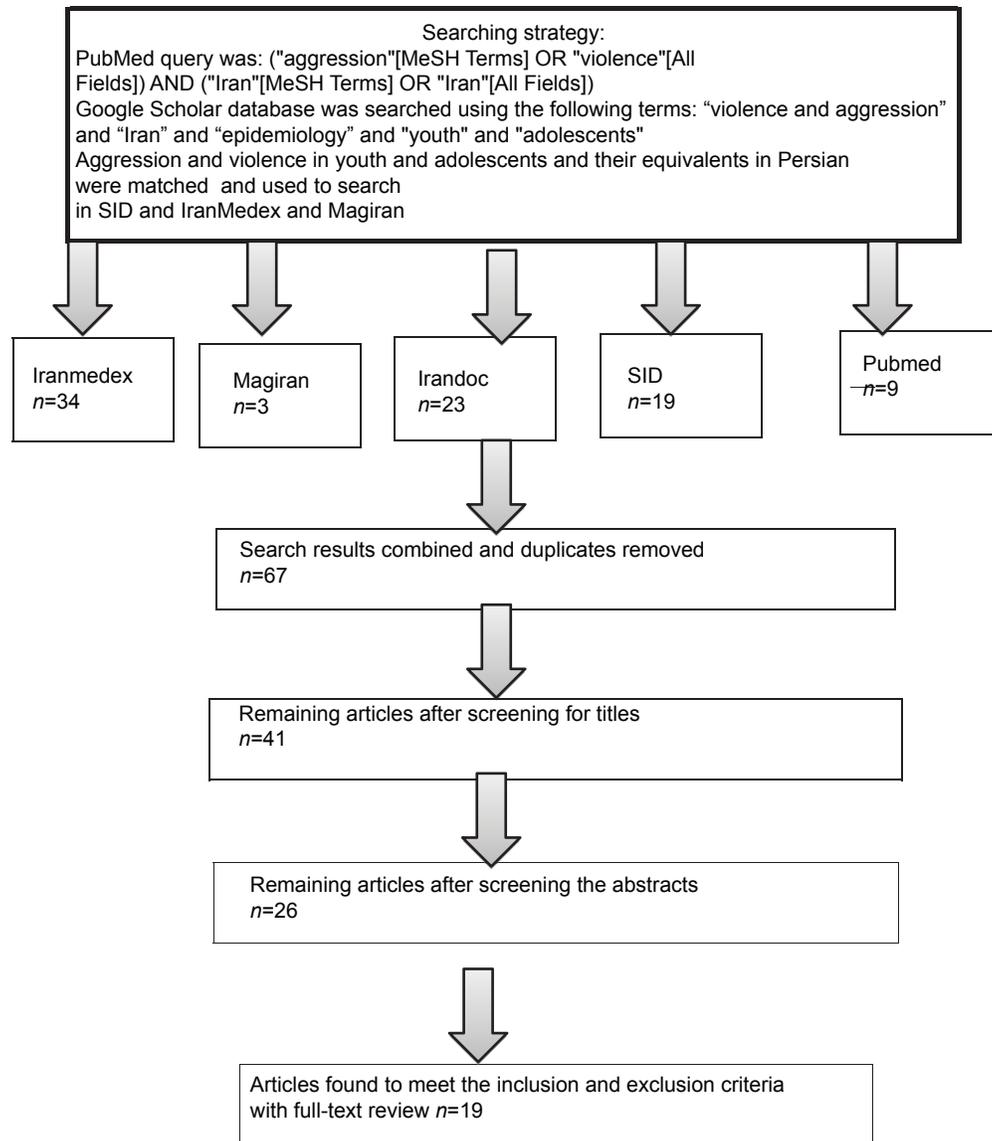
## RESULTS

### State of the art

Over the past decades, Iranian scholars have been trying to assess the magnitude of the problem of aggression and violence among Iranian youth and adolescents. In 1991, a case-control study compared anxiety, depression, aggression, and delinquency between 12 and 19-year-old people from broken families with those of normal. It showed that girls from broken families were more depressed and anxious as compared to their male counterparts who exhibited more aggressive and delinquent behaviors.<sup>[38]</sup> The mentioned study does not offer any data pertaining to the prevalence of the problem. Later, on a survey of 800 high school children, the prevalence of aggression was estimated as high as 40%.<sup>[39]</sup> Without any attempt to show the prevalence of aggression, a survey of 498 intermediate students and their 43 teachers in Tehran indicated that verbal aggression is a common phenomenon among these students.<sup>[40]</sup> A study of 333 intermediate students in Tehran estimated the prevalence rate of aggression 38–45%.<sup>[41]</sup> Another survey of 375 high school children in south of Iran showed that more than half of students exercised verbal and physical aggression at school.<sup>[42]</sup> Another study in the western region of Iran indicated that nearly 40% of high school students exhibit verbal and physical aggression.<sup>[43]</sup> A survey of 499 high school students in Hamadan showed that almost half of them (48%) were aggressive.<sup>[44]</sup> A similar study in Rasht indicated that the majority of the high school children (89%) resort to verbal aggression.<sup>[45]</sup>

### Methodological considerations

Methodologically, Iranian researchers in the selected studies employed two research designs: Analytical<sup>[38-49]</sup> and experimental.<sup>[50-55]</sup> The sample size in these studies were as small as 60<sup>[49]</sup> and as big as 800.<sup>[39]</sup> In one survey 43<sup>[40]</sup> and another one 47 teachers<sup>[45]</sup> they sought the opinions of their teachers regarding the pupils' aggressive behaviors in school. Survey studies generally employed large samples and the sampling methods were mainly



**Figure 1:** Diagram of search strategies and screening for articles to be included in the systematic review of youth and adolescent aggression and violence

stratified random<sup>[40,41,43,48,49]</sup> and clustered,<sup>[42,44-46]</sup> except three studies with simple random method.<sup>[38,39,47]</sup> The sample size in experimental studies ranged from 20<sup>[51,52]</sup> to 32.<sup>[51]</sup> By and large, in both types of studies researchers have used Persian versions of measurement instruments with acceptable reliability. Statistical Package for Social Sciences (SPSS, Chapman & Hall, CRC press company, 2004, London) is the most commonly used software as various versions were used, with both descriptive and analytical, statistical tests such as Chi-square, Pearson correlation, Student's *t*-test, ANOVA, ANOVA with repeated measures, and multiple regression.

### Conceptual frameworks and markers

Within the framework of positivism, with marginal differences, the quantitative studies have relied on social systems theory in assessing and understanding the phenomenon. This outlook underscores the saliency of the interaction between individual and the social environment in manifestation of aggression. In other words, developmental outcomes emanate from a complex web of exchanges between youth characteristics and distinct social forces. Accordingly, the sub-systems including family,<sup>[38,39,42,49,55]</sup> school,<sup>[40,42,45]</sup> physical environment,<sup>[54]</sup> peer groups,<sup>[50,51]</sup> and internet<sup>[41,49]</sup>

exercise their influences as proximal and distal contexts on the individual psyche,<sup>[40,43-49,52]</sup> which can either promote or stifle the development. Proximal processes engineer direct interactions between the individual and the immediate environment while distal contexts occur outside the immediate environment and formulate interactions of distinct social forces and youth characteristics. These studies have yielded several predictors and markers which lay the foundation for new conjectures and new hypotheses for future research. The most salient findings of these studies including their predictors and markers are discussed below.

### Gender

In the early 1990s, researchers noted significant differences between boys and girls as boys showed more aggression and tendency for delinquent acts, compared to their female counterparts.<sup>[38]</sup> However, this observation was not confirmed in a later study which was conducted in 2002 with a much larger sample.<sup>[39]</sup> A survey of 245 boys and 230 girls along with 47 teachers from different high schools in Rasht city showed relatively high prevalence of verbal aggression between students and their teachers. More than half of the students and teachers agreed that throughout the week both parties indulge in verbal aggression. Overall boys and male teachers were more aggressive as compared to their female counterparts. However, female subjects indulged in verbal aggression more than males. Irrespective of sex, boys and girls attributed their aggression to the school environment, school overcrowding, taxing syllabus, and teachers' interactions with students, their poor teaching skills and poor motivation for teaching. However, their teachers negated these explanations and justified students' aggression in familial and societal contexts.<sup>[45]</sup> For some researchers, gender difference was difficult to discern, as they focused purely on one sex<sup>[46]</sup> or they did not incorporate this variable in their conceptual framework.<sup>[40,46]</sup> In the past 10 years, researchers have generated data pertaining to gender mainly through cross-sectional surveys, and no single effort has been taken for longitudinal or follow-up studies.

### Family functioning

From family systems' perspective, scholars have examined the role of family environment

and family constellation in manifestation of aggression. Adolescents from broken families were more depressed, anxious, and aggressive compared to those from intact families. Boys from broken families were more likely to be depressed, anxious, and exhibiting aggressive and delinquent tendencies as compared to female issues from a similar background.<sup>[38]</sup> Moreover, there was an inverse relationship between family function and tendency for aggression in high school children. Substantially boys were more aggressive than girls; however, this difference was not statistically significant.<sup>[39]</sup> A study of 375 boys and girls from intermediate schools confirmed negative contributions of detachment from parents, poor parental supervision, ill-treatment of children by parents, and parental marital conflict on adolescents' aggressive behavior and delinquency traits.<sup>[42]</sup> In another study, parent-child relationship was related to the severity of aggression in adolescents as well.<sup>[49]</sup>

### School environment

Couple of studies have specifically focused on the role of school authorities on presentation of students' deviant behaviors. Physical punishment is viewed as a determinant of aggression and delinquency in school children. More exposure to physical punishment in school was accompanied by higher chances of reacting aggressively towards school authorities and other pupils.<sup>[42]</sup> A survey of 498 students from guidance school in Tehran indicates a high prevalence of verbal aggression among the students. The students attributed inappropriate school physical environment, harsh and unpleasant communication styles of school authorities with students, and workload of school homework and lengthy syllabus to their verbal aggressions. On the contrary, their teachers ruled out their opinions and justifications and believed external factors outside school were responsible for their verbal aggression. According to teachers, school authorities aggravate the situation by counter-interacting with the pupils. Moreover, the pupils equally found their teachers aggressive and attributed their behavior to their poor teaching skills, low salary and income, and poor communication between them and their higher

authorities in the school. Interestingly, there was a consensus between students and teachers, as both groups attributed verbal aggression in teachers to their poor work motivation and commitment for teaching.<sup>[40]</sup> Apparently, there is a big gap between the students and teachers in understanding the consequences of aggression committed by teachers or students themselves.

### Video and internet games

Not many researchers have investigated the association between video and internet games and aggression among adolescents and youth. A study of 333 students from middle schools from 33 educational regions in Tehran could only show a strong correlation between the amount of time spent on these games and the severity of aggression. The more time these students spent on video and internet games, the more they had chances of becoming aggressive and violent.<sup>[41]</sup> Another study with a smaller sample of 120 boys and girls could not show any association between type of video and internet games and students' degree of aggression.<sup>[49]</sup>

### Personality traits

A group of researchers have studied aggression in adolescents and youth in the context of psychological theories pertaining to personality traits. Researchers have tried to examine the relationship between confrontation strategies of the youth and their degree of aggression. Higher the degree of emotional confrontation ability was accompanied by higher degree of aggression in the youth while higher degrees of logical thinking ability and avoidance strategy ability predicted lower degree of aggression among the study participants.<sup>[43]</sup> Self-efficacy turned out as a significant predictor of aggression in the adolescents and the youth. Those with a lower degree of self-efficacy had more chances to exhibit aggressive and violent behaviors.<sup>[44]</sup> Comparison of 274 nonaggressive adolescent females with 257 aggressive females showed that the latter group scored higher in narcissism as compared to their nonaggressive counterparts.<sup>[46]</sup> A case-control study of 500 high school students in Rodehen showed that victimized students compared to nonvictimized ones were more anxious, depressed,

hopeless, and marked somatoform disorders. They also had a greater tendency to indulge in antisocial behaviors and smoking as compared to their counterparts.<sup>[47]</sup> Higher degree of logical thinking predicted higher degree of aggression and lower academic achievement for 240 intermediate students in Tabriz.<sup>[48]</sup>

### Intervention schemas

In parallel with questionnaire studies, a group of Iranian scholars have tried to examine the efficacy of group processes in anger management among adolescents and the youth. With the intention to distort social cognitive deficits in aggressive children and adolescents, an experimental study in Shiraz proved the efficacy of assertive training group therapy in decreasing high school students' aggression, resulting in improving their academic performance.<sup>[50]</sup> Transaction analysis training program has helped high school female students to improve their communication skills and subsequently overcome their aggression.<sup>[51]</sup> Within family perspective researchers used conjoint family therapy to help female teenagers aged 14–15 in Mashhad to overcome their interpersonal conflicts with their parents. Communication and interaction between children and their parents showed significant improvement, resulting in a decrease in their aggression toward their parents.<sup>[55]</sup> Hypothetically emotional, there is an inverse relationship between intelligence and aggression.<sup>[56]</sup> A controlled study of students from middle schools in Mashhad showed that educational training of emotional intelligence can control the participants' aggression. This program helped the pupils to discover their potential in managing their aggression.<sup>[52]</sup> With an agronomic outlook, a study was specifically designed to help the adolescents in Rasht to overcome their aggressive behavior and vandalism. Employing community development strategies, this study introduced sports facilities and community get together program for the participants in the physical greenery space in public parks. Outcome of the study turned out to be promising and lowered their aggression and vandalism.<sup>[54]</sup> A single study in Shiraz demonstrated the efficacy of story-telling in the management and control of aggression among elementary school children.<sup>[53]</sup>

## DISCUSSION

In this study, we identified 19 studies with inclination toward aggression: 10 focusing on the epidemiology of the problem<sup>[38-48]</sup> and the remaining ones dealt with its management.<sup>[49-55]</sup> Accordingly, the prevalence of aggression and mainly verbal aggression ranges from 40 to 89%.<sup>[38-48]</sup> Comprehensive studies conducted in the United States,<sup>[1,2,21,22,29-35]</sup> Canada<sup>[19,24,26]</sup> and France<sup>[25]</sup> estimated the prevalence of aggression among their youth and adolescents much lower. Unlike western studies, these data have emerged from screening adolescents from very unique settings such as broken families<sup>[39]</sup> and survey studies conducted in schools.<sup>[40-45]</sup> In some studies, estimation of verbal aggression was based on teachers' opinions.<sup>[40,45]</sup> These sporadic attempts are often limited to a specific geographical area and selected groups,<sup>[43-45]</sup> and no appreciable attempt has been made to conduct national-level studies. We are yet to have comprehensive data about the magnitude of the problem to match with the international data. There is a dearth of literature regarding the prevalence of offensive and delinquent behaviors of this age group and their abusive behavior toward their parents. Studies carried out in North America and Europe indicate that 4–18% of parents are abused by their children. Accordingly, boy perpetrators use more physical and girls use emotional violence against their parents while mothers and female caregivers were the main victims.<sup>[57]</sup> There is scarce information regarding the magnitude of the problem and sex differences in aggression toward parents. Nonetheless, the reviewed studies show that although the overwhelming majority of Iranian adolescents are well adjusted, a substantial group exhibits high levels of maladjustment and deficient functioning. For a country with a young population like Iran, it is imperative to accomplish comprehensive data banks related to behavior pattern of the youth and adolescents at home, school, and community at large.

A decade later than the western researchers,<sup>[58-60]</sup> Iranian literature shows a steady increase in research analyzing problems of aggressive behavior among children and adolescents at school, reflecting the growing seriousness of these problems.<sup>[40,42,44,45,48]</sup> Iranian studies have focused mainly on the students' verbal aggression<sup>[40,45]</sup> while their counterparts in the west dealt with

a wider range of aggressive behaviors, including aggression against school property, other classmates, teachers, and peers themselves. A group of studies have classified the perpetrator's aggressive behaviors towards their peers into three categories, namely, direct and manifest violence (e.g. hitting, pushing), relational aggression or harming others through manipulation of interpersonal relationships (e.g. spreading rumors, excluding a peer from a group), and instrumental aggression, used by aggressors to achieve their immediate goals (e.g. hitting a peer to get money).<sup>[61-64]</sup> In order to overcome the flows, we need to undertake scientifically well-designed studies based on empirical data from various social strata and communities. Moreover, we need to go beyond perceptual studies which rely more on teachers' opinions.<sup>[40,45]</sup>

This systematic review reveals a linkage between family, school, physical environment, social environment, and even adolescent hobbies and games with the phenomenon of aggression. Couple of studies demarcated boys and girls in terms of severity and type of aggression, that is, boys show more aggression and tendency for delinquent acts as compared to girls,<sup>[38]</sup> boys and male teachers are more aggressive compared to their female counterparts and girls tend to indulge in verbal aggression more than boys.<sup>[45]</sup> These studies frequently implemented designs relied on uncontrolled cross-sectional studies. Nonetheless, the hypothesis emerges from this observation state that male and female adolescents are different in manifestation of aggressive acts. At global level, evidence shows that most of the research on youth violence focuses on men and boys, primarily because a much larger percentage of males as compared to females, commit violent acts.<sup>[64]</sup> Sometimes, gender differences were difficult to discern, as many studies included only male participants.<sup>[65]</sup> To overcome this drawback, over the last two decades more attention have been paid to prospective longitudinal studies and more diverse participants, generating more empirical studies of girls' aggression.<sup>[66-68]</sup> However, there is still a long way to go until the research on female youth violence, and aggression provides the same depth of work as on boys, particularly with respect to longitudinal studies. The gender differences have been explained in the context of biological,

dispositional, and contextual factors.<sup>[65-72]</sup> The distinctive pattern of aggressive behavior between boys and girls has implications for clinical assessment and preventive measures especially for suicide risk, as they are at a greater risk.<sup>[73,74]</sup>

Family functioning and family constellation have also been linked in the Iranian studies to psychosocial and behavioral adjustment problems of the adolescents. In specific broken families,<sup>[38,39]</sup> detachment from parents, poor parental supervision, ill-treatment of children by parents, and parental marital conflicts have left impacts on the social adjustment of the adolescents and youth.<sup>[42-49]</sup> These observations are in line with other studies which show the negative impact of exposure to a conflicting family environment,<sup>[75,76]</sup> noneffective communication of parents with children,<sup>[77-79]</sup> and lack of parental support<sup>[78-80]</sup> on children's social skills and problem solving ability,<sup>[81,82]</sup> and their inability to empathize with others.<sup>[83,84]</sup> Primary socialization of children begins in the family through social interactions with parental figures. This in turn determines the social skills and social relations the child will develop with others later in life.<sup>[85]</sup> Researchers have shown that empathetic feeling and problem-solving ability of the adolescents emerge from a healthy interaction between parents and children. Family cohesion and parental nurturance and responsiveness are associated with positive reasoning of children in problem-solving and empathetic feelings toward others.<sup>[84,86,87]</sup> Poor effective cohesion and low parental support<sup>[88]</sup> and punitive and neglectful parenting put children at risk for undesirable consequences.<sup>[87,88]</sup> Harsh parenting<sup>[89,90]</sup> and parental disengagement put children at risk for serious negative developmental outcomes, psychiatric difficulties, and school failure.<sup>[89-91]</sup> Children hailing from father-absent-homes harbor feelings of hostility and rejection, associating with deviant peers and indulging in negative peer activities.<sup>[92-94]</sup> One of the major factors totally overlooked in the Iranian studies is the role of socioeconomic status in perpetuation of aggression in adolescents. Poverty-stricken families possess neither the material nor the psychological resources to protect their children from the pressures that accompany economic deprivation. Studies that compared to their more financially advantaged peers, children from low-income families tend to

have more negative family, school, and societal consequences.<sup>[95,96]</sup> Economic hardship enhances youth susceptibility to gang membership, warfare, violent criminality and early violent death, alcohol consumption, illegal drug use, and the use of weapons in conflict resolution.<sup>[96,97]</sup> By and large, evidences from this systematic review indicate an association between family functioning and adolescents' adjustment in the society, that is, the better the family functioning more the chances of being well-adjusted. Other studies reinforce this hypothesis as well.

Apart from family, school is another social organization which has received the attention of Iranian scholars. Based on these opinion surveys which are based on perceptions of the students and their teachers indicate that aggression is a common phenomenon among the students at guidance and high school levels and their teachers.<sup>[40,42]</sup> They have simultaneously tried to justify their behavior. In some schools, the students complain about physical punishment and tend to relate their aggressive behavior to the school infrastructure, harsh and unpleasant communication styles of school authorities with students, and workload of school homework and lengthy syllabus. These teachers hardly accept their faulty interactions and tend to blame the external factors outside school environment for their verbal aggression.<sup>[42]</sup> The pupils find these teachers incompetent and believe that living and working circumstance including poor teaching skills, low salary and income, and organizational communication problems are responsible for their verbal aggression toward them.<sup>[40]</sup> Robust literature exists about the impact of the school environment on mental health of the children.<sup>[98-102]</sup> Academically successful children hold positive perceptions towards their peers, friends, colleagues, and their teachers.<sup>[103-105]</sup> Such students find the role of school as a useful learning agent which helps them to become productive and useful citizens. Students sharing such values and beliefs are better adjusted and are less likely to exhibit behavioral problems in the community at large.<sup>[106]</sup> In contrast, unhealthy school environment makes children vulnerable to psychological disturbances and adjustment problems.<sup>[107]</sup> As a secondary socialization agent, the school is expected to propagate a sense of respect, courtesy, shared responsibility, and a sense of community.

As surrogate parents, teachers are expected to create a safe environment for their students and convince them that they are all valued members of the classroom benefiting from working together.<sup>[108]</sup> These evidences imply that school environment is a moderator in social adjustment of children, the hypothesis which calls for further attention in the Iranian context.

Theoretically, interaction of adolescent–parent, adolescent–peer, and adolescent–teacher influence the way adolescents perceive themselves in relation to others, their attitudes, and their behaviors.<sup>[109,110]</sup> Aggressive behaviors in adolescence have several interpretations, scholars invariability attributed it to the children’s inability to empathize with the victims and anticipate the negative consequences of their acts,<sup>[111-113]</sup> their need for social.<sup>[114,115]</sup> In general, the rebellious children hold negative attitudes toward institutional authorities such as the police, the law, and also the school and teachers.<sup>[116,117]</sup> This systematic review has unfolds other impediments such as emotional confrontation skills, logical thinking, ability of avoidance strategy, self-efficacy,<sup>[44]</sup> anxiety, depression, hopelessness, somatoform disorders,<sup>[47]</sup> and poor academic achievement for students’ aggression.<sup>[48]</sup> A set of studies in this systematic review have explained the phenomenon in relation to children’s extra curricula activities and hobbies such as video and internet games.<sup>[41,49]</sup> These children are marked by low self-esteem, poor social problem-solving skills, low empathy,<sup>[109,110]</sup> inhibition, negative self-representation, and low sense-of-self,<sup>[111]</sup> resistance to social integration and gravitate toward dysfunctional peer activities such as gangs.<sup>[112-118]</sup>

### Psycho-social interventions

This systematic review indicates that Iranian scholars have employed techniques of group processes to help the adolescents and youth with aggressive behaviors. Cognitive group therapy has helped high school students to eliminate their distorted, controlling their aggression and improving their academic achievements.<sup>[50]</sup> Transaction analysis training program<sup>[51]</sup> as well as conjoint family therapy have been used to improve the communication skills and resolving interpersonal conflicts within the family.<sup>[51,55]</sup> Emotional intelligence training program has been used to.<sup>[52]</sup> As a social intervention program,

community organization method and development of greenery space with entertainment facilities provide promising results in controlling vandalism and violence among the youth.<sup>[53]</sup> The last but not least is the positive impact of storytelling in the management and control of aggression among primary school children.<sup>[54]</sup>

## CONCLUSIONS

Although aggressive behaviors among Iranian adolescents and youth are not a new phenomenon, appreciable efforts are needed to investigate casualties of the problem in Iranian context. As studies show, these behaviors do not occur or persist in a vacuum but result from the confounding effect of several personal and environmental factors. Proximal factors such as inept parenting and problematic child socialization as well as distal factors such as schooling, poverty, peer group influence and victimization have dire consequences in formulation of aggression in children. This fast growing nation with a young population is experiencing inevitable changes in ecological, social, economic, political, and educational spheres. As a reason of scarcity and mismanagement of resources, unemployment and poverty threaten families which in turn can inhibit certain families’ capacity to provide the basic necessities for healthy development of the offspring and put children at higher risk for deviance.

Despite their methodological and theoretical limitations, the reviewed studies in consonance with research studies in other parts of the world propagate this hypothesis that the factors that jeopardize optimal child outcomes are embedded in the family, community, and society. This in turn has several preventive implications for sustainable social and economic development. First, it is incumbent for the nation to aim at social justice by reducing the gaps between “haves” and “have-nots”. Second, we need to involve families, communities, social and educational organizations, religious trusts, and foundations, as well as social activists to make an investment of time, effort, and money to help the policymakers to institute programs aimed at better management of the resources for alleviation of dysfunctional and maladaptive behaviors in adolescents and youth. To this end, we need

comprehensive training programs for the whole family in order to teach good parenting skills for marital harmony and childcare. Third, with the influential role of school, we do not only need vigilance and constant evaluation and assessment of educational programs and school atmosphere, but also effective educational programs with a caring and nonthreatening environment mission where students feel nurtured and industrious seems requisite. A real investment of time and motivation is required to engage in developing strong parent-school partnerships to foster good interpersonal relationships. Finally, the existing literature indicates that the presence of an oppressive environment perpetuates hostility and violence in the family and community. Therefore, it is imperative for policymakers to focus on both prevention and intervention strategies which reduced children's exposure to violence and youth involvement in violence. To prevent and reduce violence in ensuing generations, it is obligatory that risk factors at all levels of the ecological system be addressed, preferably simultaneously.

From mental health policy and research's point of view, aggression and violence in youth have grave implications for the progression of psychiatric impairment school difficulties, and legal involvement. As clinicians, it is essential to rely on a bio-psycho-social model to better guide patients and incorporate new information about treatment. Psychiatrists, psychologists, and social workers occupy strategic roles and can earlier identify the individuals who are exposed to multiple risk factors, such as poor social attachments, comorbid psychiatric disorders, coercive family discipline, and access to fire arms. They are expected to initiate interventions before the aggressive behavior becomes chronic, frequent, pervasive, and severe. Technically, we need to undertake well-designed studies which clearly reflect the magnetite of the problem in different strata. Although there are substantial data defining subtypes of aggression, we need to launch studies to develop better screening instruments which are preferably indigenous and can identify the subtypes and to prioritize interventions. Researchers still need to develop and confirm different models in Iranian context that can explain the progression or deterrence of adolescents engaging in these troubling behaviors. More investigation is warranted to discern certain

correlates of aggression in both community populations and clinically referred patients so that tailored prevention, early interventions, and evidence-based treatment can be mobilized. As treatment interventions are more rigorously tested, and meaningful algorithms are generated, we can build on the adolescents' strengths and help to substantially modify their aggression. The pattern of violence will perpetuate or not, depending on how clinical understanding deepens regarding the causes of aggression and how this understanding is turned into prevention, intervention, and treatment. The issue of aggression and violence deserves a separate research institution for vigilance of the aggressive behavior in the society and developing a manual for better citizenship and community adjustment.

## ACKNOWLEDGEMENTS

We extend our thanks to Ms. Raziye Omid and Ms. Narges Jalili, Health Officers at Isfahan Province Health Department, Isfahan University of Medical Sciences, Isfahan Iran.

## REFERENCES

1. Bureau of Justice Statistics. Crime and victims statistics. 2006. Available from: <http://www.ojp.usdoj.gov/bjs/cvict.htm>. [Last accessed on 2009 Feb 11].
2. Federal Interagency Forum on Child and Family Statistics. America's children in brief: Key national indicators of well-being. 2008. Available from: <http://www.childstats.gov>. [Last accessed on 2009 Feb 11].
3. van Dijk J, van Kesteren J, Smit P. Criminal victimization in international perspective. The Hague: United Nations Office on Drug and Crime; 2007.
4. Ferguson CJ, San Miguel C, Kilburn J, Sanchez P. The effectiveness of school-based anti-bullying programs: A meta-analytic review. *Crim Justice Rev* 2007;3:401-4.
5. Bureau of Justice Statistics. Indicators of school crime and safety. 2007. Available from: <http://www.ojp.usdoj.gov/bjs/pub/pdf/iscs07.pdf>. [Last accessed on 2009 Apr 19].
6. Nansel TR, Overpeck M, Pilla RS, Ruan WJ, Simons-Morton B, Scheidt P. Bullying behaviors among US youth: Prevalence and association with psychosocial adjustment. *JAMA* 2001;285:2094-100.
7. Haynie DL, Nansel T, Eitel P. Bullies, victims, and bully/victims: Distinct groups of at-risk youth. *J Early Adolesc* 2001;21:29-49.

8. Smith PK, Sharp S. *School Bullying: Insights and Perspectives*. London: Routledge; 1994.
9. Devoe ER, Dean K, Traube D, McKay MM. The SURVIVE Community Project: A family-based intervention to reduce the impact of violence exposures in urban youth. *J Aggress Maltreat Trauma* 2005;11:95-116.
10. Dahlberg LL. Youth violence in the United States. Major trends, risk factors, and prevention approaches. *Am J Prev Med* 1998;14:259-72.
11. Herrenkohl TI, Maguin E, Hill KG, Hawkins JD, Abbott RD, Catalano RF. Developmental risk factors for youth violence. *J Adolesc Health* 2000;26:176-86.
12. Benhorin S, McMahan SD. Exposure to violence and aggression: Protective roles of social support among urban African youth. *Journal of Community Psychology* 2008;36:723-43.
13. Jaycox LH, Stein BD, Kataoka SH, Wong M, Fink A, Escudero P, *et al.* Violence exposure, posttraumatic stress disorder, and depressive symptoms among recent immigrant schoolchildren. *Journal of the American Academy of Child and Adolescent Psychiatry* 2002;41:1104-10.
14. Gellman RA, Delucia-Waack JL. Predicting school violence: A comparison of violent and nonviolent male students on attitudes toward violence, exposure to violence, and PTSD symptomatology. *Psychology in the Schools* 2006;43:591-8.
15. Olweus D. Stability of aggressive reaction patterns in males: A review. *Psychol Bull* 1979;86:852-75.
16. Kazdin AE, Esveldt-Dawson K, French NH, Unis AS. Problem-solving skills training and relationship therapy in the treatment of antisocial child behavior. *J Consult Clin Psychol* 1987;55:76-85.
17. Fox JA, Zawitz MW. *Homicide Trends in the United States*. Washington, DC: Bureau of Justice Statistics; 2001.
18. Snyder HN. *Juvenile Arrests in 1999*. Washington, DC: Office of Juvenile Justice and Delinquent Behavior; 2000.
19. van der Woerd KA, Cox DN, McDiarmid T, Hwech T. A preliminary look at aggressive and violent behaviour in aboriginal adolescent girls. University Kimberly College of the Fraser Valley, 2006, A-7.
20. Estévez E, Góngora JN. Adolescent aggression towards parents: Factors associated and intervention proposals. In: Quin C, Tawse S, editor. *Handbook of Aggressive Behavior Research*. Ch. 6. New Delhi: Nova Science Publishers Inc.; 2009. p. 143-64.
21. Agnew R, Huguley S. Adolescent violence towards parents. *J Marriage Fam* 1989;51:699-711.
22. Paulson MJ, Coombs RH, Landsverk J. Youth who physically assault their parents. *J Fam Violence* 1990;5:121-33.
23. De Keseredy WS. *Four Variations of Family Violence: A Review of Sociological Research*. Canada: National Clearinghouse on Family Violence, Family Violence Prevention Division; 1993.
24. Pagani LS, Tremblay RE, Nagin D, Zoccolillo M, Vitaro F, McDuff P. Risk factor models for adolescent verbal and physical aggression toward mothers. *Int J Behav Dev* 2004;28:528-37.
25. Laurent A, Derry A. Violence of French adolescents toward their parents: Characteristics and contexts. *J Adolesc Health* 1999;25:21-6.
26. Offord DR, Lipman EL, Duku EK. Epidemiology of problem behavior up to age 12 years. In: Loeber R, Farrington DP, editors. *Child Delinquents: Development, Intervention, and Service Needs*. Thousand Oaks, California: Sage Publications; 2001. p. 95-116.
27. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders: DSM-IV-TR*. 4<sup>th</sup> ed. Washington, DC: American Psychiatric Association; 2000.
28. Loeber R, Burke JD, Lahey BB, Winters A, Zera M. Oppositional defiant and conduct disorder: A review of the past 10 years, part I. *J Am Acad Child Adolesc Psychiatry* 2000;39:1468-84.
29. U.S. Dept. of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies: *National Survey on Drug Use and Health 2005-2006*. Online computer file. [Electronic resource ICPSR04596-v1]. Research Triangle Park, NC: Research Triangle Institute [producer], Ann Arbor, MI: Inter-university Consortium for Political and Social Research. Available from: <http://www.icpsr.umich.edu/cocoon/SAMHDA/STUDY/04596.xml>. [Last accessed on 2006 Mar 26].
30. Nansel TR, Overpeck M, Pilla RS, Ruan WJ, Simons-Morton B, Scheidt P. Bullying behaviors among US youth: Prevalence and association with psychosocial adjustment. *JAMA* 2001;285:2094-100.
31. Elliott DS. Serious violent offenders: Onset, developmental course, and termination – The American Society of Criminology, 1993 presidential address. *Criminology* 1994;32:1-21.
32. Centers for Disease Control and Prevention (CDC). *Physical dating violence among high school students – United States, 2003*. *MMWR Morb Mortal Wkly Rep* 2006;55:532-5.
33. Olweus D. Bullying at school: Basic facts and effects of a school based intervention program. *J Child Psychol Psychiatry* 1994;35:1171-90.
34. Herrero J, Estévez E, Musitu G. The relationships of adolescent school-related deviant behaviour and victimization with psychological distress: Testing a

- general model of the mediational role of parents and teachers across groups of gender and age. *J Adolesc* 2006;29:671-90.
35. Little TD, Henrich CC, Jones SM, Hawley PH. Disentangling the “whys” from the “whats” of aggressive behaviour. *Int J Behav Dev* 2003;27:122-33.
  36. Ahmadi SA. *Psychology of the Youth and Adolescents*. Tehran: Nakhostin Publication; 1987.
  37. News about aggression and violence in Iranian boys and girls. Available from: <http://www.mehrnews.com>. [Last cited on 2009 Apr 19].
  38. Kaheni S, Hassanabadi M, Saeadatjo AR. Study of the juvenile anxiety, depression, aggression and delinquency in divorced and non-divorced families. *J Sabzevar Univ Med Sci* 1990;4:22-8.
  39. Golchin M. Tendency toward aggression in adolescents and the role of family. *J Gazvin Univ Med Sci* 2002;21:36-41.
  40. Bazargan Z, Sadeghi N, Lavasani Gh.. Prevalence of verbal aggression among intermediate students in Tehran. *J Psychol Educ* 2003;1:1-28.
  41. Abdolkhaleghi M, Davachi A, Sahbaie F, Mahmoudi M. Surveying the association between computer-video games and aggression in male students of guidance schools in Tehran, 2003. *J Azad Univ Med Sci* 2004;15:141-5.
  42. Elmi M, Tighzan KH, Bagery R. Prevalence of aggression and its social correlates among intermediate students in Ajabshir city. *Arch SID* 2010. Available from: <http://www.SID.ir>. [Last cited on 2009 Apr 14].
  43. Lahsaezadeh AA, Moradi GM. Relationship between confrontation strategies and aggression in youth: A case study in Eslam Abad (W). *Arch SID* 2012. Available from: <http://www.SID.ir>. [Last cited on 2009 Apr 14].
  44. Sayarpur SM, Hazavee SM, Ahmadpana M, Moeni B. Relationship between aggression and perceived self-efficacy among intermediate students in Hamadan. *J Nurs Midwifery Hamadan* 2012;19:16-23.
  45. Karimi F. Frequency distribution of various verbal aggression and possible factors as perceived by students and their teachers. *Pajoheshname Hoghogi* 2012;2:85-102.
  46. Payvastgar MA, Yazdi SM, Mokhtary L. Comparison of narcissism dimension in aggressive and non-aggressive girls. *J Behav Sci* 2012;6:119-4.
  47. Alaghbanrad J, Dashti B, Moradi M. Confrontation with aggression in youth: Cognitive-behavioral and flexibility. *Recents Cogn Sci* 2003;2:26-36.
  48. Motamedin M, Ebadi GH. The role of illogical beliefs and aggression of academic performance of intermediate students in Tabriz. *Danesh Pajohesh Educ Horasan Azad Univ* 2006;14:1-22.
  49. Javadi MJ, Emamipur S, Kashani ZR. Relationship between computer games and aggression in children and parent-child interaction. *Arch SID* 2010. Available from: <http://www.SID.ir>. [Last cited on 2009 Apr 14].
  50. Ashory A, Malayeri MT, Fadaee Z. The effectiveness of assertive training group therapy in decreasing aggression and improving academic achievement in high school students. *Iran J Psychiatry Clin Psychol* 2009;14:389-93.
  51. Saghati S, Shafiabadi S, Sodani M. Efficacy of group mindedfulness on aggressive behavior of intermediate students in Rasht. *Arch SID* 2010. Available from: <http://www.SID.ir>. [Last cited on: 2009 Apr 14].
  52. Kimiaee SA, Raftar MR, Soltanifar A. Efficacy of emotional question training of aggression and violence in youth. *Arch SID*. Available from: <http://www.SID.ir>. [Last cited on 2009 Apr 19].
  53. Shakerynia I. Effect of urban greenery space on vandalism, aggression behaviors of the youth in Rasht. 3<sup>rd</sup> Urban Planning and Management Conference; 2012.
  54. Nasirzadeh R, Roshan R. The effects of storytelling on aggression in six to eight-year old boys. *Iran J Psychiatry Clin Psychol* 2010;16:118-26.
  55. Vedadiyan Z, Hashemabadi BA, Mashadi A. Efficacy of multiple group family therapy on parents-children conflicts and aggression of girls aged 14-15 in Mashad. *Arch SID* 2012. Available from: <http://www.SID.ir>. [Last cited on 2009 Apr 19].
  56. Hedayati M. Philosophy for children and control of aggression. *Child Thought, research Institute for Humanities and Cultural issues*. 2012;2:109-34.
  57. Estévez E, Góngora JN. Adolescent aggression towards parents: Factors associated and intervention. In: Quin C, Tawse S, editor. *Handbook of Aggressive Behavior Research*. New York: Nova Science Publishers Inc.; 2009. p. 143-64.
  58. Olweus D. *Olweus, Core Program Against Bullying and Antisocial Behavior: A Teacher Handbook*. Bergen: Research Centre for Health Promotion; 2001.
  59. Skiba RJ. *Zero tolerance. Zero evidence. An analysis of school disciplinary practice*. Indiana: Policy Research Report; 2000.
  60. Smith PK, editor. *Violence in Schools: The Response in Europe*. London: Routledge Falmer; 2003.
  61. Herrero J, Estévez E, Musitu G. The relationships of adolescent school-related deviant behaviour and victimization with psychological distress: Testing a general model of the mediational role of parents and teachers across groups of gender and age. *J Adolesc* 2006;29:671-90.
  62. Astor R, Pitner RO, Benbenishty R, Meyer HA. Public concern and focus on school violence. In: Rapp-Paglicci LA, Roberts AR, Wodarski JS, editors. *Handbook of Violence*. New York: Wiley; 2002.

63. Little TD, Henrich CC, Jones SM, Hawley PH. Disentangling the “whys” from the “whats” of aggressive behaviour. *Int J Behav Dev* 2003;27:122-33.
64. Ellickson PL, McGuigan KA. Early predictors of adolescent violence. *Am J Public Health* 2000;90:566-72.
65. Tremblay RE, Pihl RO, Vitaro F, Dobkin PL. Predicting early onset of male antisocial behavior from preschool behavior. *Arch Gen Psychiatry* 1994;51:732-9.
66. Serbin LA, Cooperman JM, Peters PL, Lehoux PM, Stack DM, Schwartzman AE. Intergenerational transfer of psychosocial risk in women with childhood histories of aggression, withdrawal, or aggression and withdrawal. *Dev Psychol* 1998;34:1246-62.
67. Wångby M, Bergman LR, Magnusson D. Development of adjustment problems in girls: What syndromes emerge? *Child Dev* 1999;70:678-99.
68. Deater-Deckard K, Dodge KA. Externalizing behavior problems and discipline revisited: Nonlinear effects and variation by culture, context and gender. *Psychol Inq* 1997;8:161-75.
69. Wakschlag LS, Pickett KE, Cook E Jr, Benowitz NL, Leventhal BL. Maternal smoking during pregnancy and severe antisocial behavior in offspring: A review. *Am J Public Health* 2002;92:966-74.
70. Nagin D, Tremblay RE. Trajectories of boys’ physical aggression, opposition, and hyperactivity on the path to physically violent and nonviolent juvenile delinquency. *Child Dev* 1999;70:1181-96.
71. Crick NR, Dodge KA. A review and reformulation of social information-processing mechanisms in children’s social adjustment. *Psychol Bull* 1994;115:74-101.
72. Crick NR, Grotpeter JK. Relational aggression, gender, and social-psychological adjustment. *Child Dev* 1995;66:710-22.
73. Flannery DJ, Singer MI, Wester K. Violence exposure, psychological trauma, and suicide risk in a community sample of dangerously violent adolescents. *J Am Acad Child Adolesc Psychiatry* 2001;40:435-42.
74. Kataoka SH, Zima BT, Dupre DA, Moreno KA, Yang X, McCracken JT. Mental health problems and service use among female juvenile offenders: Their relationship to criminal history. *J Am Acad Child Adolesc Psychiatry* 2001;40:549-55.
75. Crawford-Brown C. The impact of parenting on conduct disorder in Jamaican male adolescents. *Adolescence* 1999;34:417-36.
76. Cummings EM, Goeke-Morey MC, Papp LM. Children’s responses to everyday marital conflict tactics in the home. *Child Dev* 2003;74:1918-29.
77. Dekovic M, Wissink IB, Marie Meijer A. The role of family and peer relations in adolescent antisocial behaviour: Comparison of four ethnic groups. *J Adolesc* 2004;27:497-514.
78. Barrera MJ, Li SA. The relation of family support to adolescents’ psychological distress and behavior problems. In: Pierce GR, Sarason IG, editors. *Handbook of Social Support and the Family*. New York: Plenum Press; 1996. p. 313-43.
79. Stevens V, De Bourdeaudhuij I, Van Oost P. Relationship of the family environment to children’s involvement in bully/victim problems at school. *J Youth Adolesc* 2002;31:419-28.
80. Sheeber L, Hops H, Alpert A, Davis B, Andrews J. Family support and conflict: Prospective relations to adolescent depression. *J Abnorm Child Psychol* 1997;25:333-44.
81. Demaray MP, Malecki CK. The relationship between perceived social support and maladjustment for students at risk. *Psychol Sch* 2002;39:305-16.
82. Lambert SF, Cashwell CS. Preteens talking to parents: Perceived communication and school-based aggression. *Fam J Couns Ther Couples Fam* 2003;11:1-7.
83. Eisenberg-Berg N, Mussen P. Empathy and moral development in adolescents. *Dev Psychol* 1978;14:228-9.
84. Henry CS, Sager DW, Plunkett SW. Adolescents’ perceptions of family system characteristics, parent-adolescent dyadic behaviors, adolescent qualities, and dimensions of adolescent empathy. *Fam Relat* 1996;45:283-92.
85. Paley B, Conger RD, Harold GT. Parents’ affect, adolescent cognitive representations, and adolescent social development. *J Marriage Fam* 2000;62:761-76.
86. Gershoff ET. Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychol Bull* 2002;128:539-79.
87. Steinberg L. Youth violence: Do parents and families make a difference? *Natl Inst Justice J* 2000. Available from: <http://www.ncjrs.gov/pdffiles1/jr000243f.pdf>. [Last accessed on 2006 Mar 23].
88. Blum J, Ireland M, Blum RW, Adolescent Health. Gender differences in juvenile violence: A report from Add Health. *J Adolesc Health* 2003;32:234-40.
89. Lefkowitz M, Eron L, Walder L, Huesmann L. *Growing Up to Be Violent: A Longitudinal Study of the Development of Aggression*. New York: Pergamon; 1999.
90. Straus MA, Yodanis CL. Corporal punishment in adolescence and physical assaults on spouses in later life: What accounts for the link? *J Marriage Fam* 1999;58:825-41.
91. Crawford-Brown C. The impact of parenting on conduct disorder in Jamaican male adolescents. *Adolescence* 1999;34:417-36.
92. National Fatherhood Initiative. *The father factor*.

- Available from: [https://www.fatherhood.org/father\\_factor.asp](https://www.fatherhood.org/father_factor.asp). [Last accessed on 2007 Oct 14].
93. Keddie AM. Psychosocial factors associated with teenage pregnancy in Jamaica. *Adolescence* 1992;27:873-90.
  94. Luton, D. Absent fathers force societal breakdown. Available from: <http://www.jamaica-gleaner.com/gleaner/20070923/news/news1.html>. [Last accessed on 2007 Oct 17].
  95. Evans GW. The environment of childhood poverty. *Am Psychol* 2004;59:77-92.
  96. Ary DV, Duncan TE, Biglan A, Metzler CW, Noell JW, Smolkowski K. Development of adolescent problem behavior. *J Abnorm Child Psychol* 1999;27:141-50.
  97. Weaver K, Maddaleno M. Youth violence in Latin America: Current situation and violence prevention strategies. *Rev Panam Salud Publica* 1999;5:338-43.
  98. Estévez E, Musitu G, Herrero J. The influence of violent behavior and victimization at school on psychological distress: The role of parents and teachers. *Adolescence* 2005;40:183-96.
  99. Murray C, Murray KM. Child level correlations of teacher-students relationships: An examination of demographic orientation characteristics, academia orientations, and behavioral orientations. *Psychol Sch* 2004;41:751-62.
  100. Stevens V, De Bourdeaudhuij I, Van Oost P. Relationship of the family environment to children's involvement in bully/victim problems at school. *J Youth Adolesc* 2002;31:419-28.
  101. Jessor R. Risk behavior in adolescence: A psychosocial framework for understanding and action. *J Adolesc Health* 1991;12:597-605.
  102. Werner NE. Maladaptive peer relationships and the development of relational and physical aggression during middle childhood. *Soc Dev* 2004;13:495-14.
  103. Andreou E. Bully/victim problems and their association with psychological constructs in 8-12-year old Greek school children. *Aggress Behav* 2000;26:49-56.
  104. Blankemeyer M, Flannery DJ, Vazsonyi AT. The role of aggression and social competence in children's perceptions of the child-teacher relationship. *Psychol Sch* 2002;39:293-304.
  105. Reinke WM, Herman KC. Creating school environment that deter antisocial behaviors in youth. *Psychol Sch* 2002;39:549-59.
  106. Jack SL, Shores RE, Denny RK, Gunter PL, De Briere T, DePaepe P. An analysis of the relationships of teachers' reported use of classroom management strategies on types of classroom interactions. *J Behav Educ* 1996;6:67-87.
  107. Moote GT Jr, Wodarski JS. The acquisition of life skills through adventure-based activities and programs: A review of the literature. *Adolescence* 1997;32:143-67.
  108. Meehan BT, Hughes JN, Cavell TA. Teacher-student relationships as compensatory resources for aggressive children. *Child Dev* 2003;74:1145-57.
  109. Dykeman C, Daehlin W, Doyle S, Flamer HS. Psychological predictors of school-based violence: Implications for school counselors. *Sch Couns* 1996;44:35-47.
  110. Evans M, Heriot SA, Friedman AG. A behavioural pattern of irritability, hostility and inhibited empathy in children. *Clin Child Psychol Psychiatry* 2002;7:211-24.
  111. Carroll A, Green S, Houghton S, Wood R. Reputation enhancement and involvement in delinquency among high school students. *Int J Disabil Dev Educ* 2003;50:253-73.
  112. Kerpelman JL, Smith-Adcock S. Female adolescents' delinquent activity – The intersection of bonds to parents and reputation enhancement. *Youth Soc* 2005;37:176-200.
  113. Adair VA, Dixon RS, Moore DW, Sutherland CM. Bullying in New Zealand secondary schools. *N Z J Educ Stud* 2000;35:207-21.
  114. Estevez E, Herrero J, Martýnez B, Musitu G. Aggressive and non-aggressive rejected students: An analysis of their differences. *Psychol Sch* 2006;43:387-400.
  115. Watson M, Fischer K. Pathways to aggression through inhibited temperament and parental violence. Available from: <http://www.gse.harvard.edu/news/features/fischersummary.html>. [Last accessed on 2006 Mar 16].
  116. Cowen EL, Work WC, Wyman PA, Parker GR, Wannon M, Gribble P. Test comparisons among stress-affected, stress-resilient, and nonclassified fourth through sixth-grade children. *J Community Psychol* 1992;20:200-14.
  117. Elliott GC, Cunningham SM, Linder M, Colangelo M, Gross M. Child physical abuse and self-perceived social isolation among adolescents. *J Interpers Violence* 2005;20:1663-84.
  118. Reasoner RW. Review of self-esteem research. Available from: <http://www.self-esteem-nase.org/research.shtml>. [Last accessed on 2006 Mar 20].

**Source of Support:** Nil, **Conflict of Interest:** None declared.